

# The Leipzig Valency Classes Project

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## Conference on Valency Classes in the World's Languages

Date: April 14-17<sup>th</sup>, 2011

Venue: Max Planck Institute for Evolutionary Anthropology, Leipzig (Deutscher Platz 6, Leipzig; 4<sup>th</sup> floor seminar room)

**Registration closed.**

Our conference will be **open to the public**, so if you wish to attend it you are welcome to do so. (In case you're wondering whether you've missed a call for papers: you have not. All our presenters have been especially invited by us.)

### Registration

There is no registration fee in the strict sense, however, if you wish to eat lunch with us, you will be charged a small fee for this (to be payable upon arrival). The exact amount remains yet to be calculated, but it should be around 15 EUR per person for the two lunches (Friday & Saturday). We are also organizing a city walking tour on Sunday after the conference, if you would like to join us for this you can do so (this will cost between 6 and 10 EUR per person, depending on how many people will participate.)

If you would like to attend our conference, please send an e-mail before **March 31st**, providing us with the following information :

- your name
- your affiliation
- whether you would like to eat lunch with us on Friday and Saturday. (Yes / No)
- whether you would like to join us for the city walking tour on Sunday. (Yes / No)

This conference is co-sponsored and co-funded by the Linguistic Dynamics Science Project (LingDy) of the **Research Institute for Languages and Cultures of Asia and Africa (LCAA)**, and by the **National Institute for Japanese Language and Linguistics (NINJAL)**.

### Organised by:

- Andrej Malchukov
- Iren Hartmann

### Local organizer:

- Claudia Schmidt

- ↓ [Registration](#)
- ↓ [Organizers](#)
- ↓ [Thursday, April 14<sup>th</sup>](#)
- ↓ [Friday, April 15<sup>th</sup>](#)
- ↓ [Saturday, April 16<sup>th</sup>](#)
- ↓ [Sunday, April 17<sup>th</sup>](#)

## Conference program

**Thursday, April 14<sup>th</sup>**

**Early Bird Meeting:**

19:00 DINNER downtown @ Alte Nikolaischule

**Friday, April 15<sup>th</sup>**

09:00-09:30	Coffee & Registration	
09:30-09:45	<b>Welcoming words and important announcements</b> (Andrej <b>Malchukov</b> & Iren <b>Hartmann</b> )	
<b>Chair</b>	Martin Haspelmath	
09:45-10:15	Andrej <b>Malchukov</b> : "Leipzig Valency Classes Project: Goals and Research Questions" [ <a href="#">presentation</a> ]	
10:15-10:30	Martin <b>Haspelmath</b> : "The challenge of tabulating language structure" [ <a href="#">presentation</a> ]	
10:30-10:45	Iren <b>Hartmann</b> : "Micro-role landscapes - preliminary results from a cross-linguistic comparison" [ <a href="#">presentation</a> ]	
10:45-11:05	Søren <b>Wichmann</b> : "Semantic patterns underlying syntactic alternations cross-linguistically" [ <a href="#">presentation</a> ]	
11:05-11:30	Discussion	
11:30-12:00	Coffee break	
12:00-13:00	<b>Plenary I – Beth Levin:</b> "Verb classes within and across languages"	
13:00-14:30	Lunch break (MPI cafeteria)	
	ASIA (2 <sup>nd</sup> floor lecture hall)	AFRICA (4 <sup>th</sup> floor seminar room)
<b>Chair</b>	Martin Haspelmath	Iren Hartmann
14:30-15:00	Anna <b>Bugaeva</b> : "Valency Classes in Ainu" [ <a href="#">presentation</a> ]	Denis <b>Creissels</b> : "Valency properties of Mandinka verbs" [ <a href="#">handout</a> ]
15:00-15:30	Hideki <b>Kishimoto</b> & Taro <b>Kageyama</b> : "Valency Classes in Japanese I: Standard Language" [ <a href="#">presentation</a> ]	Ronald <b>Schaefer</b> : "Valency Classes in Emai" [ <a href="#">handout</a> ]
15:30-16:00	Kan <b>Sasaki</b> : "Valency Classes in Japanese II: Dialects" [ <a href="#">handout</a> ] [ <a href="#">presentation</a> ]	Joseph <b>Atoyebi</b> : "Valency Classes in Yorùbá"
16:00-16:30	Coffee break	
16:30-17:00	Bingfu <b>Lu</b> et al.: "Valency Classes in Mandarin Chinese" [ <a href="#">handout</a> ]	Martina <b>Ernszt</b> , Alena <b>Witzlack-Makarevich</b> & Tom <b>Güldemann</b> : "Valency Classes in N uu" [ <a href="#">presentation</a> ]

17:00-17:30	tba.	Csilla <b>Kász</b> : "Valency Classes in Modern Standard Arabic" <a href="#">[handout]</a>
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19:00 DINNER downtown @ Indian Garden

### Saturday, April 16<sup>th</sup>

	(SE) ASIA & AUSTRALIA (2 <sup>nd</sup> floor lecture hall)	AMERICAs (4 <sup>th</sup> floor seminar room)
09:00-10:00	<b>Plenary II – Christian Lehmann:</b> "Situation types, valency frames and operations" [ ]	
<b>Chair</b>	Andrej Malchukov	Søren Wichmann
10:00-10:30	Robert <b>Schikowski</b> et al.: "Valency Classes in Chintang" <a href="#">[handout]</a> <a href="#">[presentation]</a>	Osahito <b>Miyaoka</b> : "Valency Classes in Central Alaskan Yupic Eskimo" <a href="#">[handout]</a>
10:30-11:00	Coffee break	
11:00-11:30	Sebastian <b>Nordhoff</b> : "Coding frames in Sri Lanka Malay" <a href="#">[presentation]</a>	Honore <b>Watanabe</b> : "Valency classes in Sliammon Salish" <a href="#">[handout]</a>
11:30-12:00	David <b>Gil</b> : "Valency Classes in Jakarta Indonesian" <a href="#">[presentation]</a>	Iren <b>Hartmann</b> : "Valency Classes in Hooçak" <a href="#">[handout]</a>
12:00-12:30	Ketut <b>Artawa</b> & Masayoshi <b>Shibatani</b> (presented by David Gil): "Valency Classes in Balinese" <a href="#">[presentation]</a>	Mercedes <b>Tubino</b> , Jesús <b>Villalpando</b> & Zarina Estrada <b>Fernandez</b> : "Valency Classes in Yaqui" <a href="#">[handout]</a>
12:30-13:00	Eva <b>Schultze-Berndt</b> : "Complex verbs, simple alternations: valency classes and alternations in Jaminjung"	Eric <b>Campbell</b> : "Valency Classes in Zenzontepec Chatino" <a href="#">[handout]</a>
13:00-14:00	Lunch break (MPI cafeteria)	
14:00-15:00	<b>Plenary III – Tasaku Tsunoda</b> (presented by Yo Matsumoto): "The hierarchy of two-place predicates: its limitations and uses"	
<b>Chair</b>	David Gil	Iren Hartmann
15:00-15:30	Nicholas <b>Evans</b> : "Valency Classes in Nen" <a href="#">[handout]</a>	Christian <b>Lehmann</b> : "Valency in Yucatec Maya" <a href="#">[presentation]</a>
15:30-16:00	Coffee break	
16:00-16:30	Claire <b>Moyse-Faurie</b> : "Valency classes in Xârâcùù (New Caledonia)" <a href="#">[handout]</a>	Frank <b>Seifart</b> : " Valency Classes in Bora" <a href="#">[handout]</a>
16:30-17:00	Zarina <b>Molochieva</b> & Alena <b>Witzlack-</b> <b>Makarevich</b> "Valency Classes in Chechen"	Fernando <b>Zúñiga</b> : "Valency Classes in Mapudungun" <a href="#">[handout]</a>

19:00 CONFERENCE DINNER @ Don Camillo & Peppone

**Sunday, April 17<sup>th</sup>**

	EUROPE & some INDO-EUROPEAN OUTLIERS	
<b>Chair</b>	Søren Wichmann	Andrej Malchukov
09:00-09:30	Bernard <b>Comrie</b> & Zaira <b>Khalilova</b> : "Valency Classes in Bezhta" [ <a href="#">handout</a> ]	Jóhanna <b>Barðdal</b> : "Icelandic Valency Classes: Oblique Subjects, Oblique Ambitransitives and the Impersonal Passive" [ <a href="#">presentation</a> ]
09:30-10:00	Michael <b>Daniel</b> & Victoria <b>Khurshudyan</b> : "Transitive Prototype and Deviations in Armenian Verb System" [ <a href="#">handout</a> ] [ <a href="#">presentation</a> ]	Michela <b>Cennamo</b> : "Intransitive alternations in Italian and the semantics of predicates" [ <a href="#">handout</a> ]
10:00-11:00	<b>Plenary IV – Cliff Goddard:</b> "Semantic templates, verb classes, and alternations" [ ]	
11:00-11:30	Coffee break	
<b>Chair</b>	Bernard Comrie	
11:30-13:00	Discussion & Announcements	

13:00 LUNCH downtown

15:00 City Walking Tour

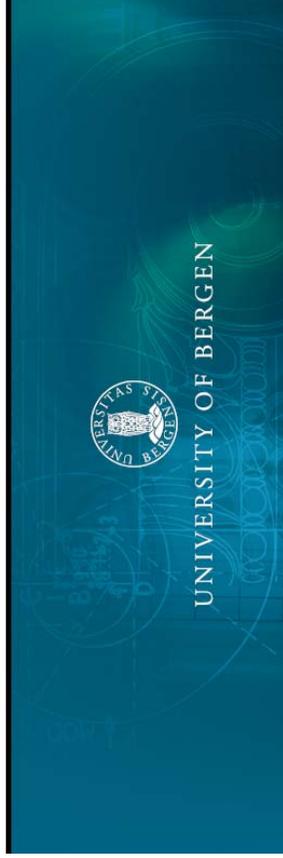
19:00 DINNER downtown @ Auerbachs Keller

## **Presentation and Handouts**

(alphabetically)

# Icelandic Valency Classes: Oblique Subjects, Oblique Anticausatives and the Impersonal Passive

Jóhanna Barðdal (University of Bergen)



## Overview

- Icelandic
- Basic Valency in Icelandic
- Uncoded Alternation (Case Marking)
- Coded Alternation
- Impersonal Passives (with Transitive Predicates)
- Oblique Anticausatives
- Oblique Subjects

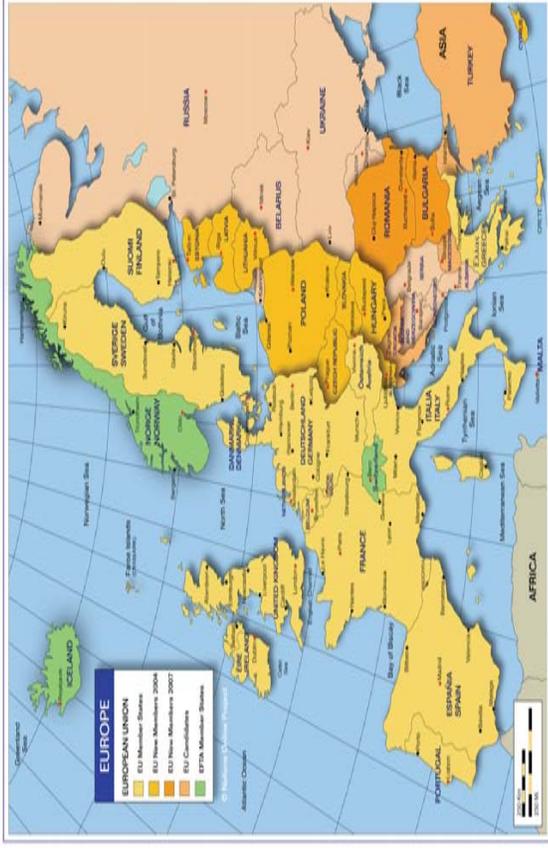


- Icelandic
- Basic Valency in Icelandic
- Uncoded Alternation (Case Marking)
- Coded Alternation
- Impersonal Passives (with Transitive Predicates)
- Oblique Anticausatives
- Oblique Subjects



## Icelandic (Demography)

- National language of Iceland
- Documented over the last millennium or so
- Fully-functional, used in all social contexts
- Population of 320.000
- Belongs to the North-Germanic branch of Indo-European





## Icelandic (Grammar 1)

- Has four morphological cases: nominative, accusative, dative and genitive
- Has gender, number and case agreement within the noun phrase

Nom	Acc
Masc. <i>gami maðurinn</i>	<i>gami manninn</i>
Fem <i>gama konan</i>	<i>gömu konuna</i>
Neut	<i>gamalt blað</i>
	<i>gamalt blað</i>

## Icelandic (Grammar 2)

- The verb/predicate agrees with the nominative, be it a nominative subject or a nominative object
  - *Mennirnir keyptu bókina.*
  - men-the.NOM bought.3P.PL book-the.ACC
  - *Henni líkaðu menirnir.*
  - she.DAT liked.3P.PL men-the.NOM
- Third person sg. agreement used for non-prototypical subjects, like oblique subjects, infinitival subjects, etc.

## Basic Coding of In/Transitives

Nom	Acc	Dat	Gen
<b>Nom-only</b>	<b>Acc-only</b>	<b>Dat-only</b>	<b>Gen-only</b>
Nom-Acc	Acc-Nom	Dat-Nom	Gen-Nom
Nom-Dat	Acc-Acc	Dat-Acc	
Nom-Gen	Acc-Gen	Dat-Gen	
Nom-PP	Acc-PP	Dat-PP	Gen-PP
Nom-S	Acc-S	Dat-S	Gen-S

## Basic Coding of In/T Transitives

Germanic			
	Acc	Dat	Gen
Nom	Acc	Dat	Gen
Nom-Acc	Acc-Nom	Dat-Nom	Gen-Nom
Nom-Dat	Acc-Acc	Dat-Gen	Gen-PP
Nom-Gen	Acc-Gen	Dat-PP	Gen-S
Nom-PP	Acc-PP	Dat-S	
Nom-S	Acc-S		

Latin (preliminary)			
	Acc	Dat	Gen
Nom	Acc	Dat	Gen
Nom-Acc	Acc-Nom	Dat-Nom	Gen-Nom
Nom-Dat	Acc-Acc	Dat-Gen	Gen-PP
Nom-Gen	Acc-Gen	Dat-PP	Gen-S
Nom-PP	Acc-PP	Dat-S	
Nom-S	Acc-S		

Ancient Greek (preliminary)			
	Acc	Dat	Gen
Nom	Acc	Dat	Gen
Nom-Acc	Acc-Nom	Dat-Nom	Gen-Nom
Nom-Dat	Acc-Acc	Dat-Gen	Gen-PP
Nom-Gen	Acc-Gen	Dat-PP	Gen-S
Nom-PP	Acc-PP	Dat-S	
Nom-S	Acc-S		

<http://org.uib.no/iecastp/> IECASTP

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## Basic Coding of Three-Argument Predicates

- Two objects:
  - Dat-Acc, Acc-Dat, Acc-Gen, Dat-Dat, Dat-Gen
- One object + PP:
  - Acc-PP.ACC, Acc-P.DAT Acc-PP.GEN
  - Dat-PP.ACC, Dat-PP.DAT, Dat-PP.GEN
- Two PPs:
  - PP.ACC-PP.ACC (at least)

## Comparison with a Non-Related Language<sup>10</sup>

Germanic			
	Acc	Dat	Gen
Nom	Acc	Dat	Gen
Nom-Acc	Acc-Nom	Dat-Nom	Gen-Nom
Nom-Dat	Acc-Acc	Dat-Gen	Gen-PP
Nom-Gen	Acc-Gen	Dat-PP	Gen-S
Nom-PP	Acc-PP	Dat-S	
Nom-S	Acc-S		

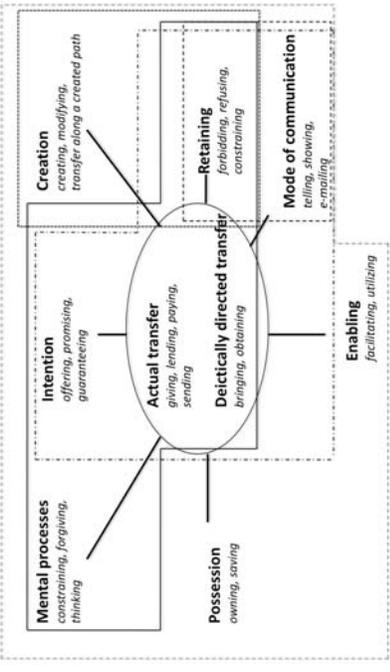
Japanese			
	Acc	Dat	Gen
Nom	Acc	Dat	Gen
Nom-Acc		Dat-Nom	
Nom-Dat			
Nom-PP		Dat-PP	
Nom-S		Dat-S	

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(from Barðdal, Kristofferson & Sveen 2011)

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## Basic Coding of Three-Argument Predicates<sup>15</sup>

- Two objects:
  - Dat-Acc, Acc-Dat, Acc-Gen, Dat-Dat, Dat-Gen
- One object + PP:
  - Acc-PP.ACC, Acc-P.DAT Acc-PP.GEN
  - Dat-PP.ACC, Dat-PP.DAT, Dat-PP.GEN
- Two PPs:
  - PP.ACC-PP.ACC (at least)

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## Uncoded Alternations/Case Alternations (2)<sup>5</sup>

- **Dative Objects vs. Accusative Objects:**
  - A few predicates have a choice between dative and accusative on the object, with dative being confined to animate objects:
 

<i>Ég þvoði barninu</i>	vs.	<i>Ég þvoði handklæðið</i>
I washed baby-the.DAT		I washed towel-the.ACC
- **Caused-Motion from Intransitive:**
  - Several intransitive predicates can occur in the Caused-Motion Construction with a dative object:
 

<i>Ég kem þessu til þín</i>	vs.	<i>Ég kem þessu til þín</i>
I come		I come this to you 'I'll get this over to you'
<i>Ég hósta</i>	vs.	<i>Hann hóstaði upp þremur milljónum</i>
I cough		he coughed up three millions 'He managed to raise three millions'

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## Uncoded Alternations/Case Alternations (1)<sup>4</sup>

- **Dative Substitution (Dative Sickness)**
  - Accusative as a subject case is replaced by dative (Barðdal 2011)
 

<i>Mig langar</i>	→	<i>Mér langar</i>
me.ACC longs		me.DAT longs
- **Dat-Nom/Nom-Dat Alternation** (Barðdal 2001)
  - A set of predicates select for both the Dat-Nom and the Nom-Dat argument structures (and syntactic tests show that one is not a topicalization of the other)
 

<i>Mér hefur alltaf falið þetta vel</i>	vs.	<i>Þetta hefur alltaf falið mér vel</i>
me.DAT has always fallen this.NOM well		this.NOM has always fallen me.DAT well
'I have always liked this.'		'This has always pleased me.'

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## Uncoded Alternations/Case Alternations (3)<sup>16</sup>

- **It – He Alternation:**
  - First and foremost found with weather verbs:
 

<i>Það rignir</i>	vs.	<i>Hann rignir</i>
it rains		he rains 'It rains'
- **The Uncoded Middle:**
  - *Málmenginn þekkar vel*  
paint-the covers well
- **The Oblique Anticausative Alternation**
  - Is coded, not on the verb, but on the subject argument

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## Coded Alternations

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- **Nominative Passive**
- **Dative Passive**
- **Genitive Passive**
- **Impersonal passive with transitive predicates**
- **Reflexive Alternation**
- **Impersonal Mediopassive**

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## Reflexive and Mediopassive

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- **Reflexive (Mediopassive) Alternation**
  - A highly-polysemous category in Icelandic (reflexive, reciprocal, middle, deponens) (cf. Anderson 1990, Ottosson 1993, Barðdal & Molnar 2003)
- **Impersonal Mediopassive (modal passive)**

*Glugginn landstí til og frá.*  
 window-the.NOM hit.REFL to and from  
 ‘The window (got) banged back and forth.’

*Það sást til hans í skóginum.*  
 it saw.REFL to him in woods-the.DAT  
 ‘He was seen in the woods’

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## Passive

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- **Nominative Passive**
  - With verbs that select for accusative objects in the active:  
*Sagan var sögð oflar og oflar.*  
 story-the.NOM was told again and again
- **Dative Passive**
  - With verbs that select for dative objects in the active:  
*Önnu voru send blóm.*  
 grandma.DAT were send flowers.NOM
- **Genitive Passive**
  - With verbs that select for genitive objects in the active:  
*Hans var leitað langi.*  
 he.GEN was looked-for long

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## Impersonal Passives (with Transitives)

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- **Impersonal Passives**
    - Traditionally formed by intransitive predicates, allegedly only with unergatives, although I find examples with unaccusatives fully grammatical:  
 Á föstudaginn var haldið á Snorrastaði ásamt fríðu föruneysi: Fríðu (hahahah), Helmu, Björney og Rósu. Við tókum þá skyndiákvörðun að skella okkur bara í skreytö-ferðina og **verður ekki séð eftir því** ...  
 and becomes not seen after: it
- ‘Last Friday we took off to Snorrastaðir, by comely escorts: Fríða, Helma, Björney and Rósa. We made a spontaneous decision to just wade into the school trip and **this will not be regretted.**’

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## Impersonal Passives (with Transitives)

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- Impersonal Passives with Transitive Predicates
- The “NEW PASSIVE” or the “NEW CONSTRUCTION”

- *Það var lamið mig*  
it was hit me.ACC  
'I was hit' or 'Somebody hit me'
- *Það var hrímt mér.*  
it was pushed me.DAT  
'I was pushed' or 'Somebody pushed me'
- *Það var sagt mér að ...*  
it was told me that

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## Active or Passive?

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- A Passive Construction (Kjartansson 1991, Barðdal & Molnár 2003, Eythósson 2008, Jónsson 2009)
- An Active Construction (Maling & Sigurjónsson 1998, 2002)
- Controls Subject-Oriented Adjuncts

- *Það var lesið minningargráttina grátandi.*  
it was read obituary-the.ACC crying
- *Skálin var drukkin, standandi*  
bowl-the.NOM was drunk standing
- English: The weather was lovely and lunch was eaten **sitting on the grass near the park**

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## The Anticausative Alternation (1)

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- Nominative (lability, ambitransitivity)

*Ég* *þý* *vatnið* vs. *Vatnið* *þýtur*  
I.NOM boil water-the.ACC 'I boil the water'  
'The water boils'

- Accusative (Maling & Zaenen 1990)

*Ég* *sá* *veginn* *óglögg* vs. *Veginn* *sá* *óglögg*  
I.NOM saw road-the.ACC unclearly 'I didn't see the road clearly.'  
'The road was not to see clearly'

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## The Anticausative Alternation (2)

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- Dative (Maling & Zaenen 1990)

*Ég* *hóð* *nóur börnum* vs. *Snjónum* *hléður* *nóur*.  
I.NOM load down children-the.DAT snow-the.DAT loads down  
'I pile up children'  
or 'I have a lot of children'

- Genitive

*Ég* *gat* *þess* *i* *bréfinu*. vs. *Þess* *gat* *i* *bréfinu*.  
I.NOM mentioned it.GEN in letter it.GEN mentioned in letter  
'I mentioned it in the letter.'  
'It was mentioned in the letter.'

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## Oblique “Anticausatives” with Ditransitives

- **Dat-Acc**

*Ég gaf þeim byr.* vs. *Þeim gaf byr.*  
 I.NOM gave them.DAT wind.ACC them.DAT gave wind.ACC  
 ‘I gave them wind.’ or ‘They were given wind.’

- **Acc-Gen**

*ad þessa einhvörn einhvör* vs. *Einhvörn þess einhvör.*  
 to urge someone.ACC something.GEN someone.ACC desires something.GEN  
 ‘urge someone to do something’ ‘someone desires something’



## Indo-European Oblique Anticausatives

(Cennamo, Eythórrsson & Barðdal, to appear)

- **Old Saxon**

*fāhit im an sālig thing*  
 brings.3.PSG him.DAT to holy thing  
 ‘he is brought to holy things’ (Heland)

- **Ancient Greek**

*mē de skolodiniān iŕggon te hūmīn emphōsē*  
 not already dizzy.ACC fainness.ACC and you.DAT cause.SUBJ  
 ‘Let you be brought faintness and dizziness’ (Plat. Leg 892.e.7-a.1)

- **Old Russian**

*Ŷako g'naſta poui' m'nog' i; tako priſtiŕ' ſa*  
 so chased paths many thee.DAT such overtook  
 ‘You have followed many paths, so you have been overwhelmed’  
 (Nest.Zhit.Theod.3)

# Valency classes in Ainu

Anna Bugaeva  
 Waseda Institute for Advanced Study  
 Waseda University

\* I gratefully acknowledge the funding that has been provided for my conference participation by ILCOA, Tokyo University of Foreign Studies (2008-2011; "Linguistic Dynamics Science Project").

## Genetic, dialectal profile, and typological profile of Ainu

- A genetic isolate.
- Major dialect groups: Hokkaido (Northeastern and Southwestern), Sakhalin and Kurile.
- A couple of native speakers/remembers left speak Saru and Chitose dialect (Hokkaido, Southwestern). Linguistic fieldwork is hardly possible.
- A well-documented language, especially Southwestern Hokkaido Ainu.
- The present study is based on previously collected data (texts and dictionaries).



- Typologically, Ainu is characterized as
  - agglutinating,
  - polysynthetic,
  - incorporating,
  - head-marking (at clausal & NP level),
  - SOV, pro-drop, obligatory indexing (S/A & P),
  - more prefixing than suffixing,
  - slot-type.

## Grammatical relations

- Mixed alignment with respect to indexing.
- Neutral alignment with respect to flagging: no case-marking on arguments (A/S/P).
- Obliques are marked by postpositions.

Table 1. Person marking in the Saru dialect of Ainu (Southern Hokkaido, Southwestern group)

person-number	A/S/P pronouns	A markers	S markers	P markers
1SG	<i>kani</i> 'I'	<i>ku</i>	<i>ku</i>	<i>eni</i>
1PL.(EXC)	<i>cōka</i> 'we (I and he/she/they)'	<i>ci</i>	<i>as</i>	<i>ini</i>
2SG	<i>eni</i> 'you.SG'	<i>e</i>	<i>e</i>	<i>e</i>
2PL	<i>ectoká</i> 'you.PL'	<i>eci</i>	<i>eci</i>	<i>eci</i>
3SG	<i>sinuma</i> 'he/she'	<i>o</i>	<i>o</i>	<i>o</i>
3PL	<i>oka</i> 'they'	<i>o</i>	<i>o</i>	<i>o</i>
Indefinite (IND)				
	also has the functions of: 1. 1PL.INC 'we (I and you)' 2. 2SG/PL honorific 3. logophoric	<i>o</i>	<i>u</i>	<i>i</i>

## Basic clause structure: intransitive vs. transitive clauses

- Intransitive predicates are indexed for S, as in (1).
- Transitive predicates are indexed for A and P, as in (2).
- No flagging on arguments (S/A/P), neither on pronouns, as in (1), nor on nouns.

- (1) (*káni*) *ku*=*mi**na*  
 I 1SG.S=laugh  
 'I laughed.'
- (2) *eci*=*ni*=*hotuyekar* *yak* *pirka* *p*  
 2SG.A=1SG.P=call if be.good but  
 'You(PL) may have called out to me.' (Tamura 1984: 36)

- Theoretically, A markers are placed before P markers, as in (2), but in practice there are few examples with overtly expressed A and P because
  - 3<sup>rd</sup> SG/PL is zero-marked (3a,b) and
  - 1SG/PL-A+2SG/PL.P (3c) triggers a fusional marker *eci*= (same as 2PL, see Table 1).

(3) a. (*káni*)            *cikap*            *kar*=Ø=*nukar*  
 I                        bird            1SG.A=3.P=see

‘I saw a bird.’ (Tamura 1983: 15)

b. *toan*            *hekaci*            Ø=*e*=*nukar*  
 that            boy            3.A=2SG.P=see

‘That boy saw you.’

c. *eci*=*nukar*            *rusuy*            *kusu*            *te*            *ta*            *eci*=*hunara*

1SG.A+2SG.P= see    DESID            because here at 1SG.A+2SG.P= search

‘I was looking for you here because I wanted to meet you.’ (KS #0009) (\**kar*=*e*=)

## Introducing adjuncts: case postpositions

- Adjuncts are marked by the following postpositions:
  - locative *ta*,
  - allative *un*,
  - dative *e-un* (< head.PF-ALL) (for animate Goai; unproductive),
  - ablative *wa*,
  - instrumental *ani*,
  - comitative *tura/tura-no*,
  - traversal *peka* (‘over’),
  - mutative *ne* (‘as’).

- The difference between intransitive and transitive verbs is clear-cut:

- different indexing for S and A (and P) in the case in IND and 1PL.EXC. as in (4a) and (4b).

for vt (S)<sub>v</sub>

(4) a. (*cóka*)            *aynu*            *or*            *un*            *inkar*=*as*<sub>v</sub>  
 1PL.EXC(I and he/she/they) human place ALL look=1PL.EXC.S<sub>v</sub>

‘We (I and he/she/they) looked to the place of humans.’ (OI)<sub>v</sub>

for vt (A)<sub>v</sub>

b. (*cóka*)            *aynu*            *kotan*            *ci*=Ø=*nukar*            *rusuy*<sub>v</sub>  
 1PL.EXC human village 1PL.EXC.A=3.O=see    DESID<sub>v</sub>

‘We (I and he/she/they) wanted to see an Ainu village.’ (OI)<sub>v</sub>

c. *unarpe*            (*cóka*)            *un*=*nukar*<sub>v</sub>  
 aunt we (me and him/her/them) 1PL.EXC.O=see<sub>v</sub>

‘The aunt saw us (me and him/her).’ (OI)<sub>v</sub>

- Dative *e-un*, instrumental *ani*, and comitative *tura/tura-no* are in an early stage of grammaticalization from verbs as they can often occur without respective nouns, as *itanki* ‘bowl’ (4) → have an intermediate status between verbs and particles (henceforth Ø= will be omitted in glosses).

(5) *itanki*    *hurape*    *hine*    (*itanki*)    *ani*    *i=ko-i-puni*  
 bowl wash and (bowl) INST IND.O=to.APPL-APASS-raise  
 ‘She washed a bowl and with (that bowl) he served me food.’  
 lit. ‘She washed a bowl, holding it, he served me food.’ (zero-anaphora)

## Identifying coding (=valency) frames

- No problem of distinguishing between arguments and adjuncts:
  - arguments appear as bare nominals,
  - adjuncts are followed by one of case postpositions.

## Coding frames

1. **Avalent (v-0): <V>**
2. **Monovalent (vi): <S subj[S].V>**
  - 2.1 Extended mono-valent :
    - <S L+loc/all/abl subj[S].V>
    - <S adv+subj[S].V> (won't be discussed here).
3. **Bivalent (vt): <A P subj[A].obj[P].V >**
  - 3.1 Extended bivalent:
    - <A P I+INST > subj[A].obj[O].V>
    - <A L+loc/all P (I+inst) subj[A].obj[P].V>
    - <A R+dat/L+all P subj[A].obj[P].V>
4. **Bivalent copula (vt-c): <A CC subj[A].V >**
5. **Three-valent (vd):**
  - <A R/Src-acc T subj[A].obj[R]/Src].V>
  - <A P I subj[A].obj[P].V>
  - <A P L subj[A].obj[P].V>

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## Avalent coding frame (v-0): <V>

- Restricted to meteorological verbs with an incorporated (S) subject *sir* 'appearance, land, circumstance' (6), or other, e.g. *me* 'coldness' (7); not included in the database.
- (6) *tan-to sir-pirka* *siri!*  
 this-day appearance-be-good VIS.EV  
 'It is a fine weather today.' (NN 38)
- (7) *nisatta me-an wa upas as nanikor.*  
 tomorrow cold-exist.SG and snow stand.SG probably  
 'It will probably be cold tomorrow and it will snow.' (NN 38)  
 Cf. the intransitive equivalent *me-ray-ke* <cold-die-CAUS> 'feel cold' (with A-incorporation; lexicalized) which has been included in the database.

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## Mono-valent coding frame (vi): <S subj[S].V>

- A heterogeneous group of 20 verbs with agentive and patientive semantics:
    - Motion: *hoyupu* RUN, *tefterke* JUMP, *karkarse* ROLL.
    - Human emotion and communication: *sinotca-ki* SING, *mina* LAUGH, *kirirse* SCREAM, *sinof* PLAY, *mismu* BE SAD,
    - Sensation: *me-ray-ke* FEEL COLD, *arka* FEEL PAIN, *i-p-e-rusuy* BE HUNGRY.
    - (Dis)appearance: *an/hetuku* APPEAR, *ray* DIE.
    - Change of state/location: *sat* BE DRY, *uhuy* BURN, *rer* SINK, *hacir* FALL.
    - Other: *sik-raprapu* BLINK, *omike* COUGH, (*apto*) as RAIN (lit. 'rain stands').
- (9) *a=kor hiuci sinotca-ki kor wakka-ta.*  
 IND.A=have grandgrandmother song-do while water-dig  
 'Grandmother would sing while drawing water.' (K7803233UP.003)
- (10) *sunku uhuy wa arpa*  
 fur-tree burn and go.SG  
 'The fur-tree started burning.' (N 67)

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## Extended mono-valent coding frame (vi): <S L+loc/all/abl subj[S].V>

- Same as mono-valent frame, plus a Location or Goal adjunct, 7 verbs:
    - Motion (directed or not): *arpa* (SG)/*paye* (PL) GO, *hemesu* (SG)/*hemes-pa* (PL) CLIMB, *hoyupu* RUN, *tefterke* JUMP, *karkarse* ROLL;
    - Existence: *an* (SG)/*oka* (PL) LIVE, *a* (SG) /*rok* (PL) SIT;
    - Location: *a* (SG) /*rok* (PL) SIT;
    - Perception: *inikar* LOOK AT (diachronically, is the antipassive *i-nukar* <APASS-see>).
  - **Static location is marked with the locative postposition *ta*.**
- (11) *apa sam ta a=an*  
 door near LOC sit.SG=IND.S  
 'I sat down near the front door.' (K7803232UP.035)

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- Goal is marked with
  - directional postposition *un* (no achievement implication) (12a),
  - locative postposition *ta* (achievement implication) (12b),
  - dative *e-un* (<head.PF-ALL>) (13), is reserved for an animate Goal, unproductive.

(12) a. *sine-an-ta hinak nu kuca or un arpa=an*  
 one-be.SG-LOC where ALL hunting.cabin place ALL go.SG=IND.S

*kunak a=ramu kusu,*

COMP IND.A=think because

'One day, I thought I'd go to a hunting cabin.' (K8109171UP.010)

b. *kuca or ta arpa=an h\_ine inanv-roski=an*

hunting.cabin place LOC go.SG=IND.S and prayer.stick-stand.PL=IND.S

'I went to the hunting cabin, and put up prayer sticks.' (K8106233UP.007)

(13) *ne wen-kur okkay-po emu anak-ne iteki arpa=an yak pirka*  
 this/that poor-person man-DIM DAT TOP-COP PROH go.SG=IND.S if be.good  
 'You must never go to that young poor man's place.' (K7803232UP.099)

- Source is marked with the ablative *wa*.

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### Extended bivalent coding frame (vt)

- Same as bivalent frame, plus an Location, Instrument, Goal, and occasionally Recipient adjunct (totally 15 verbs).
- <A L+loc/all P (I+inst) subj[A].obj[P].V>
  - caused motion verbs: *sir-kot-e TIE, anu* (SG)/*ari* (PL) PUT, *sir-kot-e TIE, e-yapkir* [APPL-throw] THROW.
- <A P I+INST > subj[A].obj[O].V>
  - effective action and contact verbs: *tuye* CUT, *otke* TOUCH, *kik-(kik)* BEAT, *ray-ke* (SG)/*ronnu* (PL) KILL, *pera* (SG)/*perpa* (PL) BREAK, *kar* BUILD, *kik* HIT.
- <A (R+dat/L+all) P subj[A].obj[P].V> - a marginal coding frame, is much less preferable than <A R/Strc T subj[A].obj[R/Strc].V>, cf. Slide 16.
  - ditransitive verbs: *rura* CARRY, *arpa-re* (SG)/*paye-re* (PL) [go.SG/PL-CAUS] 'for one.many people to) send sth' (vt) SEND, *ye* SAY.

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### Bivalent coding frame (vt): <A P subj[A].obj[P/T].V >

- 19 verbs:
  - contact verbs: *nuwe-(nuwe)* WIPE, *kap-kar* PEEL,
  - pursuit verbs: *hunara* SEARCH FOR (3c), also *tere* 'wait',
  - affected subject verbs: *e* EAT, *i-mi-re* DRESS, *huraye* WASH, *memke* SHAVE;
  - perception verbs: *nukar* SEE (3a,b,c), *nu* HEAR;
  - interaction verbs: *kasuy* HELP, *haw-e-koyki* SHOUT AT, *kisma* HUG, also *hotuye-kar* 'call sb';
  - cognition verbs: *amkir* KNOW, *ramu* THINK;
  - emotion verbs: *sitoma* FEAR, *eramasu(y)* LIKE/WANT, *omap* LIKE.
  - sensation verb: *hurarak-kar* SMELL, *koni* FEEL PAIN.

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### Bivalent equative copula (vt-c): <A CC subj[A].V>

- (14) *a=oma-ha ... [ison-kur] ne*  
 IND.A=father-POSS good.hunt-man COP  
 'My father was a really good hunter, (so everyday he brought game).' (Kayano 1996: 56)
- The copula *ne* 'be(come) sb' is a special verb type which is close to vt because
    - it takes A indexing (15a),
    - but does not take P indexing (15b).
- (15) a. *tu-n et=ne na, tu-p en=kot-e yan.*  
 two-people.CL 1PL.(EXC).A=COP FIN two-thing.CL 1SG.O=have-CAUS IMP.POL  
 'There are two of us (lit. 'we are two'), so give us two pieces.'  
 b. *coka ne (not \*en=ne)*  
 we(I and he/she/they) COP  
 'It is us (I and (s)he)'. (Tamura 1988: 23)

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### Three-valent coding frame (vd)

- All verbs are (derived) causatives and/or applicatives (totally 16 verbs).
- <A R/Src T subj[A].obj[R/Src].V>
  - ditransitive verbs:
    - applicatives of vt: **ko-ani** (SG)/**ko-anpa** (PL) [to-APPL-bring.SG/PL] BRING, **ko-uk** / **ko-uyna** [from-APPL-take] TAKE, **ko-nuyna** [from-APPL-hide] HIDE, **ko-soso** [from-APPL-tear] TEAR, **ko-tak** ASK FOR, **e-pakasnu** [about-APPL-teach.to] TEACH;
    - causatives of vt: **nukar-e** [see-CAUS] SHOW, **kor-e** [have-CAUS] GIVE, **nu-re** [hear-CAUS] TELL;
      - double applicative of vi: **e-ko-isoytak** TELL [about-APPL-to-APPL-teil], **e-ko-itak** [about-APPL-to-APPL-talk] TALK, **ko-e-ikka** [from-APPL-steal] STEAL.
      - causative-applicative of vi (beyond the database):
 

(16)a.	[Anna] <sub>A</sub>	[ninup] <sub>T</sub>	[[ <i>kani</i> ]] <sub>R</sub>	<i>en=kor-e</i>
	Anna	sewing	1SG	1SG.O=have-CAUS

 ‘Anna gave me a sewing.’ (lit. ‘let me have a sewing’) (OD); Cf. base vt construction:
      - [*inan pe*]<sub>R</sub> *ku=kor* *kor pirta hawe an?*  
 which thing 1SG.A=have and be.good REPEV exist.SG  
 ‘Which one should I choose?’ (T 333)
- <A P I subj[A].obj[P].V>: **kamu-re** [cover-CAUS] COVER, **e-sik-te** [with-APPL-be.full-CAUS] FILL.
- <A P L subj[A].obj[P].V>: **o-ta** [to-APPL-pour] POUR, **o LOAD** (zero-derived causative).

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### Coded Alternations

#### Valency increasing:

- Applicative (I)
  - Instrumental applicative **e-**
  - Dative applicative **ko-**
  - Locative applicative **o-**
- Valency-decreasing:
  - Causative
    - Productive **-re/-e/-te**: direct and indirect causation.
    - Unproductive **-ka, -ke, -V**: direct causation.
  - Antipassive **-i** (may involve T or R; I)
  - Anticausative **ke-, si-** (the latter is more an anticausative: body move)
  - Reflexive **yay-**
  - Reciprocal **u-**; see (Alpatov, Bugaeva & Nedjalkov 2007)
    - Subject-oriented reciprocal (A/P & A/R)
    - Object-oriented reciprocal (‘joining sth/sb together’)
  - And noun incorporation (P, S and patientive A)

#### Valency-retaining:

- Sociative **uko-** (< **u-ko-** [REC-APPL-] ‘with e. o.’), **u-...-re/-e/-te/-ka** (< REC + CAUS) ‘together’.

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### Uncoded alternations

- Only two labile verbs (zero-derived causatives):
  - S=P: **roski** ‘stand.PL’ (vi) – **roski** ‘stand sth(PL)’ (vt);
  - o ‘be at some place, get on sth’ (vt) – o ‘put/place sth (PL) on sth’ PUT (vd).
- (17) a. [*nea cep*]<sub>R</sub> [*cip or*]<sub>L</sub> *k=θ* *hine*  
 that fish boat place 1SG.A=put.PL and  
 ‘I put (vt) that fish in the boat.’ (K8109193UP.056); Cf. base vt construction:
  - neyta ne yak-ka [pirta us-ke]* *a=θ* *ro*  
 where COP if-even good place-POSS IND.A=get.on.PL COHR  
 ‘(Once I bought the tickets,) we can get on (vt) anywhere.’ (vt) (KS#2210)

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### Applicative (Bugaeva 2010)

- Valency-increasing: vi → vt, vt → vd.
- Generally defined as instrumental **e-**, dative **ko-**, and locative **o-**.
- Polyfunctional: the exact role is attributed to the interaction between the semantics of the prefix and verb.
- Typologically unusual properties:
  - the ability of **e-** applicatives to add the roles of Theme and Content,
  - the ability of the so-called unaccusative intransitives to host prefixes **e-** and **ko-**,
  - the possibility of **e-ko-** and **ko-e-** double applicatives,
  - the absence of non-applicative paraphrases for some applicatives,
  - the possibility of applicative object incorporation.

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### Instrumental applicative e-

- 515 verbs in my sample: 90.6% of vi and only 9.4% from vt.
  - The important functions of the applicative prefix **e-** are as follows (Bugaeva 2010: 758):
1. Content, 2. Location, 3. Instrument, 4. Theme, 5. Cause/Purpose, 6. Other (Comitative: Co-agent, Manner, Beneficiary, Path).

In the database, 15 verbs allowed the applicative derivation in **e-** (henceforth a concrete semantic role of the applicative prefix attested with a particular verb/group of verbs is indicated in parenthesis):

- from vi
  - (dis)appearance and existence *ray DIE, an* (SG)/*oka* (PL) LIVE/APPEAR, a (SG) /*rok* (PL) SIT/LIVE (Location)
  - motion *arpa* (SG) /*paye* (PL) GO, *hoyupu* (SG)/*hoyuppa* (PL) RUN (Location);
  - communication and emotion: *mismu*/BE SAD, *miina* LAUGH, *cis* CRY (Content), *sinof* PLAY (Instrument).
- from vt
  - contact *kik* HIT (Location), *kik-(kik)* BEAT, *kar BUILD* (Instrument);
  - interaction *kasuy* HELP (Content), *haw-e-koy/ki* SHOUT AT (Cause);
  - ditransitive *nura* CARRY (Instrument):

(18) *sinen ne oka=an hi an=e-mismu kus*  
 alone as exist.PL=IND.S NR IND.A=about.APPL-be.sad because

'I feel sad about being alone.' (Okuda 1994: 77); Content role, no non-appl. paraphrase.

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### Locative applicative o-

- 66 verbs in my sample: 88% of vi and 12% from vt.
- The important functions of the applicative prefix **o-** are as follows (Bugaeva 2010: 759):

1. Goal, 2. Location.

In the database, 5 verbs allowed the applicative derivation in **o-**:

- from vi
  - motion *arpa* (SG) /*paye* (PL) GO, *hemesu* CLIMB (Goal);
  - change of location *rer* SINK (Location);
  - perception: *inkar* LOOK (Goal).
- from vt
  - caused motion *nura* CARRY.

(20) *nupuri hontom o-hemesu*  
 mountain middle APPL-climb<sub>vi</sub>

'(The fox) climbed halfway up the mountain.' (Nakagawa 2001: 97); Goal; non-appl. **nu** ALL

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### Dative applicative ko-

- 294 verbs in my sample: 78% of vi and 22% from vt.
  - The important functions of the applicative prefix **ko-** are as follows (Bugaeva 2010: 759):
1. Addressee, 2. Goal, 3. Recipient/Beneficiary, 4. Comitative: Co-patient, 5. Malefactive Source, 6. Other (Cause/Purpose).

In the database, 15 verbs allowed the applicative derivation in **ko-**:

- from vi
  - motion *tetterke* JUMP, *hemesu* CLIMB (Goal), *kar/karse* ROLL (Comitative: co-patient)
  - perception: *inkar* LOOK (Goal).
- from vt
  - caused motion *nura* CARRY, *nuwe* WIPE (GOAL), *uk* (SG)/*uyuna* (PL) TAKE (Malefactive Source), *e-yapkir* THROW (Goal);
  - contact *kik* HIT (Goal);
  - affected subject *e* EAT (Comitative: co-patient);
  - interaction *kisma* HUG (Goal);
  - perception *nu* HEAR (Source), *nukar* SEE (Comitative: co-patient).
  - emotion *sitoma* FEAR, *onap* LOVE.

(19) *sintoko patci ka a=ko-uk utar anak-ne*  
 lacquer-ware bowl even IND.A=from.APPL-take.SG people TOP-COP  
*nep ka pirka pirka nukar sono ki yak-ka*  
 somehow even good good see NEG do if-even

'Although the people who were robbed of lacquer-ware and bowls, didn't look carefully at [the things] at all...' (Bugaeva 2004: 411); Source role, non-appl. paraphr. **wa** ABL.

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### Antipassive

- The prefix *i-* 'thing/person', also referred to as "generalized object".
- Valency-reducing. Object-deleting (A=S).
- An expression of the object is blocked completely (no oblique expression is possible).

In the database, 13 verbs allowed the antipassive derivation in **i-**:

- from vt
  - caused motion: *nura* CARRY, *nuwe* WIPE (GOAL);
  - pursuit: *hunara* SEARCH;
  - affected subject: *e* EAT, *huraye* WASH, *koni* FEEL PAIN, *memke* SHAVE;
  - perception: *nu* HEAR, *nukar* SEE (→ *i-nkar* LOOK);
  - interaction: *kasuy* HELP, *ye* SAY.
- from vd
  - ditransitive: *e-pakasnu* TEACH, *nu-re* TELL.

(21) a. *ontaro or un i-huraye*  
 tub place ALL APASS-wash

'She did laundry in a tub.' (T 218); cf. base construction:

b. *orano nani usey kar nea iwatarap huraye a huraye a*  
 then immediately hot.water make that baby wash ITR wash ITR  
 'Right away, (my wife) boiled some water, and washed that baby carefully.'  
 (K8109171UP.168)

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SEARCH FOR	- <i>ivína</i>	A2	-	-	-	-	-	-	-
THINK	- <i>táá ti?</i>	A(0)	-	-	-	-	-	-	-
KNOW	- <i>te-u?u-níto</i>	Stat	-	-	-	-	-	-	-
LIKE	- <i>a-top ti?</i>	C2	+	-	-	-	-	-	-
FEAR	- <i>utē</i>	C2	-	-	-	-	-	-	-
FRIGHTEN	- <i>ē-k-utē</i>	A2	-	-	-	-	-	-	-
SMELL	- <i>ukwē?</i>	C2	-	-	-	-	-	-	-
LOOK AT	- <i>na?a</i>	Ac	-	-	-	-	-	-	-
SEE	- <i>na?a</i>	Ac	-	-	-	-	-	-	-
TALK	- <i>abvi?</i>	C2	-	-	-	-	-	-	-
ASK FOR	- <i>u-nána</i>	Au	-	-	(+)	-	-	-	-
SHOUT AT	- <i>sá?á-lá?á</i>	Ac	-	-	-	-	-	-	-
TELL	- <i>níkwe</i>	A2	-	-	-	-	-	-	-
TELL	- <i>nii</i>	A2	-	-	-	-	-	-	-
SAY	- <i>nakwē</i>	---	-	-	-	-	-	-	-
NAME	- <i>abvi?</i>	C2	-	-	-	-	-	-	-
BUILD	- <i>u-jivá</i>	Au	-	-	-	-	-	-	-
BREAK	- <i>u-la?a</i>	Au	-	-	-	-	-	-	-
KILL	- <i>u-jvi</i>	Au	-	-	-	-	-	-	-
BEAT	- <i>?hi</i>	Ac	-	-	-	-	-	-	-
HIT	- <i>á?á</i>	Au	-	-	-	-	-	-	-
TOUCH	- <i>ala?</i>	C2	-	-	-	-	-	-	-
CUT	- <i>u-sú?á</i>	Au	-	-	-	-	-	-	-
TAKE	- <i>u-láá</i>	Au	-	-	-	-	-	-	-
TEAR	- <i>u-s-áá?</i>	Au	-	-	-	-	-	-	-
PEEL	- <i>u-s-ata</i>	Au	-	-	-	-	-	-	-
HIDE	- <i>u-to-káchi?</i>	Au	-	-	-	-	-	-	-
SHOW	- <i>u-su?á</i>	Au	-	-	-	-	-	-	-
GIVE	- <i>táá</i>	A(0)	-	-	-	-	-	-	-
SEND	- <i>u-té?é</i>	Au	-	-	-	-	-	-	-
CARRY	- <i>u-tē</i>	Au	-	-	-	-	-	-	-
THROW	- <i>u-né?é</i>	Au	-	-	-	-	-	-	-
TIE	- <i>u-x-iké?</i>	Au	-	-	-	-	-	-	-
PUT	- <i>u-t-á?á</i>	Au	-	-	-	-	-	-	-
POUR	- <i>u-t-á?á</i>	Au	-	-	-	-	-	-	-
POUR	- <i>u-tákwá</i>	Au	-	-	-	-	-	-	-
COVER	- <i>u-t-aké?</i>	Au	-	-	-	-	-	-	-
FILL	- <i>?he-chá-tzá?á</i>	A(0)	-	-	-	-	-	-	-
LOAD	- <i>u-tákwá</i>	Au	-	-	-	-	-	-	-

<sup>3</sup> The causative means 'to blame him/her'.

## 2. Basic morphosyntax of Zenzontepec Chatino

### 2.1. Clause structure, pronouns, and grammatical relations

- ZEN basic constituent order is VSO. It is a strongly head-marking language with no case marking on NPs. Basic intransitive (1) and transitive clauses (2)<sup>4</sup>

- nka-tuu?* *chu* *kí?y-ú=V*  
CPL-cough NMLZ.HUM male=DEM  
'the man coughed' [elicited]
  - nkvi-sóó?* *na* *nkwizq=V?* *tathyá* *s-ate?* *kusq*  
CPL-gather ART child=DEM all.of POSS-cloth old  
'the child gathered all of his old clothes' [text: nkwtizan ti?i 5:25]
- Dependent pronouns - not indices:
    - 2nd person singular dependent pronoun is marked by tone change (3a).
    - All other dependent pronouns are enclitics (3b).
    - 3rd person (sg or pl) arguments may be omitted, as in *nakwē* 'he said' in (3b).

- a. *ta* *y-áá.* b. *ta* *y-aa-á?* *nakwē*  
already CPL-go.2SG already CPL-go=1SG CPL.say.3  
"you went already?" "I already went", he said.  
[text: kwentu nu ntza?anum? 2:54]

- O arguments are flagged by the relational noun *ji?i* if pronominal (4) or specific (5).

- k-u-t-á?á-leta=q?* *ji?i=qw* *jà* *ná* *ki-lji=qw*  
POT-CAUS-TRN-be.inside-path=1SG RN=2PL CONJ NEG POT-get.loss=2PL  
'I am going to guide you (pl.) so that you (pl.) don't get lost' [offered]
- ta* *nká-(u-)?á?á=ú?* *ji?i* *[na ya* *nká=V?*  
already CPL-(CAUS)-cut=3PL RN ART CLF.wood Enterolobium.sp.=DEM EMPH now  
'they have cut (down) the elephant's ear tree now' [text: kela ke kwiten? 1:14]

- If an O argument is not pronominal or specific, it is not flagged (2), so ZEN has **differential object marking**.
  - If O is unflagged, grammatical relations are determined by context or constituent order.

<sup>4</sup> The practical orthography here differs from the IPA as follows: *kw* = [kʷ], *tz* = [ts], *r* = [r], *ty* = [tʰ], *ly* = [lʰ], *ny* = [nʰ], *ch* = [tʃ], *x* = [x], *y* = [j], *ky* = [kʲ], *j* = [jʰ], *Y* = nasalized vowel, *VV* = long vowel, *V* = low tone, *V* = high tone, and unaccented vowels carry no lexical tone. Vowel hiatus is only tolerated across clitic boundaries, and elsewhere one vowel is deleted in hiatus. Underlying vowels that end up deleted are enclosed in parentheses in the examples. Grammatical abbreviations as different from the Leipzig Glossing Rules are: ANIM = animate, CONJ = conjunction, CPL = completive aspect, EMPH = emphasis, HAB = habitual aspect, HUM = human, INTR = intransitive, POT = potential mood, PRG = progressive aspect, RN = relational noun, RSP = respectful, STAT = stative aspect, TR = transitive.

- Since only A or S may encliticize to verbs and only O may be flagged by *jiʔi*, ZEN shows nominative-accusative alignment.
  - A **subject** in ZEN is an argument that can encliticize to the verb if pronominal.
- Finally, like 3rd person pronominal subjects, 3rd person O arguments may be omitted (6)

- 6) *k(i)-u-kiiʔeʔ*  
 POT-CAUS-break  
 ‘s/he broke it’

## 2.2. More on flagging: relational nouns

### 2.2.1. The relational noun *jiʔi*.

- In ditransitive constructions, pronominal or specific T and R arguments are flagged the same as P, by *jiʔi*, and word order distinguishes the roles: T precedes R (7).<sup>5</sup>

- 7) *k(i)-u-suʔuʔ=ʔiʔ na nkwiʔeq kimaʔa jiʔi jmiʔ kʔʔuʔ=ʔiʔ*  
 POT-CAUS-show=1SG RN ART child female RN offspring male=1SG  
 ‘I will show the girls to my son’ [elicited]

- The relational noun can flag (specific) locational arguments, as in ‘put’ (8)

- 8) *nkʔa-(u)-jinkwá tejeʔ jiʔi na kantiʔ=Vʔ*  
 CPL-(CAUS-)be.inside salt RN ART soup=DEM  
 ‘she put salt in the soup’ [elicited]

- It also flags the genitive NP in non-intimate (alienable) possession constructions (9).

- 9) *nkay-ukwáʔ ti na nyatè=Iʔ nkʔa-(u)-jloʔ kuchili jiʔi*  
 CPL-pull EMPH ART person=DEM CPL-(CAUS-)take.out knife RN  
 ‘the person pulled out his knife’ [text: el brujo 1:35]

- In some cases there is structural ambiguity about whether the relational noun is flagging a possessor or a recipient/beneficiary (10).

- 10) *k(i)-juʔaʔ=ʔiʔ tzaka yuu jiʔi nyáʔaʔ=ʔiʔ*  
 POT-buy=1SG one land RN mother=1SG  
 ‘I am going to buy a piece of land for my mother’  
 or ‘I am going to buy a piece of my mother’s land (from her)’ [elicited]

<sup>5</sup> Flagging in ZEN ditransitive constructions differs from that in Eastern Chatino, where inanimate P and T arguments are never flagged by cognates of *jiʔi*, and R arguments are always flagged (Cruz et al. 2010).

### 2.2.2. The relational noun *loʔo* is a coordinator between clauses or constituents. It also flags instrument (11) and comitative NPs (12).

- 11) *nkʔa-tyejná nti(i)-ju-laʔaʔ=úʔ jiʔi na keʔ=Vʔ loʔo kwii-tiʔyá*  
 CPL-begin HAB-CAUS-break=3PL RN ART rock=DEM RN with CLF.ANIM-lightning  
 ‘they began to break the rock with lightning’ [text: piedra rajada 2:19]

- 12) *k(i)-ju-s-ukwaʔ=na jmuʔ neyá loʔoʔ=úʔ*  
 POT-CAUS-TRN-shell=1PL.INCL eight fanega RN.with=3PL  
 ‘we are going to shell eight fanegas (of corn) with them’ [text: historia2 12:55]

- Typically, NP participants flagged by the relational noun *loʔo* are not arguments.

### 2.3. Devices that encode or change valency

- ZEN is a transitivity language in the terms of Nichols et al. (2004).
- The basic verbal template, adapted from Campbell (2011*b*), is given in (13).

#### 13) ZEN verbal template

	POS 3	POS 2	POS 1	<b>ROOT</b>
a.	ASP-	(CAUS/TIER-)	(DERV-) root	(=ADV)* (=SUBI)
b.	ASP-	AUX	dep.verb	(=ADV)* (=SUBI)

- There are three morphological slots before the main verb root, following Kaufman (1987).
- Aspect/mood inflection is obligatory and is verb initial (position 3).
- Building on Kaufman’s (1987; 1993) treatment of Zapotec, Campbell (2011*a*) classifies ZEN verbs based on which allomorphs of the potential, progressive, habitual, and completive prefixes they select.<sup>6</sup>

- The selection of aspect prefix allomorphs is based both on verbal valency and the phonological shape of the verb (Table 2)

Table 2

ZEN Aspect prefix classes and sub-classes

	Class A				Class B				Class C	
	Au, Ac	A2	Bc	Bt	By	Ca	C2	Ca	C2	
POT	<i>ki-</i>	<i>ki-</i>	<i>ki-</i>	<i>(t → ty)</i>	<i>(y → ch)</i>	<i>k-</i>	<i>k-</i>	<i>k-</i>	<i>k-</i>	
HAB	<i>ni-</i>	<i>ni-</i>	<i>ni-</i>	<i>n-(t → ty)</i>	<i>n-(y → ch)</i>	<i>ni-</i>	<i>ni-</i>	<i>ni-</i>	<i>ni-</i>	
PRG	<i>nte-</i>	<i>nte-</i>	<i>nte-</i>	<i>nte-</i>	<i>nte-</i>	<i>nch-</i>	<i>nch-</i>	<i>nch-</i>	<i>nch-</i>	
CMP	<i>nka-</i>	<i>nkwi-</i>	<i>nka-</i>	<i>nka-</i>	<i>nk(u)-</i>	<i>nka-</i>	<i>nka-</i>	<i>nka-</i>	<i>nka-, y-</i>	

<sup>6</sup> See also Villard 2010 and Sullivant 2011 for Chatino and Beam de Azcona (2004) and Smith Stark (2002) *inter alia* for Zapotec verb classifications based on aspect prefixes.

### 3. Valency patterns

#### 3.1. Basics of ZEN valency and aspect prefix subclasses

- Transitivity in ZEN involves not only the number of core arguments, but also the agency, volitionality, or animacy of the subject (Campbell 2011a).
- Therefore, it is appropriate to talk about verbs as being more or less transitive (Hopper and Thompson 1980).
- A rough characterization of the valency and phonological features of verbs of the various aspect prefix sub-classes is given in (14), from lower to higher transitivity.

14) <i>Underived verbs</i>		
Sub-class Bc	unaccusative, consonant initial	<i>u-</i> caus / <i>e-</i> caus
Sub-class Ca	intransitive, begin in <i>a-</i>	<i>u-</i> caus / <i>e-</i> caus
Sub-class Bt	motion and positional verbs, mostly <i>t-</i> initial	<i>u-</i> caus / <i>e-</i> caus
Sub-class Ac	unergative or transitive, consonant initial	<i>e-</i> caus only
Sub-class A2	transitive, and all <i>i</i> or <i>e</i> initial verbs (tr. or intr.)	<i>e-</i> caus only
Sub-class C2	unergative or transitive, begin in <i>a-</i> , <i>o-</i> , or <i>u-</i>	<i>e-</i> caus only

#### *Derived verbs*

Sub-class By	<i>y-</i> initial verbs, mostly derived unaccusative	<i>u-</i> caus only
Sub-class Au	derived <i>u-</i> causative verbs	---

### 3.2. Verbs of emotion and cognition

- Verbs of cognition and emotion have a special coding frame: the subject is an intimately possessed body part, either *ti?* ‘living core of’ or *níké* ‘chest, heart, stomach of’.
  - *ti?* is a reduced form of *lati?* ‘living core of’, cf. proto-Zapotec *\*latʔiʔ* ‘center of emotions’ (Kaufman 1993)
  - They are enclitics like the dependent pronouns, and their possessor is the experiencer of the emotion or thought, as in (15).

15) <i>ná</i>	<i>y-a-top=ti?</i>	<i>ti</i>	<i>náa?</i>	<i>ní</i>	<i>tzá?</i>	<i>xíyá?</i>	<i>ri</i>
NEG	CPL-go-be-standing=	living.core	EMPH	ISG	not.even	word	small=only
‘I did not like it, not even a little bit’							

- Some other verbs with this coding frame are given in (16):

16) ‘to care about it’	<i>-a-jíyá=ti?</i>	(lit. -become-work=	living.core)	
‘to believe it’	<i>-éya=ti?</i>	(lit. -X=	living.core)	
‘to know it’	<i>-kwá=ti?</i>	(lit. -X=	living.core)	
‘to regret it’	<i>-tsé-top=ti?</i>	(lit. -turn-be	standing=	living.core)
‘to be sad’	<i>-twe=ti?</i>	(lit. -get	ground=	living.core)
‘to miss, long for it’	<i>-táá=níké</i>	(lit. -sing=	heart)	

### 3.3. Coding frames of derived verbs

#### 3.3.1. Position 1 intransitizer prefix *y-*.

- Most aspect prefix sub-class By verbs are derived stems with intransitizer *y-*. (17).

17) <i>izoʔò nahwé</i>	<i>lé?</i>	<i>nk-y-áté=í?</i>	<i>nané?é</i>
good	say	then	CPL-INTR-enter=3PL
‘“good”, he said, and they went inside’			
[text: nkwitzan tíʔi 10:35]			

- Other verbs with this coding frame are listed under the alternations that they participate in: the active/inactive (4.2.1) and the equipollent causative/intransitive (4.2.2)

#### 3.3.2. Position 1 transitizer prefixes *s-* or *t-*.

- In a few cases these occur on verbs in the active/inactive alternation (4.2.1), but in most cases they co-occur with the position 2 *u-* causative prefix (18) in the equipollent alternation (4.2.2).

18) <i>nte-(u-)</i>	<i>ʃ-ákó?</i>	<i>koo</i>	<i>jiʔ?</i>	<i>koo?</i>
PRG-(CAUS.)	TRN-cover	cloud	RN	moon
‘clouds are covering the moon’ [offered]				

#### 3.3.3. Verbs with the *u-* causative prefix.

- In addition to most of the verbs with the transitizer prefixes *s-* and *t-*, many of aspect prefix subclasses Be, Bt, and Ca are causativized with the *u-* prefix (19).

19) <i>tyakwi</i>	<i>yáa?</i>	<i>jà</i>	<i>náa?</i>	<i>k(i)-u-si=ǵ?</i>
POT.be	hanging	hand.2SG	CONJ	ISG
‘you will carry it in your hand, so that I may pick it’ [text: kwitiʔyu 12:31]				

#### 3.3.4. Verbs with the *è-* causative auxiliary.

- The *è-* causative is an auxiliary since the main verb occurs in a dependent form, as in (20).

20) <i>nt(i)-e-k-utɛ=ʔu</i>	<i>jiʔ?</i>	<i>na</i>	<i>tyá-ké?é=V?</i>
HAB-CAUS-POT-feat=	3SG.M	RN	ART
‘he was scaring the flies’ [text: nkwitzan tíʔi 14:13]			

- Verbs that begin in consonants take an additional *u-* causative prefix, perhaps to separate the dependent marker potential prefix *k-* from the stem initial consonant, as in (21).

21) <i>nkw(i)-é-k-u-tyé?</i>	<i>é</i>	<i>juwá=ʔ</i>	<i>jiʔ?</i>	<i>ná</i>	<i>ke?ná=ʔ</i>	<i>jiʔ?</i>	<i>tyáá=ʔ</i>
CPL-CAUS-POT-CAUS-lick	Juan=	DEM	RN	ART	plate=	DEM	RN
‘Juan made Pedro lick the plate’ [offered]							

#### 4. Valency alternations

##### 4.1. Uncoded alternations

##### 4.1.1. Object omission alternation.

- An underived polyvalent verb has an unexpressed but generally understood object
- The role of the subject of the less transitive verb is the same as that of the basic verb (Levin 1993).

22) *y-utzé na nkwiʔaq kiʔyù=ʔ jiʔi niʔ kiʔyù=ʔ*  
 CPL-fear ART child male=DEM RN 3SG.RSP male=DEM  
 ‘the boy feared the man’ [elicited]

23) *kwi-naʔa=tʔoʔo=wq nakwé ná k(ò)-utzé=wq nakwé*  
 IMP-see=well=2PL say.3 NEG POT-fear=2PL say.3  
 ‘“look here”, he said. “do not be afraid”, he said’ [text: kela ke kwiten7 3:08]

- Since pronominal objects may be left out, one must distinguish the object omission alternation from such cases.
- Some other verbs that participate in the object omission alternation are given in (24).

24) *-aku* ‘to eat (it)’  
*-akwiʔ* ‘to say (it) (to him/her)’, ‘to speak (to him/her)’  
*-una* ‘to hear (it)’  
*-ùlù* ‘to sing (it)’, ‘to dance (it)’, ‘to make music’  
*-naʔa* ‘to see (it)’  
*-u-saʔq* ‘to write (it)’  
*-u-suʔù* ‘to teach/show (it) ~ ‘to teach’  
*-táá* ‘to give (it) (to him/her) ~ ‘to provide for him/her’  
*-táá=tiʔ* ‘to think (about it/him/her)’  
*-ikwq* ‘to sew (it)’  
*-ʔne-táʔq* ‘to study (it), read (it)’

#### 4.2. Verb coded alternations

##### 4.2.1. The active/inactive alternation.

- Only applies to a few verbs.
  - Both verb forms are derived from a root that is unspecified for valency (equipollent).
    - Inactive member of the pair is derived by the intransitivizer prefix *y-*. In (25) ‘burn’, the subject is ‘the books’.
- 25) *nyáʔq nu nee nkà nu kusòq nk-y-aké na liwriʔ=ʔ nakwé*  
 year NMLZ say CPL.be NMLZ war CPL-INTR-burn ART book=DEM say  
 ‘the year that we say was the Revolution, the books were burnt, they say’  
 [text: historial I 31:03]

◦ Active member of the pair is coded by the transitivizer prefixes *t-* or *s-* (26)

26) *me-t-aké na kiiʔ*  
 PRG-TRN-burn ART fire  
 ‘the fire is burning’ [elicited EZC La Aurora 1112]

- The active form of the verb is also monovalent, but the sole argument of the verb is the source of the burning, the fire, and not something that gets burned by it.
- The alternation therefore reflects the **orientation or perspective of the argument in the event**.
  - If it is conceived as being instigated or propelled **internally**, the active form is used.
  - If the force that drives the event is **external**, the inactive alternant is used.

- Other verbs that undergo the active/inactive alternation are in (27)

27) *-uʔu* *-y-uʔu* ‘to be put inside’ *-t-uʔu* ‘to be inside’, ‘(crop) to be yielded’  
*-uwi* *-y-uwi* ‘to flash’ *-s-uwi* ‘to shine’, ‘to make oneself up’

##### 4.2.2. The equipollent causative/intransitive alternation.

- Less transitive form is derived by the intransitivizer prefix *y-*
- More transitive form is derived by the transitivizer prefixes *t-* or *s-* with *u-* causative prefix
- A pair of verbs that illustrate this alternation is derived from the root *-ákqʔ* ‘to cover, close’: less transitive (28) and causative (29).

28) *nk-y-ákqʔ na nkwiʔaq=ʔ lóʔð na tã-kizqʔ=ʔ*  
 CPL-INTR-cover ART child=DEM RN.with ART cloth-hair=DEM  
 ‘the child was covered with the blanket’ [elicited: 4/19 valence exx]

29) *nkà-(u)-ákqʔ miʔ kiʔyù=ʔ jiʔi na nkwiʔaq=ʔ lóʔð na tãkizqʔ=ʔ*  
 CPL-CAUS-TRN-cover 3SG.RSP male=DEM m ART child=DEM RN.with ART blanket=DEM  
 ‘the man covered the child with the blanket’ [elicited: 4/19 valence exx]

- All verbs that undergo the equipollent causative/intransitive alternation are given in (30).
- 30) *-atq* *-y-atq* ‘to get peeled’ *-u-s-atq* ‘to peel it’  
*-áté* *-y-áté* ‘to enter, to get put in’ *-u-s-áté* ‘to put it in’  
*-ákwié* *-y-ákwié* ‘to come up’ *-u-s-ákwié* ‘to agitate it’  
*-Vlú* *-y-àlú* ‘to get spilled’ *-u-s-èlú* ‘to spill it out’  
*-atiʔ* *-y-atiʔ* ‘to get untied’ *-u-s-atiʔ* ‘to untie it’  
*-áta* *-y-áta* ‘to be crushed’ *-u-s-áta* ‘to crush it’  
*-Vnè* *-y-anè* ‘(seeds, dust) to be spread’ *-u-s-enè* ‘spread (seeds/dust)’  
*-àʔwé* *-y-àʔwé* ‘to be split’ *-u-s-àʔwé* ‘to spray it’  
*-ùkwá* *-y-ùkwá* ‘to get sprayed’ *-u-s-ùkwá* ‘to shell it’  
*-ùkwáʔ* *-y-ùkwáʔ* ‘to get shelled’

- <i>uwe?</i>	- <i>y-uwe?</i>	'to get scraped, leveled'	- <i>u-s-uwe?</i>	'to scrape it, level it'
- <i>l'kq?</i>	- <i>y-akq?</i>	'to get tied up'	- <i>u-x-ikq?</i>	'to tie it up'
- <i>akq?</i>	- <i>y-akq?</i>	'to get closed, covered'	- <i>u-t-akq?</i>	'to close it, cover it'
- <i>akq?</i>	- <i>y-akq?</i>	'to get burned'	- <i>u-t-akq?</i>	'to burn it'
- <i>ala?</i>	- <i>y-ala?</i>	'to be woven'	- <i>u-t-ala?</i>	'to weave it'
- <i>ánò</i>	- <i>y-ánò</i>	'to be left, to stay'	- <i>u-t-ano</i>	'to leave it'
- <i>u?u</i>	- <i>y-u?u</i>	'to be put inside'	- <i>u-t-u?u</i>	'to put it in'
- <i>ùkq?</i>	- <i>y-ùkq?</i>	'to get folded'	- <i>i-t-ùkq?</i>	'to fold it'
- <i>uwí?</i>	- <i>y-uwí?</i>	'to go out, get turned off, get erased'	- <i>i-s-uwí?</i>	'to put it out, turn it off, erase it'
- <i>àlá</i>	- <i>y-àlá</i>	'to melt'	- <i>i-t-àlá</i>	'to melt it'
- <i>àá?</i>	- <i>t-àá?</i>	'to get torn'	- <i>u-s-àá?</i>	'to tear it'
- <i>iti</i>	- <i>w-iti</i>	'to dry'	- <i>u-x-iti</i>	'to dry it'

#### 4.2.3. The *u-* causative alternation.

- The most widespread alternation.
- Verbs of low transitivity, mostly from aspect prefix sub-classes Bc, Bt, and Ca undergo it.
- Less transitive verb has patient-like subject (31); the causative adds external causer (32).

31) *nkà-xù?á na chajfya=V ló?ò na kuchiyù=V*  
 CPL-get.cut ART bread=DEM RN.with ART knife=DEM  
 'the bread was cut with the knife' [elicited]

32) *nkà-(u-xù?á na nkwi?zq=V jì?i na chajfya=V ló?ò kuchiyù*  
 CPL-CAUS-get.cut ART child=DEM RN ART bread=DEM RN.with knife=DEM  
 'the child cut the bread with a knife' [elicited]

- Some aspect prefix sub-class Bc verbs that take *u-* causative are in (33).

- <i>jlyá</i>	- <i>jlyá</i>	'to spread, to slip'	- <i>u-jlyá</i>	'to spread, smear it'
- <i>jnyá</i>	- <i>jnyá</i>	'to shake, to quake, to move'	- <i>u-jnyá</i>	'to be made (moved)'
- <i>jnií</i>	- <i>jnií</i>	'to grow'	- <i>u-jnií</i>	'to lengthen it'
- <i>kéla</i>	- <i>kéla</i>	'to get extended'	- <i>u-kéla</i>	'to extend it'
- <i>ki?</i>	- <i>ki?</i>	'to open up'	- <i>u-ki?</i>	'to open it'
- <i>ki?h</i>	- <i>ki?h</i>	'to get toasted'	- <i>u-ki?h</i>	'to toast it'
- <i>káná?</i>	- <i>káná?</i>	'to get thrown out'	- <i>u-jná?</i>	'to throw it out'
- <i>láu</i>	- <i>láu</i>	'to get dug'	- <i>u-láu</i>	'to dig it'
- <i>lákwa</i>	- <i>lákwa</i>	'to get set free, to get taken'	- <i>u-láa</i>	'to free it, take it'
- <i>liti?</i>	- <i>liti?</i>	'to get counted'	- <i>u-lakwà</i>	'to count it'
- <i>la?á</i>	- <i>la?á</i>	'to sink'	- <i>u-liti?</i>	'to sink it'
- <i>lákwa</i>	- <i>lákwa</i>	'to get swept out'	- <i>u-la?a</i>	'to break it'
- <i>nakwá</i>	- <i>nakwá</i>	'to get blessed'	- <i>u-lùkwá</i>	'to sweep it out'
- <i>su</i>	- <i>su</i>	'to come off'	- <i>u-nakwá</i>	'to bless it'
- <i>xù?á</i>	- <i>xù?á</i>	'to get cut'	- <i>u-su</i>	'to pick it, remove it'
			- <i>u-xù?á</i>	'to cut it'

- A few sub-class Ca verbs undergo the *u-* causative derivation (34).

- <i>aji</i>	- <i>aji</i>	'to die'	- <i>u-(a)jwi</i>	'to kill him/her/it'
- <i>aké?</i>	- <i>aké?</i>	'to get cooked'	- <i>u-(á)kék?</i>	'to cook it'
- <i>àq?</i>	- <i>àq?</i>	'to crumble'	- <i>u-(à)q?</i>	'to take it apart'
- <i>atzu</i>	- <i>atzu</i>	'to pop, to burst'	- <i>u-(a)lzi?</i>	'to pop, burst it'
- <i>atza?</i>	- <i>atza?</i>	'to get wet'	- <i>u-(a)lza?</i>	'to make it wet'

- Some aspect prefix sub-class Bt verbs that undergo the *u-* causative derivation are in (35).

- <i>atá?</i>	- <i>atá?</i>	'to walk, to go around'	- <i>u-tá?á?</i>	'to move it (in it)'
- <i>te?é</i>	- <i>te?é</i>	'to pass'	- <i>u-te?é</i>	'to pass it, send it (to him/her)'
- <i>te?é</i>	- <i>te?é</i>	'to be located'	- <i>u-te?é</i>	'to take it, to place it'
- <i>tùkwá</i>	- <i>tùkwá</i>	'to be sitting firmly, to be put in'	- <i>u-tùkwá</i>	'to put, pour it'
- <i>t-u?u</i>	- <i>t-u?u</i>	'to be inside', '(crop or fruit) to be yielded'	- <i>u-t-u?u</i>	'to put, pour it'
- <i>téé?</i>	- <i>téé?</i>	'to get peeled, whiddled'	- <i>u-téé?</i>	'to peel it, to whiddle it, shave oneself'

#### 4.2.4. The *è-* causative alternation.

- The auxiliary *è-* causative alternation also adds an external causer to an event. It applies to some unergative verbs and some transitive verbs, like 'to eat (it)' in (36) and (37).

36) *ná y-aku=é? suwe=V? láká*  
 NEG CPL-eat=LSG egg=DEM yesterday  
 'I did not eat the eggs yesterday' [elicited]

37) *na nkwi?zq=V nte-k-è-k-aku chaja ji?i na jné?=V*  
 ART child=DEM PRG-POT-CAUS-POT-eat tortilla RN ART dog=DEM  
 'the kids are feeding tortillas to the dogs' [elicited]

- The *è-* causative applies to some verbs from each of the aspect prefix sub-classes.

- Some sub-class Bc verbs that undergo the alternation are in (38).

- <i>jnyá</i>	- <i>jnyá</i>	'to shake, to quake, to move'	- <i>è-k-u-jnyá</i>	'to shake it up', 'shake it (a tree so fruit falls)'
- <i>lákwi</i>	- <i>lákwi</i>	'to boil'	- <i>è-k-u-lákwi</i>	'to boil it'
- <i>liji</i>	- <i>liji</i>	'to get lost'	- <i>è-k-u-liji</i>	'to lose it'
- <i>liti?</i>	- <i>liti?</i>	'to sink'	- <i>è-k-u-liti?</i>	'to drown him/her'
- <i>la-misq?</i>	- <i>la-misq?</i>	'to roll'	- <i>è-la-tisq?</i>	'to roll it'
- <i>lápwa</i>	- <i>lápwa</i>	'to be carried off by the current'	- <i>è-k-u-lápwa</i>	'to send it in the current'
- <i>nyaxé?</i>	- <i>nyaxé?</i>	'to get angry'	- <i>è-k-u-nyaxé?</i>	'to anger him/her'
- <i>tfkwí</i>	- <i>tfkwí</i>	'to landslide'	- <i>è-k-u-tfkwí</i>	'to cause a landslide'

- Aspect prefix sub-class Ca verbs that take the *è-* causative are in (39).

39) *-ákwi* (wood) to rot' *-è-k-ákwi* 'to make it rot'

-àsú?	'to age'	-è-k-àsú?	'to make one age'
-àtzú?	'(fruit) to spoil'	-è-k-àtzú?	'to make it spoil'
-u?we	'(water) to dry up'	-è-k-u?we	'to make it dry up'
-ala	'to be born'	-è-k-ala	'to induce child birth'

• The motion and positional aspect prefix sub-class Bt verbs that take the è- causative (40)

40) -ta?q	'to walk, to go around'	-è-k-u-ta?q	'to move it around'
-tejè	'to pass'	-è-k-u- tejè	'to sway (tree in wind)'
-tú?u-jnyá	'to run'	-è-k-u-tú?u-jnyá	'to make him/her run'

- The unergative and bivalent verbs of aspect prefix sub-class C2 undergo only the è- causative derivation (41) if any, and never the *u-* causative.

41) -akwi?	'to speak'	-è-k-akwi?	'to make one speak'
-ata	'to bathe oneself'	-è-k-ata	'to bathe him/her'
-uwe it?	'to be sad'	-è-k-uwe it?	'to cause to be sad'
-úlá	'to make music, sing'	-è-k-úlá	'to get one to dance'
-ulá?	'to be cold'	-è-k-ulá?	'to cause to be cold'
-ùná	'to cry'	-è-k-ùná	'to make him/her cry'
-una	'to twist it into rope'	-è-k-una	'(tree) to twist it wind'
-aku	'to eat (it)'	-è-k-aku	'to feed him/her'
-utzè	'to fear (it)'	-è-k-utzè	'to frighten him/her'

- Likewise, none of the unergative or transitive verbs of aspect prefix sub-classes Ac or A2 undergo the *u-* causative alternation, but several take the è- causative (42).

42) -jyá	'to play'	-è-k-u-jyá	'to make him/her play'
-hya?à	'to smell it'	-è-k-u-hya?à	'to make one smell it'
-xá?à	'to scream'	-è-k-u-xá?à	'to cause one to scream'
-sòq	'to fight (him/her)'	-è-k-u-sòq	'to make him/her fight'
-xiti	'to laugh'	-è-k-u-xiti	'to get him/her to laugh'
-i-tu?u (sate?)	'to get dressed'	-è-k-u-tu?u (sate?)	'to dress him/her'

Which Causative will a verb take?

- Monovalent verbs with non-volitional subjects mostly take the *u-* causative if any.
- Unergative or bivalent verbs with volitional subjects mostly undergo the è- causative if any.
  - There are exceptions: -*aji* 'to die', volitional subject but takes *u-* causative.
- In Dixon's (2002) typology of causatives, the semantic parameter that comes closest to capturing the patterns of causative selection in ZEN is that of **causee control**.
  - But, causee control doesn't fit the data fully, i.e. subjects like 'land', 'trees', 'wind', and 'water'

### Animacy in ZEN

- Chatino culture is traditionally animist
- The animacy classifier prefix, ZEN *kwi-*
  - Human nouns: *kwi-é-lá* 'dancer', *kwi-tzá?á* 'sorcerer', *kwi-it?* 'brother of male'
  - Animal names: *kwi-na?* 'deer', *kwi-íchi?* 'jaguar', *kwi-eq?* 'bat', *kwi-tee?* 'ant', *kwi-iyú?* 'spider', etc.
  - Natural forces and heavenly bodies:
    - *kwi-é-lá* 'current, flow', *kwi-e?é* 'wind', 'air', *kwi-it?á* 'lightning', *kwi-tijyúá* 'comet', *kwi-ela* 'star', *kwi-tí* 'Morning Star', and *jo?á* *kwi-tzáá* 'sun'.
    - Note that 'wind' and 'current' ('water') are classed as animate.
- Certain natural forces and bodies have a *lati?* 'living core' source of the subject enclitic *it?* (see section 3.2).
  - people, flowers, the **earth** ('quake'), **mountains** ('landslide'), **trees** (the verbs where **wood** rots or trees twist in the wind), the ocean (**water, current**), **air**, banana plants ('spoil'), and corn plants.
- Verbs which undergo the è- causative have either:
  - volitional subjects with some control
  - or non-volitional but **animate** subject, and the force that drives the process or event is conceived of as coming from within the subject
- Verbs that undergo the *u-* causative alternation typically have:
  - subjects classed as inanimate
  - an animate subject but the force that brings about the change or propels the action is conceived as coming from outside the subject.
- These generalizations are verified by the few cases where a given verb participates in both causative alternations (43)-(46).
 

43)	- <i>tu?u</i>	'to be inside', (crop or fruit) to be yielded'
	- <i>u-t-ú?u</i>	'to put, pour it in it' (literally: 'to cause it to be inside')
	- <i>i-t-ú?u (sate?)</i>	'to get dressed' (lit.: 'to be inside (clothes) again')
	- <i>è-k-u-t-ú?u (sate?)</i>	'to dress him/her' (lit.: 'to cause him/her to be inside his her clothes')

44)	- <i>jnyá</i>	'to shake, to quake, to move'
	- <i>u-jnyá</i>	'to be made, built (moved)'
	- <i>è-k-u-jnyá</i>	'to shake it (a tree so fruit falls)'

45)	- <i>liti?</i>	'to sink'
	- <i>u-liti?</i>	'to sink it'
	- <i>è-k-u-liti?</i>	'to drown him/her'

46)	- <i>tejè</i>	'to pass'
	- <i>u-tejè</i>	'to pass it, send it (to him/her)'

-è-k-u-tejè 'to sway (tree in wind)'

- A particularly interesting example is the verb 'cut', which requires an external agent, typically wielding an instrument.

○ The *è*-causative alternation forces the interpretation of the event as being inchoative, or rather that the force of the action comes from within (47).

- 47) -xùùù 'to get cut'  
 -u-xùùù 'to cut it'  
 -è-k-u-xùùù 'to snap or cut all by itself'

#### 4.2.5. The applicative alternation.

- Coded on the verb by the incorporation of the relational noun *lòʔò* 'with', as in the verb 'to go' (48) whose applicative means 'to take it' (49).

48) *tz-aá=na nàkwɛ=ùù*  
 POT-go=IPL.INCL say=3PL  
 '...let's go', they said' [text: kwentu jni7 sene 0:53]

49) *tz-a-lòʔò nàáʔ kichi*  
 POT-go-RN.with ISG quern  
 'I will take the quern' [text: historia2 11:50]

- Other verbs whose applicative adds a patient are in (50) (motion verbs).

50) -*taʔq* 'to walk, to go around' -*taʔq-lòʔò* 'to carry it'  
 -*jná* 'to flee' -*jná-lòʔò* 'to take it away'

- The applicative adds malefactive arguments in a few cases (51).

51) -*jvá* 'to play' -*jvá-lòʔò* 'to mess with him/her'  
 -*xiti* 'to laugh' -*xiti-lòʔò* 'to laugh at him/her'  
 -*xáʔa* 'to scream' -*xáʔa-lòʔò* 'to scream at him/her'  
 -*ʔne* 'to do it' -*ʔne-lòʔò* 'to mistreat, punish him/her'  
 -*xe* '...' -*xe-lòʔò* 'to deceive him/her'

- A few stative verbs gain a beneficiary object through the applicative alternation (52).

52) -*à* 'to be done, to be' -*à-lòʔò* 'to help, accompany him/her'  
 -*toq* 'to be standing' -*toq-lòʔò* 'to support, defend him/her'

#### 4.2.7. The object/instrument incorporation alternation.

- In verbs of hitting, the instrument can be incorporated into the verb: most common when they are prototypical instruments for such actions (53) or body parts (54).

53) *mè-k-è-k-utzɛ x-àlá=qʔ* *jiʔ=qʔ nu m-è-rá-yaka=ùù* *jiʔ=qʔ*  
 PRG-POT-CAUS-POT-fear POSS-dream=ISG RN=ISG NMLZ PRG-hit-wood=3PL RN=ISG  
 'my dreams about people hitting me with a stick are frightening me' [offered]

54) *nka-ʔni-yaaʔ tyúú sè yaka jwaá*  
 CPL-beat-hand Pedro base ear Juan  
 'Pedro smacked Juan upside the head' [offered]

- Other verbs that undergo body part instrument incorporation are listed in (55). *yaaʔ* 'hand', *kíyaʔ* 'foot', *xetqʔ* 'fingernail', *jne* 'finger', and *tuʔwa* 'mouth'.

55) -*u-s-uweʔ* 'to scrape it, smooth it out' -*u-s-uweʔ-yaaʔ* 'to rub it (on it/him/her)'  
 -*u-s-uweʔ-kíyaʔ* 'to stamp on it'  
 -*u-s-uweʔ-xetqʔ* 'to scratch it'  
 -*ojoʔ* 'to sting him/her, to poke it' -*ojoʔ-jne* 'to finger poke him/her'  
 -*u-suʔù* 'to teach it to him/her' -*u-suʔù-jne* 'to point at it'  
 -*ù-jlá* 'to spread, smear it' -*ù-jlá-yaaʔ* 'to spread it by hand,  
 to massage him/her'  
 -*ùlá* 'to make music' -*ùlá-tuʔwa* 'to sing'  
 -*ùlá-kíyaʔ* 'to dance'

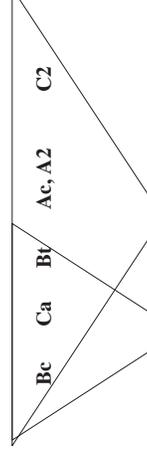
## 5. Conclusions

- The ZEN aspect prefix sub-classes made up of primarily underived verbs can be ordered according to increasing transitivity, where higher transitivity is defined by polyvalence and/or higher agentivity or animacy of the subject (figure 1).

- Verbs further split into two classes depending on whether they undergo the *u*-causative or the *e*-causative alternation.

- Animacy and internal versus external orientation towards the event govern the most salient valency alternations: the *u*- and *è*-causatives

Figure 1  
 Less transitive More transitive



*u*-causative *e*-causative

<sup>7</sup> The verb 'deceive' must be from a lexicalized applicative. The basic verb is unidentified and likely lost.

- The same distinction of external versus internal perspective is reflected in the fairly rare active/inactive alternation.
- Many canonically transitive verbs, like 'kill', 'break', 'cut', 'open', and 'cook', and some canonical ditransitives, like 'show', 'take away', and 'send' are *μ*-causatives, derived from less transitive roots. This is fairly uncommon cross-linguistically (Haspelmath 1993).
- Verbs that undergo the equipollent causative/intransitive alternation can best be described as those that have an agent that physically manipulates a non-volitional object, such as 'peel', 'shell', 'cover', 'crush', 'tie', 'unite', 'melt', 'burn', 'split', 'scrape', and 'tear'.
- Verbs of motion and position group together in aspect prefix sub-class Bt, and verbs of emotion and cognition share the unique coding frame of having the possessed body part clitics *ni?* 'living core' or *rike?* 'heart' as subject.
- Verbs that have body parts as instruments group together with the verbs of hitting in undergoing the object/instrument incorporation alternation.
- In the applicative alternation, motion verbs add a patient, unergatives add a maleficiary, and stative verbs add a beneficiary.
- There are few valency reducing mechanisms in ZEN. There is no passive voice or anticausative derivation aside from a couple verbs (not discussed here).
- Other alternations not found in ZEN include the locative *spray* or *wipe* alternations (Levin 1993) and the dative alternation.

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Michela Cennamo  
 Dept of Modern Philology  
 University of Naples Federico II  
[micennam@unina.it](mailto:micennam@unina.it)

***Intransitive alternations and the semantics of predicates in Italian***

*Workshop on Valency classes in the world's languages*

Max Planck Institute for Evolutionary Anthropology

Leipzig 15-17 April 2011

**1. Introduction**

Discussion of the interplay of the *structural* (i.e., the event structure template) and *idiosyncratic* aspect (i.e., the root) of a verb's meaning with the *inherent/relational properties of arguments* (e.g., animacy/control, affectedness) (Levin & Rappaport Hovav 2005, Rappaport Hovav 2008, int.al.) in determining the *coding* and *behavioural properties* of verbs in three intransitive alternations in Italian:

- *Differential marking of S* (3.1)
- *Anticausatives* (3.2)
- *Object omission* (3.3)

**2. 'Elasticity' of verb meaning and the event structure perspective on (In)transitivity**

- *Problem*: Identification of the syntactically relevant aspects of a verb's meaning, which determine its variable behaviour, constraining and limiting its flexibility (Levin & Rappaport Hovav 1995: 25, 2005; Sorace 2000: 885, int.al.).
- *Bipartite nature of verb meaning*: it consists of a *structural aspect* (a limited inventory of *event-structure templates*, corresponding to the Vendler-Dowty classification) and an *idiosyncratic aspect (root)*.
- *Structural component*: the grammatically relevant aspect of verb meaning (event structure template), common to other verbs of the same semantic class (i.e., of the same ontological type). It is characterized by a combination of primitive predicates, defining an event type.
- *Idiosyncratic component (root)*: the verb core meaning, what differentiates it from other verbs of the same semantic and grammatically relevant class (e.g., activity, state, etc) (Levin 1999, Rappaport Hovav & Levin 1998: 107; Levin & Rappaport Hovav 2005: 68-75).
- Both aspects play an important role in determining argument realization (Levin & Rappaport Hovav 2005). Need to understand the different contribution of the two components and their integration.

• *Inventory of event structure templates:*

- (1) [x ACT <sub><MANNER></sub>] process (activity)
- (2) [x <STATE>] state
- (3) [BECOME [x <STATE>]] transition (achievement/accomplishment)
- (4) [[x ACT <sub><MANNER></sub>] CAUSE [BECOME [y <RES-STATE>]]] transition (accomplishment)
- (5) [[x CAUSE [BECOME [y <STATE>]]] transition (accomplishment)

(1): activity verbs (Engl. *run, whistle, eat*, It. *correre, fischiare, mangiare*) and semelfactives (Engl. *knock, cough, jump*, It. *bussare, tossire, saltare*) (Levin & Rappaport Hovav 2005: 88), (2): states (e.g., *know, love*), (3): punctual/durative change (It. *esplodere* 'blow', *nascere* 'be born', *affondare* 'sink', *accadere* 'happen', *fiorire* 'flourish'), (4): externally caused change of state - event causes event (Engl. *break, kill, open*, It. *rompere, uccidere, aprire*), (5): individual causes event (Engl. *oil, wax, pocket*, It. *oliare, incerare, intascare* (Rappaport Hovav & Levin 1998: 109, note 9).

• Advantages of the notion of *event structure* (Levin & Rappaport Hovav 2005: 68-77):

- It defines an analysis in terms of 'subevents': number and types of subevents, number and types of participants for each subevent, temporal relation between subevents
- It defines the range of possible semantic roles and their cooccurrence
- It differentiates the meaning stemming from the root from the meaning stemming from the event structure template.

• *Roots* are integrated into the event structure templates either as ARGUMENTS or as MODIFIERS of predicates, indicated, respectively, between angle brackets and italics and as subscripts.

• *Event structure*: association of the idiosyncratic aspect of verb meaning (the *root*) with its structural aspect (i.e., an event structure template)

• Canonical Realization rules (Rappaport Hovav & Levin 1998: 109, Levin & Rappaport Hovav 2005: 72) (assumption: the minimal elements of meaning encoded in the *root* must be syntactically expressed):

(6) a. manner → [X ACT <sub><MANNER></sub>]

(Engl. *jog, run, creak, whistle*; it. *correre, fischiare, scricchiolare, cigolare* ...)

b. instrument → [x ACT <sub><INSTRUMENT></sub>]

(Engl. *brush, hammer, saw, shovel*; It. *spazzolare, scodellare, martellare* ...)

c. thing/stuff (placeable object RHL 1998) → [X CAUSE [ BECOME ] [y WITH < THING> ] ] (Engl. *butter, oil, paper, tile, wax*; It. *imburrare, oliare, incartare*,

*piastrellare, cerare ...)*

d. place → [[X ACT] CAUSE [BECOME] [y <PLACE > ] ] ]

(Engl.. *bottle, box, cage, pocket*; It. *imbottigliare, inscatolare, intascare, ingabbiare ...)*

e. internally caused state → [x BECOME <STATE>]

(Engl.. *bloom, blossom, decay*; It. *fiorire, sbocciare, decadere ...)*

f. externally caused state → [[X ACT]<sub>i</sub>] CAUSE [BECOME] [y <RES-STATE> ] ]

(Engl.. *break, close, crack, open, split*, It. *rompere, aprire, spezzare, spaccare ...)*

- Some examples:

(7) change of state verbs: [[x ACT<MANNER>] ] CAUSE [BECOME [y <RES-STATE> ] ] ] ]

Resultatives (Engl. *kill*, It. *uccidere*, (trans.) *break/rompere*, have the same event structure template, but differ in their *root*, i.e., the result state (in italics and between angle brackets) (7a-c) (Rappaport Hovav & Levin 1998: 107, Levin 2005, Levin & Rappaport Hovav 2005):

(7) a. *kill* [[x ACT ] CAUSE [BECOME [y <DEAD > ] ] ] ]

b. *break* [[ x ACT ] CAUSE [BECOME [y <BROKEN > ] ] ] ] ]

c. *dry* [[ x ACT ] CAUSE [BECOME [y <DRY > ] ] ] ] ]

(8) verbs denoting instrument (subtype of manner): [x ACT <INSTRUMENT > ]

*brush* [x ACT <BRUSH > ]

- *Usefulness of the notion of bipartiteness of verb meaning*: it allows to give a finite characterization of the (potentially) infinite sets of the meanings of verbs and localizes arbitrariness of verb meaning in the *root* of the verb. There are, in fact, restrictions on the complexity of verb meaning: "unlimited complexity" in meaning is confined to the root, whilst the event schema is rigidly constrained (Grimshaw 2005: 85, in Levin 2009: 3). It also allows to detect similarities and differences among sets verb classes crosslinguistically (Levin & Rappaport Hovav 2005: 73) ..
- *Manner roots* modify the predicate ACT, whilst *result roots* are arguments of the predicate BECOME. Roots cannot simultaneously modify ACT and be arguments of BECOME in the same event structure template. Complementarity of *manner* and *result roots* (Levin & Rappaport Hovav 2008, Beavers & Koontz-Garboden 2009 for a different view).
- Important distinction: *simple/complex event structure*. This distinction does not coincide with the number of the arguments of a verb. Also bivalent verbs (e.g., It. *spazzare*, Engl. *sweep*) can have a simple event structure:

(9) a. Complex event structure

[[x ACT<MANNER>] ] CAUSE [BECOME] [y <RES-STATE> ] ] ] ]

(Engl../It. *kill, break*, It. *uccidere, rompere*)

b. Simple event structure:

[x ACT <MANNER>]

(Engl., *run, whistle, eat, sweep brush*, It. *correre, fischiare, mangiare, spazzare, spazzolare*)

c. [x <STATE>]

(Engl.. *admire*, It. *ammirare*)

- *Template Augmentation*: 'Event structure templates can be freely augmented up to other possible templates in the basic inventory of event structure templates (Rappaport Hovav & Levin 1998: 11).
- Examples of *augmentation* of the event structure template of a verb:

(10) a. *Mark ran home* (accomplishment) (< *Mark ran* (activity) -simple event structure

b. *Mark ate a/the bun* (accomplishment) (< *Mark ate buns* (activity) - simple event structure

- *Event complexity* reflects the presence of one or more subevents in the event structure of a verb, identified through the temporal dependence between two events (Pustejovsky 1995, Levin & Rappaport Hovav 2005: 112, int.al.).
- *Complex event structure*: lack of necessary unfolding together of two events (*kill, break*); *simple event structure*: necessary unfolding together of two events (*read, eat, run to*) (Levin 2000, Levin & Rappaport Hovav 2005: 115):

(11) a. *Mark broke the chair*-complex event structure: non simultaneity between the two sub-events:

b. *Mark ran home*-simple event structure: unfolding together of the two sub-events.

c. *Mark ate the bun*- simple event structure

d. *Mark swept the floor* - simple event structure

(12) a. *The coats steamed dry* - simple event structure

b. *She sang herself hoarse* -complex event structure

- Evidence in favour of the distinction: existence of causative markers in several languages in order to express the relation of causality between the two subevents identifiable in a transitive verb (Van Valin & La Polla 1997: 99-100).

- *Point*: every argument in the syntax must correspond to a participant in the event structure of a verb and is associated with a well-identified subevent (Rappaport Hovav & Levin 1998: 113).
- *Rigidity of transition predicates* (accomplishments) *vs flexibility of activity and stative predicates* (Levin & Rappaport Hovav 1998; Sorace 2000: 887, int. al.).
- *Not only the structural aspect of verb meaning* (i.e., its event structure template), but also the elements of meaning encoded in the root, together with its ontological type, play an important role in determining argument realization.
- *Current focus on the role played by the elements of meaning encoded in the root (e.g., whether a verb lexically encodes manner or result, the type of state encoded, inherent/resultant - reversible/non-reversible), the type of event (dynamic-nonscalar/dynamic-scalar, two-point, multipoint) and their interplay with the inherent/relational properties of arguments (e.g. animacy, control/affectedness)* (Levin & Rappaport Hovav 2005, Rappaport Hovav 2008, int. al.).

### 3. The semantics of predicates and intransitive alternations in Italian\*

The notion of (In)transitivity can be reinterpreted in terms of event structure and described through the interplay of event structure templates, the idiosyncratic aspect of verb meaning (i.e., the root) and the licensing of arguments, implemented with inherent and relational properties of arguments (e.g., animacy, control, affectedness) (Levin 1999, Levin & Rappaport Hovav 2005, Cennamo 2003, int. al.).

#### 3.1 The semantics of verbs and differential marking of S

Different morphosyntactic behaviour of monovalent verbs, which subdivide into two subclasses, so-called unergatives/class S<sub>A</sub> verbs and unaccusatives/class S<sub>O</sub> verbs, signalled by a number of morphosyntactic properties, among which indexing (i.e., auxiliary selection and past participle agreement). Unergatives/ class S<sub>A</sub> verbs select the auxiliary HAVE 'avere' and lack past participle agreement with the subject (13a); unaccusatives/class S<sub>O</sub> verbs select the auxiliary BE 'essere' and show past participle agreement with the subject (13b):

- (13) a. *I ragazzi hanno camminato lungo il viale* (Class S<sub>A</sub>/unergatives)  
 the boys have.PRES.3PL walk.PP.M.SG along the avenue  
 'The boys have walked along the avenue'

\* Abbreviations: F =feminine; M = masculine; PP = past participle; PRS = present (tense); PST = past (tense); RFL = reflexive; SG = singular.

- b. *sono partiti i ragazzi* (Class S<sub>O</sub>/unaccusatives)  
 be.PRES.3pl. leave.PP.PL.M the boy.PL.M  
 'The boys have left' (lit. Are left)

- (14) a. *I ragazzi hanno mangiato molte mele* (transitive)  
 the boys have.PRES.3PL eat.PP.M.SG many apples  
 'The boys have eaten many apples'
- b. *molte mele furono mangiate*  
 several apples be.PST.3PL eat.PP.PL.F  
 'Several apples were eaten'

#### 3.1.1 Unaccusativity/Split Intransitivity as gradients (Sorace 1995; 2000; 2004; forthc.)

The distinction between unergatives/unaccusatives, or class S<sub>A</sub>/S<sub>O</sub> verbs is not clearcut, but a gradient, along which intransitive verbs can be organized (Fig. 1). It is determined by the interplay of aspectual and lexico-semantic factors such as the degree of aspectual specification (i.e., the degree of telicity) of the situation expressed by the verb, its concrete/abstract, dynamic/static nature as well as the degree of Control and affectedness of the subject. The gradient was established on the basis of experimental studies on native speakers linguistic intuitions as regards auxiliary selection with one-argument verbs, their acquisitional path in L<sub>1</sub> and L<sub>2</sub> as well as the degree of variation found in some Western European languages (Sorace 1995; 2000; 2004; Cennamo & Sorace 2007):

- Change of location** (It. *arrivare* 'arrive') **Unaccusatives** (select BE)  
**Change of Condition** (It. *nascere* 'be born'(def.), *crescere* 'grow' (indef.))  
**Continuation of a Pre-existing Condition** (It. *rimanere* 'remain', *durare* 'last')  
**Existence of a Condition** (It. *esistere* 'exist')  
**Uncontrolled Process**  
 Bodily function (It. *tossire* 'cough')  
 Emission (of substance/light/smell) (It. *squillare* 'ring', *rimbombare* 'resound/roar',  
*profumare* 'smell')  
 Weather verbs (It. *piovere* 'rain', *nevicare* 'snow')  
**Controlled Process (motional)** (It. *camminare* 'walk', *nuotare* 'swim')  
**Controlled Process (non-motional)**  
 Controlled, affecting (It. *abdicare* 'abdicate', *cedere* 'yield') **Unergatives**  
 Controlled, unaffecting lit. *lavorare* 'work', *giocare* 'play') (select HAVE)

Fig. 1. *The Auxiliary Selection Hierarchy* (ASH) (Sorace 2000; 2004)

The *opposite poles* on the gradient represent the *core of the unaccusative/unergative* categories.

**Characteristics** (Sorace 2004: 256):

- Categorical and consistent syntactic behaviour across and within languages
- Insensitivity to compositional properties of the predicate
- Categorical native speaker's intuitions
- Primacy in acquisition
- Diachronic stability

Main parameters determining the unaccusative/unergative encoding of a verb:

- *Telicity*: verbs denoting “telic dynamic change” categorically select BE;
- *Degree of agentivity* (i.e., control): verbs denoting “atelic non-motional activity” categorically select HAVE (Cennamo & Sorace 2007: 67)

**A. Prototypical/core unaccusatives:** denote an *inherently telic*, dynamic, concrete situation, with an *Undergoer-Theme/Patient* subject (It. *andare* 'go' *arrivare* 'arrive', *venire* 'come', *nascere* 'be born', *morire* 'die').

*Telicity*: relevant for the unaccusative/unergative encoding of verbs denoting change of location and state. In several languages verbs denoting inherently telic change of location (It. *partire*, 'leave') realize core Unaccusativity: variation never takes place as regards this manifestation of Unaccusativity (i.e., consistent selection of BE). *Indefinite change of state verbs* may select also HAVE (15):

(15) *le mele hanno marcito /sono marcite rapidamente*  
 the apples have.PRES.IND.3PL rot.PP.MSG be.PRES.IND.3PL rot.PP.F.PL quickly  
 'The apples have rotted/become rotten quickly'

*Non-core unaccusatives (variable auxiliary selection)*

*Most variable verbs on the ASH: stative verbs*: lack of a change component. Three subtypes: concrete states (*be, exist, belong*), positional verbs (*sit, lie*), abstract/psychological states (*seem, suffice, please*) (Sorace 2000: 867-8):

(16) a. *il cibo è /ha scarseggiato* (Sorace 2000: 869)  
 the food be.PRES.IND.3SG/have.PRES.IND.3SG run-out.PP.M.SG  
 'The food has run out (is in short supply)'

- *Core unaccusatives* in some contemporary Campanian varieties and in Old Neapolitan: verbs denoting definite (i.e., telic) change of state (Neap. *muri* 'die', *nascere* 'be born'), whereas verbs denoting (inherently) telic change of location (Neap. *parti*, 'leave', *arrivà* 'arrive') are coded as more peripheral (i.e., display alternation) (Cennamo 2001; 2002; 2010).

**B. Prototypical/core unergatives:** denote an atelic, dynamic, concrete situation, with an agentive subject (*Actor-Agent*) and a high degree of Control over the verbal process (It. *lavorare* 'work', *giocare* 'play').

*Non-core unergatives (variable auxiliary selection)*

- The degree of *Agentivity/Control* of the subject: relevant for the unaccusative or unergative encoding of non-motional activity verbs:

(17) a. *Mario ha ceduto (\*è ceduto)*

Mario have.PRES.IND.3SG yield.PP.M.SG (\*be.PRES.IND.3SG)  
 'Mario has given in'

b. *il pavimento ha/è ceduto*

the floor have.PRES.IND.3SG/be.PRES.IND.3SG yield.PP.M.SG  
 'The floor has caved in'

- **Point:** The *degree of variation* in auxiliary selection is a *function of the position of the verb along the hierarchy: it increases* as one moves away from the core of the categories, i.e., *with the decrease of the aspectual specification of the situation expressed by the verb and the decrease in the degree of Agentivity and Control of the subject*.
- Variation is maximal in the middle of the hierarchy, i.e., at the stative centre, where telicity is irrelevant and the subject has no/low Agentivity and Control.
- **Diachronic prediction:** verbs at the core of the Unaccusativity/Unergativity categories are more impervious to change, that initially involves verbs belonging to the periphery of the categories (i.e., verbs in the middle area of the ASH).

3.1.2 *Event structure and differential marking of S in Italian*

- The syntax of auxiliary selection is sensitive to event structure, in particular to the interplay of the idiosyncratic and structural aspects of verb meaning (Sorace 2000: 886).
- Alternations in auxiliary selection may be regarded as the reflex of the flexibility of the meaning of the verb and of its possible interpretations.

- Verbs at the core of the ASH do not allow multiple interpretations and therefore they are only compatible with one structural meaning (i.e., one event structure template). Therefore their structural rigidity has a reflex in the lack of variation in auxiliary selection with these verbs.
- Intermediate verbs on the ASH are instead compatible with more than one syntactic configuration, and therefore they may be associated with a wide range of interpretations. Their flexibility has therefore a reflex in variation and indeterminacy in auxiliary selection.
- Sorace's lexical-aspectual gradient allows one to 'see' and to describe the interplay between the structural and idiosyncratic aspects of the meaning of verbs.
- An explanation of the (unaccusativity/unergativity) gradients, however, requires a better understanding of the interplay of the lexical (i.e., idiosyncratic) component of verb meaning (the root) with the structural component and of the specific contribution of the idiosyncratic aspect of a verb meaning to argument realization, that is, of the compatibility of the idiosyncratic aspect of the meaning of a verb with the syntactic structures in which the verb may occur (Sorace 2000: 886).

### 3.2. The semantics of predicates and the anticausative alternation

#### 3.2.1 Anticausativization

- *Intransitive use of a transitive verb, with the original inanimate object (O) occurring as subject.* The process is presented as occurring spontaneously, with no Actor implied (Siewierska 1984: 77-78):

(24) the vase broke (<Mark broke the vase)

#### 3.2.2 Subtypes of anticausatives and identification criteria

- *Three subtypes of anticausatives (two subclasses according to Centineo 1995), identified on the basis of the distribution of the reflexive morpheme *si* (i.e., its presence, absence and optionality), as well as their interplay with auxiliary selection, viewed as reflecting the inherent aspectual characteristics of predicates, in particular the presence of a final/result state for *si*-anticausatives (Folli 2002, Jezek 2001, 2008, Manente 2008):*

Class 1: [+si] [+BE] (telic predicates): achievements/accomplishments (e.g., *rompersi*, 'break', *spezzarsi* 'crack', *spegnersi* 'turn out', *svuotarsi* 'empty'):

(25) *il bicchiere si ruppe* (\**ruppe*)  
the glass RFL break.PST.3SG  
'The glass broke'

Class 2: [-si] [+BE]: predicates of variable telicity, with no final state lexically encoded. Degree achievements/gradual completion verbs: gradual approximation to a terminal point along a scale, which may or may not be attained (e.g., *aumentare* 'increase', *migliorare* 'improve' (Centineo 1995, Sorace 2000: 864) ("attainment of the final goal or of a further stage" (Bertinetto & Squartini 1995: 13)). This class comprises different subtypes of accomplishments (e.g., *guarire* 'heal', *affondare* 'sink', *cambiare* 'change'):

(26) *I prezzi aumentarono* (I commercianti aumentarono i prezzi)  
the prices rise.PST.3PL (the shopkeepers raise.PST.3PL the prices)  
'Prices rose'

Class 3: [ $\pm$  si]; verbs describing a complex event consisting of a change process and an optional *telos*. The existence of a final state is possible but not necessary (Folli 2002, Schäfer 2008): *fonder(si)* 'melt', *bruciar(si)* 'burn', *cuocer(si)* 'cook', *gelar(si)* 'freeze'. Focus on the attainment of a final state in the pattern with *si*, and focus on the process if *si* is lacking, and ensuing telic/atelic interpretation with related BE/HAVE selection (Sorace 2000: 874-875, Cennamo & Jezek 2009):

(27) a. *il bosco è bruciato/ha bruciato per giorni/completamente* (processual interpretation)  
the wood is burnt/has burnt for days/completely  
'The wood burnt for days'  
b. *il bosco si è bruciato* (\*per giorni)  
the wood RFL is burnt for days  
'The wood burnt down completely' (\*for days)  
c. *il bosco è bruciato* (stative interpretation)  
the wood is burn  
'The wood is burnt down'

- *Function of si:*

(a) *si* is a detransitivizer, a marker of the suppressed causer (Cennamo 1995, Bentley 2006: 134).

(b) *si* is the marker of the final state (as in (5b) (Folli 2002)/result/target state (Manente 2008, Jezek 2008).

- *Direction of the derivation* of the anticausative pattern (transitive > intransitive/ intransitive > transitive)

- General *semantic constraints on anticausativization* in Italian:

a) *Aspectual:* inherent/compositional temporal structure of the verb/predicate. Verbs falling into the anticausative alternation denote *telic events* (Cennamo 1995, 2001, Centineo 1995, Sorace 2000, Folli 2002, Jezek 2003).

- b) *Thematic*: only telic predicates with a thematically underspecified causer (i.e., Effector) undergo anticausativization.
- c) *Inherent properties of the subject*: only the inanimate object of a highly transitive, telic verb can become the subject of a corresponding anticausative form.

Verbs such as *uccidere* 'kill', *nutrire* 'nourish', *assassinare* 'murder', although telic, i.e., verbs of definite change, do not allow the anticausative alternation, owing to the interplay of thematic properties of the subject and inherent characteristics of the object arguments. The corresponding intransitive pattern with the original object subjectivized (28) only has a reflexive/middle interpretation with *nutrire* 'nourish' and *uccidere* 'kill', but it is impossible with *assassinare* 'murder' (Cennamo 1995: 91-92):

- (28) a. *i ragazzi si sono nutriti*  
 the boys RFL be.PRS.3PL nourish.PP.M.PL  
 'The boys fed themselves'
- b. *il giovane si è ucciso*  
 the young-man RFL be.PRS.3SG killed.PP.M.SG  
 'The young man committed suicide'
- c. \**il giovane si è assassinato*  
 the young-man RFL be.PRS.3sG murder.PP.M.SG

### 3.2.3 Difficulties with current accounts of the anticausative alternation in Italian

- The three subclasses identified in the literature are not aspectually homogeneous. Within each class there are verbs which do not fit well, as they pass tests for both telicity and atelicity.
- Virtually all aspectual classes may occur in the anticausative pattern with obligatory presence of *si* (i.e., class 1): achievements, accomplishments, gradual completion verbs (e.g., *vuotare*, 'empty' (29a), *gonfiare* 'swell' (29b), activities (*esprimere* 'express', *ispirare* 'inspire' (31) and statives (*basare* 'be based' (32) (Cennamo 1995; Jezek 2001, Jezek 2003 168-170):
- *Gradual completion verbs*:  
 (29) a. *Il serbatoio si è vuotato in pochi minuti/\*per tre ore*  
 the tank RFL is emptied in few minutes/\*for three hours  
 'The tank has emptied in a few minutes/\*for three hours'

The verb (*s*)*vuotare*, 'empty', derived from the closed-scale adjective *vuoto* 'empty', behaves like a telic predicate according to the test for durativity (*for X time*) (29a), but the negation of the final state of the event seems to be felicitous (both in the transitive and the anticausative pattern) (29a-b), unlike with punctual predicates (e.g. *rompere* 'break'):

- (29) b. *Mario ha (s)vuotato il serbatoio per ore, ma non è (ancora) vuoto*  
 Mario have.PRS.3SG empty.PP.M.SG the tank for hours, but not be.PRS.3SG (yet) empty  
 'Mario has kept emptying the tank for hours, but it is still not empty (not empty yet)'
- c. *il serbatoio si è (s)vuotato di parecchio, ma non è (completamente/ancora) vuoto*  
 the tank RFL be.PRS.3G emptied by a lot but not be.PRS.3SG(completely/yet) empty  
 'The tank emptied a lot, but it is not (completely) empty, not empty yet'

Conversely, *gonfiare* 'swell', a de-adjectival verb derived from an open scale adjective, although obligatorily occurring with *si* in the anticausative pattern, can occur with a durational adverbial phrase (30a):

- (30) *I piedi si sono gonfiati per alcune ore*  
 the feet RFL be.PRS.3SG swell.PP.M.PL for some hours  
 'The feet swelled up for some hours'

#### Activities:

- (31) *Per ora il malumore si esprime in lettere ai giornali*  
 For now the dissatisfaction RFL manifests in letters to-the newspapers  
 'For the time being dissatisfaction manifests itself in letters to newspapers'

#### States

- (32) *una comunità omogenea si basa anche su una mediocrità di fondo*  
 a community homogeneous RFL base.PRS.3SG also on a mediocrity of background  
 'A homogeneous community is based also on some sort of mediocrity'

- Class 2 comprises not only gradual completion verbs (e.g., *aumentare* 'increase'), but also accomplishments such as *cambiare* 'change', *affondare* 'sink', *guarire* 'heal' (Folli 2002) and activities (e.g., *continuare* 'continue'):

- (33) a. *la nave è affondata \*per un'ora /in un'ora*  
 the ship be.PRS.3SG sink.PP.F.SG \*for an-hour/in an hour

- ‘The ship sunk \*for an hour/in an hour’
- b. *la situazione è cambiata per alcune ore/in un’ora*  
the situation is changed for some hours/in an hour  
‘The situation changed for some hours/in an hour’
- c. *la nave è affondata completamente*  
the ship is sunk completely  
‘The ship sank completely’
- d. *la situazione è cambiata completamente*  
the situation is changed completely  
‘The situation changed completely’

*Cambiare* ‘change’ (34b) does not encode a final state, unlike *affondare* ‘sink’ (34a). This might account for the different behaviour of these verbs with durational tests (34a) vs (34b) and different entailments (34e-f):

- (34) a. *la nave sta affondando* ≠> *la nave è affondata*  
‘The ship is sinking’ ‘The ship sank’
- b. *il tempo sta cambiando* → *il tempo è cambiato*  
‘The weather is changing’ ‘The weather changed’

- *Point*: some verbs can be classified as telic with respect to some tests and as atelic with respect to other diagnostics.

#### Activities

- (35) *la lezione è continuata per tre ore/\*in pochi minuti*  
the lecture is continued for three hours/\*in few minutes  
‘The lecture has continued for three hours/\*in three hours’

- The picture is even more complex when we consider verbs which optionally take *si* and which alternate HAVE/BE in the form without the reflexive. Class 3 comprises accomplishments, achievements and gradual completion verbs (several alternating verbs (±*si*) are de-adjectival). Although in the variant without *si* the pattern with the auxiliary BE tends to have a telic interpretation and the structure with HAVE tends to trigger an atelic reading, with some verbs (e.g., *bruciare* ‘burn’, *stingere* ‘fade’), BE is

not completed excluded from an atelic context and HAVE is not completely excluded from a telic one (Manente 2008: 212, Lo Cascio & Jezek 1999):

- (36) a. Il bosco è bruciato/ ha bruciato per giorni/completamente  
the wood be.PRS.3SG burn.PP.M.SG/have.PRS.3SG burn.PP.M.SG for days/completely  
‘The wood burnt for days’ (eventive/processual interpretation)
- b. Il bosco si è bruciato \*per giorni  
the wood RFL be.PRS.3SG burn.PP.M.SG for days  
‘The wood burnt for days’
- c. Il bosco si è bruciato in poco tempo/completamente  
the wood RFL be.PRS.3SG burn.PP.M.SG in short time/completely  
‘The wood burnt in a short time’
- d. Il bosco è bruciato (stative interpretation)  
The wood be.PRS.3SG burn.PP.M.SG down’  
‘The wood is burnt down’

The verb *cuocere* ‘cook’, instead, allows the auxiliary BE only in the pattern with *si* (37c), in which the reflexive morpheme marks the completion of the event/degree of affectedness of the subject (the interpretation of the sentence implies that the meat cooked thoroughly). Without *si* the pattern with BE has a stative reading (37d):

- (37) a. *La carne ha cotto a lungo/in pochi minuti*  
the meat have.PRS.3SG cook.PP.M.SG at length/in few minutes  
‘The meat cooked for a long time/in a few minutes’
- b. *La carne è cotta \*subito/\*in pochi minuti*  
The meat be.PRS.3SG cook.PP.F.SG\*at-once/\*in few minutes  
‘The meat cooked immediately/in a few minutes’
- c. *La carne si è cotta subito /in pochi minuti*  
The meat RFL be.PRS.3SG cook.PP.F.SG at-once/in few minutes  
‘The meat cooked immediately/at once’
- d. *La carne è cotta*  
the meat be.PRS.3SG cook.PP.F.SG  
‘The meat is cooked’

- *Point*: it is not clear why *cuocere* 'cook' behaves differently from *bruciare* 'burn'. Both verbs allow a stative, an eventive, a resultative stative interpretation, and yet *cuocere* does not allow the pattern without *si* and the auxiliary HAVE with an eventive/processual interpretation (*\*for X time*), unlike *bruciare*, with which both HAVE and BE are allowed in the pattern without the reflexive, both in the atelic and telic interpretation.

*Possible solutions:*

- to hypothesize that the lexical root of verbs receiving varying aspectual interpretations, depending on the syntactic context in which they occur, such as *bruciare* 'burn', *fondere* 'melt', *gelare* 'ice', *bollire* 'boil', is aspectually underspecified (i.e., *same* lexical root, but different aspectual interpretations) (Manente (2008: 205-212).
- to hypothesize that the range of event schemas in which a verb may occur reflects the properties lexically encoded in its root (Levin & Rappaport Hovav 2005, 2008, Rappaport Hovav 2008 and references therein).

3.2.4. *Aspectually relevant lexical properties of verbs and Italian anticausatives*

3.2.4.1. *A scale-based classification of verbs*

- The traditional four-way Vendler classification (and related tests identifying the various verbal classes) does not allow us to account insightfully for the aspectual variability and the different morphosyntactic behaviour of verbs entering the anticausative alternation in Italian: many predicates do not fit well into the four-way classification, in that they pass both tests for telicity and for atelicity.
- Variation in the morphosyntactic encoding and behaviour of anticausatives in Italian appears to reflect the non-homogeneity of the class of accomplishments.
- The data point to the need for a different model, which takes into account the role played by the aspectual properties encoded in the lexical meaning of the verb, the root, in determining the aspectual schemas and morphosyntactic realization of predicates (Levin & Rappaport Hovav 2005, 2008, Rappaport Hovav 2008, int. al.).
- Following a recent proposal concerning the classification of verbs on the basis of their aspectually relevant lexical properties (Beavers 2008, Rappaport Hovav 2008), dynamic verbs can be viewed as (potentially) involving the notion of change, and can be classified accordingly, in relation to the type of change, as scalar/non-scalar change verbs.
- The change lexicalized by change of state verbs (i.e., a property scale) is scalar, involving a set of ordered values for a particular attribute, as with *widen*, *open*.

- The change lexicalized by activities such as *jog*, *run*, *waltz* is nonscalar (i.e., it involves a complex, unordered change) (Rappaport Hovav 2008).
- Verbs which lexically specify a scalar change, may be further distinguished, in relation to the nature of the scale, as associated with a binary, two-point scale, or a polar, multi-point scale (Beavers 2008; binary and polar opposition in Pustejovsky 2001).
- A scale is a set of ordered values for an attribute. Not all verbs lexicalize a scale.

(38) *Verb classification* (Rappaport Hovav 2008)

- *Nonscalar changes*: activities (*play*, *jog*, etc).
- *Scalar change verbs*:
  - Two-point scale verbs (presence/absence of a property): telic and punctual (achievements): *die*, *break*
  - *Multi-point scalar change verbs* (different types of accomplishments.): *widen*, *increase* (existence of many values for the particular attribute lexicalized in the scale)
- *States*: do not encode a change
- The different morphosyntactic behaviour of a verb may reflect the different meaning component(s) which it lexicalizes/encodes (Levin & Rappaport Hovav 2005, Rappaport Hovav 2008).
- States (*resemble*, *have*, *know*) encode no change; achievements encode a two-point scalar change (e.g., *crack*); accomplishments (e.g., *open*, *swell*), encode a multi-point scalar change. "The lexical encoding of a scalar change is responsible for the varying aspectual interpretation of gradual completion verb", their 'hybrid' nature (i.e., their showing properties of activities, achievements and accomplishments (Rappaport Hovav 2008)

3.2.4.2. *Relevance of a scale-based verb classification for Italian anticausatives*

- The notion of scalar change, in particular the distinction between a two-point and a multi-point scalar change, together with the idea that the different morphosyntactic behaviour of a verb may reflect the different meaning components lexicalized in its various uses, seem to offer an interesting generalization for capturing some uses of the reflexive morpheme *si* with anticausatives.
- *Hypothesis*: The reflexive morpheme *si* in some of its anticausative uses, may be regarded as a marker of the presence of a final state/result state in the lexical meaning of a verb, occurring with verbs *lexically encoding a scalar change*, either in all their uses — achievements such as *romper(si)* 'break', and de-adjectival verbs whose root denotes the maximal/minimal value of a closed/open scale, such as *(s)vuotar(si)* 'empty' and *gonfiar(si)* 'swell/inflate' — or in some of them, as with (accomplishment) verbs such as *bruciar(si)* 'burn', *cuocer(si)* 'cook', *gelar(si)* 'freeze', *fonder(si)* 'melt', which appear

instead in the intransitive form without *si* under their activity/processual reading, i.e., when they lexicalize a nonscalar change.

- *Unsolved problems:* 1) This generalization does not account for the lack of *si* with verbs which lexicalize a final state such as *affondare* 'sink', *guarire* 'heal', and for other accomplishments such as *cambiare* 'change'; 2) It remains to be investigated why verbs such as *cuocere* 'cook', only allow the stative interpretation of a pattern without *si* with BE (*la carne è cotta* 'the meat is cooked'), whereas other verbs such as *bruciare* 'burn', *gelare* 'ice' allow both HAVE and BE in the eventive/processual interpretation of the pattern without *si* (e.g., *il bosco ha bruciato/è bruciato per ore* 'The wood has burnt for hours').
- The anticausative alternation in Italian lies at the heart of the issue of the non-homogeneous internal temporal properties of accomplishments and of how particular components of lexicalised meaning may determine the aspectual properties of predicates and argument realization.

#### Claims:

- Although the reflexive morpheme *si* in some of its anticausative uses seems to function as a general marker of detransitivization, whereby an intransitive pattern is derived from a transitive one with the original object occurring as subject, so long as it is inanimate, no unitary treatment of the direction of the derivation of this construction seems to be feasible;
- The use of this structure also with activities and states, and its restriction to inanimates, points to the need for a refinement of widely accepted general constraints, such as "spontaneous manifestation of an eventuality, without the wilful intervention of a causer". This constraint applies only to the uses of the pattern involving change of state/location verbs (i.e., achievements/accomplishments), the core of the category in several languages (and in Italian as well).
- In some anticausative uses the reflexive marker *si* can be interpreted as a marker of *the presence of a final state/result state* in the lexical meaning of a verb, occurring with verbs *lexically encoding a scalar change*, either in all their uses, or in some of them.
- Need for a deeper investigation of the factors determining the 'quirky' behaviour of verbs which escape the generalization proposed.

#### 3.3 The semantics of predicates and object omission

- Interplay of the inherent and structural aspects of verb meaning with the degree of thematic specification of the subject (i.e., agentivity/control), the inherent characteristics of O (e.g., animacy), as well as the linguistic and extra-linguistic context.
- *Optionality of O* with verbs denoting states (e.g., *vedere*, 'see', *conoscere* 'know') and dynamic situations lacking an inherent final/terminal point, as with activity verbs and active accomplishments, or

accomplishments/achievements with animate objects, in iterative uses, whereby the focus is on the event itself rather than on its impingement on the O argument (Levin 1993: 33; Lo Duca 2000, Cennamo 2003, 2011; Jezek 2003:94-104, int.al.).

- Type (i): the omitted P argument can be [±referential], indefinite or reconstructable from the context (so-called unspecified/indefinite object/strong optionality (Allerton 1980: 68-69, Levin 1993: 33)). This group includes activity verbs allowing an accomplishment use, like *leggere* 'read', *scrivere*, 'write', *mangiare* 'eat', *dipingere* 'draw', *cucinare* 'cook', etc, i.e., verbs of consumption and creation, as illustrated in (39):

(39) *Marco mangiò e poi uscì*  
 Mark eat.PST.3SG and then go.PST.3SG  
 'Mark ate and then went out'

- Type (ii) comprises other activity verbs, such as *affascinare* 'enchant', *visitare* 'visit', *ritrarre* 'draw/paint' and indefinite change verbs like *corrodere* 'corrode'. The unexpressed O is [± human][+ generic][+ plural] and is either an Experiencer (e.g., *abbrutire* 'abase', *angosciare* 'grieve', *annoiare* 'bore') or a Patient (e.g., *corrodere* 'corrode', *stancare* 'wear out', *graffiare* 'scratch', *mordere* 'bite'). This group only allows the intransitive variant in atelic and imperfective contexts (14) (Lo Duca 2000: 229, Jezek 2003, Cennamo 2011):

(40) a. *Giovanna affascina (\*ha affascinato)*  
 Jane enchant.PRS.3SG (have.PRS.3SG enchant.PP.M.SG  
 'Jane is charming' (lit. enchants)

b. *l'eccessivo lavoro abbrutisce /logora (\*ha abbrutito/ha logorato)*  
 the-excessive work abase.PRS.3SG/wear-out.PRS.3SG (\*have.PRS.3SG  
 abase.PP.M.SG/wear-out.PP.M.SG)

c. *l'acido/l'invidia corrode (\*ha corrosa)*  
 the-acid/the-envy corrode.PRS.3SG (\*have.PRS.3SG corrode.PP.M.SG)  
 'Acid/envy corrodes'

- With some verbs (e.g., *mordere* 'bite', *graffiare* 'scratch'), however, the intransitive use is also possible in perfective contexts (Lo Duca 2000).
- Type (iii) includes verbs that only allow the intransitive variant if O is recoverable from the linguistic context (*anaphoric null object*), as in (15a, c) or from discourse (*deictic null object*), as in (15b), where the

unexpressed O may refer to the Speech Act Participants (speaker and/or hearer) (Lo Duca 2000: 233-234, Jezek 2003: 100):

- (41) a. *Ho ascoltato la proposta e ho rifiutato*  
 have.PRS.1SG listen.PP.M.SG the proposal and have.PRS.1SG refuse.PP.M.SG  
 'I listened to the proposal and I turned it down'
- b. *Marco stanca /ha stancato*  
 Mark tire.PRS.3SG/have.PRS.3SG tire.PP.M.SG  
 'Mark wears me/us out/has worn me/us out'
- c. *aumenta per piacere (sc. the volume)*  
 increase please (the volume)  
 'Please turn the volume up'

- The possibility of omitting the O argument with these verbs reflects the degree of thematic specification of the A argument, which is low for *uccidere* 'kill', but high for *assassinare* 'assassinate', whose subject is highly agentive. This accounts for the non omissibility of P with this verb, as shown in (44b):

- (44) b. *\*Marco ha assassinato, ecco perché è in carcere*  
 Mark have.PRS.3SG assassinate.PP.M.SG here why be.PRS.3SG in jail  
 '\*Mark murdered several times, that is why he is in jail'

- Point: O is optional if it is licensed only by the idiosyncratic aspect of verb meaning (the root)* (i.e., if it is a root participant), as with states, activities, active accomplishments and generally with verbs which do not lexicalize a final point. O can also be omitted if it is licensed by the structural aspect of a verb meaning (its event structure template) (i.e., if it is a structure participant), if animate and A is thematically highly specified.

#### 4. Conclusions

Existence of recurrent parameters: variability in the marking of S, derived S and in the omissibility of O reflects the low degree of aspectual specification of verbs (i.e., degrees and types of telicity, e.g., reversible-non reversible state, final-interim state), which interacts, in different but principled ways, with non-event structure notions such as animacy, control, definiteness and referentiality.

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- The A or O nature of the unexpressed argument/optional argument with some verbs is signalled by past participle agreement with the unexpressed human argument in predicative structures, If the predicative element, the past participle, is in the masculine singular form, it refers to the A argument, the subject, *il pittore* 'the painter' in (42a); if the past participle is in the masculine plural ending, it refers to the unexpressed P argument, as in (42b) (Rizzi 1986, Lo Duca 2000: 229-230):

- (42) a. *Il pittore ritrae /ritrasse vestito di bianco* (Lo Duca 2000: 229)  
 the painter draw.PRS.3SG/draw.PST.3SG dress.PP.M.SG white  
 'The painter drew (the painting wearing) a white dress' (lit. the painter draws/drew dressed.SG of white)
- b. *Il pittore ritrae /ritrasse vestiti di bianco*  
 the painter draw.PST.3SG/draw.PST.3SG dress.PP.M.PL of white  
 'The painter draws/drew people wearing white clothes' (lit. the painter draws/drew dressed.PL of white)

- Not only activity verbs, but also accomplishments taking an animate O, such as *uccidere* 'kill', *ammazzare* 'murder' allow its omission in order to express the event itself, as in (43a):

- (43) a. *Marco ha ucciso (più volte), ecco perché è in carcere*  
 Mark have.PRS.3SG murder.PP.M.SG repeatedly here why be.PRS.3SG in jail  
 'Mark has killed several times, that is why he is in jail'

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**Valency and Valency Classes in Bezhta**

Bernard Comrie and Zaira Khalilova  
 Max Planck Institute for Evolutionary Anthropology  
 comrie@eva.mpg.de, khalilova@eva.mpg.de

**1. Introduction**

Bezhta belongs to the Tsezic subgroup of the Nakh-Daghestanian (Northeast Caucasian) language family, spoken in Russia, Dagestan. The most common morpho-syntactic features of Bezhta are: it is a verbal language, with no rigid word order; it is a dependent-marking ergative language. Bezhta has an elaborate locative case system. It also has gender agreement (4 genders) and genders are employed to indicate cross-referencing of arguments on the verb. The agreement is always with the Absolutive argument. In general only vowel-initial verbs but not all of them have slots for agreement plus a small number of verbs with interior vowel change.

**2. Basic argument structure types in Bezhta**

i. Intransitive (S in Absolutive, verb agreement if any with S)

- (1) biʎo y-ek'e-š  
 house(iv) iv-burn-prs  
 'The house burns.'

ii. Unergative (small group of onomatopoeic verbs; S<sub>A</sub> in Ergative, no agreement)

- (2) oždi lalaʎo-yo  
 boy.erg shout-prs  
 'The boy shouts.'

iii. Transitive (A in Ergative, P in Absolutive; verb agreement if any with P)

- (3) bābā m-tuq-iyō  
 boy.erg bread(iii) iii-eat-pst  
 'The boy ate bread.'

iv. Affective (verbs of perception, emotion, etc.; experiencer in Lative, stimulus in Absolutive; verb agreement if any with stimulus)

- (4) kibba-l quy tuq-iyō  
 girl-lat noise hear-pst  
 'The girl heard the noise.'

v. Extended: At least intransitive, unergative, and transitive clauses can be extended by further oblique NPs/pprs. In some cases these are arguments (e.g.

with case forms governed by the predicate), in others adjuncts (e.g. with case forms governed purely semantically).

- (5) c'oy-qa hič'e-š  
 boy(i) fire-poss fear-prs  
 'The boy fears the fire.'

- (6) xōx-ʎ-ā ʎ'odo  
 boy(i) tree-sup up  
 'The boy climbed up the tree.'

- (7) dii-ʎ-'a lalaʎo-yō  
 boy.erg 1sg.obl-sup shout-pst  
 'The boy shouted at me.'

- (8) kibba-l xabar m-ee-yō  
 boy.erg girl-lat story(iii) iii-let.out-pst  
 'The boy told the girl a story.'

- (9) c'it'a-d bābā b-it'c'-iyō  
 boy.erg knife-ins bread(iii) iii-cut-pst  
 'The boy cut the bread with the knife.'

**3. Valency classes (main verb types found in the database)**

i. Bezhta seems to lack zero-valency predicates.

- (10) guu-s  
 rain come-prs  
 'The rain is raining.'

ii. Several English unergative verbs translate into Bezhta as transitives.

- (11) hab kusu?-iyō  
 boy.erg beard shave-pst  
 'The boy shaved (his beard).'

iii. Bezhta makes extensive use of light verb constructions. The element accompanying the light verb is often an argument, giving the Bezhta verb one argument more than its English equivalent.

- (12) aʎa-? ömrō b-oo-s  
 boy.erg village-in life(iii) iii-do-prs  
 'The boy lives in the village.'

(13) kibba-l komak b-oo-yo  
 boy.erg girl-lat help(iii)  
 'The boy helped the girl.'

iv. Where possible, Bezhta seems to prefer a possessor within an NP rather than an extra NP, giving rise to examples where the Bezhta valency is one less than that of Englishi.

(14) kibba-s t'ek y-u<sup>n</sup>co-yo  
 a. boy.erg girl-gen1 book(iv) iv-steal-pst  
 'The boy stole the book from the girl.' [girl's book]

b. öždi kibba-qa-s t'ek y-u<sup>n</sup>co-yo  
 boy.erg girl-poss-abl book(iv) iv-steal-pst  
 'The boy stole the book from the girl.' [a book that was with the girl, but not belonging to the girl]

v. For verbs of covering, filling, loading, tying, etc. examined from the questionnaire, Bezhta treats the moving object as P and expresses the goal of the movement as a location (NB: using Essive, not Lative or Directional).

(15) hudo m-oso-yo mašinai-š'a  
 boy.erg firewood(iii) iii-collapse-pst car.obl-sup  
 'The boy loaded the car with the firewood (lit. loaded the firewood onto the car).'

The use of genitive to encode verbal arguments is not very common, but found with the one verb 'to fill'.

(16) kibba-šii-s wedra b-oc'i-l-o  
 girl.erg water-gen1 bucket(iii) iii-fill-caus-pst  
 'The girl filled the bucket with the water.'

vi. Verbs of contact typically take the moving object as P and the goal of the movement in the bare Lative, though an alternative with the goal as P and the instrument in the Instrumental is sometimes also possible, but only with the verb 'to hit' in the sample.

(17) kibba-l koo y-e<sup>n</sup>xe-l-o  
 boy.erg girl-lat hand(iv) iv-touch-caus-pst  
 'The boy touched the girl with his hand (lit. touched his hand to the girl).'

(18) kibba-l k'obala b-äš.'el-lo  
 a. boy.erg girl-lat stick(iii) iii-hit-pst  
 'The boy hit the girl with the stick (lit. hit the stick to the girl).'

b. öždi kid k'obala-li-d y-äš.'el-lo  
 boy.erg girl(ii) stick-obl-ins it-hit-pst

'The boy hit the girl with the stick.'

vii. All the verbs of transfer examined using the questionnaire take an indirective construction (theme as P of a transitive construction, recipient (R) in an oblique case), but with variation in the oblique case used for R depending on such semantic factors as permanent versus temporary transfer; for permanent transfer, the bare Lative is usual; for temporary transfer, there is some lexical variation among spatial cases, both Essive and Lative.

(19) kibba-l diži niš-lyo  
 a. boy.erg girl-lat flower give-pst  
 'The boy gave flowers to the girl.' [permanently]

b. öždi kibba-qa t'ek niš-lyo  
 boy.erg girl-poss book give-pst  
 'The boy gave the book to the girl.' [temporarily]

c. öždi kibba-qa-l t'ek niš-lyo  
 boy.erg girl-poss-lat book give-pst  
 'The boy gave the book to the girl.' [so that she would read it, i.e. with some purpose, but not for permanent possession]

(20) kibba-l diži y-e'e-yo  
 a. boy.erg girl-lat flower(iv) iv-send-pst  
 'The boy sent flowers to the girl.' [permanently]

b. öždi kibba-doy diži y-e'e-yo  
 boy.erg girl-apud flower(iv) iv-send-pst  
 'The boy sent flowers to the girl.' [temporarily]

(21) kibba-qa bit'arab žo niso-yo  
 boy.erg girl-poss right thing say-pst  
 'The boy said the right thing to the girl.'

(22) kibba-l xabar m-ee-yo  
 boy.erg girl-lat story(iii) iii-let.out-pst  
 'The boy told the girl a story.'

(23) kibba-l t'ek y-ega-l-lo  
 boy.erg girl-lat book(iv) iv-see-caus-pst  
 'The boy showed the book to the girl.'

(24) žarāb mic kibba-l maŋci < b > -oo-s  
 boy.erg Arabic language(iii) girl-lat teach < iii > -prs  
 'The boy teaches the girl Arabic.'

viii. Accidental

The accidental expresses a potential or accidental situation. The most agent-like argument appears in the Poss-essive case, the P in the Absolutive; agreement, if any, is with the P. The basic verb can be intransitive or transitive. See detailed discussion in Section 4.4, Section 5.2 and Section 5.3.

- (25) a. vaza b-iše-yo vaze(iii) iii-break-pst  
 'The vase broke.'
- b. di-qa vaza b-iše-yo  
 1sg-poss vase(iii) iii-break-pst  
 'I broke the vase accidentally./ I could break the vase.'
- (26) a. özdi hini-s zoʔ'o b-üč'-iyo  
 boy.erg self-gen1 finger(iii) iii-cut-pst  
 'The boy cut his finger.'
- b. özdi-qa hini-s zoʔ'o b-üč'-iyo  
 boy.obl-poss self-gen1 finger(iii) iii-cut-pst  
 'The boy cut his finger accidentally./ 'The boy could cut his finger.'

#### 4. Case alternations (uncoded alternations)

##### 4.1 The Recipient/Goal/Location Alternation

The following alternations concern the encoding of the recipient/goal/location arguments. These alternations are limited to small group of verbs, 'bring', 'take', 'send', 'throw' and 'give'.

##### The Apudessive-Lative Alternation

This alternation is found with the two verbs, 'to bring' and 'to send'. The recipient is either marked with the Lative (for permanent transfer) or with the Apud-essive (for temporal transfer).

- (27) a. özdi kibba-l žamyo b-aq'o-yo  
 boy.erg girl.obl-lat dock(iii) iii-bring-pst  
 'The boy brought dock leaves to the girl.'
- b. özdi kibba-doy žamyo b-aq'o-yo  
 boy.erg girl.obl-apud dock(iii) iii-bring-pst  
 'The boy brought dock leaves to the girl.'
- (28) a. özdi kibba-l diʔi y-e'e-yo  
 boy.erg girl.obl-lat flower(iv) iv-send-pst  
 'The boy sent flowers to the girl.'

- b. özdi kibba-doy diʔi y-e'e-yo  
 boy.erg girl.obl-apud flower(iv) iv-send-pst  
 'The boy sent flowers to the girl.'

##### The Apudessive-Lative-Possessive Alternation

This alternation is only found with the one verb, 'to throw'. The goal argument can be marked either with the Apud-essive or the Lative or the Poss-essive. All these encodings have slight differences in meaning.

- (29) 'throw to someone (in one's direction)'  
 a. özdi kibba-doy buri b-iʔ'e-yo  
 boy.erg girl.obl-apud ball(iii) iii-throw-pst  
 'The boy threw a ball to the girl.'
- 'throw to someone (in order to hit)'  
 b. özdi kibba-l burti b-iʔ'e-yo  
 boy.erg girl.obl-lat ball(iii) iii-throw-pst  
 'The boy threw a ball to the girl.'
- 'throw to someone (so that someone would catch)'  
 c. özdi kibba-qa burti b-iʔ'e-yo  
 boy.erg girl.obl-poss ball(iii) iii-throw-pst  
 'The boy threw a ball to the girl.'

Inanimate location argument is marked with the appropriate Essive.

- (30) 'throw onto the table'  
 a. özdi istoliya-ʔ'a q'alam b-iʔ'e-yo  
 boy.erg table-sup pencil(iii) iii-throw-pst  
 'The boy threw the pencil onto the table.'
- b. 'to throw into the bucket'  
 özdi wedra-la-ʔ q'alam b-iʔ'e-yo  
 boy.erg bucket.obl-in.ess pencil(iii) iii-throw-pst  
 'The boy threw the pencil into the bucket.'

##### The Lative-Possessive Alternation

This is found only with the verb 'to give'. The recipient is marked either with the Lative (for permanent transfer of possession) or with the Poss-essive (for temporal transfer of possession). Additionally, the recipient can be marked with the Poss-lative for non-permanent transfer but this occurs very occasionally.

- (31) a. özdi kibba-l diʔi niʔ-iyo  
 boy.erg girl.obl-lat flower give-pst  
 'The boy gave flowers to the girl.' (permanent)
- b. özdi kibba-qa t'ek niʔ-iyo  
 boy.erg girl.obl-poss book give-pst

'The boy gave the book to the girl.' (temporal)

- c. özdi kibba-qa-1 t'ek niʔa-iyu  
 boy.erg girl.obl-poss-1at book give-pst  
 'The boy gave the book to the girl.' (so that she would read it, i.e. with some purpose, but not for permanent possession)

#### 4.2 The Ambitransitive Alternation

There is only one verb found in the database that has the Ambitransitive Alternation. This is an S=P labile verb *held* 'to cook'.

- (32) a. k'atu hele-yo  
 potato cook-pst  
 'The potato has cooked.'
- b. kibba k'atu hele-yo  
 girl.erg potato cook-pst  
 'The girl cooked the potato.'

#### 4.3. The Instrument Alternation

This alternation is presented in one verb 'to hit'. This alternation concerns the encoding of the instrument argument, which can be marked either with the Absolutive or with the Instrumental case.

- (33) a. özdi kibba-1 k'obala b-äʔel-ca  
 boy.erg girl.obl-1at stick(iii) iii-hit-prs  
 'The boy hits the girl with the stick.'
- b. özdi kid k'obala-li-d y-äʔel-ca  
 boy.erg girl(ii) stick-obl-instr ii-hit-prs  
 'The boy hits the girl with the stick.'

#### 4.4. The Accidental//Potential Alternation 1 (unmarked)

This alternation is found with 13 verbs out of 84. The Accidental//Potential Alternation is an unmarked alternation. The accidental/potential expresses an accidental or potential situation. The most agent-like argument appears in the Poss-essive case, the P in the Absolutive; agreement, if any, is with the P. The basic verbs are mostly intransitives, rarely transitives.

- Intransitive verb  
 (34) 'die'  
 a. kid y-uy-o-yo  
 girl(ii) ii-die-pst  
 'The girl died.'
- b. özdiqa kid y-uy-o-yo  
 boy.poss girl(ii) ii-die-pst

'The boy could kill the girl. / The boy accidentally killed the girl.'

- (35) 'boil'  
 a. ʔi yayʔa-o-yo  
 water.abs boil-pst  
 'The water boils.'
- b. kibbaqa ʔi yayʔa-o-yo  
 girl.poss water.abs boil-pst  
 'The girl accidentally boiled the water.'
- (36) Transitive verb  
 a. özdi himis zoʔʔ'o b-iʔi-iyu  
 boy.erg self.gen1 finger(iii) iii-cut-pst  
 'The boy cut his finger.'
- b. özdiqa himis zoʔʔ'o b-iʔi-iyu  
 boy.erg self.gen1 finger(iii) iii-cut-pst  
 'The boy could cut his finger. / 'The boy cut his finger accidentally''

### 5. Verb coded alternations

#### 5.1 The Antipassive Alternation

##### 5.1.1. The Antipassive 1

The Antipassive 1 Alternation is found in 32 verbs out of 84 in the database. The antipassive is a marked (coded) alternation: it is formed with the antipassive suffixes/infixes *-la(a)*, *-da(a)*, *-ya*. The antipassive does not change the number of arguments.

The antipassive changes the valency when it is applied to monotransitive verbs; with intransitive verbs the verbal valency is not changed. Antipassive can be formed from intransitive, unergative and transitive verbs but not from affective verbs. The general meaning of antipassive is iterative.

The antipassive from intransitive does not change the general case frame; there is still a single argument in the Absolutive case.

- (37) 'jump'  
 a. özö ʔ-o-gic-iyu  
 boy(i) i-jump-pst  
 'The boy jumped once.'
- b. özö ʔ-o-giyac-ca  
 boy(i) i-jump.antip-prs  
 'The boy jumps many times.'

When antipassive is formed from unergative verbs, the Ergative argument shows up as the Absolutive.

- (38) 'cough'  
 a. özdi öhʔa-o-yo  
 boy.erg cough-pst

'The boy coughed (once).'

- b. öžö öhdaa-yo  
boy cough.antiip-pst  
'The boy was coughing.'

(39) 'shout'

- a. öždi lalažo-s  
boy.erg shout-prs  
'The boy shouts.'
- b. öžö lalada-s  
boy shout.antiip-prs  
'The boy shouts.'

When anti-passive is formed from transitive verbs the agentive Ergative argument is marked with the Absolutive case and the Absolutive patient appears in the Instrumental.

(40) 'eat'

- a. öždi bābā m-üq-čā  
boy.erg bread(iii) iii-eat-prs  
'The boy eats the bread.'
- b. öžö bābā-la-d Ø-ü'q-dā-š  
boy(i).abs bread-obl-instr i-eat-antiip-prs  
'The boy is busy eating the bread.'

Just as in the transitive construction the P argument in the anti-passive construction from the ditransitive verb shifts to the Instrumental.

(41)

- a. öždi t'ek kibbal nižo-yo  
boy.erg book girl.lat give-pst  
'The boy gave book to the girl.'
- b. öžö kibbal tek-la-d nižo-da-s  
boy.abs girl.lat book-pl.obl-instr give-antiip-prs  
'The boy is giving books to the girl.'

### 5.1.1.2. The Antipassive 2

The anti-passive 2 has reflexive, but not iterative meaning. This is only found in the one verb 'to wash'<sup>1</sup>.

(42) 'wash'

- a. kibba žic'o niza-yo  
girl.erg clothes wash-pst

<sup>1</sup> Similar behavior of this verb is also found in other closely related Tsezic languages, Tsez, Hinuq (Forker 2010) and Hunzib (van den Berg, Helma 1995:110).

'The girl washed the clothes.'

- b. kid niza-la-yo  
girl.abs wash-antiip-pst  
'The girl washed herself.'

### 5.2. The Accidental//Potential Alternation 2 (marked)

This alternation is only found with the one verb in the database, 'to peel'. The accidental/potential construction of a transitive verb is formed with the suffix '-c' which is added to the verb, the Absolutive argument is left unchanged, and the Ergative agent is changed to the Possessive case. The basic verb is always transitive.

- (43) 'peel'
- a. öždi k'atuwas beš y-ayo-yo  
boy.erg potato.gen1 skin(iv) iv-take-pst  
'The boy peeled the skin off the potato.'

- b. öždiqa k'atuwas beš y-ayoy-c'-iyo  
boy.poss potato.gen1 skin(iv) iv-take-pot-pst  
'The boy could peel the skin off the potato. / The boy accidentally peeled the skin off the potato.'

### 5.3 The Potential Alternation

This alternation (which is distinct from the Accidental/Potential Alternations) is a marked alternation (with the suffix '-b'). The potential construction can be derived from patientive intransitive, transitive and some affective verbs and never from unergative verbs, most affective verbs and agentive intransitive verbs. Note that unlike the accidental/potential construction, the potential construction has only potential meaning, never accidental.

The potential construction derived from patientive intransitives adds a new argument, a potential agent, marked with the Poss-essive.

- (44) ži yajžo-s  
water boil-prs  
'The water boils.'

- b. kibbaqa ži yajžoy-ž-iyo  
girl.poss water boil-pot-pst  
'The girl could boil the water.'

The potential construction derived from the transitive verb does not change the number of verbal arguments. The potential agent is marked with the Poss-essive case.

- (45) hinila yak'žis unti-uryel holcoqa gisa b-ayoy-ž-a'ž-a-s  
self.gen2 heart.in.abl disease-sorrow(iii) 3pl.poss out iii-take-pot-neg-prs

'<... > he was not able to discuss his sorrow.' [Iqla3.128]

- (46)
- a. isil gedo b-egaa-yo  
sister.lat cat(iii) iii-see-pst  
'The sister saw a cat.'
- b. ist'iqā isil gedo b-egay-4-iyō  
brother.poss sister.lat cat(iii) iii-see-pot-pst  
'The brother could show a cat to the sister.'

#### 5.4 The Transitive Alternation

This alternation is presented in all verbs in the database. The Transitive Alternation is a marked alternation. The Transitive alternation includes the transitivization and the causative derivation which are valency increasing mechanisms.

The transitivizing device makes use of the suffix *-k-*, which derives transitive verbs from intransitive inchoative verbs. In Bezhta such inchoative-causative verb pairs are a distinct class of verbs. The inchoative-causative verbs are derived from adjectives and adverbs, expressing a change of state. The inchoative verbs are derived with the suffix *-t* and the causative verbs are derived with the suffix *-k'*. In the database only one such verb pair is found and it has irregular formation (48).

- (47)
- a. öžō Ø-ıq-4-iyō  
boy(i) i-big-inch-pst  
'The boy grew up.'
- b. iyo hosco öžō Ø-ıq-k'-iyō  
mother.erg alone boy(i) i-big-trz-pst  
'The mother brought up a boy alone.'
- (48)
- a. öžō Ø-äʕi-s<sup>2</sup>  
boy(i) i-be.cold-prs  
'The boy feels cold.'
- b. kibba öžō Ø-äç-k'-iyō  
girl.erg boy(i) i-cold-trz-pst  
'The girl made the boy feel cold.'

Bezhta has a distinct class of light verbs or compound verbs that consist of two parts, the lexical word and the auxiliary verbs *-aq-* 'happen' and *-ow-* 'do'. When the auxiliary verb in the light verb construction is the verb *-aq-* 'happen' then the construction is intransitive, and when the auxiliary verb is the verb *-ow-* 'do'

<sup>2</sup> This verb might undergone assimilation of 4.

then it is transitive. Thus, intransitive compound verbs formed with the auxiliary verb *-aq-* 'to happen' derive transitives by changing the auxiliary verb to *-ow-* 'to do'.

- (49)
- a. öždil kid kezı <y> aq-iyō  
boy.lat girl(ii) meet <ii> -pst  
'The boy met the girl.'
- b. kibba öždaa kezı <b> oo-yō  
girl.erg boy.pl meet <hpl> -pst  
'The girl introduced the boys.'
- (50)
- a. öžō kibbaʕ'a uryezi <Ø> aq-iyō  
boy(i) girl.sup think <j> -pst  
'The boy thinks about the girl.'
- b. öždi iyo kibbaʕ'a uryezi <y> oo-yō  
boy.erg mother(ii) girl.sup think <ii> -pst  
'The boy made the mother think about the girl.'

The causative suffix *-l-/ll-* derives transitive verbs from intransitive or affective verbs, and ditransitive verbs from transitive verbs; in the latter, the causer appears in the Instrumental case.

#### Causative from intransitives

A new argument, an agent in the Ergative case, is introduced, and the former Absolutive subject of intransitive clause becomes the Absolutive patient of the transitive clause.

- (51)
- a. siddaʕ'a mayo k'ok'o-s  
one.obl.sup body.abs be.ill-prs  
'(My) body aches from one side <... >.' [Bezhta1.149]
- b. untıla k'ok'o-ll-o mayo  
disease.erg be.ill-caus-pst body.abs  
'The disease made the body ache.' [Bezhta5.118]

#### Causatives from transitives

Causatives from transitive verbs derive a ditransitive construction with the causer in the Ergative case, the causee in the Instrumental case and the patient in the Absolutive.

- (52)
- a. öždi 4ii č'aʕe-š  
boy.erg water pour-prs  
'The boy pours the water.'
- b. kibba öždi-d 4ii č'aʕe-ll-is  
girl.erg boy.obl-instr water pour-caus-prs  
'The girl makes the boy pour the water.'

*Causatives from affective verbs*  
When the causative is based on affective verbs, the construction becomes ditransitive with an agentive argument in the Ergative case, an Absolutive theme, and a Lative recipient.

- (53)
- a. hogcol ratad b-ega-yo  
he.lat sea(iii) iii-see-pst  
'He saw the sea.'
- b. hogco kibbal ratad b-ega-l-lo  
he.erg girl.lat sea(iii) iii-see-caus-pst  
'He showed the sea to the girl.'

*Causatives from unergative verbs*

When the causative is used with the unergative verb, basically the transitive construction is formed with two arguments, the newly introduced agent argument, the causer, in the Ergative and the causee in the Instrumental case.

- (54)
- a. özdi kibbaʕ'a lalaʕo-yo  
boy.erg girl.sup shout-pst  
'The boy shouted at the girl.'
- b. özdi isti'd kibbaʕ'a lalaʕo-ll-iy-o  
boy.erg brother.instr girl.sup shout-caus-pst  
'The boy made the brother shout at the girl.'

*Causative from labile*

Causatives can be derived from the P-labile verb only with the transitive meaning, and never from the P-labile verb with intransitive meaning. This causative derives a ditransitive construction with the causer in the Ergative, the causee in the Instrumental and the patient in the Absolutive.

- (55)
- a. k'atu hele-yo  
potato boil-pst  
'The potato has boiled.'
- b. kibba k'atu hele-yo  
girl.erg potato boil-pst  
'The girl boiled the potato.'
- c. kibba özdid k'atu hele-ll-iy-o  
girl.erg boy.instr potato boil-caus-pst  
'The girl made the boy boil potato.'

## 6. Others

### 6.1. The Object Incorporation Alternation

This alternation is only found with one verb 'to run'. This alternation reduces the valency of this verb by one. The verb 'to run' is transitive with two core

arguments, agent and patient (56a). Additionally, the verb 'to run' can undergo contraction of patient and the verb resulting in one-argument construction where the agent is still marked with the Ergative (56b).

- (56)
- a. özdi yiʕ.a ʕ'an v-äyö-s  
boy.erg fast run(iv) iv-take-prs  
'The boy runs fast.'
- b. özdi yiʕ.a ʕ'anäyö-š  
boy.erg fast run-prs  
'The boy runs fast.'

## 7. Conclusion

In Bezhta most of the alternations (case-coded and verb-coded alternations) are semantically motivated and most of them are only found with limited groups of verbs which prevents us from making any reliable generalizations.

For example, antipassive is a valency changing derivation only when used with monotransitive verbs. But since most intransitives can take antipassive suffixes, and the use of these suffixes is semantically, but not syntactically motivated, the Bezhta antipassive construction is not a canonical antipassive.

In Bezhta the only productive valency changing derivation is causativization.

## 8. Valency classes by coding frames

- S[Abs]  
BOIL, SINK, BE HUNTER, BE COLD, APPEAR, SIT, BURN, GO, BE DRY, BE SICK, BE SAD, CRY, RAIN, DIE, BE HUNGRY, JUMP
- A[Erg] P[Abs]  
EAT, WASH, HELP, FRIGHTEN, MAKE, LOOK AFTER, BLINK, SHAVE, PUSH, COOK, GRIND, DRESS, SEARCH FOR
- A[Erg] T[Abs] R[Lat]  
GIVE, SHOW, CARRY, BRING, SEND
- A[Erg] P[Abs] Loc[Sup]  
LOAD, PUT
- A[Erg] T[Abs] X[Gen]  
TEAR, STEAL
- A[Erg] P[Abs] Instr[Instr]  
KILL, HIT, BREAK
- Exp[Lat] Stim[Abs]  
HEAR, SEE

Appendix:

Valency classes: summary

gloss	verb	case frame	Alternations	Antipa ssive	Transit ivizing
COVER	-oq'ol-	A[Erg] cover P[Sup] with X[Abs]		+	+
FILL	-oc'il-	A[Erg] fill P[Abs] with X[Gen]			+
LOAD	-osoo-	A[Erg] load P[Abs] on Loc[Sup]		+	+
TIE	-ica-	A[Erg] tie P[Abs] to Loc[Inter]		+	+
POUR	git'-	A[Erg] pour P[Abs] in Loc[In]		+	+
PUT	gul-	A[Erg] put P[Abs] on Loc[Sup]		+	+
THROW	-il'ə'e-	A[Erg] throw T[Abs] at Loc[Apud]	A[Erg] throw T[Abs] at Loc[Lat]	+	+
			A[Erg] throw T[Abs] at Loc[Poss]		
BRING	-aq'oo-	A[Erg] bring T[Abs] to R [Lat]	A[Erg] bring T[Abs] to R [Apud]	+	+
CARRY	-eže-	A[Erg] carry T[Abs] to R [Lat]	A[Erg] carry T[Abs] to R [Apud]	+	+
SEND	-e'ə'e-	A[Erg] send T[Abs] to R[Lat]	A[Erg] send T[Abs] to R[Apud]	+	+
GIVE	nil'-	A[Erg] give T[Abs] to R[Lat]	A[Erg] give T[Abs] to R[Poss]	+	+
			A[Erg] give T[Abs] to R[Poss.lat]		
SHOW	-egal-	A[Erg] show T[Abs] to R[Lat]			+
STEAL	-u'co-	A[Erg] steal T [Abs] from X[Gen]	A[Erg] steal T [Abs] from X[Poss.abl]	+	+
HIDE	-u'co-	A[Erg] hide T[Abs] from X[Abl]		+	+
TEAR	-äxel-	A[Erg] tear T[Abs] from X[Gen]		+	+
WIPE	-a'col-	A[Erg] wipe P[Abs] off X[Sup.abl]		+	+
CUT	-itč'-	A[Erg] cut P[Abs] with X[Instr]		+	+
TOUCH	-e'xe-	A[Erg] touch P[Lat] with X[Abs]		+	+
HIT/BEAT	-äl'el-	A[Erg] hit P[Lat] with Instr[Abs]	A[Erg] hit P[Abs] with Instr[Instr]	+	+
KILL	-il'ə'e-	A[Erg] kill P[Abs] with Instr[Instr]			+
BREAK	-iše-	A[Erg] break P [Abs] with			+

		niso-	Instr[Instr]			
SAY			A[Erg] say P[Abs] to Y[Poss]			+
TELL	xabar -e'ə'e-		A[Erg] tell P[Abs] to Y[Lat]		+	+
LOOK	goc'oq'		A[Abs] look at P[Poss]			+
FRIGHTEN	hič'egol-		A[Erg] frighten P[Abs]			+
FEAR	hič'e-		Exp[Abs] fear smth [Poss]			+
LIKE/WANT	-at'-		Exp[Lat] like Stim[Abs]			+
FOLLOW	mič'äx, -e'ə'ə'e-		A[Abs] follow P[Apud]			+
EAT	-if'q'		A[Erg] eat P[Abs]		+	+
WASH	nizə-		A[Erg] wash P[Abs]		+	+
COUGH	öb'ə'o-		S[Erg] cough		+	+
CLIMB	χ'odo -e'ə'ə'e-		S[Abs] climb up Loc[Sup]			+
HELP	komak -oo-		A[Erg] help P[Lat]	(lit. do help)		+
JUMP	-ogitč'-		S[Abs] jump		+	+
SING	keč'ix'e-		A[Erg] sing (a song [Abs])	(lit. sing a song)	+	+
LIVE	öm'rö -oo-		A[Erg] live in Loc[In] (a life[Abs])	(lit. do life)		+
DIE	-u'yo-		S[Abs] die			+
BE HUNGRY	nuko-		S[Abs] be hungry			+
RAIN	wodo gtu-		S[Abs] rain			+
GET	-iqo-		R[Lat] get T[Abs] from X[Poss.abl]			+
CRY	iyə-		S[Abs] cry			+
MAKE	-oo-		A[Erg] make P[Abs]			+
LOOK AFTER	kikzi -oo-		A[Erg] look after P[Abs]			+
HUG	əto -oc'-		A[Abs] hug P[Lat] (with hug[Abs])	(lit. fill a hug)	+	+
PRICK	xäl'emütq-		A[Abs] prick P[Lat]			+
BE SAD	ur'yeil'ə'a gey		S[Abs] be sad			+
BE SICK	k'ok'oo-		S[Abs] be sick			+
BE DRY	qoqo-		S[Abs] be dry			+
GO	-e'ə'ə'e-		S[Abs] go			+
LAUGH	lowə-		S[Abs] laugh at X[Sup]			+
BURN	-ek'e-		S[Abs] burn		+	+
BLINK	pacpa'əo-		A[Erg] blink P[Abs]			+
TAKE	-okč-		A[Erg] take P[Abs] from X[Poss.abl]		+	+
SHAVE	kusu?-		A[Erg] shave P[Abs]		+	+



## Valency properties of Mandinka verbs\*

Denis Creissels

Université Lumière (Lyon 2)

[denis.creissels@univ-lyon2.fr](mailto:denis.creissels@univ-lyon2.fr)  
<http://deniscreissels.fr>

### 1 Introduction

Mandinka, spoken by approximately 1.5 million speakers in The Gambia, Senegal, and Guinea-Bissao, is the westernmost member of the Manding dialect cluster included in the Western branch of the Mande language family.

### 2. Mandinka clause structure

#### 2.1 The prototypical transitive construction

$A \text{ pm P V (X)}^*$

pm = 'predicative marker' encoding TAM and polarity distinctions  
 constituent order particularly rigid  
 no flagging of A/P  
 no indexation of A/P on the verb  
 obliques most of the time encoded as postposition phrases

- (1) a. *Kambaan-óo ye saá bísa fíl-oo la.*  
 boy-DEF PP.POS snake-DEF hit stick-DEF OBL.<sup>1</sup>  
 'The boy hit/beat the snake (with a stick).'  
 b. *Kambaan-óo man ber-óo fáyi palantéer-oo kay.*  
 boy-DEF PP.NEG stone-DEF-PL throw window-DEF on  
 'The boy did not throw the stone into the window.'

\* A pdf file including a first version of the Mandinka paper for the volume on valency classes plus the Mandinka database underlying the analysis can be downloaded from the following link:  
<http://www.deniscreissels.fr/public/Creissels-valency-classes/project/Mandinka.pdf>

<sup>1</sup> In the examples below, postpositions marking oblique arguments are glossed according to the meaning they typically express as heads of postposition phrases in adjunct function, with two exceptions: *la* and *ma*, for which the generic gloss OBL is used. The reason is that the analysis of the uses of these two postpositions as extensions of some 'central' or 'prototypical' meaning is particularly problematic.

- c. *Kew-ó ka a téermaa máakóyi kóó-oo to.*  
 man-DEF HAB.POS 3SG friend help money-DEF LOC  
 'The man helps his friend financially.'

#### 2.2 Intransitive predication

$S \text{ pm V (X)}^*$  with the variant  $S \text{ V-pm (X)}^*$  if pm = 'perfective positive'

- (2) a. *Dentik-óo jaa-ta til-óo la.*  
 shirt-DEF be/become.dry-PP.POS sun-DEF OBL  
 'The shirt dried up in the sun.'  
 b. *Kew-ó man káma mus-óo ye.*  
 man-DEF PE.NEG talk woman-DEF BEN  
 'The man did not talk to the woman.'  
 c. *Díndít-ó ká tootoo jamáajamaa.*  
 child-DEF HAB.POS cough often  
 'The child often coughs.'

#### 2.3 Intransitive alignment, and the notions of subject and object

The fact that A and S equally precede the TAM-polarity markers that are not suffixed to the verb, whereas P follows them, constitutes therefore the only coding property of the core terms of transitive and intransitive clauses on the basis of which a notion of subject conflating S and A can be recognized. The following formula, in which S, O and X stand for 'subject', 'object' and 'oblique' respectively, summarizes the canonical structure of Mandinka clauses:

$S (O) \text{ V (X)}^*$

#### 2.4. Ditransitive alignment

In the construction of semantically trivalent verbs, one of the three arguments must necessarily be encoded as a postposition phrase in post-verbal position, and its behavior properties do not distinguish it from obliques representing adjuncts.

- (3) a. *Kew-ó ye kóó-oo díi mus-óo la.*  
 man-DEF PP.POS money-DEF give woman-DEF OBL  
 'The man gave money to the woman.'  
 b. *Kew-ó ye mus-óo so kóó-oo la.*  
 man-DEF PP.POS woman-DEF give money-DEF OBL  
 'The man gave money to the woman.'

## 2.5. Transitivity alternations, or null subjects or objects?

The following two characteristics of Mandinka clause structure are crucial for the analysis of Mandinka predicative constructions:

- (a) subjects and objects are distinguished from each other by their position to the left or to the right of predicative markers, and
- (b) one of the TAM-polarity markers (the perfective positive) has two variants conditioned by transitivity.

On this basis, it is easy to show that it would not be correct to recognize null subjects or objects (with either an anaphoric or unspecific reading) in the analysis of Mandinka clauses (cf. my presentation at the first Valency Workshop).

## 2.6. The middle construction

In Mandinka, the use of intensive pronouns such as *f* *fáj-o* [1SG|INT-DEF] constitutes the productive way of expressing reflexivity, but Mandinka also has a reflexive pronoun (*f*) in the 1st person, *i* in the 2nd and 3rd persons) used with some transitive verbs to express object reflexivization. Formally, the construction with this reflexive pronoun in object position (henceforth ‘middle construction’) is unambiguously a transitive construction in which the O slot is occupied by the reflexive pronoun, but functionally, it does not always express the reflexivization of a transitive construction with a canonical NP in O function.

- (4) a. *Mis-óo ye dínj-ó kuu.*  
 woman-DEF PF.POS child-DEF wash  
 ‘The woman washed the child.’
- b. *Mis-óo ye í kuu.*  
 woman-DEF PF.POS REFL wash  
 ‘The woman washed (herself).’
- (5) a. *Kew-ó ye kambaan-óo je.*  
 man-DEF PF.POS boy-DEF see  
 ‘The man saw the boy.’
- c. *Finjintéw-o-lu búka í je.*  
 blind-DEF-PL HAB.POS REFL  
 ‘The blind do not see.’

## 2.7. Postpositions

Two postpositions are particularly common in the function of oblique argument marker: *la* and *ma*. The other postpositions used in the function of oblique argument marker are *ti* (productively used in essive, transformative and comparative functions,

also marginally found in comitative function), *to* (a locative postposition which does not refer to any particular type of configuration), *ye* (benefactive), *kaŋ* ‘on’, *kóto* ‘under’, *kóo(ma)* ‘behind’ (cognate with the noun *kóo* ‘back’), *bála* (cognate with the noun *bála* ‘body’, productively used to encode contact), *bálu* (cognate with the noun *bálu* ‘hand’, productively used to encode possession), and *nóoma* ‘after’ (cognate with *nóo* ‘track’).

## 3. Coding frames <sup>2</sup>

### 3.1. Monovalent verbs

#### 3.1.1. The intransitive frame *x* —

The following verbs are among those for which this frame is the only one available:

- x fáj* = *x* boils
- x ja* = *x* is dry
- x jaŋkári* = *x* falls ill
- x kóŋko* = *x* is hungry
- x saa* = *x* dies
- x tootoo* = *x* coughs

#### 3.1.2. The middle frame *x Refl* —

The middle frame is the only one possible for a few Mandinka verbs, for example:

- x Refl súmúnaa* = *x* urinates

### 3.2. Bivalent verbs

#### 3.2.1. The transitive frame *x y* —

No Mandinka verb has the transitive frame as its only possible frame, since all verbs for which the transitive frame can be considered basic are also used intransitively with a passive reading (see 4.2). The following verbs are among those for which an intransitive construction with a passive reading is the only alternative to the transitive frame:

<sup>2</sup> In the schematic presentation of coding frames, the dash indicates the slot occupied by the verb, and the variables *x*, *y* and *z* symbolize NPs in argument function. ‘Postp.’ symbolizes the postposition taking an oblique argument as its complement. Note however that oblique arguments encoding the ground in a spatial configuration do not necessarily have the form of a postposition phrase, since some noun phrases (in particular, toponyms) can be used in this function by themselves. In the presentation of the coding frames of individual verbs, such oblique arguments will be represented as ‘L’ (abbreviation for ‘locative expression’).

*x y báyíndi* = *x* follows *y*  
*x y dádaa* = *x* makes *y*, *x* repairs *y*  
*x y dómo* = *x* eats *y*  
*x y féle* = *x* looks at *y*  
*x y kanu* = *x* likes *y*, *x* loves *y*  
*x y kuu* = *x* washes *y*  
*x y láa* = *x* sings *y* – *y* a song  
*x y líi* = *x* shaves *y*  
*x y mákóyí* = *x* helps *y*  
*x y moyi* = *x* hears *y*  
*x y muta<sub>1</sub>* = *x* catches *y*  
*x y níkiŋ* = *x* learns *y*  
*x y níni(ŋ)* = *x* searches for *y*  
*x y síi* = *x* grinds *y*  
*x y sílá-ndi* = *x* frightens *y* (< *sílaŋ* ‘fear’)  
*x y síŋ* = *x* digs *y*, *x* digs for *y*  
*x y sumbu* = *x* smells *y*, *x* kisses *y*  
*x y tábi* = *x* cooks *y*  
*x y wóto* = *x* peels *y*

### 3.2.2. The extended intransitive frame *x — y Postp*

The following verbs are among those for which this frame is the only one available:

*x lafi y la* = *x* likes *y*, *x* wants *y*  
*x sílaŋ y la* = *x* fears *y*

### 3.2.3. The extended middle frame *x Refl — y Postp*

The extended middle frame is the only one possible for a few Mandinka verbs, for example:

*x Refl lákúra y la* = *x* finishes *y*

## 3.3. Trivalent verbs

### 3.3.1. The extended transitive frame *x y — z Postp*

For the following verbs, the extended transitive frame and the corresponding extended intransitive frame with a passive reading are the only possible frames:

*x y dñi z la* = *x* gives *y* to *z*  
*x y nii z la* = *x* offers *y* to *z*  
*x y ñiniŋkaa z la* = *x* asks *y* about *z*

*x y só z la* = *x* gives *z* to *y*  
*x y yíta(ndi) z la* = *x* shows *y* to *z*  
*x y fó z ye* = *x* tells *y* to *z*

### 3.3.2. The doubly extended intransitive frame *x — y Postp<sub>1</sub> z Postp<sub>2</sub>*

This frame is attested by a few verbs, but I have been able to find no verb for which it would be the only one possible.

## 4. Valency operations involving no change in the verb form

### 4.1. Causative / Anticausative Alternation

In the *Causative / Anticausative Alternation*, a verb that can be used transitively also has an intransitive construction which does not imply the involvement of a participant with the semantic role assigned to the subject of the transitive construction; the referent of the subject of the intransitive construction is presented as undergoing the same process as the object of the transitive construction, but without any hint at a possible external cause.

- (6) a. *Máŋk-oo jolon-ta baŋk-óo to.*  
 mango-DEF fall/drop-PF.POS ground-DEF LOC  
 ‘The mango fell on the ground.’  
 b. *Kew-ó ye mur-óo jolon baŋk-óo to.*  
 man-DEF PF.POS knife-DEF fall/drop ground-DEF LOC  
 ‘The man dropped the knife on the ground.’

*Duj* ‘enter’ illustrates the case of a verb lending itself to the causative / anticausative alternation, which however also has a morphologically marked causative form.

- (7) a. *Wil-óo dun-ta búŋ-o kóno.*  
 dog-DEF enter-PF.POS house-DEF inside  
 ‘The dog went into the house.’  
 b. *Baá ye miráŋ-o duŋ a díŋ-o búlu.*  
 mother-DEF PF.POS bowl-DEF enter 3SG child-DEF POSS  
 ‘The mother put the bowl into the hands of her child.’  
 c. *Mus-óo ye kew-ó du-ndi búŋ-o kóno.*  
 woman-DEF PF.POS man-DEF enter-CAUS house-DEF inside  
 ‘The woman let the man into the house.’

#### 4.2. Active / Passive alternation

In the *Active / Passive Alternation*, a verb that can be used transitively also has an intransitive construction interpreted as implying the same participants as the transitive construction. The subject of the intransitive construction encodes the same participant as the object of the transitive construction, whereas the participant encoded as the subject of the transitive construction is left unexpressed.

- (8) a. *Kewó ye wot-óo dáádaa.*  
 man-DEF PF.POS car-DEF repair  
 ‘The man has repaired the car.’  
 b. *Wot-óo dáádaa-ta.*  
 car-DEF repair-PF.POS  
 ‘The car has been repaired.’
- (9) a. *Kambaan-óo ye fereetoo-boy kolóŋ-o kóno.*  
 boy-DEF PF.POS magic.water-DEF cleverly-pour well-DEF inside  
 ‘The boy cleverly poured the magic water into the well.’  
 b. *Nás-oo fereetoo-bon-ta kolóŋ-o kóno.*  
 magic.water-DEF cleverly-pour-PF.POS well-DEF inside  
 ‘The magic water was cleverly poured into the well.’

#### 4.3. Object / Oblique Alternation

In the *Object / Oblique Alternation*, the verb has an intransitive construction including an oblique which can equally be encoded as the object of a transitive construction. Two semantic subtypes of the *Object / Oblique Alternation* can be distinguished: the *Delimitative Alternation* and the *Applicative Alternation*.

##### 4.3.1. Delimitative Alternation

In the *Delimitative Alternation*, typically found with verbs expressing a manner of moving, the transitive construction encodes the same one-participant event as the intransitive construction; the unique participant is encoded as the subject, and the object encodes the temporal or spatial delimitation of the event.

- (10) a. *Kewó táamá-ta.*  
 man-DEF walk-PF.POS  
 ‘The man walked.’  
 b. *Kewó ye wíloo béé táama.*  
 man-DEF PF.POS bush-DEF all walk  
 ‘The man walked through the whole bush.’

- c. *Kewó ye tili lúulu táama, a máŋ futa saatówo to.*  
 man-DEF PF.POS day five wander 3SG PF.NEG arrive village-DEF OBL  
 ‘The man walked five days without arriving at the village.’

- (11) a. *Kínuy í yááyí-ta bááke.*  
 yesterday 2SG wander-PF.POS a.lot  
 ‘You wandered a lot yesterday.’  
 b. *Musi-kéébaa-lu niŋ deenaan-óo ye saatów-o béé yáayi.*  
 woman-old-DEF-PL with baby-DEF PF.POS village-DEF all wander  
 ‘The old women wandered round the whole village with the baby.’

##### 4.3.2. Applicative Alternation

In the other cases of *Object / Oblique Alternation*, the object of the transitive construction represents a second participant treated as an oblique in the corresponding intransitive construction.

- (12) a. *Sul-óo sele-ta yír-oo sánto.*  
 monkey-DEF climb-PF.POS tree-DEF on\_top  
 ‘The monkey climbed up the tree.’  
 b. *I báka yír-oo sele a jamb-óo la.*  
 3PL HAB.NEG tree-DEF climb 3SG leave-DEF OBL  
 ‘One does not climb a tree by the leaves.’
- (13) a. *Mus-óo wíluu-ta (sínjkút-oo la).*  
 woman-DEF give\_birth-PF.POS girl-DEF OBL  
 ‘The woman gave birth (to a girl).’  
 b. *Mus-óo ye sínjkút-óo le wíluu.*  
 woman-DEF PF.POS girl-DEF FOC give\_birth  
 ‘The woman gave birth to a girl.’

#### 4.4. Active / Introversive Alternation

In the *Active / Introversive Alternation*, the verb has an intransitive construction and a transitive construction in which it assigns the same semantic role to its subject, but the participant encoded as the object of the transitive construction cannot be expressed in the intransitive construction

- (14) a. *Jíy-o dásá-tá le.*  
 water-DEF lack-PF.POS FOC  
 ‘Water is lacking.’

- b. *Kóó-oo ye íj dása.*  
 money-DEF PF.POS 1SG lack  
 ‘I lack money.’
- (15) a. *Ñiŋ kew-ó ye Fúla-káp-o karaj.*  
 DEM man-DEF PF.POS Fula-language-DEF learn  
 ‘The man learned the Fula language.’

- b. *Ñiŋ kew-ó karan-ta báake.*  
 DEM man-DEF know-PF.POS very  
 ‘The man is a very learned person.’

#### 4.5. Object / Oblique Permutation

The *Object / Oblique Permutation* involves trivalent verbs that have two constructions with the same argument selected in subject function, but two possible choices for the argument encoded as the object.

- (16) a. *Kew-ó ye batáy-oo sáfee a díŋ-o ye.*  
 man-DEF PF.POS letter-DEF write 3SG son-DEF BEN  
 ‘The man wrote a letter to his son.’
- b. *Kew-ó ye a díŋ-o sáfee batáy-oo la.*  
 man-DEF PF.POS 3SG son-DEF write letter-DEF OBL  
 ‘The man wrote a letter to his son (lit. wrote his son with a letter).’
- (17) a. *Kew-ó ye tiy-ó sóoli boot-ó kóno.*  
 man-DEF PF.POS peanuts-DEF cram-CAUS<sub>1</sub> bag-DEF inside  
 ‘The man crammed the peanuts into the bag.’
- b. *Kew-ó ye boot-ó sóoli tiy-ó la.*  
 man-DEF PF.POS bag-DEF stuff-CAUS<sub>1</sub> peanuts-DEF OBL  
 ‘The man stuffed the bag with peanuts.’

#### 4.6. Intransitive / Middle Synonymy

Some Mandinka verbs are found in an intransitive construction and in a middle construction in which they assign the same role to their subject. Some of them, for example *báŋuu* ‘live’, have no possibility of a transitive use, others, for example *nukaj* ‘hide’, also have a transitive use related to their intransitive use via the Causative / Anticausative Alternation.

- (18) a. *Baramatóo te báŋuu-la.*  
 injured.person-DEF COP.NEG live-INF  
 ‘The injured person will not survive.’

- b. *Moo-jáamaa ka í báŋuu sen-óo le la jaj.*  
 person-many HAB.POS REFL live farming-DEF FOC OBL here  
 ‘Many people live on farming here.’

- (19) a. *Dindít-o nukun-ta yír-oo kóoma.*  
 child-DEF hide-PF.POS tree-DEF behind  
 ‘The child hid behind the tree.’
- b. *Dindít-o ye í nukuj yír-oo kóoma.*  
 child-DEF PF.POS REFL hide tree-DEF behind  
 ‘The child hid (himself) behind the tree.’
- c. *Mus-óo ye kóó-oo nukuj.*  
 woman-DEF PF.POS money-DEF hide  
 ‘The woman hid the money.’

#### 4.7. Antipassive Middle

A few Mandinka verbs have a middle construction related to a transitive construction of the same verb by a valency operation of the antipassive type. In some cases, for example with *mij* ‘drink’, the participant encoded as the object of the transitive construction is encoded as an oblique in the middle construction. In other cases, for example with *je* ‘see’, the participant encoded as the object of the transitive construction cannot be expressed in the middle construction.

- (20) a. *Kew-ó ye jiy-o mij.*  
 man-DEF PF.POS water-DEF drink  
 ‘The man drank water.’
- b. *Kew-ó ye í mij jiy-o la.*  
 man-DEF PF.POS REFL drink water-DEF OBL  
 same meaning as (a)
- (21) a. *Kew-ó ye kambaan-óo je.*  
 man-DEF PF.POS boy-DEF see  
 ‘The man saw the boy.’
- b. *Fijkitéw-o-lu báka í je.*  
 blind-DEF-PL HAB.POS REFL see  
 ‘The blind do not see.’

#### 4.8. Subject / Oblique Alternation

The only Mandinka verb lending itself to the *Subject / Oblique Alternation* is *tú* ‘remain / leave’. *Tú* has transitive and intransitive uses related via the Causative / Anticausative Alternation, but in addition to that, it is found in an impersonal

construction which has no equivalent with any other Mandinka verb, in which the 3rd person pronoun in subject function is a mere place-holder, and the only participant is encoded as an oblique.

- (22) a. *Mus-óo ye dínáńj-o-lu tu súw-o kóno.*  
 woman-DEF PF.POS child-DEF-PL leave house-DEF inside  
 ‘The woman left the children in the house.’
- b. *Mustu-kéebaa fula tú-ta saatéw-o to.*  
 woman-old two remain-PF.POS village-DEF LOC  
 ‘Two old women remained in the village.’
- c. A *tú-ta jee musu-kéebaa fula (la).*  
 3SG remain-PF.POS there woman-old two OBL  
 ‘There remained two old women.’

## 5. Valency operations involving a change in the verb stem

### 5.1. Antipassive Derivation

Mandinka has a suffix *-ri* (with an allomorph *-diri* selected by stems ending with a nasal) exclusively found with transitive verbs whose second argument is not expressed, which constitutes the typical distribution of antipassive markers, but with just one exception (see below), the form marked by this suffix is used exclusively as an action noun, not as a verbal predicate.

Mandinka verbs can be used as action nouns without being explicitly nominalized, but with most transitive verbs, apart from control constructions in which the unexpressed patient is identified to a noun present elsewhere in the construction, if the patient is not expressed as an incorporated noun or as a genitival dependent, the addition of the antipassive suffix *-ri* is necessary in order that the verb used nominally expresses an active meaning.

A construction in which *ké ‘do’* combines with the antipassive form of the transitive verb in object function constitutes the usual strategy for leaving unspecified the second argument of transitive verbs in Mandinka.

- (23) a. *Mus-óo ye sub-óo tábi.*  
 woman-DEF PF.POS meat-DEF cook  
 ‘The woman cooked the meat.’
- b. *Mus-óo ye tábí-r-oo ke.*  
 woman-DEF PF.POS cook-ANTIP-DEF do  
 ‘The woman did the cooking.’

*Dómo ‘eat’* is the only Mandinka verb with which *-ri* has the usual behavior of antipassive markers, i.e. yields a form used not only as an active action noun, but also as an intransitive verb whose subject represents the agent.

- (24) a. *Dínáńj-o ye mbuur-óo dómo.*  
 child-DEF PF.POS bread-DEF eat  
 ‘The child ate the bread.’
- b. *Dínáńj-o ye dómó-r-oo ke.*  
 child-DEF PF.POS eat-ANTIP-DEF do  
 ‘The child ate.’
- c. *Dínáńj-o dómó-rí-ta.*  
 child-DEF eat-ANTIP-PF.POS  
 same meaning as (b)

The cognates of this atypical antipassive suffix in other Manding varieties are nominalization markers. They yield forms that can never be used as verbs, and they cannot be analyzed as encoding patient demotion, since they may be used to mark the nominalization of intransitive verbs, and their presence with transitive verbs used as action nouns does not block the expression of the patient. However, a canonical antipassive suffix *-ndi* probably cognate with these problematic Manding suffixes is found in Sooninke (a language of the Western branch of the Mande family distantly related to Manding).

### 5.2. Causative Derivation

When the input of Causative Derivation is an intransitive construction, the subject of the non-derived verb is converted into the object of the causative verb, and a causer is introduced in subject function.

- (25) a. *Dínáńj-o lá dendik-óo nóo-ta.*  
 child-DEF GEN shirt-DEF get\_dirty-PF.POS  
 ‘The child’s shirt got dirty.’
- b. *Dínáńj-o yé a lá dendik-óo nó-ndi.*  
 child-DEF PF.POS 3SG GEN shirt-DEF get\_dirty-CAUS1  
 ‘The child soiled his shirt.’

When Causative Derivation operates on a transitive construction, the general rule is that the subject of the non-derived verb (the causee in the causative construction) takes the object function, and the object of the non-derived verb is converted into an oblique marked by the postposition *la*.

(26) a. *Dĩndĩp-o* *yé* *toońáa* *fo*.  
 child-DEF PE.POS truth.DEF tell  
 ‘The child told the truth.’

b. *Kew-ó* *ye* *dĩndĩp-o* *fóo-rĩndi* *toońáa* *la*.  
 man-DEF PE.POS child-DEF tell-CAUS<sub>2</sub> truth.DEF OBL  
 ‘The man made the child tell the truth.’

Mandinka has two causative suffixes:

- The CAUS<sub>1</sub> suffix *-ndi* is typically used to causativize intransitive constructions and to express direct causation; it is however also used with a few transitive verbs.
- The CAUS<sub>2</sub> suffix *-rĩndi* (with an allomorph *-dĩrĩndi* selected by stems ending with a nasal) is exclusively used to causativize transitive constructions and can only express indirect causation.

In the case of *dómo* ‘eat’, *dómó-rĩndi* can be analyzed as the causative form derived from *dómóri* ‘eat (Intr.)’, as indicated in the gloss of Ex. (27).

(27) a. *Dĩndĩp-o* *dómó-rĩ-ta*.  
 child-DEF eat-ANTIP-PE.POS  
 ‘The child ate.’  
 b. *Kew-ó* *ye* *dĩndĩp-o* *dómó-rĩ-ndi* (*mbuur-óo la*).  
 man-DEF PE.POS child-DEF eat-ANTIP-CAUS<sub>1</sub> bread.DEF OBL  
 ‘The man made the child eat (bread).’

If the other Mandinka verbs behaved in this way, it would not be necessary to recognize a second causative suffix *-rĩndi*. The problem is that the CAUS<sub>1</sub> suffix *-ndi* attaches exclusively to verb stems, and *dómo* ‘eat’ is the only Mandinka verb whose antipassive form can be used in verbal predicate function (see above). This is the reason why a second causative suffix *-rĩndi* must be recognized in a synchronic description.

### 5.3. Postposition Incorporation

In *Postposition Incorporation*, the same argument can be encoded either as an oblique in an intransitive construction, or as the object of a compound verb form incorporating the postposition used to mark the same argument when it is encoded as an oblique.

(28) a. *Bándĩy-o-lu* *boyi-ta* *jul-óo-lu* *karj*.  
 bandit-DEF-PL fall-PE.POS merchant-DEF-PL on  
 ‘The bandits attacked the merchants (lit. fell on the merchants).’

b. *Bándĩy-o-lu* *yé* *jul-óo-lu* *boyĩj-karj*.  
 bandit-DEF-PL PE.POS merchant-DEF-PL fall-on<sup>3</sup>  
 ‘The bandits attacked the merchants.’

Very few verbs lend themselves to this transformation.

## 6. Valency classes

### 6.1. Class 1 (plain intransitive verbs)

The verbs grouped into this class have only intransitive uses. As a rule, they can be transitivized by means of the CAUS<sub>1</sub> suffix. In addition to the verbs already mentioned in Sections 3.1.1 and 3.3.2 as illustrations of the intransitive and extended intransitive frames, this class includes among many others the following verbs:

*x ninj y bej* = *x* meets *y* (*ninj* = with)  
*x diyaa* = *x* is pleasant, *x* is easy, *x diyaa y ye* = *y* likes *x*  
*x fĩnti* = *x* appears, *x fĩnti L* = *x* goes out from somewhere  
*x kúma* = *x* speaks / sounds (produces a sound), *x kúma y ye* = *x* talks to *y*  
*x sawunj* (*L*) = *x* jumps (somewhere)  
*x sii* (*y kan*) = *x* sits down (on *y*), *x sii (L)* = *x* lives somewhere  
*x siti*<sub>2</sub> = *x* is ill-lucked  
*x sũmáyaa* = *x* is cold  
*x tũuney* = *x* sinks

### 6.2. Class 1a

This subclass of class 1 includes strictly intransitive verbs that do not have a causative form either:

*x saa* = *x* dies  
*x naa L* = *x* comes somewhere, *x naa y ti z ye* = *x* brings *y* to *z*, *x naa y ti L* = *x* brings *y* somewhere  
*x táa L* = *x* goes somewhere, *x táa y ti z ye* = *x* carries *y* to *z*, *x táa y ti L* = *x* carries *y* somewhere

### 6.3. Class 2 (plain transitive verbs)

For the verbs belonging to this class, an intransitive construction with a passive reading constitutes the only alternative to the basic transitive (or extended transitive) frame. In addition to the verbs already mentioned in Sections 3.2.1 and

<sup>3</sup>The epenthetic segment *-j-* has been arbitrarily assigned to the preceding morpheme.

3.3.1 as illustrations of the transitive and extended transitive frames, this class includes among many others the following verbs:

*x y báyi L* = *x* chases *y* from somewhere  
*x y boŋ L* = *x* pours *y* somewhere  
*x y búŋ* = *x* stings *y*, *x y búŋ z la* = *x* aims at *y* with *z*, *x* throws *z* on *y*  
*x y bula<sub>2</sub>* = *x* leaves *y*, *x* abandons *y*  
*x y búsa<sub>1</sub>* = *x* beats *y z*, *x* hits *y*  
*x y deema* = *x* hunts *y*  
*x y dímit* = *y* feels pain in *x*, *x* causes *y* to feel pain)  
*x y fàrási z bála* = *x* tears *y* from *z*  
*x y fáyi L* = *x* throws *y* somewhere  
*x y fíta* = *x* wipes *y*  
*x y fútu* = *x* marries *y* – *x* a man, *y* a woman  
*x y karan<sub>1</sub>* = *x* reads *y*  
*x y ké<sub>3</sub> L* = *x* puts *y* somewhere  
*x y ké<sub>4</sub> L* = *x* spends *y* somewhere, *x y ké<sub>4</sub> z ti* = *x* spends *y* doing *z* – *y* a time span  
*x y kú z ye* = *x* sends *y* to *z*, *x y kú L* = *x* sends *y* somewhere  
*x y kónkoŋ L* = *x* wipes *y* from somewhere  
*x y kúmánda* = *x* calls *y*, *x y kúmánda z la* = *x* calls *y a z*  
*x y kuntu (z la)* = *x* cuts *y* (with *z*)  
*x y láa<sub>2</sub> (z ye)* = *x* tells *y* (to *z*) – *y* a story  
*x y maa (z la)* = *x* touches *y* (with *z*)  
*x y múura z la* = *x* covers *y* with *z*  
*x y samba z ye* = *x* brings *y* to *z*, *x* carries *y* to *z*, *x y samba L* = *x* brings *y*  
 somewhere, *x* carries *y* somewhere  
*x y siti<sub>1</sub> (z bála)* = *x* ties *y* (to *z*)  
*x y soo z kóno* = *x* pours *y* into *z*  
*x y taa (z búlu)* = *x* takes *y* (from *z*)  
*x y teyi<sub>1</sub> (z la)* = *x* cuts *y* (with *z*)  
*x y too láa z la* = *x* names *y z*

#### 6.4. Class 3

The verbs grouped into this class differ from those of Class 2 by the possibility of two transitive constructions related via the Object / Oblique Permutation:

*x y biti z la* ~ *x z biti y to* = *x* covers *y* with *z*, *x* puts *z* on *y* – *y* an opening  
*x y dáani z búlu* ~ *x z dáani y la* = *x* asks *z* for *y*  
*x y kara-ndi z ye* ~ *x z kara-ndi y la* = *x* teaches *y* to *z*  
*x y sáfee z ye* ~ *x z sáfee y la* = *x* writes *y* to *z*  
*x y sóoli z kóno* ~ *x z sóoli y la* = *x* crams *y* into *z*, *x* stuffs *z* with *y*  
*x y suuna z búlu* ~ *x z suuna y la* = *x* steals *y* from *z*

#### 6.5. Class 4 (plain P-labile verbs)

The verbs grouped into this class have an intransitive construction and a transitive construction related via the Causative / Anticausative alternation. They cannot take the causative suffix CAUS<sub>1</sub>, used to causativize intransitive constructions, but their transitive construction may be causativized by means of the CAUS<sub>2</sub> suffix (*faa-rindi* ‘make kill’, *jani-rindi* ‘make burn’, etc.).

*x faa* = *x* dies ~ *x y faa* = *x* kills *y*  
*x jani* = *x* burns ~ *x y jani* = *x* burns *y*  
*x káti* = *x* breaks ~ *x y káti* = *x* breaks *y*  
*x ké<sub>1</sub>* = *x* happens, *x* occurs ~ *x y ké<sub>1</sub>* = *x* does *y*  
*x tara L* = *x* is found somewhere, *x tara y la* = *x* is affected by *y* ~ *x y tara L* = *x*  
 finds *y* somewhere  
*x teyi<sub>3</sub>* = *x* breaks ~ *x y teyi<sub>3</sub>* = *x* breaks *y*  
*x tú L* = *x* remains somewhere; *x y tú L* = *x* leaves *y* somewhere

The last verb of this list (*tú* ‘remain / leave’) has the particularity of being the only Mandinka verb having the ability to occur in an impersonal construction with a subject de-topicalizing function – see 4.8.

#### 6.6. Class 5 (plain A-labile verbs)

The verbs grouped into this class have an intransitive construction and a transitive construction in which they assign the same role to their subject. Those of them which lend themselves to causativization take the CAUS<sub>1</sub> suffix typically used to causativize intransitive verbs.

In most cases, the alternative constructions of the verbs of Class 5 are related via the Object / Oblique alternation, but a minority of them are involved in the Active / Introversive alternation:

*x bálan y ma z la* ~ *x z bálan y ma* = *x* refuses *y z*, *x* denies *y z*  
*x búsa<sub>2</sub> y kaŋ* ~ *x y búsa<sub>2</sub>* = *x* falls violently on *y*  
*x diyaamu* = *x* speaks, *x diyaamu y la* ~ *x y diyaamu* = *x* discusses *y*  
*x jéle* = *x* laughs, *x jéle y la* ~ *x y jéle* = *x* laughs at *y*  
*x kumboo* = *x* cries, *x y kumboo* = *x* laments the loss of *y*  
*x sári* = *x* screams, *x sári y kaŋ* = *x* shouts at *y*, *x sári y ti* ~ *x y sári* = *x* shouts *y*  
*x sele y sánto* ~ *x y sele* = *x* climbs up *y*  
*x teyi<sub>2</sub> y la* ~ *x y teyi<sub>2}</sub>* = *x* crosses *y*  
*x túluŋ* = *x* plays, *x túluŋ y la* ~ *x y túluŋ* = *x* does not take *y* seriously, *x*  
 behaves frivolously towards *y*  
*x wúluu y la* ~ *x y wúluu* = *x* gives birth to *y*  
*x y karan<sub>2</sub>* = *x* learns *y*, *x karan<sub>2}</sub>* = *x* learns a lot  
*x y loŋ* = *x* knows *y*, *x loŋ* = *x* knows a lot  
*x y muta<sub>2}</sub>* = *x* acts on *y*, *x muta<sub>2}</sub>* = *x* takes effect

### 6.7. Class 6

This class is characterized by two possible transitive constructions, one related to the intransitive construction according to the Object / Oblique Alternation (characteristic of A-labile verbs), and the other related to the intransitive construction according to the Causative / Anticausative Alternation (characteristic of P-labile verbs). *Míniŋ* 'wind' is the only verb I have found in this class.

$x$  **míniŋ**  $y$   $la \sim x$  Refl **míniŋ**  $y$   $la = x$  hugs  $y$ ,  $x$  winds around  $y$ ,  $x$   $y$  **míniŋ**  $= x$  surrounds / encircle  $y$ ,  $x$   $y$  **míniŋ**  $z$   $la = x$  winds  $y$  around  $z$

### 6.8. Class 7

The verbs in this class can be labeled 'semi-labile'. They participate in the Causative / Anticausative Alternation, but to a limited extent only, since in the transitive construction, their non-derived form is in competition with a morphologically marked causative form.

$x$  **bó**  $L = x$  leaves a place,  $x$   $y$  **bó**  $L \sim x$   $y$  **bó-ndi**  $L = x$  takes off / removes  $y$  from somewhere

$x$  **boyi**  $= x$  falls,  $x$   $y$  **boyi**  $\sim x$   $y$  **boyi-ndi**  $= x$  makes  $y$  fall

$x$  **bula**,  $L = x$  settles oneself / boards somewhere,  $x$   $y$  **bula**,  $L \sim x$   $y$  **bula-ndi**  $L = x$  puts  $y$  somewhere

$x$  **duŋ**,  $L = x$  enters somewhere,  $x$   $y$  **duŋ**,  $L \sim x$   $y$  **du-ndi**  $L = x$  slips  $y$  somewhere,  $x$  makes/lets  $y$  enter somewhere

$x$  **fáa**  $y$   $la = x$  is full of  $y$ ,  $x$   $y$  **fáa**  $z$   $la \sim x$   $y$  **fá-ndi**  $z$   $la = x$  fills  $y$  with  $z$

$x$  **ké**,  $y$   $ti = x$  becomes  $y$ ,  $x$  is  $y$ ,  $x$   $y$  **ké**,  $z$   $ti \sim x$   $y$  **ké-ndi**  $z$   $ti = x$  makes  $z$  out of  $x$ ,  $x$  transforms  $y$  into  $z$

$x$  **ñori**  $= x$  moves,  $x$   $y$  **ñori**  $= x$  pushes  $y$ ,  $x$   $y$  **ñori-ndi**  $= x$  causes  $y$  to move

$x$  **sawu**,  $y$   $la = y$  is infected by  $x - x$  an illness,  $x$   $y$  **sawu**,  $z$   $la \sim x$   $y$  **sawu-ndi**  $z$   $la = x$  infects  $z$  with  $y - y$  an illness

$x$  **soto**  $L = x$  is available somewhere,  $x$   $y$  **soto**  $= x$  gets  $y$ ,  $x$  has  $y$ ,  $x$   $y$  **soto**  $z$  búlu  $= x$  gets  $y$  from  $z$ ,  $x$   $y$  **soto-ndi**  $z$   $ye = x$  makes  $y$  available to  $z$

$x$  **sunu**  $= x$  is sad,  $x$   $y$  **sunu**  $\sim x$   $y$  **sunu-ndi**  $= x$  makes  $y$  sad

### 6.9. Class 8 (media tantum)

This class includes a few verbs occurring exclusively in the middle construction (media tantum).

$x$  Refl **fóño**  $= x$  rests,  $x$  Refl **fóño**  $y$   $la = x$  stops dealing with  $y$

$x$  Refl **lákúra**  $y$   $la = x$  finishes  $y$

$x$  Refl **súmúnaa**  $= x$  urinates

### 6.10. Class 9

The few verbs grouped into this class are used intransitively or in the middle construction, but have no transitive use.

$x$  **báluu**  $= x$  lives / survives,  $x$  Refl **báluu**  $y$   $la = x$  lives on  $y$

### 6.11. Class 10

The verbs grouped into this class, like those of class 9, participate in the Intransitive / Middle Synonymy. In addition to that, like the semi-labile verbs grouped into class 7, they also participate in the Causative / Anticausative Alternation, but only to a limited extent, having transitive uses in which the causative form is required.

$x$  **bori**  $\sim x$  Refl **bori**  $= x$  runs / moves quickly;  $= x$  runs;  $x$   $y$  **bori**  $= x$  rides/drives  $y$ ;  $x$   $y$  **bori-ndi**  $= x$  rides/drives  $y$ ,  $x$  makes  $y$  run

$x$  **láa**, ( $y$   $kap$ )  $\sim x$  Refl **láa**, ( $y$   $kap$ )  $= x$  lies down (onto  $y$ );  $x$   $y$  **láa**, ( $z$   $kap$ )  $= x$  lays / loads / puts  $y$  (onto  $z$ );  $x$   $y$  **lá-ndi** ( $z$   $kap$ )  $= x$  lays  $y$  (onto  $z$ )

$x$  **loo**  $\sim x$  (Refl) **loo**  $= x$  stands,  $x$  stops;  $x$   $y$  **loo**  $\sim x$   $y$  **lo-ndi**  $= x$  builds  $y$ ,  $x$  erects  $y$ ;  $x$  puts  $y$  in standing position

$x$  **maabo**  $y$   $ma \sim x$  Refl **maabo**  $y$   $ma = x$  hides from  $y$ ;  $x$   $y$  **maabo**  $z$   $ma \sim x$   $y$  **maabo-ndi**  $z$   $ma = x$  hides  $y$  from  $z$

### 6.12. Class 11

The verbs grouped into class 11 differ from plain transitive verbs by their ability to occur in a middle construction expressing a valency operation of the antipassive type.

$x$   $y$  **duŋ**,  $z$   $la = x$  dresses  $z$  in  $y$ ,  $x$  puts  $y$  on  $z - x$  a piece of clothing;  $x$   $y$  **duŋ**,  $z = x$  dresses in  $y$ ;  $x$  Refl **duŋ**,  $z = x$  dresses

$x$   $y$  **je**  $= x$  sees  $y$ ;  $x$  Refl **je**  $= x$  sees

$x$   $y$  **míra**  $\sim x$  Refl **míra**  $y$   $to = x$  thinks about  $y$

$x$   $y$  **miŋ**  $\sim x$  Refl **miŋ**  $y$   $la = x$  drinks  $y$

## 7. Conclusion

The following aspects of Mandinka morphosyntax play a crucial role in the organization of the valency properties of Mandinka verbs and in their analysis:

- a particularly clear-cut distinction between transitive and intransitive predications, and between core syntactic terms and obliques;
- a strict limitation of the number of core nominal terms in predicative constructions to two;

- a total ban on null core arguments, either with an anaphoric or an arbitrary reading, which makes equally unproblematic the recognition of A-labile and P-labile verbs.

Mandinka has a middle construction whose relationship to transitive and intransitive constructions involves cross-linguistically common mechanisms (such as the ability to encode valency operations of the antipassive type), and the way causativization is organized in Mandinka conforms to well-established cross-linguistic regularities, but Mandinka shows an undeniable originality in some aspects of valency grammar:

- In Mandinka, A-lability and P-lability are not mutually exclusive, since some verbs can be used intransitively, without any morphological marking, with a subject corresponding to any of the two core terms of the corresponding transitive construction.
- Mandinka has many pairs of etymologically related verbs differing in their behavior with respect to transitivity alternations and/or causativization. Pairs such as *teyi* 'cut' / *teyi* 'cross', *muta* 'catch' / *muta* 'act on', *karay* 'read' / *karay* 'learn', *busa* 'hit' / *busa* 'fall violently on' provide particularly clear evidence of the relevance of prototypical transitivity as discussed by Næss 2007, since the member of the pair standing closer to the transitive prototype is a plain transitive verb, whereas the other is A-labile.
- Two semantic types of P-lability must be distinguished in Mandinka, manifested in the Causative / Anticausative Alternation and in the Active / Passive Alternation respectively; the Active / Passive Alternation applies across the board to verbs that have the ability to occur in a transitive construction, whereas the Causative / Anticausative alternation is a lexical property of individual verbs, and is in competition with morphologically encoded Causative Derivation for a class of 'semi-labile' verbs.
- Mandinka has a suffix encoding a valency operation which is clearly of the antipassive type, but with the only exception of *dómo* 'eat', it yields forms that can only be used as action nouns, not as verbal predicates.
- The suffix encoding the causativization of transitive constructions is a complex suffix whose first formative can be identified as the antipassive suffix, at least in a historical perspective.
- Mandinka has an impersonal construction similar to the 'presentational focus' constructions attested among other in Romance and Bantu languages, which is however limited to a single verb: *tú* 'remain'.

## Abbreviations

AGNR: agent nominalizer, ANTP: antipassive, BEN: benefactive postposition, CAUS: causative, CI: clause, CTRP: centripetal, DEF: definite, DEM: demonstrative, ESS: essive postposition, FOC: focalization, GEN: genitive, HAB: habitual, ID.COP: identificational copula, INF: infinitive, L: noun phrase, postposition phrase or adverb

encoding the ground in a spatial relationship, LOC: locative postposition, LOC.COP: locative copula, N: noun phrase, NEG: negative, O: object, OBL: postposition in oblique marker function, PF: perfective, PL: plural, POS: positive, POSS: possessive postposition ('within the sphere of'), Postp: postposition, POT: potential, PST: past, Q: interrogative particle; QUOT: quotative, REFL: reflexive pronoun, REL: relativizer, RES: resultative, RU: reported utterance, S: subject, SG: singular, TAM: tense-aspect-mood, V: verb, X: oblique.

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# Transitivity and valency classes in Eastern Armenian

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Michael Daniel  
(Moscow State University / Higher School of Economics)  
[misha.daniel@gmail.com](mailto:misha.daniel@gmail.com)

& Victoria Khurshudian  
(INALCO (SEDYL, Inalco/CNRS))  
[vkhurshudian@gmail.com](mailto:vkhurshudian@gmail.com)

## Preliminaries:

- Indo-European
- left-branching
- accusative
- SOV
- agglutinative
- contacts with Caucasian, Iranian and Turkic lgs

Table 1. Mediopassive for verbs in -a- in Classical Armenian

	Infinitive 'open'	CONSTRUAL 1	CONSTRUAL 2
<b>Classical</b>	բան-ալ ban-al base-INF	բան-ամ ban-am base-PRS.1SG[TR]	բան-ամ ban-am base-PRS.1SG.MED
<b>Eastern</b>	բան-ալ ban-al base-INF	բան-ամ ban-am base-PRS.1SG[TR]	-
<b>Western</b>	բան-ալ ban-al base-INF	բան-ամ ban-am base-PRS.1SG[TR]	-

## Causative formation:

CA aorist base (most often in -c')-u(j)c'

EA unmarked base-c'-

WA aorist base(-)(u)c'

Table 2

	Infinitive 'mislead'	CAUS.AOR.1SG	CAUS.AOR.2SG	CAUS.AOR.3SG
<b>Classical</b>	մոլորե-ց-ուց-ան-ե-լ molore-c'-uc'-an-e-l base-AOR-CAUS-VBLZ-T-INF	մոլորե-ց-ուց-ան-եմ molore-c'-uc'-an-em base-AOR-CAUS-VBLZ-1SG	մոլորե-ց-ուց-ի molore-c'-uc'-i base-AOR-CAUS-2SG	մոլորե-ց-ոյց molore-c'-ujc' base-AOR-CAUS(3SG)
<b>Eastern</b>	մոլորե-ց-ն-ե-լ molore-c'-n-e-l base-CAUS-VBLZ-T-INF	մոլորե-ց-ն-եմ molore-c'-n-em base-CAUS-VBLZ-1SG	մոլորեց-ր-ի molore-c'-r-i base-CAUS-2SG	մոլորե-ց-ր-եց molore-c'-r-ec' base-CAUS-3SG
<b>Western</b>	մոլորե-ց-ն-ե-լ molore-c'-n-el base-AOR.CAUS-VBLZ-INF	մոլորե-ց-ն-եմ molore-c'-n-em base-AOR.CAUS-VBLZ-1SG	մոլորե-ց-ուց-ի molore-c'-uc'-i base-AOR-CAUS-2SG	մոլորեց-ուց molore-c'-uc' base-AOR-CAUS(3SG)

(1) *Inanimate direct object: nominative*

Ռուբին **սիրում** էր միայն ժողովրդական երգեր...

rubin sir-um er miajn **žovovrdakan jerg-er...**  
rubi-DEF love-CVB.IPFV AUX.PST.3SG only folk song-PL

*Rubi was only fond of folk songs.*

(2) *Animate direct object: dative*

Դու **սիրել** էս մեկին, նա՛ ուրիշին:

du sir-el es **mek-i-n,** na **uriš-i-n**  
you.sg.NOM love-CVB.PFV AUX.2SG **one-DAT-DEF** this.NOM **other-DAT-DEF**

*You loved a girl, she loved someone else. .*

(3) *causative + mediopassive*

Հետ-պատերազմյան տասնամյակների ընթացքում այդ կապերը փաստորեն սառեցված էին:

het-paterazm-jan tasnamjak-ner-i ənt<sup>h</sup>ac<sup>h</sup>k<sup>h</sup>-um ajd kap-er-ə  
post-war-ADJZ decade-PL-GEN course-LOC that tie-PL-DEF

p<sup>h</sup>astoren **sare-c<sup>h</sup>-v-ac** ein  
in.fact **freeze-CAUS-MED-RES.PTCP** AUX.PST.3PL

*In the post-war decades these connections have almost stopped (lit. were frozen)*

**Mediopassive (-v-)**

(4) *mediopassive: ‘passive’*

Ծրագրի համաձայն՝ զազամուղ **կկառուցվի** թե՛ հայկական, թե՛ իրանական տարածքներում:

Cragr-i hamazajn gazamuš **k-karuc<sup>h</sup>-v-i** t<sup>h</sup>e hajkakan,  
project according pipeline **FUT-build-MED-SBJV.3SG** that Armenian

t<sup>h</sup>e iranakan tarack<sup>h</sup>-ner-um.  
that Iranian territory-PL-LOC

*According to the project, the pipeline will be constructed on both Armenian and Iranian territory.*

(5) *mediopassive: reflexive*

Արամյանը կուզենար ինքն էլ գնալ նայել, բայց ծուլանում էր **հագնվել**:

Aramjanə k-uzena-r ink<sup>h</sup>-n el gn-al naj-el,  
Aramian-DEF FUT-want-SBJV.PST.3SG self.NOM-DEF PART go-INF look-INF

bajc<sup>h</sup> culan-um er **hagn-v-el.**  
but feel.lazy-CVB.IPFV AUX.PST.3SG **dress-MED-INF**

*Aramian would go and have a look himself, but he didn’t will like getting dressed.*

(6) *mediopassive: reciprocal*

Եվ ահա այդքան տարբեր այդ բնավորությունները **կապվել** էին **իրար**:

Jev aha ajdk<sup>h</sup>an tarber ajd bnavorut<sup>h</sup>jun-ner-ə  
and here thus different so character-PL-DEF

**kap-v-el** ein **irar.**  
**link-MED-CVB.PFV** AUX.PST.3PL **each.other**

*And thus characters so different became linked to each other.*

(7) *mediopassive: decausative*

Տնակն ամբողջությամբ այրվել է:

tnak-n amboʒut<sup>h</sup>-jamb **ajc-v-el** e  
 small.house-DEF whole-INST **burn-MED-PFV** be.AUX.PRS.3SG

*The small house was completely destroyed by fire.*

**Causative (-c'-)**

(8) ‘learn’: *morphological causativization*

— Լռի՛ր, անզգա՛մ աղջիկ, թե՛ չէ՛ք **կսովորեցնեմ**, թե՛ ում հետ գործ ունեւ:

Lr-ir, anzgam aʒʒik, t<sup>h</sup>e č<sup>h</sup>e k<sup>h</sup>ez **k-sovor-ec<sup>h</sup>n-em,**  
 be.silent-IMP snameless girl that not you.sg.DAT **FUT-learn-CAUS-SBJV.1SG**

t<sup>h</sup>e um het gorc un-es.  
 that who.GEN with work have-2SG

*Silence, you brazen girl, lest I teach you who you are dealing with.*

(9) *periphrastic causative: infinitive +tal ‘give’*

Ուզե՛նա մի օրում հազար ոչխար մորթել կտա:

uzen-a mi őr-um hazar voč<sup>h</sup>ʒar **mort<sup>h</sup>-el k-ta**  
 want-SBJV:PRS:3SG one day-LOC thousand sheep **kill-INF COND-give:PRS:3SG**

*[If] he’d want, he’d have thousand sheep killed every day.*

**Atypical derivations:**

(10) *mediopassive from intransitive*

Եթե մենակ **ապրվեր**, աստված Եվային չէր ստեղծի...

jet<sup>h</sup>e menak **apr-v-er** astvac jevaj-i-n č<sup>h</sup>-er steʒc-i  
 if alone **live-MED-SBJV.PRS.3SG** God Eve-DAT-DEF neg-BE.AUX.PST.3SG create-SBJV.PRS.3SG

*If [one could] live alone, God wouldn’t have created Eve...*

(11) *causative from transitives*

Տանը Շուշանը Գեղամիկին մածուն էր **ուտեցնում**:

tan-ə šušan-ə geghamik-i-n macun er **ut-ec<sup>h</sup>n-um**  
 house.DAT-DEF Shushan-DEF Gegham-DAT-DEF yoghurt be.AUX.PST.3SG **eat-CAUS-IPF**

*At home Shushanik was feeding little Gegham with yoghurt.*

**Unexpected transitives**

(12) ‘sink’: *primary transitive*

Այդ օրը Նելսոն Ստեփանյանը իր ղեկավարած խմբով **խորտակեց** թշնամու երկու

պահականավ:

Ajd orr Nelson Step<sup>h</sup>anjanə ir ʒekavar-ac ʒmb-ov  
 this day Nelson Stepanian-DEF self.GEN direct-PTCP.RES group-INSTR

**ʒortak-ec<sup>h</sup>** t<sup>h</sup>šnam-u jerku pahakanav.  
**sink-AOR.3SG** enemy-GEN two patrol.ship

*This day Nelson Stepanian and the crew under his command sank two enemy patrol ships.*

(13)

Ու՞մ է ախորժելի **խորտակել** հարազատ աղջկան:

Um e axorželi **χortak-el** harazat aβžka-n.  
who-GEN COP.3SG tasty **sink-INF** own girl.DAT-DEF

*Who would feel happy about drowning his own daughter?*

(14) ‘sink’: *derived intransitive*

Առնետները լքում են **խորտակվող** նավը, — բռուն հրճվանքով կանչեց Աղասին:

Arnet-ner-ə lk<sup>h</sup>-um en **χortak-v-ox** nav-ə,  
rat-PL-DEF flee-IPFV.CVB AUX.3SG **sink-MED-PTCP.SBJ** ship-DEF

- burn hrčvank<sup>h</sup>-ov kanč<sup>h</sup>-ec<sup>h</sup> Aβasin.  
violent exultation-INSTR exclaim-AOR.3SG Aghasy-DEF

*The rats are deserting a sinking ship, exclaimed Aghasy in a passionate exultation.*

**Morphological causatives: indirect causation**

(15) ‘die’

Այդպես էլ ուշքի չգալով՝ **մահացավ (մեռավ)**:

Ajdpes el uš<sup>h</sup>-i č<sup>h</sup>-gal-ov mahac<sup>h</sup>-av (mer-av)  
thus also sense-DAT NEG-come-INF-AOR.3SG die-AOR.3SG die-AOR.3SG

*He died without coming to his senses.*

(16) ‘die’: *causative*

...ուրիշներին **մահացնելը** պակաս հանցանք է, քան չմեռնելը:

uriš-ner-i-n **mah-ac<sup>h</sup>n-el-ə** pakas hanc<sup>h</sup>ank<sup>h</sup> e k<sup>h</sup>an č<sup>h</sup>-mern-el-ə  
other-PL-DAT-DEF **die-CAUS-INF-DEF** less crime be.COP.PRS.3SG than NEG-die-INF-DEF

*... to cause others to die is a less crime than not to die.*

Direct causation unavailable (for morphological causative) because it is lexicalized:

(17) ‘kill’

Հաջորդ օրը ես պարսատիկով մի ագռավ սպանեցի ու գցեցի Բողարի առաջ:

Hažord or-ə jes parsatik-ov mi agrav **span-ec<sup>h</sup>-i**  
next day-DEF I.NOM catapult-INSTR one crow **kill-AOR-1SG**

u gc<sup>h</sup>-ec<sup>h</sup>i Boğar-i araž.  
and throw-AOR.1SG Boghar-GEN in.front.of

*The next day I killed a crow with a catapult and threw it in front of Boghar.*

### Valency classes 1: zero-predicates

(18) ‘weather’

Մի անգամ ուժեղ **անձրեւում** էր, առանց հովանոցը փակելու բարձրացա երթուղային տաքսի

Mi angam užex **anzrev-um** er,  
one time strong **rain-CVB.IPFV** AUX.PST.3SG

aranc<sup>h</sup> hovanoc<sup>h</sup>-ə p<sup>h</sup>ak-el-u barzr-ac<sup>h</sup>a jert<sup>h</sup>uəajin tak<sup>h</sup>si  
without umbrella-DEF close-INF-GEN rise-AOR.1SG road taxi

*One day it rained strongly, and (I) got into a minibus without folding my umbrella...*

### Valency classes 2: non-transitivisable intransitive verbs

(19)

Երեխան ցատկեց հատակի վրա:

jereχa-n c<sup>h</sup>atk-ec<sup>h</sup> hatak-i vra  
child-DEF[NOM] **jump-AOR.3SG** floor-GEN on

*The child jumped on the floor.*

### Valency classes 3: transitivisable intransitive verbs

(20)

Իշխանները **ծիծաղեցին**:

Išχan-ner-ə cicax-ec<sup>h</sup>in  
prince-PL-DEF laugh-AOR.3PL

*The princes started to laugh.*

(21)

**Օրծաղեցնելը** ծիծաղեցնում եմ, բայց ոչ ոք չի ծիծաղում:

Cicax-ec<sup>h</sup>n-el-ə **cicax-ec<sup>h</sup>n-um** em,  
**laugh-CAUS-INF-DEF laugh-CAUS-CVB.IPFV** AUX.1SG

bajc<sup>h</sup> voč<sup>h</sup> vok<sup>h</sup> č<sup>h</sup>i cicax-um.  
but not one neg.AUX.3SG laugh-CVB.IPFV

*I do (try to) make them laugh, only no one is laughing.*

### Valency classes 4: dative verbs

(22) ‘help’: indirect affectedness

Բայց քանի որ ես հիվանդ չեմ և ուզում եմ գնալ, ինձ ոչ մի բժիշկ չի **օգնի**:

Bajc<sup>h</sup> k<sup>h</sup>ani vor jes hivand č<sup>h</sup>-em jev uz-um em gn-al,  
but as.much that I.NOM sick NEG-be.1SG and want-CVB.IPFV AUX.1SG go-INF

inɜ voč<sup>h</sup> mi bžišk č<sup>h</sup>i **ogn-i.**  
I.DAT not one doctor NEG.AUX.3SG **help-CVB.CONNEG**

*But as I am not ill and want to leave, there is no doctor who can help me.*

### Valency classes 5: ‘half-transitives’

(23)

Ու երգեց սիրուց, երգեց կյանքից:

U jerg-ec<sup>h</sup> siru-c<sup>h</sup>, jerg-ec<sup>h</sup> kjank<sup>h</sup>-ic<sup>h</sup>.  
and sing-AOR.3SG love-ABL sing-AOR.3SG life-ABL

*And he sang about love, and he sang about life.*

(24)

Երաժշտություն կար, գույնզգույն լույսեր էին թարթվում:

jeražštut<sup>h</sup>jun ka-r gujnzgujn lujs-er ein t<sup>h</sup>art<sup>h</sup>-v-um  
music be-PST.3PL multicolored light-PL(NOM) AUX.PST.3PL blink-MED-IPFV-IPFV.CVB

*There was music, gaudy lights were blinking.*

### Valency classes 6: true transitives

(25)

Համբույրներով, քո աչերով ինձ այրեցիր:

Hambujr-ner-ov, k<sup>h</sup>o ač<sup>h</sup>-er-ov inՅ ajr-ec<sup>h</sup>ir  
kiss-PL-INSTR your eye-PL-INSTR I.DAT burn-AOR.2SG

*(You) burnt me to ashes with your kisses, with your eyes.*

(26)

Տնակն ամբողջությամբ այրվել է:

tnak-n ambožut<sup>h</sup>-jamb ajr-v-el e  
small.house-DEF whole-INST burn-MED-PFV be.AUX.PRS.3SG

*The small house got completely burnt.*

(27)

Գետակն անփութորեն գլորում էր իր ջրերը:

getak-n anp<sup>h</sup>ut<sup>h</sup>oren glor-um er ir žr-er-ə  
brook-DEF(NOM) carelessly roll-IPFV.CVB COP.PST(3SG) self.GEN water-PL-DEF(NOM)

*The small river was carelessly rolling its water.*

(28)

Հողաթմբի տակից ջրերը գլորվում էին խոռվահույզ և աղմկում, վազում առաջ:

hoat<sup>h</sup>mb-i tak-ic<sup>h</sup> žr-er-ə glor-v-um ein  
embankment-GEN under-ABL water-PL-DEF(NOM) roll-MED-IPFV.CVB be.AUX.PRS.3PL

χrovahujz ev aɬmk-um vaz-um araž  
agitatedly and rush-IPFV.CVB run-IPFV.CVB forth

*From under the embankment the water was quickly running (=rolling), roaring, running forth.*

### Valency classes 7: transitives with no mediopassive

(29)

– Ես թույլն եմ ուզում, – ասաց նա:

– Jes **t<sup>h</sup>ujn** em **uz-um,** – as-ac<sup>h</sup> na.  
I.NOM **poison** AUX.1SG **want-CVB.IPFV** say-AOR.3SG (s)he.NOM

*I want (to take) poison, he said.*

### Valency classes 8: transitives extended by Dat

(30)

Բայց իմ կինը ծաղիկը տվեց մարդուն:

bajc<sup>h</sup> im kin-ə ajs caʁik-ə tv-ec<sup>h</sup> mard-u-n  
but my woman-DEF[NOM] this flower-DEF[NOM] give-AOR.3SG man-DAT-DEF

*But my woman gave this flower to the man.*

(31)

Արամը սիրո խոսքեր ասաց աղջկան:

aram-ə siro ʁosk-er as-ac<sup>h</sup> aʁʒka-n  
Aram-DEF love.GEN word-PL tell-AOR.3SG girl.DAT-DEF

*Aram said love words to the girl.*

### Valency classes 9: transitives extended by Abl

(32)

Սա՞ ինչ բան է, — նա բարկությամբ քաշեց լաթի ծայրից:

sa inč<sup>h</sup> ban e na barkut<sup>h</sup>janb k<sup>h</sup>aše-c<sup>h</sup> lat<sup>h</sup>-i cajr-ic<sup>h</sup>  
this what thing cop.3sg this(nom) wrath.ins pull-aor(3sg) clothes-gen end-abl

*What is this? – he furiously pulled by the tip of the clothes.*

### Valency classes 10: internal genitive

(33)

Վարդանն անգոր նստեց ծալովի աթոռի վրա և ձեռքով մաքրեց ճակատի քրտինքը:

vardan-n angor nste-c<sup>h</sup> calovi ator-i vra  
Vartan-DEF(NOM) weak sit.down-AOR(3SG) pliable chair-GEN on

jev zerk<sup>h</sup>-ov mak<sup>h</sup>re-c<sup>h</sup> čavat-i k<sup>h</sup>rtink<sup>h</sup>-ə  
and hand-INSTR wipe-AOR(3SG) front-GEN sweat-DEF(NOM)

*Vartan limply sank to a folding chair and wiped sweat off his front with his hand.*

(34)

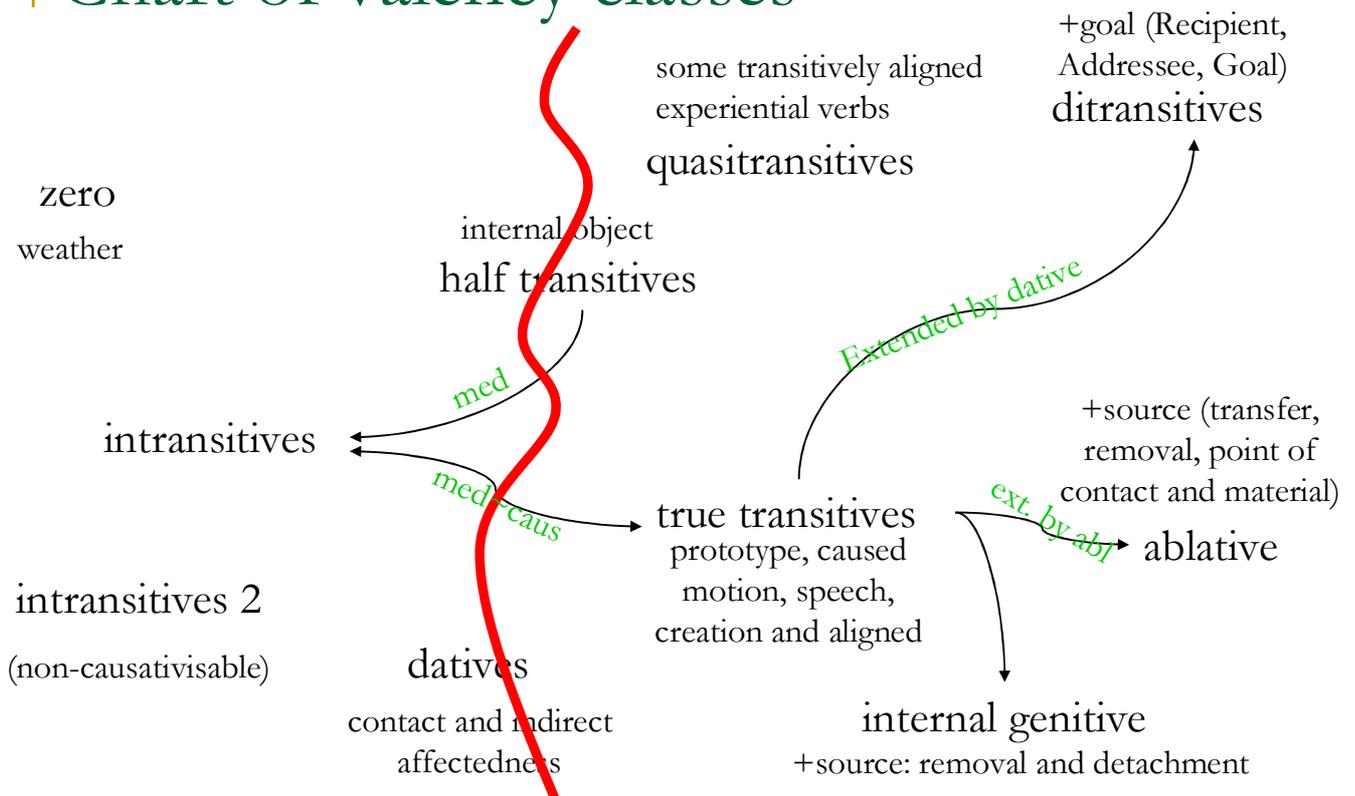
Արագաշարժ «mak<sup>h</sup>rič<sup>h</sup>-ner-ə» haziv en hasc<sup>h</sup>n-um վրայից մաքրել թաց ձյունը:

Aragašarž «mak<sup>h</sup>rič<sup>h</sup>-ner-ə» haziv en hasc<sup>h</sup>n-um  
quick wiper-PL-DEF hardly AUX.3PL be.on.time-CVB.IPFV

hoʁmapak-u vraj-ic<sup>h</sup> mak<sup>h</sup>r-el t<sup>h</sup>ac<sup>h</sup> ʒjun-ə  
windshield-GEN on-ABL remove-INF wet snow-DEF

*The quick wipers hardly were in time to take the snow away from the windshield.*

# Chart of valency classes



## References:

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4. Kozinceva, N. 1974. Zalogi v armjanskom jazyke” // *Tipologija passivnyx konstrukcij. Diatezy i zalogi*. Xolodovič, E. (Ed.) 73–90. Leningrad: Nauka.
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6. Kozinceva, N. 1988. Resultative, Passive, and Perfect in Armenian. // In *Typology of Resultative constructions*. Nedjalkov, V. (Ed.). P. 449–468. Amsterdam: Benjamins.
7. Nichols, Johanna, David A. Peterson, and Jonathan Barnes. 2004. Transitivity and detransitivizing languages. // *Linguistic Typology* 8, 149–211.



## Transitivity decrease: Classical Armenian

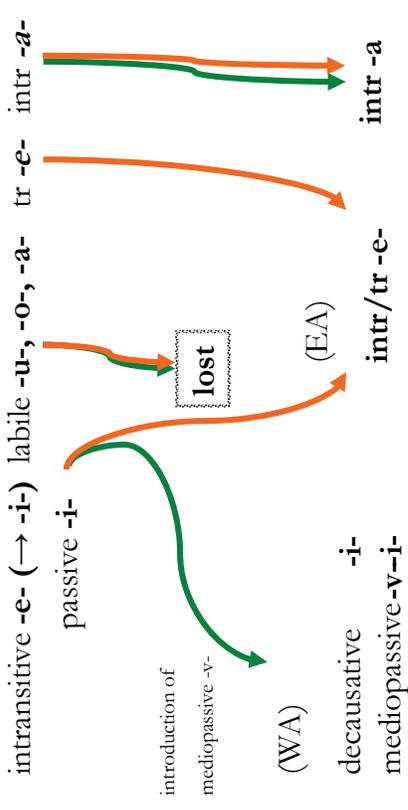
Conjugation types: **-a-, -e-, -u-, (-o-)** (infinitive thematic vowels)

- **Transitive: -e-** [1200]\* (med.: **-i-** in some finite forms)
- **Intransitive: -e-** [445] (**-i-** in some finite forms)
- **Intransitive: -a-** [402]
- **Transitive but labile in some finite forms: -u- [62], -a- [few]**

MD6

\*Calculation according to *Топтуган, Е. 1971. Древнеармянский язык (Old Armenian). Москва*

## After Classical Armenian



Thus, mediopassive introduced by both, intransitivity marker **-i-** preserved by WA only

Slide 5

MD6  
о сколько лабильных?  
год издания для Туньян  
Иванов Санкт-Петербург 2011

## Transitivity decrease: Eastern Armenian

Conjugations:

1. in **-a-** (intr/tr)      Mediopassive marker: **-v-** (always in **-e-**)
2. in **-e-** (tr/intr)      Causative marker: **-c'-** (always in **-e-**)

## Transitivity decrease: Western Armenian

Conjugations:

1. in **-a-** (intr/tr)      Mediopassive marker: **-v-** (always in **-i-**)
2. in **-e-** (tr/intr)      Causative marker: **-c'-** (always in **-e-**)
3. in **-i-** (intr, decausatives)

## Transitivity increase in Armenian: Causatives

**Classical Arm.:** aorist base (mostly T+c') + ujc'-an\*-el

**Eastern Arm.:** contracted to T-c'-n-el

**Western Arm.:** contracted to T-c'-(a)n-el

\*A verbalizing suffix, also used in inchoatives.

## 2. Valency orientation

### Eastern Armenian case system and DOM

- Inanimate** direct objects receive **nominative** marking
- Human** direct objects receive **dative** marking

Nominal dative is formally identical to genitive except it tends to occur with the definite article while genitive can not combine with it.

### Valency orientation

Both causatives and mediopassives are productive.

Haspelmath 1993 (for Eastern Armenian):

anticausative win by 2 to 1!

Nichols et al 2004 (for Western Armenian):

## Valency orientation

Both causatives and mediopassives are productive.

Haspelmath 1993 (for Eastern Armenian):

anticausative win by 2 to 1

Nichols et al 2004 (for Western Armenian):

indeterminate to transitivity

\*In terms of Nichols et al. 2004

## Valency orientation

Both causatives and mediopassives are productive, but:

**mediopassives:** 2,927,354 (26.5 occurrences per thousand)

**causatives:** 902,129 (8.1 occurrences per thousand)

**periphrastic causatives:** infinitive + 'give'

**Markers' order** in caus. and med. combination:

**Caus** + **Med**  
(lexical) (paradigmatic)

## Valency orientation

“It will be shown here that languages can be typologized into a few broad groups: those that tend to treat intransitives as basic or simple and transitives as derived or complex, those that do the reverse, those that treat both as derived, and those that treat both as underived. This distinction is not a mechanical reflection of the presence of causative, middle, etc. morphology in a language, but a deep-seated principle governing lexicalization as well as grammar.”  
(Nichols et al. 2004)

*Exactly the case of Eastern Armenian – our results are opposite to Nichols, at least to Western Armenian*

## Transitivity or detransitivizing?

Valency database: non-derived verbs

Intransitive:

'live', 'jump', 'fall', 'come',  
'go', 'think', 'blink', 'stand  
up', 'sit down', 'ache',  
'laugh', 'scream', 'cough',  
'boil', 'die', 'be cold', 'run',  
'play', 'fear'

Detransitivizing: some verbs that  
could belong to intransitives belong  
to transitives (**red**)

Transitive alignment: experiential  
verbs align with transitives (**green**):  
not typical for Caucasian)

Transitive:

'burn', 'do', 'call', 'load', 'bring', 'say',  
'cover', 'know', 'beat/grind', 'put', 'roll',  
'hug', 'take off', 'remember', 'smell', 'push',  
'cook', 'sing', 'shout, call', 'tie', 'build',  
'scrape', 'peel', 'cut', 'pour', 'wash', 'hear',  
'wash', 'wipe', 'throw', 'tell', 'tear', 'make  
ready', 'dig', 'shave', 'make', 'love', 'kill',  
'receive', 'give', 'see', 'send', 'eat', 'break',  
'ask', 'sink', 'talk', 'meet', 'hit', 'like', 'hide',  
'want', 'take', 'hunt', 'open'

## Transitivization and detransitivization

### Non-transitivizable:

'jump', 'fall', 'come', 'go'

### Transitivizable:

'live', 'stand up', 'sit down',  
'ache', 'laugh', 'scream',  
'cough', 'boil', 'die', 'be  
cold', 'run', 'play', 'fear'

### Detransitivizable:

'burn', 'do', 'call', 'load', 'bring', 'say',  
'cover', 'know', 'beat/grind', 'put', 'roll',  
'hug', 'take off', 'remember', 'smell', 'push',  
'cook', 'sing', 'shout, call', 'tie', 'open',  
'build', 'scrape', 'peel', 'cut', 'pour', 'wash',  
'hear', 'wash', 'wipe', 'throw', 'tell', 'tear',  
'make ready', 'dig', 'shave', 'make', 'love',  
'kill', 'receive', 'give', 'see', 'send', 'eat',  
'break', 'ask', 'sink', 'talk'

### Non-detransitivizable:

'like', 'hide', 'want', 'hunt'

MD1

## Transitivity increase: semantics

Morphological causatives: not very typical cross-linguistically - available for transitive verbs (though limited) and, more importantly, not representing a direct causation:

E.g. causative of 'die' means 'cause to die', not 'kill' (which is a separate lexical item). The closest to manipulative direct causation of intransitives are 'to cause to stand up' and 'to cause to sit down'. Typical manipulative causatives are, on the contrary, lexical transitives: 'break (tr)', 'roll (tr)', 'open (tr)', and especially 'sink (tr)', which is not an expected primary transitive verb.

Slide 17

MD1

Здесь нужны в женрдуг примеры на mahaal, смешить, сажать и т.п.

Вникать, тут логика такая. В принципе морфологический каузатив должен образовываться скорее от непереходных глаголов (о чем мы уже говорили). Но в армянском языке есть глаголы, которые образуют каузативы и от переходных глаголов. Различные между прямой и косвенной каузативной, довольно многообразие, но в целом в протогипотезе прямой каузативы и манипулятивную область непосредственно, а в случае косвенной каузативы - создаю такую ситуацию (иногда даже неканонично), при которой происходит некоторое событие.

Значительность армянской системы заключается в том, что морфологические каузативы в нем образуются скорее от непереходных (хотя надо подчеркнуть, что и от переходных тоже), но при этом довольно далеки от протогипотезы прямой каузативы - особенно хорошо видно на примерах умирать-сыг или играть-кауз или смотреть-кауз, но даже в примерах типа болеть-кауз и пить-кауз - это не совсем типичные манипулятивные каузативы, так как речь идет о внутренних процессах, на которые агент не может оказывать совсем никакого влияния.

Слову по такому типу, Делю в том, что, как мы показали, язык детранзитивизирующий, а не транзитивизирующий. Все те глаголы, которые образуют каузативы от переходных глаголов, каузативы манипулятивные каузативы создаются в этом случае в базе непереходных переходных глаголов - катить, помыть и даже топить (что странно, по моему). То есть для их образования каузативы как бы и не нужен - они уже есть. Надо только образовать от них деткаузативы - как и предполагается в детранзитивизирующих языках - в этом с успехом занимается мади.

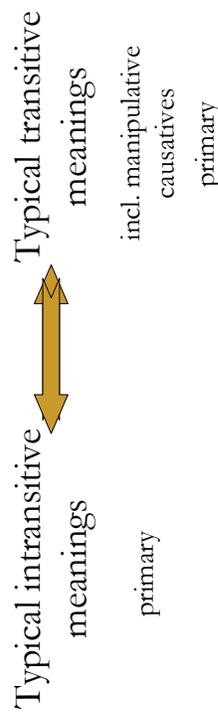
Michael Dabul, 4/17/2011

MD7

## Transitivity increase: semantics

If we accept that Eastern Armenian is a detransitivizing language, this is expectable. Manipulative causatives tend to be non-derived transitive verbs and manipulative causativization is unnecessary:

### Detransitivizing lgs



manipulative causatives are ~~derived~~

Здесь нужны в хендаут примеры на *malhatat*, *сметить*, *сжечь* и т.п.

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Michael Daniels, 4/14/2011

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Michael Daniels, 4/14/2011

## Transitivity decrease: semantics

On the contrary, Armenian has a typical mediopassive with a wide range of meanings, including passive, reciprocal, reflexive and other.

(See the handout)

## Valency orientation: summary

Our results for Armenian are more consistent with Haspelmath 1993 than with Nichols 2004. That is due to the differences between East and West Armenian and to the differences between the ways how the counts are made.

The important difference is also that this paper uses more different criteria than Haspelmath 1993 and Nichols 2004, so we believe our approach is more comprehensive.



### 3. Valency classes: transitive/intransitives

#### Motion and change of posture verbs:

'run', 'stand up', 'sit down'

#### Internal states:

'ache', 'fear', 'be cold'

#### Physiological processes:

'cough', 'laugh', 'die', 'sweat'

#### Sound production:

'laugh', 'scream'

### 5. Valency classes: 'half transitives'

#### Verbs with internal object ('half transitives'):

'blink [one's eye]', 'sing [a song]'

#### DO optional, mediopassive available

### 4. Valency classes: dative verbs

Second argument is dative both for humans and inanimates (thus not a DO). Contains contact verbs (< spatial dative? typical in the Caucasus) and indirect affectedness verbs (from beneficiary dative?). Causative and mediopassive mostly unavailable. Some have transitively aligned variants with semantic shifts.

**Contact verbs:** 'touch' (+caus), 'hit' (+med look at' (also tr.), 'watch'; +med)

**Indirect affectedness:** 'wait for' (also 'expect tr), 'help'

**Metaph. contact or indirect affectedness?** 'follow', 'meet, cross with'

### 6. Valency classes: true transitives

#### Both DO and mediopassive is available:

#### Transitive protot. (intentional change of state etc.):

'burn', 'beat/grind', 'cut', 'dig', 'tear', 'wash', 'scrape', 'shave', 'wipe', 'peel', 'cook', 'eat', 'cover', 'hug', 'tie', 'open', 'kill', 'sink', 'break'

**Creation verbs:** 'do', 'make', 'build'

## 7. Valency classes: true transitives

**Caused motion verbs:** 'put', 'push', 'roll', 'pour', 'throw', 'load', 'bring', 'take off', 'send'

**Transfer verbs:** 'give', 'receive', 'send'

**Speech verbs:** 'call (names)', 'tell', 'say', 'shout', 'ask'

**Perception:** 'watch' (= 'look' tr.), 'smell'

**Experiential (transitive alignment):** 'love', 'see', 'hear', 'remember', 'know'

Здесь идея в том, что отсутствие медиа объясняется - это либо переходные значения, которые приняли переходную рамку (не все конечно, другие все равно научились пассивизироваться, типа 'знать' - но все-таки характерно, что тут они есть, еще два - 'идти' и 'есть' - явно связаны с тем, что они уже медузальны, и не могли пассивизироваться по той же причине и нет соответствующих конструкций с 'порт' - точно они не образуют 'Редант'.

Медиа: Dative, 01/12/2011

## 8. Valency classes: transitives with no mediopassive

**Experiential verbs:** 'like', 'want', 'fear'

**Other:** 'hide' (defective causative), 'hunt'

## 9. Valency classes: transitives extended by Dat

**Goal added to the transitive:**

**Recipient:** 'give', 'bring', 'send'

**Addressee:** 'say', 'tell'

**Goal-goal:** 'throw', 'attach' ('touch-caus')

(cf. also intransitive contact verbs)

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Michael Dobson, 01/02/2011

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Michael Dobson, 01/02/2011

## 10. Valency classes: transitives extended by Abl

Source added to the transitive:

**Transfer verbs:** 'receive', 'take', 'ask'

**Point of contact:** 'tie' (to Abl), 'pull' (by Abl), 'attach' ('touch'-caus, to Abl)

**Removal verbs:** 'tear', 'pluck'

**Creation verbs:** 'build' etc. +material

## 11. Valency classes: internal genitive

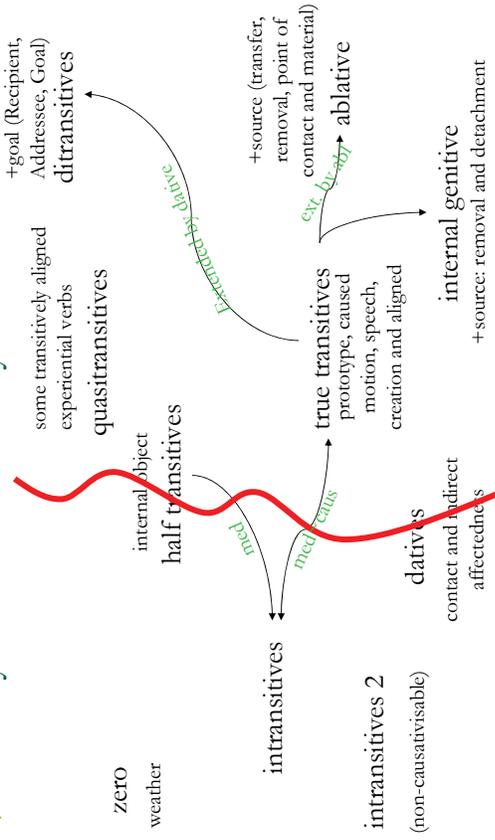
**Removal and detachment verbs: ablative extension (Nom Acc Abl) or internal genitive (Nom [Gen Acc]).**

**Surface removal:** 'take off surface, sweep', 'sweep', 'take off'

**Detachment:** 'tear', 'pluck', 'collect, pluck'

Nom [Gen Acc] – internalized genitive indicating a possessive-type relation between the Source and the Patient (relations of Surface to Object and Part to Whole). This is parallel to the alternation more expectable with transfer-of-possession verbs 'take', 'receive' ('I received a letter from you' vs. 'I received your letter')

# Valency classes: summary



# Valency in Nlɩu

Martina Ermszt,  
Tom Güldemann,  
Alena Witzlack-Makarevich

1

## Introduction 2

- project “A text documentation of Nlɩu” (ELDP)
- project members: Tom Güldemann, Martina Ermszt, Sven Siegmund, and Alena Witzlack-Makarevich
- data: collected in 2007-2010 during several field trips
- corpus:
  - 50 hours of spoken language
  - approximately 90.000 words translated and annotated

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## Introduction 1

- Tuu / Southern Khoisan (Güldemann 2006)
  - Taa-Lower Nossob
  - !Uj
  - **Nlɩu**
  - !Xam†
  - #Ungkuet
  - !IXegwi†
- less than 10 speakers

2

## Typological profile

- complex phoneme system, 45 clicks, no (?longer) tone
- mainly isolating, TAM etc. marking by means of particles
- no agreement on the verb
- strict S V O order
- pro-drop in any grammatical function of the clause, although object pro-drop is more common

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## Language-specific grammatical relations

- subject (SBJ)
- no need to distinguish between S and A
- two types of subject (unmarked vs. followed by *ke/-a*) do not concern valency
- direct object (OBJ)
- indirect object = dative (DAT)
- prepositional objects/adjuncts:
- comitative-instrumental (COM/INS)
- similitive (SIM)
- multi-purpose oblique (OBL)

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## Participant marking: DAT

Dative (DAT):

- Postverbal, precedes OBJ
- marked by NP-final dative suffix *-a*; sometimes additionally followed by the postposition *i*

(2)    na    aa    #huin-a    lla-i-ke  
1SG    give    dog.PL-DAT    bone.PL-PL  
'I give the bones to the dogs.'

7

## Participant marking: SBJ and OBJ

Subject (SBJ) and (direct) object (OBJ):

- differentiated by relative position to the verb
  - no flagging (like case marking or prepositions)
  - subject = preverbal NP
  - object = postverbal unmarked NP
- > restriction of term “-transitive” to presence vs. absence of object

(1)    na    si    lhaa    ku  
1SG    IRR    kill    3H.SG  
'I will kill him.'

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## Participant marking: prepositional arguments and adjuncts

- Prepositional arguments/adjuncts:
- follow all other grammatical relations
- marked by one of only three prepositions
  - COM/INS ('with'): *n/a*
  - SIM ('like'): *l/aa*
  - OBL: *ng*

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## Comitative-instrumental

- Comitative:
- (3) si lqoqon, lqoqon **nla** **llhailaa**  
 1PL.EXCL dance dance with girl  
 'We dance, (we) dance with the girl.'
- Instrumental:
- (4) #oo laa pree **nla** **n#ona**  
 man cut bread with knife  
 'The man cuts the bread with the knife.' (elicited)

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## Multi-purpose oblique 2

- (7) na hoo **ng** **glari**  
 1SG come.from OBL place.name  
 'I come from Upington.' (elicited)
- (8) na si kx'uu o'ui'i **ng** **haqa'i-ki**  
 1SG IRR do be.sick OBL be.hot-NOM  
 'I will get sick from the heat.' (elicited)
- (9) kua xng kx'uu llhabe-a blom-ke **ng** **lkhaa**  
 3SG PST make wet-?PFV flower-PL OBL water  
 'I water the flowers.'  
 (lit.: 'I make the flowers wet with water.') (elicited)

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## Multi-purpose oblique 1

- Multi-purpose oblique (OBL) *ng*: wide range of semantic roles, e.g. location, goal, source, temporals, addressee, cause etc.
- (5) ng xa !xoo-a **ng** **Glui**  
 1SG PST grow-?PFV OBL place.name  
 'I grew up at Glui.'
- (6) #oo saa **ng** **gllaa**  
 man come OBL night  
 'The man comes at night.'

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## Major valency patterns: intransitive

- SBJ V = "intransitive" frame
- (10) a si l'aa  
 2SG IRR die  
 'You will die.'
- (11) si lqora  
 1SG.EXCL play  
 'We are playing.'

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## Major valency patterns: transitive

- SBJ V OBJ = “transitive” frame
- (12) gllain            ke        xa            lhaa        a            g#aru-si  
 brown.hyena    ?        PST        kill        2SG        sheep-SG  
 ‘Hyena has killed your sheep.’
- (13) a            si            gloe            gaake        lilhaike  
 then            1PL.EXCL    also        steal        milk  
 ‘Then we also steal milk.’

13

## Major valency patterns: transitive+oblique

- SBJ V OBJ OBL = “transitive+oblique” frame
- (16) ki            llhoo    ki            nlaa        ng        ki            ka        #aun-ke  
 3NH.SG    put        3NH.SG    head    OBL    3NH.SG    PL    buttock-PL  
 ‘It (the ostrich) puts its head onto its buttocks.’
- (17) #oo        nlao        #au            ng            kuni-si  
 man        load        tsamma    OBL        cart-SG  
 ‘The man loads tsamma melons onto the cart.’ (elicited)
- (18) #oo        ke        !hoe'in    mari        ng        #oo        a            ko  
 man        ?        ask.for    money    OBL    man        this        other  
 ‘The man asks the other man for money.’ (elicited)

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## Major valency patterns: transitive+dative

- SBJ V DAT OBJ = “transitive+dative” frame
- (14) ku        aa            !'huunsi-a        #xani-si  
 3H.SG    give        Boer-DAT        letter-SG  
 ‘He gives the letter to the Boer.’
- (15) kua        kadyama        na            lluruke  
 3H.SG    show            1SG.DAT        road  
 ‘He shows me the way.’ (elicited)

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## Major valency patterns: clause-taking

- SBJ V CLAUSE = “clause-taking” frame
- (19) ng            #ain  
 1SG            think  
 u            si            xuu            ki-ke        nla            kinn        nllaa        !'aun  
 2PL        IRR        leave        3-PL        PURP    3PL        stay        ground  
 ‘I think you must leave them so that they stay on the land.’
- SBJ V OBL CLAUSE = “oblique+clause-taking” frame
- (20) ng            si            ku            ng            !'huun-si  
 1SG            IRR        say        OBL        white.person-SG  
 a            xa            !'ae            !kx'abe-si  
 2SG        PST        go.to        cream-SG  
 ‘I will say to the Boer (that) you went to the cream.’

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## Major valency patterns: summary

- SBJ V = “intransitive” frame
- SBJ V OBJ = “transitive” frame
- SBJ V DAT OBJ = “transitive+dative” frame
- SBJ V OBJ OBL = “transitive+oblique” frame
- SBJ V CLAU = “clause-taking” frame
- SBJ V OBL CLAU = “oblique+clause-taking” frame

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## Some minor valency patterns: dative

- SBJ V DAT = “dative” frame
  - occurs only as an alternating pattern
- (23) ku ikx'ae ku xainki-a i  
 3H.SG tell 3H.SG mother-DAT DAT  
 'He tells his mother.'
- (24) ... nla ng qann-a a  
 ... PURP 1SG show-BEN 2SG.DAT  
 '... so that I can show you!'

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## Some minor valency patterns: oblique

- SBJ V OBL = “oblique” frame
- (21) #oo ke !auk-a ng #oo a ko  
 man ? get.frightened-?PFV OBL man this other  
 'The man is afraid of the other man.' (elicited)
- (22) ng hooke ng n!ng laeki  
 1SG come.from OBL 1SG woman  
 'I come from my wife.'

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## Some minor valency patterns: comitative/instrumental

- SBJ V COM/INS = “comitative/instrumental” frame
  - occurs only as an alternating pattern
- (25) maar laa'a ilaqla'a n!a !uu  
 but PROH speak with person  
 'But don't speak with anybody!.'

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## Some minor valency patterns: transitive+comitative/instrumental

- SBJ V OBJ COM/INS = “transitive+comitative/instrumental” frame
- occurs only as an alternating pattern

(26) #oo ke niao kuni-si nla lhee  
man ? load cart-SG with grass  
'The man loads the cart with grass.' (elicited)

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## Causative alternation

- causative marker precedes main verb

(27) ng o'ui'i  
1SG be.sick  
'I am sick.'

(28) ha kx'uu o'ui'i ng  
3SG make be.sick 1SG  
'It (the old age) makes me sick.'

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## Coded alternations

- causative
- benefactive
- serial verb

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## Benefactive alternation

- verb frequently (but not always) marked with BEN-suffix -a
- DAT (= beneficiary) is added as an additional participant

(29) hng kx'uu tcuin  
3PL make fat  
'They make fat.'

(30) hng kx'uu-a l'huun-a nlaen  
3PL make-BEN Boer.PL-DAT blanket.PL  
'They make blankets for the Boers.'

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## Serial verb alternations

- serial verb constructions consisting of a major verb and a minor verb can be used to express additional participants, e.g. goal or source
- minor verb is frequently a directional motion verb or a verb of physical transfer
- 2 subtypes:
  - SBJ V => SBJ V<sub>minor</sub> OBJ
  - SBJ V OBJ => SBJ V<sub>minor</sub> OBJ OBL

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## Serial verb alternation: SBJ V OBJ => SBJ V<sub>minor</sub> OBJ OBL

- SBJ V OBJ => SBJ V<sub>minor</sub> OBJ OBL
- (33) a #ae !khaa  
2SG pull water  
'You pull water (e.g. out of a borehole).'
- (34) #ae l'ee tyä kuni-si ng wanis  
pull put.in that cart-SG OBL cart.shed  
'(They) pull the cart into the cart shed.'

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## Serial verb alternation: SBJ V => SBJ V<sub>minor</sub> OBJ

- SBJ V => SBJ V<sub>minor</sub> OBJ
- (31) ku lae  
3H.SG run  
'He runs.'
- (32) a kinn lae l'aa l'huun  
then 3PL run go.to Boer.PL  
'Then they run to the Boers.'

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## Uncoded alternations

Most common uncoded alternations:

- S=A ambitransitivity
- S=O ambitransitivity
- intransitive ⇔ oblique
- transitive ⇔ oblique
- transitive ⇔ transitive+oblique
- transitive+oblique ⇔ transitive+COM/INS

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## S = A ambitransitive alternation

- SBJ V ⇔ SBJ V OBJ
- subject of intransitive clause corresponds to subject of transitive clause
- e.g. *aan/ain* 'eat', *soo* 'sit', *kx'ain a* 'laugh (at)'

(36) a        ng        ain  
then 1SG eat  
'Then I eat.'

(35) i        xa        ain        #auilaa  
1PL.INCL PST eat seeds  
'We ate seeds.'

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## intransitive ⇔ oblique alternation

- SBJ V ⇔ SBJ V OBL

(45) #qoa    ke        #'unn-a  
pot        ?        get.full-?PFV  
'The pot is full.' (elicited)

(46) ooe        ke        #'unn-a        ng        sunn  
meat        ?        get.full-?PFV    OBL        fat  
'The meat is full of fat.'

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## S = O ambitransitive alternation

- SBJ V ⇔ SBJ V OBJ
- subject of intransitive frame corresponds to object of transitive frame
- not very common
- e.g. *llhaa* 'break', *#'hubi* 'burn', *#'unn(-a)* 'fill/get full'

(37) gla        #'hubi        ki  
2SG.Q burn 3NH.SG  
'Do you burn it (the candle)?'

(38) dyoo        #'hubi  
skin burn  
'The skin burns.'

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## transitive ⇔ oblique alternation

- SBJ V OBJ ⇔ SBJ V OBL
- locational arguments of some verbs, e.g. *n/laa* 'stay, live', */'hoa* 'settle, live', *soo* 'sit', or *suiin* 'sit down' can be either OBJ or OBL

(39) si        l'hoa        Ariemagom  
1PL.EXCL settle place.name  
'We live at Ariemagom.'

(40) ki        a        ke        si        xng        ng        l'hoa        ng        Klapin  
3NH.SG this TF 1PL.EXCL PST so settle OBL place.name  
'This is how we lived at Klapin.'

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## transitive ⇔ transitive+oblique alternation

- SBJ V OBJ ⇔ SBJ V OBJ OBL

(41)	ng	l'ama	l'oo-si	
	1SG	buy	pipe-SG	
		'I buy a pipe.' (elicited)		
(42)	na	l'ama	loaxu	ng
	1SG	buy	sheep	OBL 3H.SG
		'I buy sheep from him.' (elicited)		

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## Intransitive, transitive, and S=A ambitransitive verbs 1

Verbs with less than three participants can be divided into three major classes:

(X/Y) = ratio of intransitive and transitive tokens in the corpus

- intransitive: /'aa 'die' (20/0)
- transitive: /aa 'cut ( 0/22)
- S=A ambitransitive: soo 'sit' (45/24), //aa 'go away, go to' (34/57)

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## transitive+comitative/instrumental alternation

transitive+oblique ⇔

- SBJ V OBJ OBL ⇔ SBJ V OBJ INS/COM

(43)	#ia	kx'uu	lqam	'nlingke	
	IMP	make	porridge	3PL.OBL	
		'One makes porridge out of them (the seeds).'			
(44)	#oo	ke	xng	kx'uu-a	nling
	man	?	PST	make-?PFV	house
		'The man built the house with stones.' (elicited)		COM	lao-ke
					stone-PL

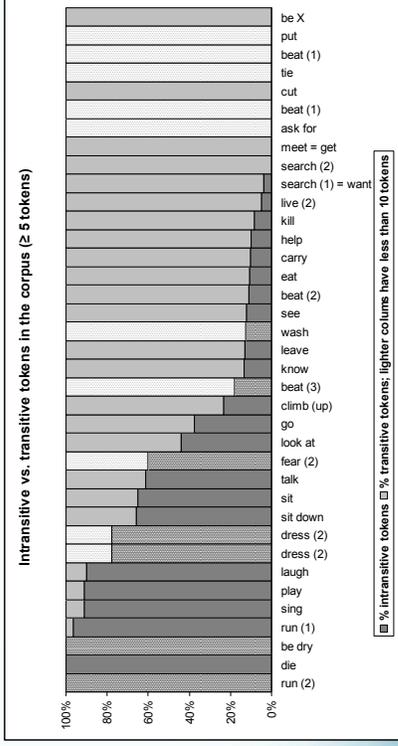
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## Intransitive, transitive, and S=A ambitransitive verbs 2

- only very few verbs are 100% intransitive or 100% transitive
- some verbs are clearly S=A ambitransitive, e.g. they are frequently used both intransitively and transitively
- other verbs are used both intransitively and transitively, but show a preference for either intransitive or transitive use
- Question: Are there different (semantic) classes of S=A ambitransitive verbs?

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## Intransitive-frame and transitive-frame tokens in the corpus



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## Mainly transitive verbs: verbs with restricted set of possible objects

- mainly transitive verbs, e.g.:
  - /aa 'kill' (2/22)
  - #aqake 'search' (1/26)
- when those verbs were used intransitively in the corpus, there was no clearly identifiable object (hence we did not assume pro-drop), but nevertheless, there was a restricted set of possible objects in these contexts:
  - intransitive 'kill' => animals which are generally hunted e.g. for meat or fur
  - intransitive 'search' => edible plants; food

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## Mainly intransitive verbs

- mainly intransitive verbs, e.g.:
  - .ae 'run' (53/2)
  - #eeke 'sing' (21/2)
  - .kx'ora 'play' (31/3)
- but transitive use possible, e.g. in
  - .lae reisi'es 'run a race'
  - #eeke lai' 'sing a traditional song'
  - .kx'ora haansi' 'play (to be a) horse'

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## Mainly transitive verbs: verbs that occur in fixed expressions in conversations

- some mainly transitive verbs are used intransitively quite often, but many of these tokens are fixed expressions used in conversations
  - (45) gla nlai  
2SG.Q see  
'you see?!
  - (46) nlaa  
see.2SG.IMP  
'look!'; 'pay attention!'
  - (47) gla lixaea  
2SG.Q know  
'you know?!
  - (48) xuu-a  
leave-2SG.IMP  
'leave (me) alone!'; 'don't do that!'

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## Conclusion

- purely formal discussion of verb classes cannot explain different frequency patterns of intransitive and transitive tokens of “ambitransitive” verbs
  - semantic analysis of different types of formally “ambitransitive” verbs necessary
  - the same applies to other formally identical alternations (e.g. the transitive-oblique alternation)
  - besides semantic factors, pragmatic factors can play a role, too
- => formally identical alternations can represent semantically very different phenomena

=> corpus analysis important to get less prototypical valency frames

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## Abbreviations

BEN – benefactive; COM – comitative; DAT – dative; EXCL – exclusive; H – human; IMP – impersonal; INCL – inclusive; INS – instrumental; IRR- irrealis; NH – non-human; OBL – multi-purpose oblique; OBJ – object; PFV – perfective; PL – plural; PROH – prohibitive; PURP – purposive; PST – past; Q – question; SBJ – subject; SG – singular; SIM – similative; TF – term focus

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## Valency Classes in Jakarta Indonesian

David Gil

with: Tom Connors, John Bowden, and the JFS staff

## Isolating-Monocategorial-Associational

- **Isolating**  
lacking in word-internal morphological structure
- **Monocategorial**  
lacking in distinct syntactic categories
- **Associational**  
lacking in distinct construction-specific rules of semantic interpretation, relying instead on default application of the **association operator**

## Isolating-Monocategorial-Associational



### Semiotics

Some artificial languages are IMA language



### Phylogeny

Early human language was IMA language



### Ontogeny

Early child language is IMA language



### Typology

Some languages come closer than others to IMA language



### Grammatical Architecture

All languages are based on IMA language

## Isolating-Monocategorial-Associational

### Part 1

The basic IMA structure of Jakarta Indonesian

### Part 2

The non-IMA accoutrements of Jakarta Indonesian

## Valency in Jakarta Indonesian

- |     |                                 |  |
|-----|---------------------------------|--|
| (1) | <b>satpam</b><br>security guard | THING                                    |
| (2) | <b>gede</b><br>big              | PROPERTY                                 |
| (3) | <b>tidur</b><br>sleep           | ACTIVITY<br>(monovalent semantic frame)  |
| (4) | <b>beli</b><br>buy              | ACTIVITY<br>(multivalent semantic frame) |

## Valency in Jakarta Indonesian

- |     |  |
|-----|--|
| (1) | <b>satpam</b><br>security guard<br>'He's a security guard' |
| (2) | <b>gede</b><br>big<br>'He's big'                           |
| (3) | <b>tidur</b><br>sleep<br>'He's sleeping'                   |
| (4) | <b>beli</b><br>buy<br>'He's buying it'                     |

same  
grammatical  
behaviour

standing alone as  
complete non-elliptical  
sentence

### Valency in Jakarta Indonesian

- (5) **satpam**      **rumah**      with an  
security guard house      additional  
SECURITY GUARD | A ( HOUSE )      expression
- (6) **gede**      **rumah**  
big      house  
BIG | A ( HOUSE )
- (7) **tidur**      **rumah**  
sleep      house  
SLEEP | A ( HOUSE )
- (8) **beli**      **rumah**  
buy      house  
BUY | A ( HOUSE )

### Valency in Jakarta Indonesian

- (5) **satpam**      **rumah**  
security guard house  
'house-security-guard'
- (6) **gede**      **rumah**  
big      house  
'house-big'
- (7) **tidur**      **rumah**  
sleep      house  
'house-sleeping'
- (8) **beli**      **rumah**  
buy      house  
'house-buying'

### Valency in Jakarta Indonesian

- (5) **satpam**      **rumah**  
security guard house  
'He's the security guard of a house'
- (6) **gede**      **rumah**  
big      house  
'He's as big as a house'
- (7) **tidur**      **rumah**  
sleep      house  
'He's sleeping at a house'
- (8) **beli**      **rumah**  
buy      house  
'He's buying a house'

### Valency in Jakarta Indonesian

- As an IMA language, Jakarta Indonesian has no ...
- thematic role assignment
  - core/periphery distinction
  - subject/object asymmetries
  - **valency classes**

All of the above is true, but ...  
it's only most of the truth, not all of it

### The non-IMA Accoutrements of Jakarta Indonesian

- linear order
  - flagging
  - generalized voice
- } optional preferences
- make Jakarta Indonesian look like a fairly typical SVO language

### Linear Order in Jakarta Indonesian

Preference rules:

- head-modifier
- iconicity
- information flow

no relevance to valency classes

### Flagging in Jakarta Indonesian

sama ~ ama 'NON-ABSOLUTIVE'

- (9) (sama) Ali beli rumah  
together Ali buy house  
'Ali bought a house'
- (10) (sama) Ali kasi buku (sama) Amat  
together Ali give book together Amat  
'Ali gave a book to Amat'

### Flagging in Jakarta Indonesian

ke 'to'

- (11) Ali balik (ke) rumah  
Ali return to house  
'Ali returned to the house'

dari 'from'

- (12) Ali balik (dari) rumah  
Ali return from house  
'Ali returned from the house'

### Flagging in Jakarta Indonesian

di 'in'

- (13) Ali beli (di) rumah  
Ali buy in house  
'Ali bought it in the house'
- (14) Ali beli (ke) rumah  
Ali buy to house  
'Ali bought it by going to the house'
- (15) Ali beli (dari) rumah  
Ali buy from house  
'Ali bought it from the house'

no government of arguments by a verb  
"semantic case" not "structural case"

### Flagging in Jakarta Indonesian

di 'in'

- (13) Ali beli (di) rumah  
Ali buy in house  
'Ali bought it in the house'
- (13a) Ali beli rumah  
Ali buy house  
'Ali bought it in the house'
- (13b) Ali beli di rumah  
Ali buy in house  
'Ali bought it in the house'

weak quantitative relevance to valency classes

to the extent that (13b) and its like are more frequent than (13a) and its like

### Generalized Voice in Jakarta Indonesian

- di= GENERALIZED PASSIVE
- N- GENERALIZED ACTIVE
- in GENERALIZED APPLICATIVE

### Generalized Voice in Jakarta Indonesian

			?	
di=	GENERALIZED PASSIVE	=		di 'in'
house	rumah	# dirumah		di rumah
big	gede	# digede		# di gede
sleep	tidur	# ditidur		# di tidur
buy	beli	dibeli		# di beli

### Generalized Voice in Jakarta Indonesian

di= GENERALIZED PASSIVE  $\stackrel{?}{=}$  di 'in'

(16) (Ali) liat (Amat)  
 Ali look Amat  
 'Ali is looking at Amat' [PREFERRED]  
 'Amat is looking at Ali'

(17) (Ali) diliat (Amat)  
 Ali GEN.PASS-look Amat  
 'Ali is looking at Amat'  
 'Amat is looking at Ali' [STRONGLY PREFERRED]

no relevance  
to valency  
classes

### Generalized Voice in Jakarta Indonesian

N- GENERALIZED ACTIVE

go pergi \*mergi  
 sleep tidur \*nidur

tea teh RARE neh

look liat ngeliat  
 coffee kopi ngopi

follow RARE susul nyusul

watch \*tonton nonton  
 cry \*tangis nangis

### Generalized Voice in Jakarta Indonesian

N- GENERALIZED ACTIVE

(18) (Ali) liat (rumah)  
 Ali look house  
 'Ali is looking at the house'

(19) (Ali) ngeliat (rumah)  
 Ali GEN.ACT-look house  
 'Ali is looking at the house'

no relevance  
to valency  
classes

### Generalized Voice in Jakarta Indonesian

N- GENERALIZED ACTIVE

(20) (Ali) kopi  
 Ali coffee  
 'Ali is drinking coffee'

(21) (Ali) ngopi  
 Ali GEN.ACT-coffee  
 'Ali is drinking coffee'

to the extent that  
Ali occurs more  
frequently in  
(21) than in (20)

moderate  
quantitative  
relevance  
to valency  
classes

### Generalized Voice in Jakarta Indonesian

-in GENERALIZED APPLICATIVE

house rumah #rumahin

fridge kulkas kulkasin put in fridge

big gede gedein enlarge CAUSATIVE

sleep tidur tidurkan make sleep CAUSATIVE

buy beli beliin buy for BENEFACTIVE

talk bicara bicarain talk about

teach ajar ajarin teach Ø

### Generalized Voice in Jakarta Indonesian

-in GENERALIZED APPLICATIVE

(22) (Ali) ajar (Amat)  
 Ali teach Amat  
 'Ali taught Amat'

(23) (Ali) ajarin (Amat)  
 Ali teach-GEN.APPL Amat  
 'Ali taught Amat'

no relevance  
to valency  
classes

### Generalized Voice in Jakarta Indonesian

-in GENERALIZED APPLICATIVE

(24) (Ali) beli (Amat) (buku)  
 Ali buy Amat book  
 'Ali bought Amat a book'

(25) (Ali) beliin (Amat) (buku)  
 Ali buy-GEN.APPL Amat book  
 'Ali bought Amat a book'

no relevance  
to valency  
classes

### Generalized Voice in Jakarta Indonesian

-in GENERALIZED APPLICATIVE

(26) (Ali) bicara (Amat)  
 Ali talk Amat  
 'Ali talked about Amat'

(27) (Ali) bicarain (Amat)  
 Ali talk-GEN.APPL Amat  
 'Ali talked about Amat'

to the extent that  
Amat occurs  
more frequently  
in (27) than in (26)

weak  
quantitative  
relevance  
to valency  
classes

### Generalized Voice in Jakarta Indonesian

-in GENERALIZED APPLICATIVE

(28) (Ali) gede (rumah)  
 Ali big house  
 'Ali enlarged the house'

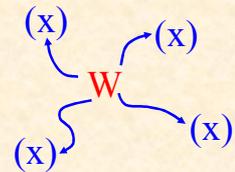
(29) (Ali) gedein (rumah)  
 Ali big-GEN.APPL house  
 'Ali enlarged the house'

to the extent that  
rumah occurs  
more frequently  
in (29) than in (28)

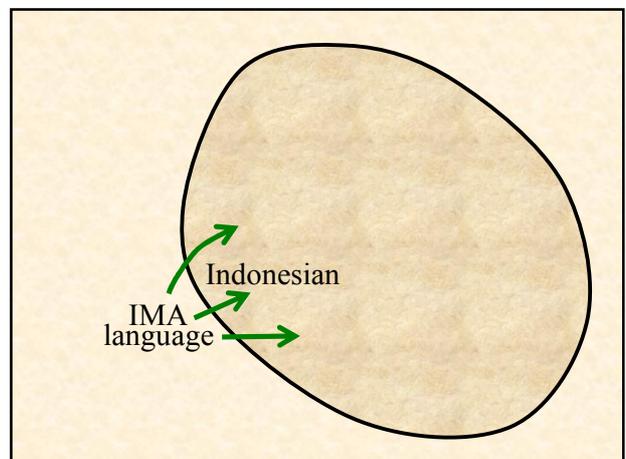
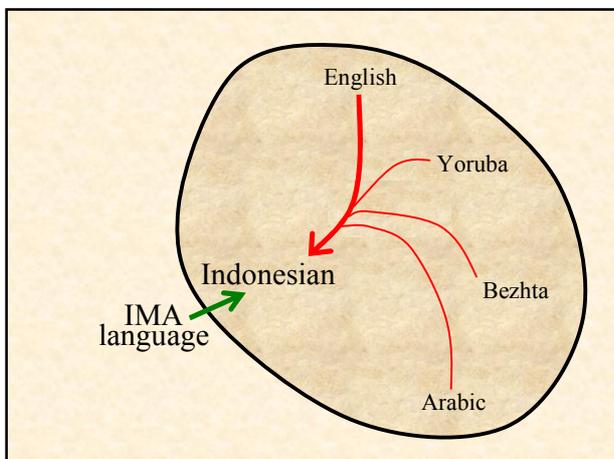
substantial  
quantitative  
relevance  
to valency  
classes

### Valency Classes in Jakarta Indonesian Summary

- single valency class for (almost) all words:



- several valency preference classes that make Jakarta Indonesian look more like other languages



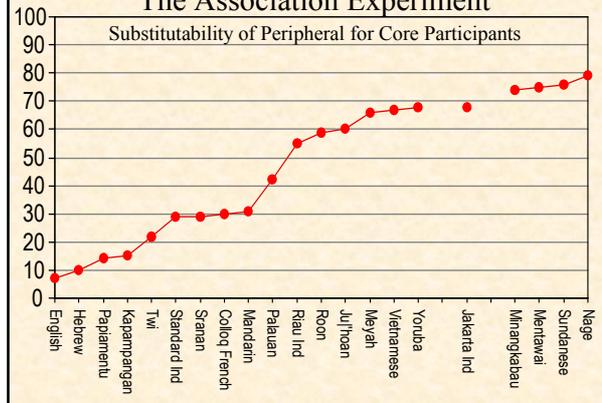
## Bare Peripherals

- Substitution of peripheral for core participants:

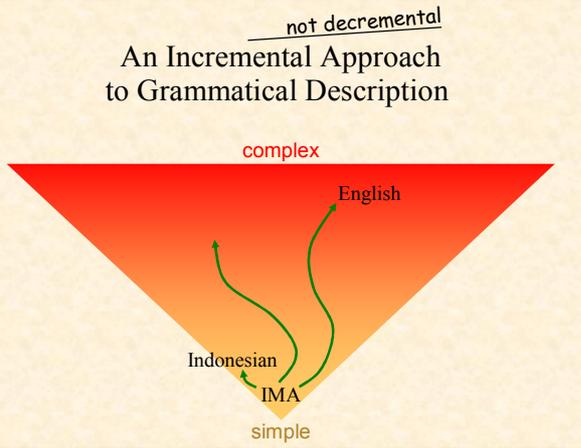
(13a) **Ali beli rumah**  
 Ali buy house  
 'Ali bought it in the house'

- more common cross-linguistically than commonly acknowledged ...

## The Association Experiment



## An Incremental Approach to Grammatical Description



# Semantic templates, verb classes and alternations

Cliff Goddard, University of New England, Australia

Conference on Valency Classes in the World's Languages, Leipzig, Germany, 17 April 2011

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<i>I climbed the ladder.</i>	<i>He was carrying a box</i>	<i>He cut the apple into pieces.</i>
<i>I climbed the fence.</i>	<i>He carried the box to the car.</i>	<i>He cut the thread.</i>
<i>I climbed over the fence.</i>	<i>He was carrying a knife.</i>	<i>He cut his face while shaving.</i>
<i>?I climbed over the ladder.</i>	<i>?He carried the knife to the car.</i>	<i>He cut his foot on a rock.</i>

- Many valency and alternation phenomena are highly language-specific. Both within and across languages, lexical polysemy is a major confounding factor that has been underestimated in most work to date.
- “[V]erb classes themselves are epiphenomenal”. “[I]t is the elements of meaning that define verb classes that are most important” (Levin and Rappaport Hovav 2005: 16).
- There is a need for a precise methodology of fine-grained meaning analysis – within a single language and across languages. The Natural Semantic Metalanguage approach provides the required “well-motivated theory of lexical semantic representation”.

## I. Verbal semantics on the NSM approach

Reductive paraphrase in terms of 64 universal semantic primes (see Appendix) with a well-specified grammar, often including a range of valency options.

something HAPPENS	[minimal frame]
something HAPPENS to someone/something	[undergoer frame]
something HAPPENS somewhere	[locus frame]
someone DOES something	[minimal frame]
someone DOES something to someone else	[patient <sub>1</sub> frame]
someone DOES something to something	[patient <sub>2</sub> frame]
someone DOES something with something	[instrument frame]
someone DOES something with part of the body	[body-part frame]
someone DOES something with someone	[comitative frame]

Valency frames for semantic primes HAPPEN and DO

- Semantic molecules are a well-defined set of non-primitive lexical meanings (ultimately decomposable into primes) which function as units in the structure of many complex concepts in a language, e.g. ‘hands [m]’, ‘hold [m]’, ‘sharp [m]’, ‘long [m]’, ‘ground [m]’, ‘top [m]’.
- A semantic template is a structured set of component types shared by words of a particular semantic class. The basic meanings of physical activity verbs follow a three-part template:

LEXICO-SYNTACTIC FRAME
PROTOTYPICAL MOTIVATIONAL SCENARIO
{ MANNER
{ INSTRUMENT (incl. incremental effect on the object)

- To explicate verbs, we have to first determine the semantically basic frame, including its core arguments and inherent aspect. For physical activity verbs like *climb*, *carry*, and *cut*, the basic frame is progressive/imperfective; for physical action verbs like *jump* and *throw*, it is punctual. The semantically basic frame is not necessarily the most common in ordinary usage.
- Complex lexical meanings can function as semantic units in derivational processes, in semantic extensions from a basic lexical meaning to more elaborated meanings, and (as we will see) in alternations and aspectual modification. These derivational bases are marked with the notation [d].

## II. Climbing, carrying, cutting in their basic frames

**Climbing:** a verb of “displacement ... in a particular manner” (Levin 1993). For other similar verbs like *walk*, *run*, *swim*, and *crawl*, no specific direction is implied, but without further specification *climb* implies upwards motion.

- (1) *He was climbing a tree in the backyard.*  
 (2) *He was climbing a ladder when he fell.*

Someone X is **climbing**, something Y (e.g. a tree, a ladder, tower).

someone X is doing something for some time somewhere where there is something big (of one kind) Y because of this, this someone's body is moving in this place as this someone wants	LEXICO-SYNTACTIC FRAME
at many times when someone does this in a place, this someone does it because it is like this: – there is something big in this place – the top [m] of this something is far above the bottom [m] of this something – this someone wants to be somewhere near the top [m] of this something after some time	PROTOTYPICAL MOTIVATIONAL SCENARIO
when someone does this, it happens like this: – this someone does something with the legs [m] at many times – because of this, parts of this someone's legs [m] touch this something in many places during this time – at the same time, this someone does something with the hands [m] at many times – because of this, this someone's hands [m] touch this something in many places because of this, this someone's body is not in one place during this time, it is in many places	MANNER

**Carrying:** “Carry Verbs” (i.e. *carry*, *drag*, *haul*, *lug*, *tow*, ...) “relate to the causation of accompanied motion” (Levin 1993: 135).

- (3) *He was carrying boxes out to the car.*  
 (4) *I find carrying a baby exhausting.*

The explication needs to be incompatible with *dragging* and with *wearing* a hat or clothes. An extended use is needed for “mediated contact”, e.g. carrying something *in a bag* or *on a stick*.

Someone X is **carrying**, something Y (e.g. the boxes, a baby).

someone X is doing something to something Y for some time because of this, this something is not in one place during this time, it is in many places this someone is doing it with some parts of the body	LEXICO-SYNTACTIC FRAME
at many times when someone does this to something, this someone does it because it is like this: – some time before, this something was in the place where this someone was – at this time this someone thought about this something like this: “I don't want this something to be in this place after this I want it to be somewhere else after some time because of this, I want to do something to it for some time after this I don't want it to be touching the ground [m] during this time”	PROTOTYPICAL MOTIVATIONAL SCENARIO
when someone does this to something, it happens like this: – for some time some parts of this someone's body touch parts of this thing as this someone wants – because of this, this something isn't touching the ground [m] during this time – at the same time this someone does something with some other parts of the body – because of this, this someone's body is not in one place during this time, it is in many places	MANNER

**Cutting:** Typically described as involving “separation in material integrity ... with some specification concerning instrument or means”.

(5) *She was cutting the bread.*

(6) *He cut the paper with scissors.*

Someone X is **cutting**<sub>1</sub> something Y (e.g. bread, paper).

<p>someone X is doing something to something Y for some time  because of this, something is happening to this something at the same time as this someone wants  this someone is doing it with something else</p>	<p>LEXICO-SYNTACTIC FRAME</p>
<p>at many times when someone does this to something, this someone does it because it is like this:  – a short time before, this someone thought like this about this something:      “I don’t want this thing to be one thing anymore, I want it to be two things  because of this, I want to do something to it for some time after this  when I do this, I want something to happen to it all the time as I want”</p>	<p>PROTOTYPICAL MOTIVATIONAL SCENARIO</p>
<p>when someone does this to something, it happens like this:  – this someone holds [m] part of something else with one hand [m] all the time  – some parts of this other something are sharp [m]  – this someone’s hand [m] moves for some time as this someone wants  – because of this, the sharp [m] parts of this other thing touch this thing in some places as this someone wants  – because of this, something happens to this thing in these places as this someone wants  – because of this, after this, part of this thing is not like it was before</p>	<p>INSTRUMENT</p>

#### IV. From Progressive to Simple Past: template-to-template mapping

Someone X **climbed**<sub>1</sub> something Y (tree, ladder, tower).

<p>someone X did something at this time in a place where there was something big Y  because of this, after this, this someone was not in the place where he was before, this someone was somewhere near the top [m] of this something</p>	<p>LEXICO-SYNTACTIC FRAME</p>
<p>it happened like this:  – a short time before, this someone was somewhere not near the top [m] of this something  – this someone wanted to be after some time near the top [m] of this something  – because of this, after this, <u>this someone was climbing [d] this something for some time</u></p>	<p>HOW IT HAPPENED</p>

Someone X **carried**<sub>1</sub> something Y (the boxes, the baby) downstairs.

<p>someone X did something to something Y at this time  because of this, after this, this something was not in the place where it was before, it was somewhere else (downstairs)</p>	<p>LEXICO-SYNTACTIC FRAME</p>
<p>it happened like this:  – a short time before, this something was somewhere  – this someone thought like this at this time: “I want this something to be somewhere else (downstairs) after some time”  – because of this, after this, <u>this someone was carrying [d] it for some time</u></p>	<p>HOW IT HAPPENED</p>

Someone X **cut**<sub>1</sub> the apple (into four pieces).

<p>someone X did something to something Y at this time  because of this, something happened to this something at this time  after this, this something was not one thing anymore like it was before, (it was four things)</p>	<p>LEXICO-SYNTACTIC FRAME</p>
<p>it happened like this:  – a short time before, this someone thought like this: “I want this apple not be one thing anymore, I want it to be four things (pieces)”  – because of this, after this, <u>this someone was cutting [d] it for some time</u></p>	<p>HOW IT HAPPENED</p>

## V. Polysemy and “covert alternations” for English *climb*

He *climbed*<sub>2</sub> *down* the tree (*ladder, tower*).

he did something at this time in a place where was a tree because of this, after this, he wasn't in the place where he was before, he was somewhere near the bottom [d] of this tree	LEXICO-SYNTACTIC FRAME
it happened like this: – a short time before, parts of his body were touching parts of this tree, not the bottom [m] parts of this tree – he thought like this at this time: “I want to be somewhere near the bottom [m] of this tree” – because of this, <u>he did something for some time like someone does when this someone is climbing [d] something</u>	HOW IT HAPPENED

“Object” noun phrases such as *mountain* and *hill* are not compatible with the basic frame meaning *climb*<sub>1</sub> because they are semantically ‘big places (of one kind)’, rather than things. As well, the physical aspects of *climbing a mountain*, etc. are significantly different, e.g. it takes much longer. Hence:

He *climbed*<sub>3</sub> the mountain (*hill, cliff*).

he did something at this time in a big place of one kind (a mountain) because of this, after this, he wasn't in the place where he was before, he was somewhere near the top [m] of the mountain	LEXICO-SYNTACTIC FRAME
it happened like this: – a short time before, he was somewhere near the bottom [m] of the mountain – he thought like this at this time: “I want to be somewhere near the top [m] of this mountain” – because of this, <u>he did something in this place for some time like someone does when this someone is climbing [d] something</u>	HOW IT HAPPENED

In some uses, the object is not a location but an “obstacle” to be crossed. These have near-paraphrases with preposition *over*.

(7) *He climbed the fence* ≈ *He climbed over the fence*.

(8) *He climbed the ladder/mountain* ≠ *He climbed over the ladder/mountain*.

(9) \**He climbed up/down the fence/wall/gate*.

He *climbed*<sub>4</sub> the fence (*wall, gate*).

he did something at this time in a place where there was a fence because of this, after this, he wasn't in the place where he was before, he was somewhere else before this he was on one side of the fence, after this he was on the other side of the fence	LEXICO-SYNTACTIC FRAME
it happened like this: – a short time before, he was on one side of the fence – he thought like this at this time: “I want to be on the other side of this fence” – because of this, after this, he did something in this place for a short time <u>like someone does when this someone is climbing [d] something</u>	HOW IT HAPPENED

Though superficially the same, this construction represents a distinct valency pattern for *climb*—found also with other English verbs of motion that imply significant bodily effort.

(10) *He swam the river* ≈ *He swam across the river*.

(11) *She jumped the puddle* ≈ *She jumped over the puddle*.

This has been a partial coverage. An additional meaning is needed for *climb into, onto or through* something, e.g. *into bed, onto the roof of his car, through the window*. Plus, there are additional meanings involved in usages such as *The plane climbed to a higher altitude, The road climbed through the mountains, Prices continued to climb*, etc.

## VI. Polysemy and “covert alternations” for English *carry*

- (12) *She carried a book/lip balm (with her) at all times.*  
 (13) *Mario carries a knife with him everywhere he goes.*  
 (14) *?She was carrying lip balm downstairs.*  
 (15) *?He was carrying a knife downstairs.*

This construction is related to *have something with (one)*, e.g. *She always has it with her*. Note that the object in these uses can be small, or even very small, and that *carry*<sub>2</sub> doesn't have a past perfective; e.g. *He carried a weapon* must have a past habitual interpretation.

Someone X was **carrying**<sub>2</sub> something Y (**with him/her**).

someone X was doing something to something Y for some time (at this time) because of this, this something was not in one place during this time, it was in many places	LEXICO-SYNTACTIC FRAME
at many times when someone does this to something, this someone does it because it is like this: – a short time before this, this someone thought about this something like this: “for some time after this I won't be in one place, I will be in many places it can be good if at some time during this time I can do something with this something because of this, I want this something to be near my body at all times during this time”	PROTOTYPICAL MOTIVATIONAL SCENARIO
when this someone does this to this something, <u>something happens to it like something happens to something when someone is carrying [d] this something</u>	MANNER

## VII. Polysemy and quirky alternations for English *cut*

- (16) *He finished off the last stitch, knotted it and cut the thread with her nail scissors.*  
 (17) *He held the parcel on his knees and cut the string with a clasp knife.*

These examples cannot be based literally on ‘cutting [d]’, because the action is punctual, not durational, i.e. done ‘in one moment’. In addition, *cutting a string (thread, etc.)* does not allow for sustained ongoing control.

He **cut**<sub>2</sub> the string (*thread, ribbon*).

he did something to the string at this time because of this, after this, the string was not one thing anymore, it was two things	LEXICO-SYNTACTIC FRAME
it happened like this: – a short time before, he thought like this: “I want this string not to be one thing anymore, I want it to be two things” – because of this, after this, he did something to this string <u>like someone does something to something when this someone is cutting [d] it</u> – he did it in one moment	HOW IT HAPPENED

English *cut* can appear in several “quirky” constructional frames, each expressing a different and specialised meaning. These frames are language-specific. Note that in both the following examples: (i) The constructions do not normally occur in the progressive, (ii) the outcomes being described are unintended, and (iii) they do not imply any separation. On account of these and similar alternations, Levin (1993) cross-listed *cut* as a “Hurt verb” – involving “damage to the body through a process that is not under control of the subject”.

- (18) *\*He was cutting his face while shaving.*  
 (19) *\*He was cutting his foot on a rock.*

**He cut<sub>3</sub> his face while shaving:**

he did something to part of his body (his face) at this time, not because he wanted to do it because of this, for some time after this, part of his face was not like it was before	LEXICO-SYNTACTIC FRAME
it happened like this: – he was doing something for some time with something sharp [m] – at some time during this time, this sharp [m] thing touched part of his face not as he wanted – because of this, something happened to this part of his face at this time – it happened to it <u>like something happens to something when someone is cutting [d] this something</u> – it happened in one moment	HOW IT HAPPENED

**He cut<sub>4</sub> his foot on a rock:**

he did something at this time because of this, for some time after this, part of his body (his foot) was not like it was before	LEXICO-SYNTACTIC FRAME
it happened like this: – he was doing something for some time in a place where there was something sharp [m] – at some time during that time, his foot touched this sharp [m] thing not as he wanted – because of this, something happened to his foot <u>like something happens to something when someone is cutting [d] this something</u> – it happened in one moment	HOW IT HAPPENED

**VIII. Concluding remarks**

- It is not possible to disassociate valency and alternation phenomena from other semantic/syntactic phenomena, especially aspect and event composition. Alternations (constructions) are semantically-driven.
- Detailed reductive paraphrase down to the level of semantic primes and molecules is needed to solve the “hard problems” of valency and verb classes.
- Semantic templates allow us to see patterns in semantic structure, and these patterns substantially determine verb classes. On the other hand, it is not true that only the macro-structure (and not “idiosyncratic detail”) is relevant to verb alternations, as shown by the example of *cut* and other “sharp verbs”.
- For physical activity verbs, activity-in-progress is the semantically basic frame. Various perfective/resultative constructions are semantic elaborations that presuppose the basic activity-in-progress frame. This is why alternations, Germanic-style verb-particle constructions, Slavic-style verb prefixes, etc., are more prolific in perfective contexts.
- Writing about the Locative-subject construction, e.g. *The garden is swarming with bees*, Dowty (2000) says:  
 [C]ontrary to the usual view ..., good reasons can be given to view it as a lexical derivation analogous to rules of WORD FORMATION on the one hand, and to processes of LEXICAL SEMANTIC EXTENSION ... and METAPHOR on the other. (Dowty 2000: 121; emphasis in original)
- To understand valency phenomena even in a single language requires close attention to lexical polysemy, as well as to constructional semantics. The same applies – but even more so – when comparing across languages.

## Appendix: Semantic primes (English exponents), grouped into related categories

I, YOU, SOMEONE, SOMETHING~THING, PEOPLE, BODY	substantives
KIND, PART	relational substantives
THIS, THE SAME, OTHER~ELSE	determiners
ONE, TWO, SOME, ALL, MUCH~MANY, LITTLE~FEW	quantifiers
GOOD, BAD	evaluators
BIG, SMALL	descriptors
KNOW, THINK, WANT, FEEL, SEE, HEAR	mental predicates
SAY, WORDS, TRUE	speech
DO, HAPPEN, MOVE, TOUCH	actions, events, movement, contact
BE (SOMEWHERE), THERE IS, HAVE, BE (SOMEONE/SOMETHING)	location, existence, possession, specification
LIVE, DIE	life and death
WHEN~TIME, NOW, BEFORE, AFTER, A LONG TIME, A SHORT TIME, FOR SOME TIME, MOMENT	time
WHERE~PLACE, HERE, ABOVE, BELOW, FAR, NEAR, SIDE, INSIDE	space
NOT, MAYBE, CAN, BECAUSE, IF	logical concepts
VERY, MORE	intensifier, augmentor
LIKE~AS~WAY	similarity

**Notes:** • Primes exist as the meanings of lexical units (not at the level of lexemes) • Exponents of primes may be words, bound morphemes, or phrasemes • They can be formally complex • They can have combinatorial variants or “allolexes” (indicated with ~) • Each prime has well-specified syntactic (combinatorial) properties.

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## Valency Classes in Hoocak (Siouan)

Iren Hartmann, MPI-EVA  
 iren\_hartmann@eva.mpg.de

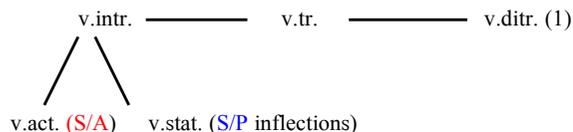
### 1. About Hoocak

**Hoocak** (a.k.a. Winnebago) is an endangered Siouan language of the Mississippi Valley branch, and is still spoken today in Wisconsin (approx. 150 speakers, 7,000 tribal members) and Nebraska (approx. 6 speakers, 4,000 tribal members). Its closest relative is Ioway-Otoe (Chiwere); it is also related to Lakota which is probably the best documented one of the Siouan languages.

#### 1.1 Some (valency related) features of Hoocak

- highly synthetic active – stative language
- basic word order: SOV
- no case marking, no adpositions (= no flagging)
- no free-standing personal pronouns (only emphatic ones)
- all arguments are indexed on the verb

Types of verbs (Split-S, 1<sup>st</sup> & 2<sup>nd</sup> person):



#### 1.2 Indexing of arguments

S/A <sub>i</sub>	SG	PL
1 excl	<i>ha-</i>	<i>ha- ... -wi</i>
1 du/incl	<i>hj-</i>	<i>hj-...-wi</i>
2	<i>ra-</i>	<i>ra-...-wi</i>
3	∅	<i>-ire</i>

e.g. *ha-naq* 'I slept'

S/P	SG	PL
1 excl	<i>hj-</i>	<i>hj- ... -wi</i>
1 du/incl	<i>waqqa-</i>	<i>waqqa-...-wi</i>
2	<i>nj-</i>	<i>nj-...-wi</i>
3	∅	<i>-ire</i>

e.g. *hj-šjuuwa* 'I was sleepy'

In **transitive constructions** pronominal affixes of both series are used on the verb:

- (1) *Hijraperes?*  
 hi < **hj-ra** > peres  
 < **1E.U-2.A** > know<sup>1</sup>  
 'Do you know me?'
- *-ire* marks 3PL for both Actors and Undergoers on intransitive verbs  
*naq-ire* 'they slept' (v.act.)  
*šjuuwa-ire* 'they were sleepy' (v.stat.)
  - 3 PL.U on (di)transitive verbs is marked by *wa-*
- (2) *wawiaperes*  
**wa**-hi < **ha** > peres  
**3PL.U**- < **1E.A** > know  
 'I know them'

**Up to three arguments** can be indexed on the verb, but morphological restrictions apply (see appendix for verbal template):

- v.intr. → S  
 v.tr. → A > U  
 v.ditr. → A > U&U

## 2. Valency changing devices in Hoocak

### 2.1. Applicatives

#### 2.1.1 benefactive applicative *gi-* (45/75)

(A) (P) obj[P].sbj[A].V → (A) (P) (Ben) obj[P]obj(Ben).sbj[A].V'

*rugas* **TEAR**:

- (3) *waagaxnaqka watugasšana*  
 waagax = naqka                      wa-tuugas-šana  
 paper = POS.NTL.PL:DIST    **3PL.U**-tear\1E.A-DECL  
 'I tore those papers'
- (4) *waagaxnaqkre wajragišurugasna*  
 waagax = naqkre                      wa-hj-ra-gi-šu-rugas = na  
 paper = POS.NTL.PL:PROX    **3PL.U-1E.U-2.A-APPL.BEN-2.A**-tear = POT  
 'Can you tear these papers for me?'

<sup>1</sup> A = actor, APPL.BEN = applicative benefactive, DECL = declarative, DEF = definite article, DIST = distal, E = exclusive, EMPH = emphatic, FIN = final, FUT = future time marker, I = inclusive, IMP = imperative, IN = initial, INTS = intensifier, NEG = negation, PL = plural, POS.NTL = neutral position, POS.VERT = vertical position, POSS.RFL = possessive reflexive, POT = potential, PROP = proper name marker, PROX = proximal, QUOT = quotative, RCP = reciprocal, RFL = reflexive, S = subject, SEQ = sequential, U = undergoer, V = verb, 1 = 1<sup>st</sup> person, 2 = 2<sup>nd</sup> person, 3 = 3<sup>rd</sup> person

*māççgis* CUT:

- (5) *ceewasnj wikinjara hanaçc wamaçracgis*  
 ceewasnj\_wikinjara = ra hanaçc wa-maç < ra > cgis  
 cheese = DEF all 3PL.U- < 2.A > cut  
 'did you cut all of the cheeses?'  
 (6) *ceewasnj wiikinjara wamaçragicgisna?*  
 ceewasnj\_wiikinjara = ra wa-maç < hĭ-ra-gi > cgis = na  
 cheese = DEF 3PL.U- < 1E.U-2.A-APPL.BEN > cut = POT  
 'can you cut the cheeses for me?'

This applicative can also be used to introduce a malefactive:

- (7) *kšeera hanaçc wamaçšunu?*  
 kšee = ra hanaçc wa-maç < šu > nu  
 apple = DEF all 3PL.U- < 2.A > steal  
 'did you steal all the apples?'  
 (8) *kšeera hanaçc wamaçragišunu?*  
 kšee = ra hanaçc wa-maç < hĭ-ra-gi-šu > nu  
 apple = DEF all 3PL.U- < 1E.U-2.A-APPL.BEN-2.A > steal  
 'did you steal all the apples for me/from me?'

→ very rarely is *-gi-* used with no apparent function (remains to be investigated!):

- (9) *šųkxetera hanaçc saagre nuç(gi)wăkirana*  
 šųkxete = ra hanaçc saagre nuç(gi)wăk-ire = na  
 horse = DEF all be.fast run-3PL.S = POT  
 'All the horses can run fast'

### 2.1.2 locative applicatives *ha-*, *ho-* (20/75)

There are two locative applicatives in Hoocăk: *ha-* 'on, onto, over' and *ho-* 'in, into'.

When used they add an undergoer slot for goal like arguments to the verb.

(A) (P) obj[P].sbj[A].V → (A) (P) (L) obj[P]obj[L].sbj[A].V'

- (10) *ceewasnĭra hikinų paaxų*  
 ceewasnĭ = ra hikinų paaxų  
 milk = DEF by.accident pour\1E.A  
 'I accidentally spilled the milk'  
 (11) *waarucra ceewasnĭra hikinų hapaxų*  
 waarucra = ra ceewasnĭ = ra hikinų ha-paaxų  
 table = DEF milk = DEF by.accident APPL.SUPRESS-pour\1E.A  
 'I accidentally spilled milk over the table'

(S/A) sbj[S/A].V → (A) obj[P]sbj[A].V'

- (12) *nĭžujee*  
 nĭžu-jee  
 rain-POS.VERT  
 'it is raining'  
 (13) *xjanare hĭnjĭžu*  
 xjanare ha-hĭ-nĭžu  
 yesterday APPL.SUPRESS-1E.U-rain  
 'it rained on me yesterday.'

Here is an example for the inessive applicative:

- (14) *măşkook šuucxetera wikinj hopaxų*  
 măşk-kook šuuc-xete = ra wikinj ho-paaxų  
 metal-box be.red-be.big = DEF gas/oil APPL.INESS-pour\1E.A  
 'I poured gas into the big red can'  
 (15) *wanĭra reexeja woomăçgisre*  
 wanĭ = ra reex-eeja wa-ho-măçcgis-re  
 meat = DEF pail-there 3PL.U-APPL.INESS-cut-IMP  
 'cut the meats into the pail'

### 2.1.3 instrumental applicative *hi-* (25/75)

The instrumental applicative seems to be no longer productive. Constructions as in (16) are considered "old-fashioned". Much more common is the coordinated construction as shown in (17).

(A) (P) obj[P].sbj[A].V → (A) (P) I obj[P]obj[I].sbj[A].V

- (16) *jaagu'ų waipereci hirajšurukăwi*  
 jaagu'ų waipereci hi-ha < hĭ-šu > rukă-wi  
 why canvas APPL.INST- < 1E.U-2.A > cover-PL  
 'why did you (PL) cover me with canvas?'  
 (17) *jaagu'ų waipereci hiš'ųwianăga, hĭjšurukăwi?*  
 jaagu'ų waipereci hi < š > 'ų-wi = anăga ha < hĭ-šu > rukă-wi  
 why canvas < 2.A > use-PL = and < 1E.U-2.A > cover-PL  
 'why did (PL) you cover me with canvas?'  
 (18) *kutei, măçracgisšăna*  
 kutei măç < hĭ-ra > cgis-šăna  
 INTJ(male) < 1E.A-2.A > cut-DECL  
 'hey, you cut me'

- (19) *wanjra hanaqac maqhipahi te'e wawiimaqgisre*  
 wanj = ra hanaqac maqhi-paahi te'e wa-hi-maqgis-re  
 meat = DEF all knife-be.sharp this 3PL.U-APPL.INST-cut-IMP  
 'cut all the meats with his sharp knife'

## 2.2 The reciprocal *kiiki-* (43/75) and the reflexive *kii-* (34/75)

When the reciprocal is used on the verb the undergoer pronominal slot can no longer be filled.

(A) (P) obj[P].sbj[A].V → (A) sbj[A].V'

- (20) *maqhi hišgaacnaq'u, maqkicigisire*  
 maqhi hi-šgaac-naq = u maq <kiki> cgis-ire  
 knife APPL.INST-play-POS.NTL.PL = SIM <RCP> cut-3PL.S  
 'they were playing with knives and they cut each other'

The same holds true for the reflexive:

(A) (P) obj[P].sbj[A].V → (A) sbj[A].V'

- (21) *wažatirera hanaqac watuža*  
 wažatire = ra hanaqac wa-tuuža  
 car = DEF all 3PL.U-wash\IE.A  
 'I washed all the cars'
- (22) *hąjnite'e hakituzą*  
 hąjni-te'e ha-kii-tuuža  
 morning-this IE.A-RFL-wash\IE.A  
 'I washed myself this morning'

## 2.3. A special class of verbs: INST + Vroot

short instrumentals		long instrumentals	
<i>gi-</i>	'by striking, with instrument'	<i>boo-</i>	'with great force, by shooting, by blowing'
<i>ra-</i>	'by mouth, with teeth'	<i>maq-</i>	'by cutting, with knife'
<i>ru-</i>	'by hand, by pulling'	<i>naq-<sub>1</sub></i>	'by foot, by kicking'
<i>wa-</i>	'downward pressure, by pushing'	<i>naq-<sub>2</sub></i>	'of own accord, by itself'
		<i>taa-</i>	'extreme temperature'

Figure 1. Instrumental prefixes in Hoocak

→ these prefixes can have a transitivity function when used with v.stat.s (except *taa-* & *naq-*):

- (23) *serec* 'be long' - *raserec* 'stretch with mouth'  
*seep* 'be black' - *boosep* 'blow out a light'  
*šara* 'be bare' - *rušara* 'pluck bare'

→ They are most often used with a distinct set of verb roots which cannot be used by themselves:

Vroot <i>waax</i> 'break string'	
<i>giwax</i> 'break string in two by striking'	<i>boowax</i> 'shoot string in two'
<i>rawax</i> 'bite string in two'	<i>maqwax</i> 'cut string in two'
<i>ruwax</i> 'break string in two by pulling'	<i>naqwax</i> 'break string in two by foot'
<i>wawax</i> 'break string downward pressure'	<i>naqwax</i> 'string breaks of own accord'
	<i>taawax</i> 'string is burned in two'

This set of verbal roots alternates in a special way (i.e. this alternation does not apply to other verbs). To form an intransitive counterpart of the transitive verbs formed by INST + Vroot, the detransitivizing suffix(?) *-re<sup>2</sup>* is used.

*waax-re* 'be broken (of string)'

- (24) *Waginąra hanaqac waaxraire.* 'All the strings are broken.'  
 wagińa = ra hanaqac waaxre-ire  
 string = DEF all be.broken-3PL.S

→ In my database there are currently 12/75 verbs with this instrumental prefix, out of those 5 undergo the -INST + re alternation. (**BREAK**, **BURN**, **CUT**, **FALL**, **FEEL**, **COLD**, **GRIND**, **PEEL**, **POUR**, **TEAR**, **TIE**, **WASH**, **WIPE**)

## 2.4. Three kinds of causatives

Hoocak has three causatives:

- the coercive causative *hii* 'make, cause',
- the permissive causative *gigi* 'let, cause' and
- the reflexive causative *kijj* 'cause self'

These causatives can be used with both stative and active (intransitive and transitive) verbs. In constructions with the reflexive causative causer and causee are identical. They are both expressed through Actor indexing on the causative verb. It is therefore not a valency increasing operation.

<sup>2</sup> *-re* is probably short for *here* 'be, in a state of being' (Bob Rankin, p.c.)

## 2.4.1. Causatives with v.stat.

S/P obj[S/P].Vstat → A P Vstat obj[P].sbj[A].Vcaus

- (25) *wakera t'ee*  
wake = ra t'ee  
raccoon = DEF die  
'The raccoon died'
- (26) *wakera waišgapirera, t'ee wahiire*  
wake = ra wa-gišgap-ire = ra t'ee wa-hii-ire  
raccoon = DEF 3PL.U-run.into-3PL.S = DEF die 3PL.U-make/CAUS-3PL.S  
'they ran over the raccoons and they killed them'
- (27) *šųkxetera t'ee gigi*  
šųkxete = ra t'ee gigi  
horse = DEF die let/cause  
'they let the horse die'

## 2.4.2. Causatives with v.act.

S/A sbj(S/A).Vact → A P Vact obj[P].sbj[A].Vcaus

- (28) *Nąkiskirera, nee nuųwək hijigiire*  
nąkiskik-ire = ra nee nuųwək hij-gigi-ire  
hunt-3PL.S = DEF 1EMPH run 1E.U-let/cause-3PL.S  
'in the race they let me run'
- (29) *wağiği woošgaceja nee nuųwək niire?*  
wağiği woošgac-eeja nee nuųwək ni-ire  
ball game-there 2EMPH run make/CAUS\2.U-3PL.S  
'in the ballgame, did they make you run?'

## 2.4.3. Causatives with v.tr.

obj[P].sbj[A].V → obj[P].V obj[cause].sbj[causer].Vcaus

- (30) *wikirihujopxete wanira ruuc wjiire*  
wikirihujopxete wanj = ra ruuc wji-ire  
alligator meat = DEF eat make/CAUS\1E.U-3PL.S  
'they made me eat alligator meat'
- (31) *wažatirera waruža hijigiire*  
wažatire = ra wa-ruža hij-gigi-ire  
car = DEF 3PL.U-wash 1E.U-let/cause-3PL.S  
'they let me wash the cars'

## 2.4.4. Reflexive causative

S/P obj[S/P].Vstat → S/A Vstat sbj[A].Vcaus

S/A sbj(S/A).Vact → A Vact sbj[A].Vcaus

obj[P].sbj[A].Vtr → obj[P].V sbj[A].Vcaus

- (32) *ziikra naagura haruce naq'igaja, t'ee kij*  
ziik = ra naagu = ra haruce naq'i-gaja t'ee kij  
squirrel = DEF road = DEF die make.self(3SG.A)  
'the squirrel tried to cross the road and killed himself'
- (33) *hokawas rahera, wanaqkewekewe waa'ujera, eesge nuųwək hakj*  
hokawas rahe = ra wanaqkewekewe wa < ha > 'u-ha-je = ra  
be.dark become = DEF scaredy.cat < 1E.A > do/be-1E.A-POS.VERT = DEF  
*eesge nuųwək ha-kij*  
that's.why run 1E.A-make.self  
'It was getting dark and I'm a scaredy cat, so I made myself run'
- (34) *hąnįxjį hakikawa'uanaga wažatirera waruža hakj*  
hąnį-xjį ha-kikawa'u = anaga wažatire = ra wa-ruža ha-kj  
morning-INTS 1E.A-get.up = and car = DEF 3PL.U-wash 1E.A-make.self  
'I got up early and made myself wash the cars'

2.5. A verb class of its own? *ruuc* 'eat'

The 3PL.U prefix can be used as an argument slot filler (detransitivizer?) with the verb *ruuc* only:

- (36) *kšeenąkre raacikjene*  
kšee = naqre raac-i-kjene  
apple = POS.NTL:PROX eat\2.A-0-FUT  
'are you going to eat this apple?'
- (37) *kšeenąka hanaqac waracikjene*  
kšee = naąka hanaqac wa-raac-i-kjene  
apple = POS.NTL.PL:DIST all 3PL.U-eat-0-FUT  
'are you going to eat all those apples?'
- (38) *Wahacginj*  
wa-haac = ginj  
3PL.U-eat\1E.A = already  
'I already ate.'

### 3 Possible Valency Classes:

#### 3.1. by coding frame (Meaning Labels represent Hoocak verbs!)

##### A P obj[P]sbj[A].V: (41/75)

ASK FOR, BEAT, BREAK, CALL = NAME, CARRY, CLIMB, COVER, CUT, DIG, EAT, FEAR, FOLLOW, GRIND, HEAR, HELP, HIT, HUG, KNOW, LIKE, LOOK AT, MAKE, MEET, PEEL = SKIN, POUR, PUSH, SEARCH, SEE, SHOW, SING, STEAL, TAKE, TALK, TEACH, TEAR, THINK, TIE, TOUCH, WANT, WASH, WIPE, WIFE, TELL

##### S obj(S).V (11/75)

BE DRY, BE HUNGRY, BE ILL, BOIL, BURN, DIE, FALL, FEEL COLD, FEEL PAIN = BE HURTING, ROLL, SINK

##### S sbj(S).V (10/75)

APPEAR, BE SAD, COUGH, CRY, FALL, JUMP, LAUGH, RAIN, RUN, SCREAM

##### L-eeja sbj(S).V (2/75)

LIVE = DWELL, SIT

##### A R T obj(T).obj(R).sbj[A].V (3/75)

PUT = PLACE, LOAD ?, GIVE

##### A body.part-DEF sbj[A].V (2/75)

BLINK, SHAVE

##### A P Vstat sbj[A].obj[P]CAUS (2/75)

COOK, KILL

##### A P (T) Vstat sbj[A].obj[P]CAUS (1/75)

FILL

##### A P obj[P]sbj[A].V1 sbj[A].V2 (1/75)

THROW

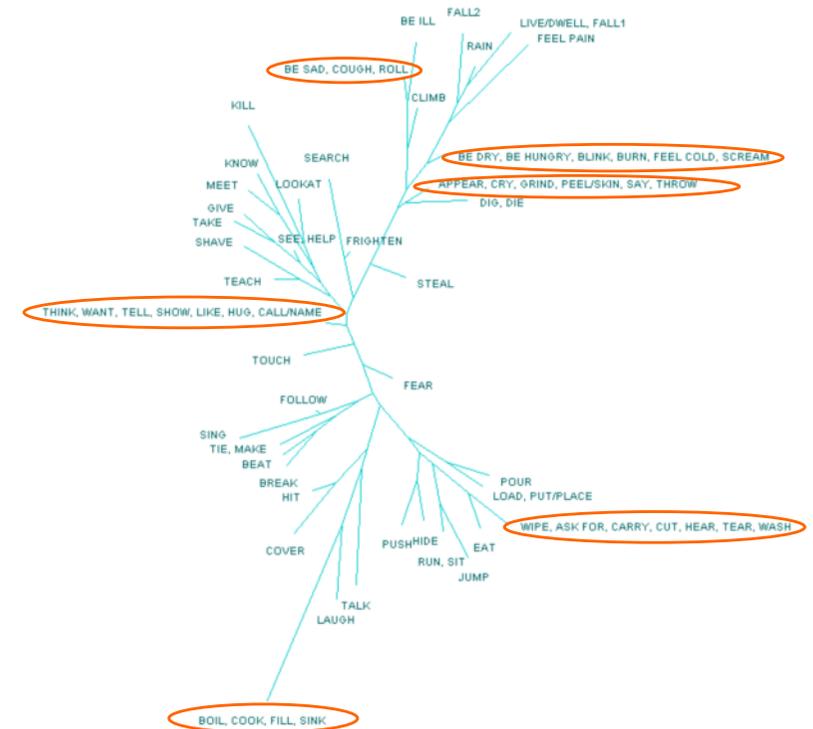
##### A P obj[P]V1 obj.(P)sbj[A].V2 (1/75)

HIDE

##### S (something) sbj(S).V / S "...” sbj(S).V (1/75)

SAY

#### 3.2. by derivations:



(Sample page: Hoocak Verbs Dictionary)

**haruka** *v.tr.* cover sth.

(2b: *hatuka*, *hašuruka*)

A COVERS U

*Waarucra hanaqac waašurukaginij?*

'Have you covered all the tables already?'

*Nijžu jirera warucra waatuka.* 'It started to rain, so I covered up the food.'

**-ku-** (-kara-) (one's own)

**hakuruka**

A COVERS A'S OWN U

*Wiišgac waašinira waarakuruka?*

Did you cover your toys?

**-gi-** (for so. / so.'s)

**hagiruka**

A COVERS U<sub>1</sub> FOR U<sub>2</sub> / A COVERS U<sub>2</sub>'S U<sub>1</sub>

*Waarucra wajragišurukana?* Can you cover the tables for me? / Can you cover my tables?

**hi-** (with sth.)

**hiraruka**

A COVERS U WITH U

*Wa'inaka hijrašurukana?* Can you cover me with that blanket?

**-kii-** (self)

**hakiruka**

A COVERS HIM/HERSELF

*Wa'j hiža yaa 'yanaga haakituka.* I used a blanket and covered myself up.

**-ki(ki)** (each other)

**haki(ki)ruka**

A<sub>1</sub> AND A<sub>2</sub> COVER EACH OTHER

(plural forms only)

*Xaawij hij'u(wi)anaga*

*hijkikiruka(wi)na* 'Let's cover each other with grass.'

**gigi** (let so. do this)

**haruka gigi**

A LETS U<sub>1</sub> COVER U<sub>2</sub>

*Naqara waaruka hijgigiire.* They let me cover the logs.

**hii** (make so. do this)

**haruka hii**

A MAKES U<sub>1</sub> COVER U<sub>2</sub>

*Naqara waaruka wijire.* They made me cover the logs.

**kij** (make self do this)

**haruka kij**

A MAKES HIM/HERSELF COVER U

*Naqara waaruka hakj.* I made myself cover the logs.

**Possible combinations:**

hi- & -gi-: hiragiruka

hi- & -ku-: hirakuruka

hi- & -kii-: hirakiruka

hi & -kiki-: hirakikiruka

-kii- & -ku-: hakikuruka

What you cannot use with this verb:

ha- (do this on/over sth.)

ho- (do this in/into sth.): \*hoharuka

pron I		outer applicatives		outer instrumentals	pron II		benefactive applicative/ reflexive/ reciprocal/ possessive reflexive	pron III A	inner instrumentals	verbal root
		Instrumental	Locative		U	A				
hi- 1DI.A/ 1PLA	wa- 3PL.OBJ	hi- APPL.INST	ha- APPL.SUPESS	boo-	hi- 1E.U	ha- 1E.A	gi- APPL.BEN	second conjugation	gi-	X
waagá- 1DI.U/ 1PL.U			ho- APPL.INESS	naq-	nj- 2.U	ra- 2.A	kii- RFL		ra-	
				maa-	nij- 1&2		kiki- RCP		ru-	
-7a	-7b	-6a	-6b	-5	-4a	-4b	-3	-2	-1	0

Figure 2. Order of prefixes in Hoocak<sup>3</sup>

<sup>3</sup> Cf. Helmbrecht, Johannes & Lehmann, Christian 2008. "Hočank's challenge to morphological theory." Harrison, K. David & Rood, David S. & Dwyer, Arienne (eds.), *Lessons from documented endangered languages*. Amsterdam & Philadelphia: J. Benjamins (Typological Studies in Language, 78); 271-315.

## “Micro-role landscapes”: preliminary results from a cross- linguistic comparison

Iren Hartmann



Max Planck Institute  
for Evolutionary Anthropology

DFG

## Micro-roles

- Derived from the role frames, we’ve introduced micro-roles such as:
  - **hitter, breaker, broken thing, hugger, huggee, etc.**
- To study their alignment, we look at their **coding by overt markers**, i.e. indexing (agreement/cross-referencing) and flagging (cases/adpositions); word order has not been taken into account (yet)

## Data contributions so far

Contributions made by 117 people (native speakers & linguists):

- 22 languages
- 2011 verb forms
- 689 different coding frames
- 350 different alternations

## Micro-roles & Coding Devices

MR	Icelandic	Hoocaḱ	Chintang
hitter	NP-nom & V.subj	sbj.V	NP-erg & V.subj
hittee	NP-acc	obj.V	NP-abs & V.obj
liiker	NP-dat	sbj.V	NP-erg & V.subj
liiked entity	NP-nom & V.subj	obj.V	NP-abs & V.obj
throwing goal	inn um+NP-acc	NP+eeja	NP-abs & V.obj
helper	NP-nom & V.subj	sbj.V	NP-erg & V.subj
helpee	NP-dat	obj.V	NP-abs & V.obj

# Data for this presentation

- 11 Languages
- 149 micro-roles (from 70 verb meanings)
- Coding devices derived from coding frames

# You know these...

Valency		Meanings	Form Back	Meanings Verbs	Examples References	Alternations Coding frames	Language People
Typical context							
Meaning label	#	Role frame					
go EAT	1	A eats P			The boy ate the fruit.		
go HUG	2	A hugs P			The mother hugged her little boy.		
go LOOK AT	3	A looks at P			The boy looked at the girl.		
go SEE	4	E sees M			The man saw the bear.		
go SMELL	5	E smells M			The bear smelled the boy.		
go FEAR	6	E fears M			The man feared the bear.		
go FRIGHTEN	7	A frightens P			The bear frightened the man.		
go LIKE	8	E likes M			The boy liked his new toy.		
go KNOW	9	A knows P			The girl knew the boy.		
go THINK	10	A thinks about X			The girl thought about her grandmother		
go SEARCH FOR	11	A searches for X			The men searched for the women.		
go WASH	12	A washes P			The mother washed the baby.		
go DRESS	13	A dresses P			The mother dressed her daughter		
go SHAVE	14	A shaves (his beard/hair)			The man shaved his beard/cut his hair		
go HELP	15	A helps X			I helped the boys.		
go FOLLOW	16	A follows X			The boys followed the girls.		
go MEET	17	A meets X			The men met the boys.		
go TALK	18	A talks (to X) (about Y)			The girl talked to the boy about her dog.		
go ASK FOR	19	A asks (X) for Y			The boy asked his parents for money.		
oo SHOUT AT	20	A shouts at X			The woman shouted at the children.		

# Language Sample



# Micro-roles & Coding Devices

## 2 new layouts

Valency		Microroles	Form Back	Meanings Verbs	Ex Ref
Micro-role name	Mark	Meaning			
go eater	<input type="checkbox"/>	go EAT			
go eaten food	<input type="checkbox"/>	go EAT			
go hugger	<input type="checkbox"/>	go HUG			
go huggiee	<input type="checkbox"/>	go HUG			
go looker	<input type="checkbox"/>	go LOOK AT			
go looked at entity	<input type="checkbox"/>	go LOOK AT			
go seer	<input type="checkbox"/>	go SEE			
go seen entity	<input type="checkbox"/>	go SEE			
go smeller	<input type="checkbox"/>	go SMELL			
go smelled entity	<input type="checkbox"/>	go SMELL			
go fearer	<input type="checkbox"/>	go FEAR			
go fear stimulus	<input type="checkbox"/>	go FEAR			
go frightener	<input type="checkbox"/>	go FRIGHTEN			
go frightenee	<input type="checkbox"/>	go FRIGHTEN			
go liker	<input type="checkbox"/>	go LIKE			
go liked entity	<input type="checkbox"/>	go LIKE			
go knower	<input type="checkbox"/>	go KNOW			
go known thing	<input type="checkbox"/>	go KNOW			
go thinker	<input type="checkbox"/>	go THINK			
go thought content	<input type="checkbox"/>	go THINK			
go searcher	<input type="checkbox"/>	go SEARCH FOR			
go searched thing	<input type="checkbox"/>	go SEARCH FOR			
go washer	<input type="checkbox"/>	go WASH			
go washed entity	<input type="checkbox"/>	go WASH			

Valency		Coding devices	List Back	Meanings Verbs	Examples References	Alternations Coding frames
Coding device	Mark	Language				
	<input type="checkbox"/>	sbj.V				
Comments		select go				
		hooçak				

Micro-roles	Count	Ex
go eater		
go hugger		
go looker		
go seer		
go fearer		
go liker		
go knower		
go thinker		
go searcher		
go washer		
go haruik		
go hooçik hi		
go wraçt		
go wraçehi		
go ruç		
go maçh		
go nuçwaçwa		
go hairo		
go h'ee fill		
go juçe		

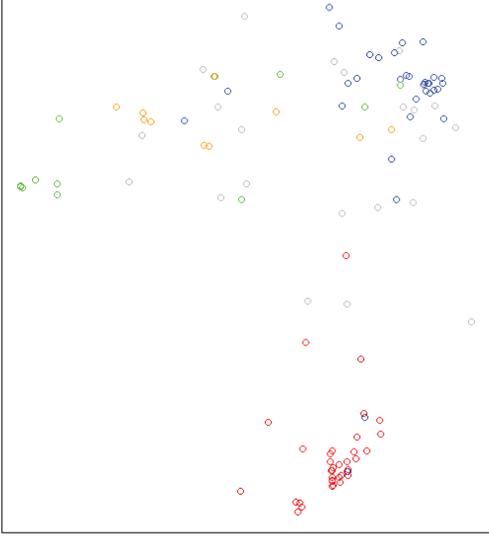




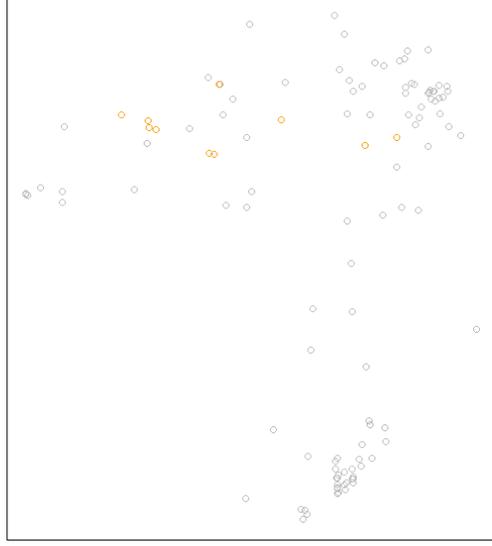
instrument



ALL



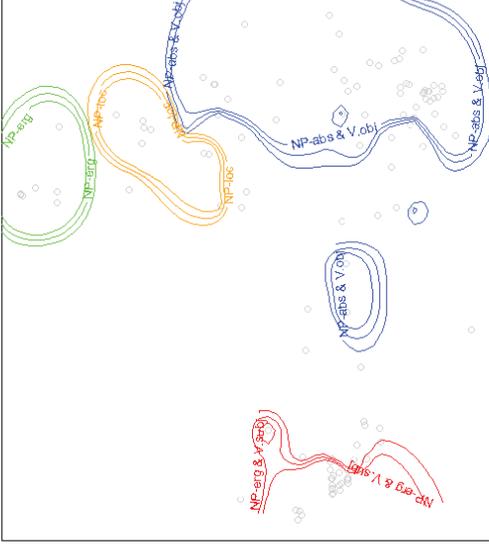
location



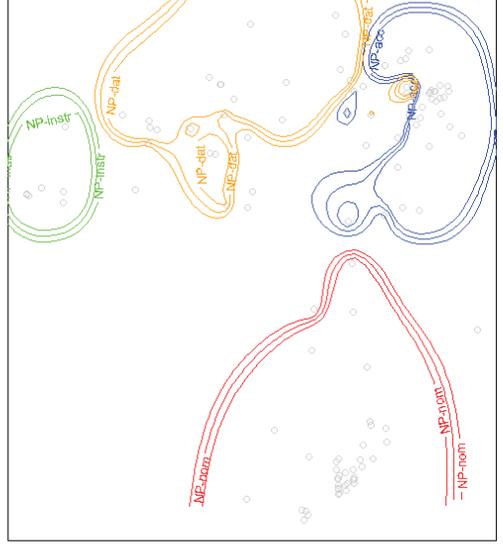
## Kriging

- **Kriging** is the term for an interpolation technique in which the surrounding measured values are weighted to derive a predicted value for an unmeasured location.

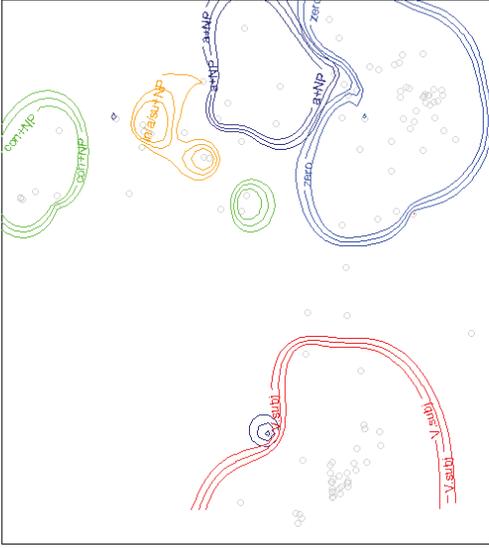
Chintang



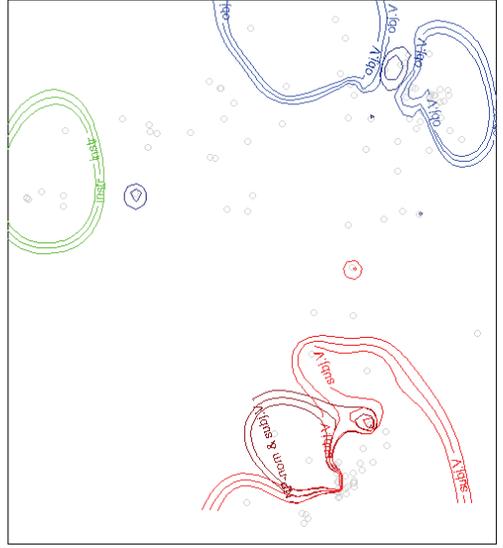
Japanese



Italian



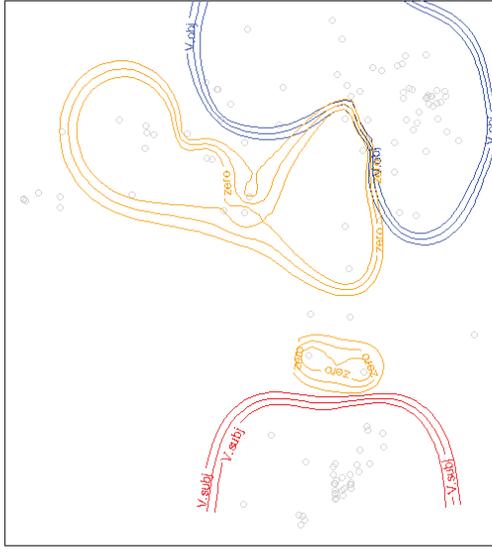
Ainu



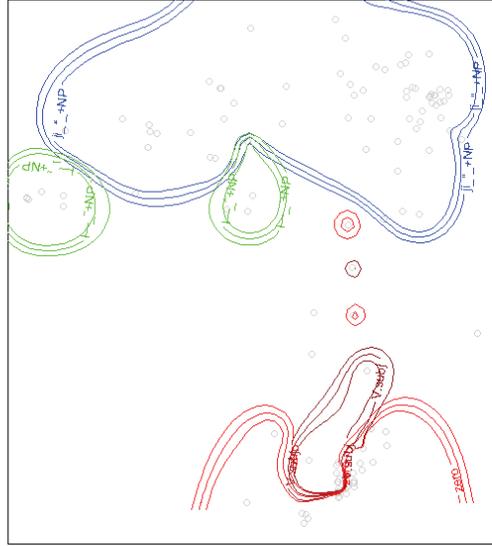
Hoocak



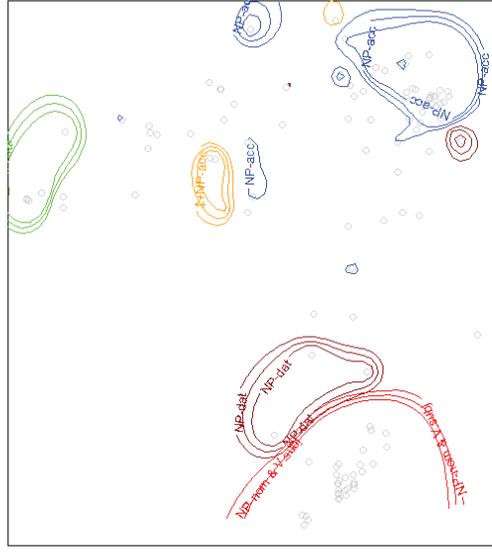
Siammon



Zenzontepec Chatino



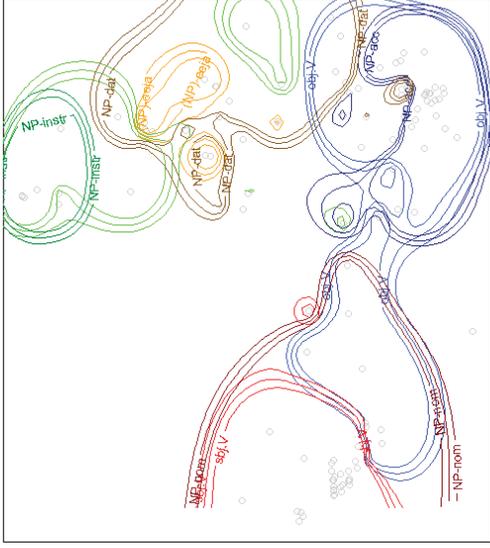
Icelandic



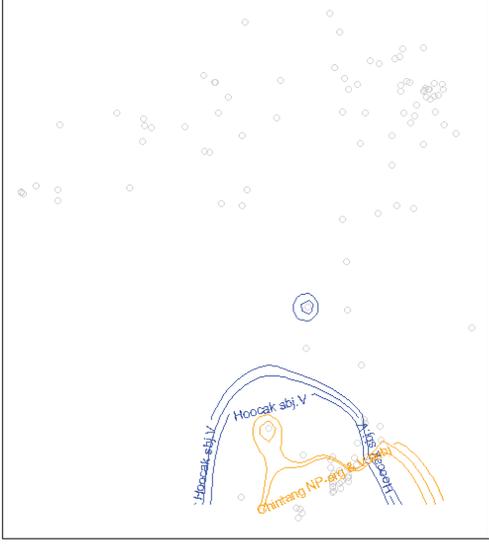


# Comparing 2 languages

Hoocak & Japanese

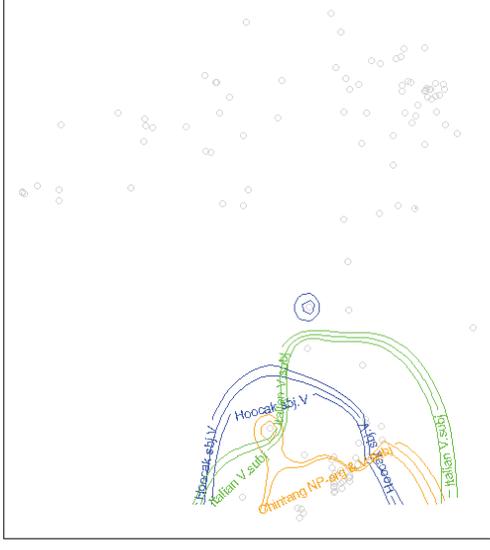


Hoocak sbj.V & Chintang NP-erg&V.subj

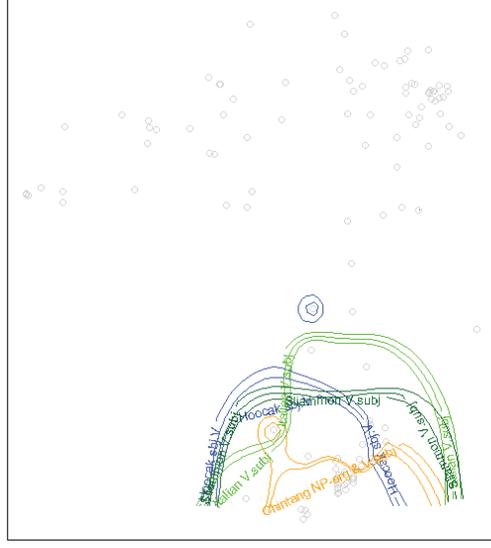


Or more...

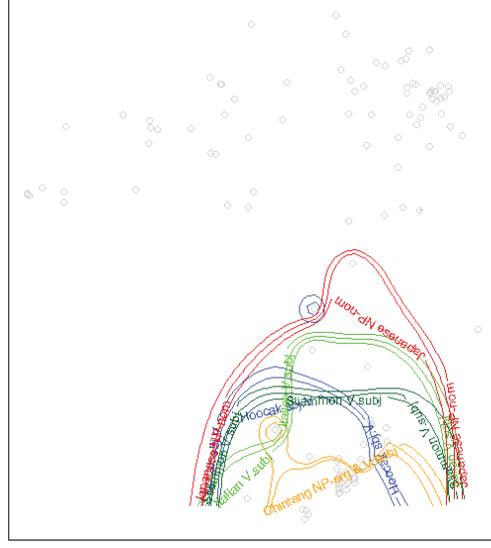
Hoocak sbj.V & Chintang NP-erg&V.subj & Italian V.subj



Hoocak sbj.V & Chintang NP-erg&V.subj & Italian V.subj  
& Sliammon V.subj



Hoocak sbj.V & Chintang NP-erg&V.subj & Italian V.subj  
& Sliammon V.subj & Japanese NP-nom



## What's next for us?

Based on the collected data, introduction of:

- Coding Device Types
- Alternation Types
- Coding Frames of Alternations

### Further analyses:

- verb classes based on coding frames
- verb classes based on alternations
- alternation type classes based on verbs



Thank you!

### I gratefully acknowledge:

- everybody's **data contributions**,



- **Michael Cysouw's** help with plotting the data,

- and the funding that has been provided by:



**DFG** &



The challenge of tabulating language  
structure

Martin Haspelmath

two modes of language  
description

- prose description: doing justice to the peculiarities of each individual language

15.1. Verbal valence patterns: introduction

Verbal valence patterns are represented here in the following format:

V (ACASE1, BCASE2,...)

where V stands for the verb, and A and B stand for arguments in the case indicated by the subscript (the order of the arguments is arbitrary). The letters used as variables for arguments are arbitrary and serve only to distinguish different arguments. However, I will often use letters that can be thought of as mnemonic for particular semantic roles (A: "agent", T: "theme", L: "location", E: "experiencer", R: "recipient"). Otherwise no attempt is made to systematically describe the semantic roles expressed by the arguments; this information is left implicit in the translations of the individual verbs.

Let us take a concrete example: The verb *ilisu* has the valence pattern:

V (AERG, TABS, LRESS)

and means 'A presses L by putting T in contact with L (= A presses L with T). This means that it has an ("agent") argument in the Ergative case which corresponds to the subject of 'press' in the translation, a ("theme") argument in the Absolutive case which corresponds to the object of 'put in contact with', and a ("location") argument in the Superessive case corresponding to the object of 'press'. This is all the information contained in a valence frame, and it is sufficient, for example, to obtain the correct translation of the following sentence:

(717) *Ada knopka.da-l 'tub ilis-na. (R66:9)*

he(ERG) button-SRESS finger press-AOR

'He pressed the button by putting his finger in contact with it.'  
(= 'He pressed the button with his finger')

# two modes of language description

- prose description: doing justice to the peculiarities of each individual language
- tabular description in a database: comparing large (>5) numbers of languages



### About GOLD

The purpose of the GOLD Community is to bring together scholars interested in best-practice encoding of linguistic data. We promote best practice as suggested by E-MELD, encourage data interoperability through the use of the GOLD Standard, facilitate search across disparate data sets and provide a platform for sharing existing data and tools from related research projects. The development and refinement of the GOLD Standard will be the basis for and the product of the combined efforts of these GOLD Community. This standard encompasses linguistic concepts, definitions of these concepts and relationships between them in a freely available ontology.

### News and Announcements

**Apr 15** On January 6, 2011 the GOLD Council was held at the 85th annual meeting of the LSA. Here, the GOLD team met with the GOLD advisors, a group comprised of renowned linguists from many different fields, to review and discuss the latest version of the GOLD Ontology. The GOLD advisors provided feedback on the overall organization of GOLD, as well revisions to specific concepts. The GOLD Team is now working to incorporate these revisions into next version of the GOLD Ontology.

#### Submit Event

**Jan 19** Creating Infrastructure For Canonical Typology

**Nov 12** ELIP Workshop

#### Submit Tool

- e-Linguistics
- SL: A Metaschema Language
- FIELD (Field Input Environment for Linguistic Data)

#### Submit Paper

A linguistic ontology for the Semantic Web

#### Submit Project

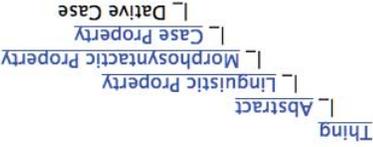
ODIN

LEGO (Lexicon Enhancement via the GOLD Ontology)

<a href="#">GOLD 2010</a>	<a href="#">how to contribute</a>	<a href="#">issues</a>	<a href="#">versions</a>	<a href="#">xml</a>	<a href="#">owl/rdf</a>	<a href="#">gold co</a>
<a href="#">top</a> <a href="#">definition</a> <a href="#">usage</a> <a href="#">examples</a> <a href="#">properties</a> <a href="#">issues</a>						

## Dative Case ( Concept )

<http://purl.org/linguistics/gold/DativeCase>



**Definition:** DativeCase marks 1) Indirect objects (for languages in which they are held to exist) or 2) nouns having the role of recipient (as of things given), beneficiary of an action, or possessor of an item [Crystal 1980: 102].

**Usage Notes** [submit a usage note](#)

**Examples** [submit an example](#)

**Informational verbs often have subjects which are agents, and nominal objects that are dative; the subject communicates knowledge to the object.** Language Code: [tur](#)

2009-06-04 13:28:06

Müdrür Hasan- a mektu- u göster- di  
 director- NOM Hasan- DAT letter- ACC show- PST  
 The director showed the letter to Hasan

## descriptive categories

- are created by descriptive linguists to do justice to particular language systems
- are different for different languages
- cannot be the basis for comparison

## comparative concepts

- need to be created separately by comparative linguists
- can be the column headings of tabular data
- cannot be the basis for description
  - (unless they are nano-comparative concepts, like NSM semantic primes)

# concepts of the database

- all are comparative concepts:

- verb meanings ('rain', 'burn', 'sink', 'roll', etc.)

- verb

- valency, argument

- flag, index

- alternation (coded/uncoded)

- database questions cannot match a language perfectly
- mismatches are not an indication of problems or imperfections
- when matching a language unit to a comparative concept, keep the comparative purpose in mind

## consequences (1)

key concepts are comparative concepts:

keep the comparative purpose in mind:

## (1)

• when matching verbs to meanings:

• keep in mind that we want a

representative set of comparable

verbs from all languages

• a verb that is a very close semantic

match but is very rare in the language

is not a good verb counterpart

• a verb that is very common in the

language but not a perfect semantic

match is better

keep the comparative purpose in mind:

## (2)

• the unity of language-particular phenomena will not always be preserved, cf. Balinese:

**basic form:**

Tiang melalib uli anak=ento.

I Af:run from person=DEF that

'I ran away from that man.'

**-in derived form**

Tiang melalib-in anak=ento.

I Af:run-IN person=DEF that

'I ran away from that man.'

**basic form:**

\*Tiang ng-uruk basa inggris (ka anak=e cenik ento)

I Af-learn language English to person=DEF small that

intended for: 'I am teaching the English language (to the boy).'

**-in derived form**

Tiang ng-uruk-in anak cenik di sekolah.

I Af-learn-IN person small at school

'I teach children at school.'

(from Shibatani & Artawa's paper)

key concepts are comparative concepts:

## consequences (2)

- language-specific categories introduced by contributors cannot be matched automatically
- we cannot query our database about

- cases/adpositions (which languages use dative case for the goal? which languages use the preposition *di* for the agent?)
- alternations (which languages allow the passive alternation for 'talk'?)
- we need to group these into "flag types" and "alternation types" (= comparative concepts)

key concepts are comparative concepts:

## consequences (3)

- language-specific criteria cannot be employed for delimiting comparative concepts

- e.g. **verb**: 'be dry', 'be a hunter' are verbs (in a comparative sense)

- **argument**: often linguists employ language-specific criteria for deciding which NP is an argument (e.g. prepositional NPs are always adjuncts, arguments must be indexed in the verb, arguments must be relativizable, etc.)

- (but the argument/adjunct distinction isn't very important for the valency classes project, because our focus is on participant coding)

## Valency properties of verbs in Modern Standard Arabic (MSA)

Csilla Kász · Kiel University · [ckasz@linguistik.uni-kiel.de](mailto:ckasz@linguistik.uni-kiel.de)

1. Basics of MSA morphosyntax
2. Argument marking strategies
3. Morphosemantic patterns
4. Coding frames
5. Uncoded alternations
6. Conclusion

### 1 Basics of MSA morphosyntax

- Flexible clause-constituent order (VSO dominant)
- Widely head initial, dependent-marking
- Three-case system (NOM, GEN, ACC)

### 2 Argument marking strategies

- Flagger by case - nominative, accusative - and by prepositions
- Indexing of the subject
- Constituent order identifies arguments in constructions with two NP<sub>ACC</sub>.

- (1) *ʾaṭat al-bint-u l-ḵitāb-a* ART-girl-NOM ART-book-ACC  
 give.PRF.3SG.F ART-girl-NOM ART-book-ACC  
 'The girl gave the book to the teacher.'
- (2) *sammāt al-ʾamm-u t-ṭifl-a muḥammad-an*  
 name.PRF.3SG.F ART-mother-NOM ART-child-ACC.3SG.F Muhammad-ACC.IDEF  
 The mother named the child Muhammad.

### 3 Morphosemantic Patterns – predefining valency classes

- Basic valency classes are defined by morphosemantic patterns (stems I – XV), formed by word-and-pattern morphology.
- Stems are derived from the basic unaugmented pattern and manifest valency increasing (causatives, factitives – stem II, IV) or valency decreasing (reflexives - stem V, VI, VII, VIII, reciprocals – stem VI, passives – stem VII) functions that can be defined relatively clear. Their semantic properties are complex.
- Except for two stems (VII and IX) allowing only monovalent constructions the most common ten patterns show variations in permitted coding frames (for an overview of morphosyntactic patterns and their semantic functions see table 2 in the appendix).

### 4 Coding Frames

#### 4.1 Mono-valent verbs <NOM>

- (3) *fi tilka s-sanaṭ-i ʾamītarat (as-samāʾ-u) fī ʾaylāl.*  
 in that ART-year-GEN rain.PRF.3SG.F (ART-sky.F-NOM) in September  
 'That year, it rained in September.'
- (4) *vaḥīṭu l-barad-u / t-ṭalḡ-u / l-matar-u.*  
 descend.IPFV.3SG.M ART-ice-NOM / ART-snow-NOM / ART-rain-NOM  
 'It hails/snows/rains.'
- (5) *ḍaḥika t-ṭifl-u.*  
 laugh.PRF.3SG.M ART-child-NOM  
 'The child laughed.'

- (6) *saqata l-walad-u*  
 fall.PRF.3SG.M ART-boy-NOM  
 'The boy fell.'

#### 4.2 Bivalent verbs 4.2.1 <NOM ACC>

- verbs with patient-like arguments (*qaṭaʿa* 'cut', *kasara* 'break', *ḍaraba* 'beat')
- verbs of perception (*raʾa* 'see' but *samiʿa* 'hear' allows <NOM ACC ~ NOM PP> alternation) or of verba dicendi (*ḥakā* 'tell', *qāla* 'say', wherent *qāla* often has sentential actant as direct object).

- (7) *ḍaraba l-walad-u l-ḵalḇ-a.*  
 beat.PRF.3SG.M ART-boy-NOM ART-dog-ACC  
 'The boy beat the dog.'

- (8) *raʾā l-walad-a.*  
 see.PRF.3SG.M ART-boy-ACC  
 'He saw the boy.'

- Adverbials / adjuncts marked by accusative:

- (9) *saqata suqūf-an lawīl-an.*  
 fall.PRF.3SG.M fall-ACC.IDEF long-ACC.IDEF  
 'He fell long (lit.: He fell [with] a long fall).'

- (10) *ḡāʾa l-walad-u masāʾ-an.*  
 come.PRF.3SG.M ART-boy-NOM evening-ACC.IDEF  
 'The boy came in the evening.'

#### 4.2.2 <NOM PP>

- verbs denoting 'increasing' (*zāda* 'increase/highen sth.', *ḍāfaʿa* (III) 'duplicate sth.') and 'decreasing' (*ḥadada* 'limit sth.', *ḥaffifa* (II) 'damp sth.') take PPs with the preposition *min* 'from'
- other verbs: *baḥaṭa ʾan* / 'search for', *ḥasata ʾalā* 'receive sth.', *ṭamaʿa* 'desire sth.', *ʾaraba ʾan* (IV) 'express sth.' marking a theme / patients-like argument by a preposition:

- (11) *ḥasala ʾalā riṣāl-at-in.*  
 receive.PRF.3SG.M on letter-F-GEN.IDEF  
 'He received a letter.'

- (12) *ʾattara ʾalā/ʾi walad-i-hi.*  
 influence.PRF.3SG.M on /in boy-GEN.3SG.M  
 'He influenced his boy.'

- (13) *qāma ʾaḏ-ī bi-y-ṣalāt-i.*  
 carry.out.PRF.3SG.M brother.NOM-1SG with-ART-prayer.F-GEN  
 'My brother carried out the prayer.'

- (14) *qaṭā l-ḡumūd-u ʾalā l-mutamarrid-īna.*  
 destroy.PRF.3SG.M ART-soldier.PL-NOM on ART-rebel-PL-GEN  
 'The soldiers destroyed the rebels.'

- Passive of <NOM ACC> and <NOM PP>

- (15) *ḍuriba l-ḵalḇ-u.*  
 beat.PRF.PASS.3SG.M ART-dog-NOM  
 'The dog has been beaten.'

- (16) *quḍiya l-mutamarrid-īna.*  
 destroy.PRF.PASS.3SG.M on ART-rebel-PL-GEN  
 'The rebels have been destroyed.'

#### 4.3 Three-valent verbs

##### 4.3.1 <NOM ACC ACC>

- Verbs denoting change, transformation (*ǧātala* 'change', *taraka* 'leave so. in a state of')

- (17) *ǧātala* *s-sāḡir-u* *l-ʿasā* *tuḥān-an*  
 change.PRF.3SG.M ART-magician-NOM ART-stick.ACC snake-ACC.IDEF  
 'The magician transformed the stick into a snake.'

- Verbs denoting consideration, view or judgement (*raʿā* 'see sth. as', *ʿalima* 'know sth. about sth./so., *ǧāla*, *ʿanna*, *ḥasada* 'consider sth./so. as sth./so'; *adda* 'count with so. as sth./so.') > embedded verbless sentences:

- (18) *ʾanna* *l-walad-u* *r-raǧul-a* *muʿallim-an*.  
 consider.PRF.3SG.M ART-boy-NOM ART-man-ACC teacher-ACC  
 'The boy considered the man as a teacher.'

- (19) *ar-raǧul-u* *muʿallim-an*.  
 ART-man-NOM teacher-NOM.IDEF  
 'The man is a teacher.'

- Theme – recipient construction (*ʿatā* 'give', *manaḥa* 'accord', *wahaba* 'bestow', *nāwala* (III) 'give over'),

- Caused motion and information transfer (*ʾallama* (II) (20) 'teach', *ʿalama* (IV) 'inform') > causatives formed by stem II and IV derived from transitives of the basic stem.

- (20) *ʾallamat* *al-ʾumm-u* *ifl-a-hā* *l-qurʾān-a*  
 know.CAUS.PRF.3SG.F ART-mother-NOM ART-child-ACC-3SG.F ART-Koran-ACC  
 'The mother taught her child [the] Koran.'

##### 4.3.2 <NOM ACC PP>

4.3.2.1 <NOM ACC bi-Ḍ> *bi-* 'with' instrument-NP of a transitive verb (*kasara* 'break', *qatala* 'kill', *daraba* 'beat', *lamasa* 'touch', *qatāʾa* 'cut')

- (21) *lamasa* *l-walad-u* *l-ḥayy-at-a* *bi-l-ʿasā-i*  
 touch.PRF.3SG.M ART-boy-NOM ART-snake-F-ACC with-ART-stick-GEN  
 'The boy touched the snake with the stick.'

*bi-* marks obligatory arguments with verbs like: *tahaddada* (V) 'threaten so. with sth.', *kallafā* (II) / *wakkala* (II) 'authorize so. with sth.', *ittahama* (VIII), *ʾadāna* (III) 'accuse so. with sth.'

4.3.2.2 <NOM ACC li-> - *li-* 'for' marks recipient/beneficiary and possession (*ʿarsala* (IV) 'send sth. to so.', *samaḥa* 'allow sth. to so') or scope (*ahhala* (II) 'enable so. to').

- (22) *ʿarsala* *la-nā* *kitāb-an*  
 send.PRF.3SG.M for-IPL book-ACC.IDT  
 'He sent us a book.'

4.3.2.3 <NOM ACC min> - *min* 'from, part of' denotes a source, causer or initial point (in space and time) of an event. Further usage: (*anqada* (IV) 'rescue so. from', *harrama* (II) 'deny so. sth.', *manaʾa* 'deter so. from').

- (23) *manaʾa* *min as-ṣaǧar-i*  
 withhold.PRF.3SG.M friend-ACC-3SG.M from ART-trip-GEN  
 'He withheld his friend from travelling.'

- Choice of the preposition often not transparent > lexically conditioned

##### 4.3.3 <NOM PP PP>

Verbs with two PP arguments are uncommon.

- (24) *tarayyara* *wagḥe-u-hu* *min al-warah-i* *ʾilā l-ḥuzn-i*  
 change.RFL.PRF.3SG.M face-NOM 3SG.M from ART-joy to ART-grief-GEN  
 'His face changed from joy to grief.'

- Choice of preposition is lexically conditioned with: *ʾasāra bi-ʾalā* 'suggest sth. to so.', *ʾadala ʿan ʾilā* 'abdicate sth. to sth.', *ʾahida ʾilā bi-* 'authorize/order so. to sth.', *ʾadina li-/fi/bi-* 'permit so. sth.'

- (25) *ʾadina* *li-ʾaḡlāl-i-ḥi* *fi mušāhad-at-i* *l-tiwiṣiyyāt-i*  
 permit.PRF.3SG.M for-child-PL-GEN-3SG.M in watch(VN)-F-GEN ART-television-GEN  
 'He allowed his children to watch TV.'

#### 5 Uncoded alternations

##### 5.1 Object omitting transformation <NOM ACC ~ NOM>

- Action verbs with an agent as subject and patient or theme as object: *ʾakala* 'eat (sth.)' (26), *šarba* 'drink (sth.)', *ḥalaqa* 'shave (sth.)', *tahabta* 'cook (sth.)', *nabaha* 'bark (at so./sth.)',

- (26) *ʾakala* *l-walad-u* (*ḥabz-an*)  
 eat.PRF.3SG.M ART-boy-NOM (bread-ACC.IDEF)  
 'The boy ate (bread).'

- (27) *ʾāša* *l-watan-u* *ʾaṣr-an* *ǧadīd-an*.  
 live.PRF.3SG.M ART-state-NOM epoch-ACC.IDEF new-ACC.IDEF  
 'The state experienced a new epoch.'

- (28) *zāda* *l-maṭār-u* *muṣawā* *l-nahr-i*.  
 grow.PRF.3SG.M ART-rain-NOM level.ACC ART-river-GEN  
 'The rain increased the [water] level of the river.'

##### 5.2 Alternation with bivalent verbs – coding frame <NOM ACC ~ NOM PP>

5.2.1 <NOM ACC ~ NOM bi+>  
 - Common with verbs of cognition and experience (*samiʾa* 'hear', *fahima* 'comprehend', *ʿalima* 'know')

- (29) *samiʾa* *l-walad-u* *l-ḡabar-a* *bi-l-ḡabar-i*  
 fear.PRF.3SG.M ART-boy-NOM ART-message-ACC ~ with-ART-message-GEN  
 'The boy heard the message ~ about the message.'

##### 5.2.2 <NOM ACC ~ NOM ʾilā >

- Productive with verbs denoting movement towards a goal or arrival (*ʾatā* 'come to' (32), *ǧāʾa* 'come to', *ḥādara* 'attend sth.', *wašala* 'arrive at', *dahala* 'enter sth.', *ǧādara* (III) 'leave for')

- (30) *ǧītū* *l-ḡayt-a* *ʾilā* *l-ḡayt-i*.  
 come.PRF.1SG ART-house-ACC ~ ʾilā *l-ḡayt-i*  
 'I came to the house.'

##### 5.2.3 <NOM ACC ~ NOM min >

- (31) *ḡāfa* *l-walad-u* *zālam-an* *ʾilā* *l-ḡayt-i*  
 fear.PRF.3SG.M ART-boy-NOM darkness-ACC.IDEF ~ *min zālam-in*  
 'The boy was afraid of darkness.' ~ of darkness-GEN.IDEF

The object (both NP<sub>ACC</sub> and PP) in (30) can be omitted.

### 5.3 Alternations with three-valent verbs

#### 5.3.1 Theme – recipient alternation: <NOM ACC> ACC ~ NOM ACC II+>

- Available with *manāla* 'bestow', *wahaba*, *ʿāṭā* 'give, present', *ahdā* (IV) 'give, bring'.

- (32) *ʿāṭat* *al-bint-u* *l-muʿallim-a* *l-kitāb-a*.  
 give.PRF.3SG.F ART-girl-NOM ART-teacher-ACC ART-book-ACC  
 'The girl gave the book to the teacher.'
- (33) *ʿāṭat* *al-bint-u* *l-kitāb-a* *li-l-muʿallim-i*.  
 give.PRF.3SG.F ART-girl-NOM ART-book-ACC to-ART-teacher-GEN  
 'The girl gave the book to the teacher.'

#### 5.3.2 Locative alternations

##### 5.3.2.1 Alternations <L-ACC bi+T ~ T-ACC ʿalā+L> and <L-ACC bi+T ~ T-ACC f+L>

'substance adding verbs' (Mahmoud 1999: 53f)

<L-ACC bi+T ~ T-ACC ʿalā+L>: *ḥammāla* (II) 'load' (34), (35), *šahana* 'load (L inanimate)', *rašša* 'spray', *raššāʿa* (II) 'stud', *baḥḥā* 'smudge', *latīṭaḥa* 'splatter', *tarṭaša* 'splatter', *naṭara* 'splash', *ḥašša* 'spread'.

- (34) *ḥammāla* *t-raḡul-u* *l-ḡamal-a* *bi-l-qašš-i*.  
 carry.CAUS.PRF.3SG.M ART-man-NOM ART-camel-ACC with-ART-hay-GEN  
 'The man loaded the camel with [the] hay.'

- (35) *ḥammāla* *t-raḡul-u* *l-qašš-a* *ʿalā l-ḡamal-i*.  
 carry.CAUS.PRF.3SG.M ART-man-NOM ART-hay-ACC on-ART-camel-GEN  
 'The man loaded the hay on the camel.'

<L-ACC bi+T ~ T-ACC f+L>: *badara* 'sprinkle', *ʿabbāʿa* (II) 'fill', *zarāʿa* 'cultivate', *kaddasa* 'stock', *ḥašša* (II) 'stuff', *ḥašāda* 'crowd', *ḥaqaṇa* 'inject'.

##### 5.3.2.2 Alternation <L-ACC bi+T ~ T-ACC> L-ACC>

- *ḥammāla* (II) 'load' (36), *šahana* 'load (L inanimate)', *malata* 'fill', *ʿabbāʿa* (II) 'fill', *raššāʿa* (II) 'stud'.

- (36) *ḥammāla* *t-raḡul-u* *l-ḡamal-a* *qašš-an*.  
 carry.CAUS.PRF.3SG.M ART-man-NOM ART-camel-ACC hay-ACC.IDEF  
 'The man loaded the camel with hay.'

##### 5.3.3 Alternation <NOM ACC PP ~ NOM PP PP>

- verbs *qaḍaʿa*, *ramā*, *ʿalā* (IV) 'throw', *dafʿa* 'push' allow three coding alternations:

<NOM L-ACC bi+T ~ NOM T-ACC ʿalā+L ~ NOM bi+T > ʿalā+L >

- (37) *qaḍaʿa* *l-kalb-a* *bi-ḥaḡar-in*.  
 throw.PRF.3SG.M ART-dog-ACC with-stone-GEN.IDEF  
 'He pelted the dog with a stone.'

- (38) *qaḍaʿa* *l-ḥaḡar-a* *ʿilā* *l-kalb-i*.  
 throw.PRF.3SG.M ART-stone-ACC to ART-dog-GEN  
 'He threw the stone after the dog.'

- (39) *qaḍaʿa* *bi-l-ḥaḡar-i* *ʿilā* *l-kalb-i*.  
 throw.PRF.3SG.M with-ART-stone-GEN to ART-dog-GEN  
 'He threw the stone after the dog.'

The preposition *ʿilā* 'to, after' can be replaced by *ʿalā* 'on'.

### 5.4 Other unmarked alternations

The verb *saraqa* 'steal' allows the following argument structures (El-Ayoubi et al. 2010: 384):

- (40) *saraqa* *šadīq-a-hu* *~ min-šadīq-i-hi*.  
 steal.PRF.3SG.M friend-ACC-3SG.M ~ from friend-GEN-3SG.M  
 'He stole from his friend.'

- (41) *saraqa* *kitāb-an*.  
 steal.PRF.3SG.M book-ACC.IDEF  
 'He stole a book.'

- (42) *saraqa* *min-šadīq-i-hi* *kitāb-an*.  
 steal.PRF.3SG.M from friend-GEN-3SG.M book-ACC.IDEF  
 'He stole a book from his friend.'

### 6 Conclusion

- In Modern Standard Arabic, flagging, indexing and constituent order as well take part in marking arguments.
- Flagging by cases and prepositions appears to be the most important means of argument encoding.
- Both, the accusative case and prepositions mark complements and adjuncts as well.
- Uncoded alternations of argument flagging are available to verbs of basic and augmented morphosemantic patterns > supports the assumption, that derived stems are to large degree lexicalized (for an overview of valency patterns of the 87 sample verbs see table 1 in the appendix.)

### Abbreviations

- 1: 1<sup>st</sup> person / 2: 2<sup>nd</sup> person / 3: 3<sup>rd</sup> person / ACC: accusative / AP: adjective phrase / ART: article / CAUS: causative / dt: ditransitive / DET: determinative / GEN: genitive / H: head of the phrase / IDEF: indefinite / IPFV: imperfective / it: intransitive / JUS: jussive / NOM: nominative / NP: noun phrase / PASS: passive / PL: plural / POSS: possessive pronoun clitic / PP: prepositional phrase / PRF: perfective / REC: reciprocal / RFL: reflexive / SG: singular / t: transitive / VN: verbal noun

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**Appendix:**

**Table 1 Valency patterns of the sample verbs**

Table 1 – Abbreviations: > : fixed constituent order / A : agent / acc : accusative / caus : causative / E : experiencer / fake : fake action / nom : nominative / gra : gradual action / I : instrument / int : intensive / L : location / mepa : mediopassive / P : patient / pass : passive / R : recipient / refl : reflexive / S : single argument of an intransitive verb / ST : stimulus-like argument of the verb / T : theme / X, Y : semantically undefined arguments of the verb / sv : pattern of the sample verb

Meaning	MSA verb (stem)	MSA coding frame	II'	IV	V	VI	VII	VIII	X
rain	<i>ʔamṭaru (I)</i>	S-nom							
die	<i>mātu (I)</i>	S-nom	caus/ int	caus		fake		rec	
blink	<i>ramṣu (I)</i>	S-nom							
go	<i>ʔahaba (I)</i>	S-nom		caus					
appear	<i>zahara (I)</i>	S-nom		caus		fake			
boil	<i>ʔalā (I)</i>	S-nom		caus					
cough	<i>saʔala (I)</i>	S-nom							
sit	<i>ʔalasa (I)</i>	S-nom		caus					
live	<i>āsa (I)</i>	S-nom				rec			
laugh	<i>ʔalika (I)</i>	S-nom	caus/ int	caus		rec			caus
sink	<i>ʔariqa (I)</i>	S-nom	caus/ int	caus					
burn	<i>ʔharraqa (VII)</i> <sup>1</sup>	S-nom	int		pass			sv refl/ mepa	
cry	<i>bakā (I)</i>	S-nom		caus					
fall	<i>saqata (I)</i>	S-nom		caus					
scream	<i>ʔāha (I)</i>	S-nom		caus		fake			caus
sit down	<i>ʔarāqa (I)</i>	S-nom							
sing	<i>ʔanna (II)</i>	S-nom							
go	<i>ʔahaba (I)</i>	S-nom		caus					
dig	<i>nabaha (I)</i>	A-nom							
roll	<i>ʔadārraqa (II)</i>	A-nom							pass

<sup>1</sup> Roman Numerals II, IV, V, VI, VII, VIII and X refer to derivational patterns

<sup>2</sup> Subject is indexed by the verb and is always omissible.

<sup>3</sup> VIII is mediopassive to I *harraqa* 'burn sth.'

jump	<i>ʔafāca (I)</i>	A-nom							
run	<i>ʔarā (I)</i>	A-nom							
shout	<i>ʔāha (I)</i>	A-nom (ʔalā+X) <sup>4</sup>							
feel pain	<i>ʔaʔallama (I)</i>	E-nom <i>min+M</i>						sv	
look at	<i>naʔara (I)</i>	A-nom ʔilā+P						rec	
search	<i>baʔaqa (I)</i>	A-nom ʔan+X						rec	
think	<i>ʔakkara (III)</i>	A-nom ʔi+X							
fear	<i>baʔa (I)</i>	E-nom (ST+acc) E-nom ( <i>min+M</i> )	caus/ int					caus	refl
leave	<i>ʔūlara (III)</i>	A-nom (L+acc) A-nom ( <i>ʔilā+L</i> )							
climb	<i>ʔasallaqa (V)</i>	A-nom L+acc A-nom ( <i>ʔilā+L</i> )							
eat	<i>ʔakala (I)</i> <sup>5</sup>	A-nom (P+acc) <sup>6</sup>							mepa
shave	<i>ʔalaqa (I)</i>	A-nom (P+acc)							
cook	<i>ʔabaha (I)</i>	A-nom (P+acc)							
hug	<i>ʔanaqa (I)</i>	A-nom P+acc							rec
know	<i>ʔarifa (I)</i>	A-nom P+acc	caus						rec
peel	<i>ʔaššara (II)</i> <sup>7</sup>	A-nom P+acc							refl
frighten	<i>ʔaṭāʔa (IV)</i>	A-nom P+acc						sv caus	refl
wash	<i>ʔasala (I)</i>	A-nom P+acc	int						refl/ mepa
dress	<i>ʔalbasu (IV)</i>	A-nom P+acc	caus					sv caus	pass refl
push	<i>ʔaḥarara (I)</i>	A-nom P+acc							pass
see	<i>raʔā (I)</i>	E-nom ST+acc							rec
smell	<i>ʔamma (I)</i>	E-nom ST+acc	caus						
like	<i>ʔaḥabbu (IV)</i>	E-nom ST+acc	caus						refl
hear	<i>ʔamiʔa (I)</i>	E-nom ST+acc	caus/ int						
help	<i>ʔāʔala (III)</i>	A-nom X+acc							
follow	<i>ʔabiʔa (I)</i>	A-nom X+acc	caus						rec
want	<i>ʔarāda (IV)</i>	A-nom X+acc							
meet	<i>ʔaḥya (I)</i>	A-nom X+acc							rec
grind	<i>ʔaḥana (I)</i>	A-nom P+acc ( <i>bi+I</i> )							
break	<i>kasara (I)</i>	A-nom P+acc ( <i>bi+I</i> )	int						pass
kill	<i>ʔatāla (I)</i> <sup>8</sup>	A-nom P+acc ( <i>bi+I</i> )	int						rec
beat	<i>ʔaraba (I)</i>	A-nom P+acc ( <i>bi+I</i> )							rec
hit	<i>ʔaḥama (I)</i>	A-nom P+acc ( <i>bi+I</i> )							rec
touch	<i>ʔamasa (I)</i>	A-nom P+acc ( <i>bi+I</i> )							gra
cut	<i>ʔaḥaʔa (I)</i>	A-nom P+acc ( <i>bi+I</i> )	int						pass
cover	<i>ʔaḥḥa (I)</i> <sup>9</sup>	A-nom P+acc ( <i>bi+X</i> )							refl
build	<i>ʔanaʔa (I)</i>	A-nom P+acc ( <i>min+X</i> )							
make	<i>ʔanaʔa (I)</i>	A-nom P+acc ( <i>min+X</i> )	int						pass

<sup>4</sup> + indicates that ʔalā is a preposition.

<sup>5</sup> Roman Numerals between braces refer to the morphosemantic pattern of the verb.

<sup>6</sup> Braces indicate omissible argument.

<sup>7</sup> stem I with the same meaning uncommon

<sup>8</sup> IV causative to 'fear'

<sup>9</sup> IV causative to 'dress'

<sup>10</sup> ʔatāla 'kill' and ʔarāda 'ask for' form stem III with the function 'repeated action'.

<sup>11</sup> stem with the same meaning uncommon



## Valency Classes in Japanese I: Standard Language

Hideki Kishimoto and Taro Kageyama

*Kobe University and National Institute for  
Japanese Language and Linguistics*

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### 1. Overview

#### Uncoded alternations:

e.g. locative alternation  
source-argument alternation,  
instrumental-subject alternation  
etc.

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### 1. Overview

#### Coded Alternation

- Verbal auxiliary: passive/causatives/  
potentials
- Subsidiary verb: resultative/  
benefactive
- Lexical suffix: transitivity alternation

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### 2. Uncoded Alternation

#### ■ Source-argument alternation

- Use of ablative marker replacing nominative,  
dative, accusative case.
- Alternation is possible when an argument is  
identified as 'a source'.

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### Verbs of departing

- (3) *Otoko-ga ie-**{o/kara}** de-ta.*  
man-NOM house-**{ACC/ABL}** depart-PAST  
'The man left (from) the house'

[√complement]

5

### Verbs of arrival

- (4) *Ken-ga inaka-**{kara/\*o}** ki-ta.*  
Ken-NOM country-**{ABL/\*ACC}** come-PAST  
'Ken came from the countryside'

[\*complement]

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### Verbs of receiving

- (5) *Ken-ga Eri-**{ni/kara}** hon-o morat-ta.*  
Ken-NOM Eri-**{DAT/ABL}** book-ACC get-PAST  
'Ken got the book from Eri'

[√Indirect object]

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### Verbs of giving

- (6) *Ken-**{ga/kara}** Eri-ni hon-o age-ta.*  
Ken-**{NOM/ABL}** Eri-DAT book-ACC give-PAST  
'Ken gave the book to Eri'

[√Subject]

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### The frames of teaching verb

- (7) a. *Y-sensei-ga seito-ni eigo-o*  
Y-teacher-NOM student-DAT English-ACC  
*osie-ru.*  
teach-PRES  
'Mr. Y teaches English to the students'
- b. *Y-sensei-ga seito-o osie-ru.*  
Y-teacher-NOM student-ACC teach-PRES  
'Mr. Y teaches students'

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### Difference in ablative marking

(8) a. *Y-sensei-kara seito-ni eigo-o*  
 Y-teacher-ABL student-DAT English-ACC  
*osie-ru.*  
 teach-PRES  
 'Mr. Y teaches English to the students'

b. \**Y-sensei-kara seito-o osie-ru.*  
 Y-teacher-ABL student-ACC teach-PRES  
 'Mr. Y teaches the students'

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### Subjecthood

(9) a. *Y-sensei-kara seito-ni sono-koto-o*  
 Y-teacher-ABL student-DAT that-fact-ACC  
*o-osie-ni-nat-ta.*  
 HON-teach-become-PAST  
 'Mr. Y taught the students that fact.'

b. *Ken-kara-mo zibun-no koto-o osie-ta.*  
 Ken-ABL-also self-GEN fact-ACC teach-PAST  
 'Ken also taught the fact about himself.'

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### Case frames and Potential verbs

(10) a. *Ken-ga kotae-o kak-e-ru.*  
 Ken-NOM answer-ACC write-POT-PRES  
 'Ken can write down the answer' [NOM-ACC]

b. *Ken-{ni/ga} kotae-ga kak-e-ru.*  
 Ken-{DAT/NOM} answer-NOM write-POT-PRES  
 'Ken can write down the answer'  
 [DAT-NOM, NOM-ACC]

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### Missing Frame: DAT-ACC

(11) \**Ken-ni kotae-o kak-e-ru.*  
 Ken-DAT answer-ACC write-POT-PRES  
 'Ken can write down the answer'  
 [\*DAT-ACC]

The nominative case constraint?

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### 3. Coded Alternation

- Morphological Derivations of Transitivity Alternation

(12) a. transitivity  
 b. intransitivization  
 c. equipollent alternation

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### Suffixes

(13) a. Intransitivizer:  
 -ar (-are, -sare, -or, -ur), -e

b. Transitivity:  
 -as (-kas, -os, -s, -se), -e

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### Patterns

(14) 

<u>Intransitive</u>	<u>Transitive</u>
a. V <sub>stem</sub> -SUFFIX-Tns	V <sub>stem</sub> -Tns
b. V <sub>stem</sub> -Tns	V <sub>stem</sub> -SUFFIX-Tns
c. V <sub>stem</sub> -SUFFIX-Tns	V <sub>stem</sub> -SUFFIX-Tns
d. V <sub>stem</sub> -Tns	V <sub>stem</sub> -Tns

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### Intransitivization

From Transitive to Intransitive  
 Intransitives are complex

(15) 

<u>Transitive</u>	<u>Intransitive</u>
<i>yabur-u</i> 'tear'	<i>yabur-e-ru</i> 'tear'
<i>hasam-u</i> 'pinch'	<i>hasam-ar-u</i> 'be pinched'

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### Transitivity I

From Intransitive to Transitive  
 Transitives are complex

(16) 

<u>Intransitive</u>	<u>Transitive</u>
<i>ak-u</i> 'open'	<i>ak-e-ru</i> 'open'
<i>wak-u</i> 'boil'	<i>wak-as-u</i> 'boil'

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## Transitivization II

### From transitive to ditransitive

Ditransitives are complex

- (17) 

<u>Transitive</u>	<u>Ditransitive</u>
<i>ki-ru</i> 'get dressed'	<i>ki-se-ru</i> 'dress'
<i>mi-ru</i> 'see'	<i>mi-se-ru</i> 'show'

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## Equipollent Alternation

### Directionality cannot be determined

Suffixation on both or no suffixation at all

- (18) 

<u>Intransitive</u>	<u>Transitive</u>
<i>nao-r-u</i> 'heal'	<i>nao-s-u</i> 'heal'
<i>arawa-re-ru</i> 'emerge'	<i>arawa-s-u</i> 'give rise to'
<i>hirak-u</i> 'open'	<i>hirak-u</i> 'open'

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## -AR suffixation I

- (19) a. *Ken-ga iro-o kae-ta.*  
Ken-NOM color-ACC change-PAST  
'Ken changed the color'  
b. *Iro-ga kaw-at-ta.*  
color-NOM **change-AR-PAST**  
'The color changed'  
[NO AGENCY]

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## -AR suffixation II-a

- (20) a. *Ken-ga niwa-ni ki-o ue-ta.*  
Ken-NOM garden-in tree-ACC plant-PAST  
'Ken planted the trees in the garden'  
b. *Ki-ga niwa-ni uw-at-ta.*  
tree-NOM garden-on **plant-AR-PAST**  
'The trees were planted in the garden'  
[AGENCY IMPLIED]

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## Passive

- Passive Verb

- (21) *Ki-ga niwa-ni ue-rare-ta.*  
tree-NOM garden-on **plant-PASS-PAST**  
'The trees were planted in the garden'

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## -AR suffixation II-b

- (22) a. *Ten'in-ga syoohin-o make-nakat-ta.*  
clerk-NOM goods-ACC discount-NEG-PAST  
'The clerk did not give a discount on the goods'  
b. *Syoohin-ga mak-ara-nakat-ta.*  
goods-NOM **discount-AR-NEG-PAST**  
'The goods were not discounted'  
[AGENCY IMPLIED]

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## Passive

- Passive verb

- (23) *Syoohin-ga make-rare-nakat-ta.*  
goods-NOM **discount-PASS-NEG-PAST**  
'The goods were not discounted'

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## -AR suffixation III-a

- (24) a. *Ken-ga kodomo-o mituke-ta.*  
Ken-NOM child-ACC find-PAST  
'Ken found the child'  
b. *Kodomo-ga Ken-ni mituk-at-ta.*  
child-NOM Ken-DAT **find-AR-PAST**  
'The child was found by Ken'  
[DEMOTED AGENT]

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## Passive

- (25) *Kodomo-ga Ken-ni mituke-rare-ta.*  
child-NOM Ken-DAT **find-PASS-PAST**  
'The child was found by Ken'

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### -AR suffixation III-b

- (26) a. *Ken-ga gityoo-o tutome-ta.*  
Ken-NOM chairman-ACC serve-PAST  
'Ken served as a chairman'  
b. *Gityoo-ga Ken-ni tutom-at-ta.*  
chairman-NOM Ken-DAT serve-AR-PAST  
'Ken was able to serve as a chairman'  
[DEMOTED AGENT]

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### Agentive activity verbs

Transitive verbs that do not intransitivize

- (27) a. *tataku* 'beat'  
b. *keru* 'kick'  
c. *hakobu* 'carry', etc.

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### Other agentive verbs

Transitive verbs that do not intransitivize in Standard Japanese--Subject to dialectal variations

- (28) a. *kosuru* 'scrub'  
b. *nuru* 'paint'  
c. *kaku* 'write, draw', etc.

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### 4. Concluding remarks

- Coded alternation  
Source-argument alternation
- Coded alternation  
Transitivity alternation

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## Situation types, valency frames and operations

Christian Lehmann

Universität Erfurt

### Main theses

1. The valency of a linguistic sign is the union set of the actant positions (governing slots) that it provides, including the grammatical constraints associated with these.
2. The structural basis of valency is the necessity to provide structural relations among constituents of a verbal construction.
  - However, such relations may also be provided by adjunction (adverbial modification).
3. Government has its functional basis in semantic relationality.
  - Verbal valency has its functional basis in the semantic relationality of situation cores.
  - However:
    - Semantic relationality is not given a priori, but subject to conceptual operations.
    - Participants that are part of the conceptual structure may not be assigned a semantic role and, thus, not be coded.
    - Even central participants that are coded as nominal components of a clause need not be included in the verbal government. Instead, they may be treated as adjuncts.
4. Consequently, languages differ in the extent to which they make use of valency at all.
5. Valency frames have their functional basis in recurrent types of situations.
  - Situations cores are conceived with reference to their participants. Therefore, given a verb coding a situation core, entities that are not part of the latter are generally not included in the valency of that verb.
  - Valency frames are manipulated not only by semantic role operations, but also by discourse role operations. If these are grammaticalized, valency frames may be fixed that have little motivation in terms of situation types and their semantic roles.

### 1 Introduction

- E1    a. The twig broke.  
      b. Linda broke the twig.  
      c. The twig was broken by Linda.
- E2    a. Linda peeled the orange with her pocket knife.  
      b. Linda filled the bucket with beer.
- E3    a. ku            haantik  
YUC    IMPFV-SBJ.3 eat-TRR-INCMPL  
      'he eats it'
- b. ku            haanal  
      IMPFV-SBJ.3 eat-INCMPL  
      'he eats'

E4 a. t-in ch'am<ah> u chuun <l>e che'-o' (EMB&RMC\_0033)  
 Yuc PRFV-SBJ.1.SG bruise:CMPL POSS.3 base DEF tree-D2  
 'I bruised the trunk of the tree.'

b. h ch'áam u chuun le che'-o'  
 PRFV bruise\DEAG POSS.3 base DEF tree-D2  
 'The trunk of the tree got bruised.'

E5 T-in koh<ah> in coche ka h ch'áam-ih (EMB&RMC\_0032)  
 Yuc PRFV-SBJ.1.SG hit POSS.1.SG car CONN PRFV bruise\DEAG-CMPL.3.SG  
 'I hit my car so that it got bruised.'

## 2 Voice and valency from a semantic point of view

### T1 Empathy hierarchy

position	property
1	speech-act participant
2	other human being
3	animal
4	individual object
5	non-individual object
6	place
7	proposition

### T2 Properties and functions of semantic roles

role	empathy	involvement	control
agent	1 2 3 4 5 6 7	1	1
force		1	1
comitative		-1	0
instrument		-1	0
experiencer		0	0
emitter		0	0
source		0	0
recipient/addressee		0	0
goal		0	0
sympatheticus		1	-1
patient		1	-1
beneficiary		-1	0
place		-1	0
theme	1 2 3 4 5 6 7	1	0

*Legend***empathy:**

grades according to empathy hierarchy;

prototypical – possible

**involvement:**

1: central

0: unspecified

-1: peripheral

**control:**

1: controlling

0: unspecified

-1: controlled

*T3 Types of situation (s)*

<b>type</b>	<b>constellation</b>	<b>example concepts (prototype bold)</b>
situation	s comprises a situation core and arguments	
existence	s is stative, O exists	<b>there is</b>
possession	s is stative, O has relation to Pr Pr typically controls s/O	<b>have</b> , belong
phase	T is dynamic, T is in phase	start, <b>end</b> , happen
position (posture)	s is stative, O has (bodily) position in P, O may control s	<b>stand</b> , lie, sit
motion	s is dynamic, O moves w.r.t. S/G O may control s	<b>go</b> , come, <b>leave</b> , <b>pass</b> , arrive, return, go out, enter
action / act	s is durative / punctual A controls s	<b>work</b> , run / jump
process / event	s is durative / punctual U undergoes s	<b>burn</b> , break, melt (itr.) / <b>fall</b> , die
action-process / act-event	s is durative, A affects U	<b>beat</b> , sew, make, eat / <b>do</b> , make
experience	s is dynamic, E perceives O	<b>see</b> , hear, feel, smell, taste
mental action	s is durative, A takes mental attitude to U [- empathic], U is unaffected	read, <b>count</b>
social action	s is dynamic A communicates with Ad	<b>talk</b>
cognition	s is stative, A takes mental attitude to T	think, <b>know</b> , want
volition	s is stative, A controls s	<b>will</b> , want, intend

**Legend:**

A	actor	U	undergoer
Ad	addressee	P	place
E	experiencer	Pr	possessor
Em	emitter	R	recipient
G	goal	T	theme
O	non-specific central role		

Diathetic operations:

- semantic role operation.
- discourse role operation.

E6	a.	Hwaane'	t-u	kach-ah	le	che'-o'	
Yuc		John-TOP	PRFV-SBJ.3	break-CMPL	DEF	wood-D2	
		'John broke the stick'					
	b.	le	che'-o'	h	káach	(*tuméen	Hwaan)
		DEF	wood-D2	PRFV	break\DEAG	by	John
		'the stick broke (by John)'					
	c.	le	che'-o'	h	ka'ch	(tuméen	Hwaan)
		DEF	wood-D2	PRFV	break\PASS	by	John
		'the stick was broken (by John)'					

T4 Installation and suppression of macro-roles

macrorole	actor	undergoer
<b>operation</b>		
<b>installation</b>	agentivization	extraversion
<b>suppression</b>	deagentivization	introversion

T5 Types of agentive situation (s')

type	base (T3)	constellation	example concepts (prototype bold)
agentive situation	s = T	s' is dynamic, s' is an act, A causes T	<b>cause</b>
causative action-process	process	A causes (U undergoes process)	<b>burn</b> , break, melt (tr.)
transport	motion	A causes (O moves w.r.t. S/G)	<b>bring</b> , carry, throw
collocation	position	A causes (O takes (bodily) position in P)	<b>put</b> , seat, lay

manipulation	position	A causes (O takes (bodily) position in P)	<b>fill</b> , load, smear, sprinkle, stuff, hit (sth against sth)
transfer	possession	A causes (O has relation to Pr)	<b>give</b> , take

- E7 a. Linda moans (about her fate).  
b. Linda bemoans her fate.

### T6 Types of extraversive situation

type	base	constellation	example concepts (prototype bold)
extraversive action-process	action	A acts U is affected by s	<b>sweep</b>
communication	social action	s is dynamic, A conveys T to Ad	<b>say</b> , ask

### S1. Causative and applicative operations

<b>base</b>	s	
	/	\
<b>derived</b>	CAUSE(A, s)	AFFECT(s, U)
	<b>causative</b>	<b>applicative</b>

- E8 a. make matin-do (nana ipa-yave)  
Warem boy wash-IND OBL river-DEF  
'(the) boy is washing (in a/the river)'  
b. make matin-na ipa-yave  
boy wash-APPL river-DEF  
'(the) boy is washing in the river' (Donohue 1999:9)
- E9 a. ti he-v  
Waris tree chop-PRS  
'chop down a tree'  
b. ti-m he-the-v  
tree-DAT chop-INTR-PRS  
'chop on a tree' (Foley 1986:109)

T7 *Hierarchy of adverbial syntactic functions*

subject	absolute
direct object	primary object ergative
indirect object   secondary object	
other complement	
adjunct	

**3 Voice and valency from a structural point of view**

E10 Dein Rücklicht tut's nicht.

GERMAN 'Your backlight is not working.'

E11 Diese Idee bringt's auch nicht.

GERMAN 'That idea is not going to work, either.'

E12 prendersela con qualcuno

ITAL 'dump on / wade into / pick at somebody'

E13 x is y's uncle: y is child of  $z_1$   
 and  $z_1$  is child of  $z_2$   
 and x is child of  $z_2$   
 and x is male

E14 a. Linda is inside the capsule.

b. Linda is inside.

E15 a. Erna packte den Dieb

Germ 'Erna seized the thief'

b. Erna packte zu

'Erna seized [anaphoric object] / sailed in'

E16 a. h kím le baach-o' (CL)

Yuc PRFV die(CMPL) DEF quail-D2

'the quail died'

b. in wíits'n-e' t-u kíin-s-ah baach (ACC\_0192)

POSS.1.SG younger.sibling-D3 PRFV-SBJ.3 die-CAUS-CMPL quail

'my younger brother killed a quail'

E17 a. h lúub le che'-o'

Yuc PRFV fall(CMPL) DEF tree-D2

'the tree fell'

- b. t-in                      lúub-s-ah                      le    che'-o'  
PRFV-SBJ.1.SG    fall-CAUS-CMPL DEF    tree-D2  
'I felled the tree'
- E18 a. h                      che'h-nah-en                      yóosal    in                      wíits'in (AVC\_0033)  
Yuc                      PRFV    laugh-CMPL-ABS.1.SG    about    POSS.1.SG    younger.sibling  
'I laughed about my younger brother/sister'
- b. t-in                      che'h-t-ah                      in                      wíits'in (AVC\_0031)  
PRFV-SBJ.1.SG    laugh-TRR-CMPL POSS.1.SG    younger sibling  
'I laughed at my younger sibling'
- E19 Hwaan-e'    t-u                      xok-ah    le    kweentoh    in                      wu'y-o' (EMB\_002)  
Yuc                      John-TOP    PRFV-SBJ.3    read-CMPL DEF    story                      SBJ.1.SG    hear-D2  
'John read the story out to me' (lit.: 'John read the story (so) I would hear it')
- E20 Pèedroh-e'    h    bin    u                      yil                      Raul    te'l    ich    le    kòol-o'  
Yuc                      Peter-TOP    PRT    go    SBJ.3    see(SUBJ)    Raul    there    in                      DEF    milpa-D2  
'Peter went to Raul on the milpa'
- E21 anagnōsomai    men    humîn ...    pánta    tà    hupomnēmata (Dem. *Mid.* 21, 130)  
A.Gr                      read:FUT.MID.1.SG    well    you.PL.DAT    all:N.ACC.PL    DEF:N.ACC.PL  
remembrance:N.ACC.PL  
'I will read out to you all my memoranda'
- E22 ándra                      Milēsion ...                      boulesthai                      hoi                      eltheîn  
A.Gr                      man(M):ACC.SG    Milesian:ACC.SG.M    want:MID.INF.PRS    he:DAT.SG    go.AOR:INF  
es    lógous                      proïskhómenon                      toiáde: (Hdt. 6, 86 A3)  
in    word(M):ACC.PL    offer:PART.MID.PRS:ACC.SG.M    this:ACC.PL.N  
'that a man of Miletus wanted to have a talk with him and made him this offer:'
- E23 ou oikòs                      eînai    tón                      ge    alēthéōs    tokéa  
A.Gr                      not natural:ACC.SG.Nbe:INF    DEF:M.ACC.SG    even    truly    parent:ACC.SG  
hupò    toû                      heōutoû                      paidòs                      apothnēskēin (Hdt. 1, 137, 2)  
under    DEF:M.GEN.SG    own:M.SG.GEN    child(M):GEN.SG    die:INF.PRS.ACT  
'that it is not natural that the german parent be killed by his own child'
- E24 epeì    dē                      prôta    puthésthēn                      hēniókhoio  
A.Gr                      when    obviously    first    learn:MID.AOR:3.PL    chariot:driver(M):GEN.SG  
'when they obviously first learnt about their driver'
- en    konīēisi                      pesóntos  
in    dust(F):DAT.PL    fall:PART.AOR.ACT:GEN:SG  
'having been laid low into the dust'
- hup'    Héktoros                      androphónoio (Hom. *Il.* 17, 427f)  
under    Hektor(M):GEN.SG    man:killing(M):GEN.SG  
'by murderous Hektor'
- E25 légousi ...                      kamónta                      autòn  
A.Gr                      say:PRS.ACT.3.PL    suffer:PART.AOR.ACC.SG.M    he:ACC.SG.M  
toùs                      ophthalmoùs                      tuphlōthēnai (Hdt. 2, 111, 2)  
DEF:ACC.PL.M    eye:ACC.PL.M    blind:AOR.PASS.INF  
'they say that, having suffered on the eyes, he became blind'

- E26 egõ           dè           toûton           aiskhúnomai (Pl. Sym. 216b)  
A.Gr I:NOM.SG   however D1:ACC.SG.M shame:MID.PRS.1.SG  
'I, however, am ashamed before this person'
- E27 a. The twig broke.  
b. Linda broke the twig.
- E28 a. Paul pense au problème.  
French 'Paul thinks about the problem.'  
b. Paul pense le problème.  
'Paul considers the problem.'
- E29 a. L'enfant touche au tableau.  
French 'The child touches on the blackboard.'  
b. L'enfant touche le tableau. (François 2006:4f)  
'The child touches the blackboard.'
- E30 a. Paul denkt an das Problem.  
Germ b. Paul bedenkt das Problem.
- E31 a. Das Kind rührt an die Tafel.  
Germ b. Das Kind berührt die Tafel.
- E32 a. Erna folgte dem Einbrecher.  
Germ 'Erna followed the burglar.'  
b. Erna verfolgte den Einbrecher.  
'Erna pursued the burglar.'
- E33 a. Erna folgte Erwins Rat.  
Germ 'Erna followed Irvin's advice.'  
b. Erna befolgte Erwins Rat.  
'Erna adhered to Irvin's advice.'

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## Verb Classes Within and Across Languages

Beth Levin  
Stanford University  
(beth.levin@stanford.edu)

**Verb classes** are sets of semantically-related verbs sharing a range of linguistic properties, such as:  
— possible realizations of their arguments  
— interpretation associated with each possible argument realization

### A big question posed by the Valency Project:

Which facets of verb classification are universal and which language particular?

#### Overview:

- Review my general perspective on verb classes.
- Introduce a development in my work on verb classes.
- Consider its implications for future crosslinguistic studies of verb classes.

### 1 Introduction: The appeal of semantic verb classes—or valency classes

Fillmore's "The Grammar of *Hitting* and *Breaking*" (1970) shows the importance of verb classes as:  
— devices for capturing patterns of shared verb behavior  
— a means of investigating the organization of the verb lexicon  
— a means of identifying grammatically relevant elements of meaning

Fillmore's study focuses on *break* and *hit* as representatives of two larger classes of verbs (1970: 125, (15)–(16)), whose members share elements of meaning and patterns of behavior:

- (1) a. *Break* VERBS: bend, **break**, crack, fold, shatter, split, snap, ...
- b. *Hit* VERBS: bash, bump, **hit**, kick, pound, slap, strike, stroke, tap, whack, ...

The *break* verbs and *hit* verbs show considerable divergences in their argument realization options.

- (2) Availability of transitive use and instrumental *with* phrase:

- a. The boy broke the window (with a ball).
- b. The boy hit the window (with a ball).

- (3) Availability of the causative alternation (V-transitive = 'cause to V-intransitive'):

- a. The boy broke the window./The window broke.
- b. The boy hit the window./\*The window hit.

- (4) Availability of the *with/against* alternation (Fillmore 1977: 74–78):

- a. Perry broke the fence with the stick. ≠ Perry broke the stick against the fence.
- b. Perry hit the fence with the stick. = Perry hit the stick against the fence.

- (5) Availability of body-part possessor ascension, i.e. "external possession" (Fillmore 1970: 126, (23)–(26)):

- a. I broke his leg./#I broke him on the leg.
- b. I hit his leg./I hit him on the leg.

- (6) Availability of the conative alternation:

- a. Janet broke the vase./# Janet broke at the vase.
- b. Carla hit the door./Carla hit at the door.

Concomitantly, the members of each set of verbs share the same broad semantic characterization:

- (7) a. *Break* VERBS: Change of state verbs: involve a change of state in an entity.
- b. *Hit* VERBS: Surface contact verbs: involve (often forceful) contact with an entity, without entailing a change in its state.

- (8) Evidence bearing on whether a change of state is lexicalized:

- a. #The rocks broke the windshield, but luckily it wasn't damaged.
- b. The rocks hit the windshield, but luckily it wasn't damaged.

### 2 Moving beyond Fillmore's "The Grammar of *Hitting* and *Breaking*"

• That classes of verbs with similar meanings—Fillmorean classes—show characteristic argument realization patterns suggests the patterns follow from meaning facets common to their members.

• Many (subsequent) studies—both large- and small-scale—have confirmed and extended Fillmore's findings (e.g., Apresjan 1967, Dixon 1991, Faber & Mairal Usón 1999, Green 1974, Gruber 1967, Jackendoff 1990, L&RRH 1991, Willemis 1981, Zwicky 1971).

AN EXAMPLE: My book *English Verb Classes and Alternations* (Levin 1993) classifies English verbs that do not (exclusively) take sentential complements in two ways:

— according to their SEMANTIC CONTENT: manner of motion verbs, directed motion verbs, sound verbs, change of state verbs, perception verbs, verbs of gestures and sign, weather verbs, ...

⇒ yields a fairly fine-grained semantic classification: 48 broad classes or 192 smaller classes.

Among the largest broad classes: change of state verbs, manner of motion verbs, sound verbs, and experiencer object psych-verbs.

— according to their PARTICIPATION IN ARGUMENT ALTERNATIONS: causative alternation, conative alternation, dative alternation, locative alternation, *with/against* alternation, ...

⇒ yields a coarser-grained semantic classification, which appears to have more grammatical relevance than the other (e.g., Fillmore's *hitting* and *breaking* study): 79 alternations.

• The two dimensions of lexical classification lead to distinct and different-sized verb classes: The class of verbs showing a certain alternation often includes several semantic verb classes.

- (9) The English dative alternation: Pat gave Sam a pear/Pat gave a pear to Sam.
- give* VERBS: give, pass, hand, sell, pay, trade, loan
  - VERBS OF FUTURE HAVING: advance, allocate, allot, allow, assign, award, bequeath, forward, grant, guarantee, leave, offer, promise
  - send* VERBS: mail, send, ship
  - throw* VERBS: fling, flip, kick, lob, shoot, slap, throw, toss
  - VERBS OF CONTINUOUS CAUSATION OF ACCOMPANIED MOTION IN A DEICTICALLY SPECIFIED DIRECTION: bring, take
- (based on Gropen et al. 1989: 243–244; “benefactive” and manner of speaking/communication verbs omitted for simplicity.)

### 3 Hitting and breaking beyond English

FURTHER SUPPORT FOR VERB CLASSES: Comparable semantic classes, again with distinct behavioral patterns, often paralleling those of their English counterparts, can be identified in other languages, such as Berber, Warlpiri, and Winnebago (Guerssel et al. 1985), Kimaragang Dusun (Kroeger 2010), and Lhasa Tibetan (DeLancey 1995, 2000).

ESTABLISHING THE CLASSES: The relevant morphosyntactic phenomena may vary somewhat across languages, depending on their morphosyntactic resources (e.g., Gerdts 1993).

EXAMPLES: The comative alternation is not manifested in many languages (Bohnemeyer 2007), nor is the resultative construction (Green 1973, Snyder 2001, Son & Svenonius 2008), while body-part possessor ascension (or “external possession”) takes different forms across languages (e.g., König & Haspelmath 1998). See also Osam (2008) on Akan alternations, and Hirschbühler (2003), Hunter (2008), and Kim (1999) on the locative alternation.

- kick something shut/open
- fermer/ouvrir du pied  
‘shut/open with the foot’ (Green 1973:269-270)

#### 3.1 A digression: A caution concerning purported translation equivalents

The Italian verb *arrossire* and the Dutch verb *blozen* are both taken to mean ‘blush’.

Assuming auxiliary selection is largely semantically determined in some languages, then it seems unexpected that these two verbs select different auxiliaries.

- (11) Italian *arrossire* ‘blush’ takes the auxiliary *essere* ‘be’  
Dutch *blozen* ‘blush’ takes the auxiliary *hebben* ‘have’
- (12) Auxiliary selection criteria:  
Activity verbs take the auxiliary HAVE  
State and change of state verbs take the auxiliary BE

However, despite being translation equivalents, the two verbs are fundamentally different:

- (13) *blozen*: activity
  - J heeft een uur lang gebloosd  
‘J has one hour long blushed’
  - \* J heeft in een uur gebloosd  
‘J has in one hour blushed’ (McClure 1990: 314, Table 4)
- (14) *arrossire* (= *a-* + *rosso* + *-ire* ‘become red’): change of state
  - \* G è arrossito per 10 minuti  
‘G blushed for 10 minutes’
  - G è arrossito in un secondo  
‘G blushed in one second’ (McClure 1990: 314, Table 4)

THE LESSON: Translation equivalents may differ precisely in a grammatically relevant component of meaning because they may represent different construals of the same happening.

### 3.2 Hitting and breaking in Kimaragang Dusun (Kroeger 2010)

Kimaragang Dusun (northern Borneo) makes a clear distinction between *hit* and *break* verbs.

As in other Philippine-type languages, the semantic role of the ‘nominative’ NP is indicated by a voice affix on the verb root.

• Roots of *break* verbs have both transitive and intransitive forms, paralleling the English causative alternation, though with distinct voice affixes, while roots of *hit* verbs have only a transitive form.

*Break* verbs (excerpted from Kroeger 2010: 4, Table 1)

Root	Gloss	Intransitive	Transitive
babak	‘shatter’	mabak	mamabak
kinis	‘tear (e.g., cloth)’	kuminis	monginis
lapak	‘split’	lumapak	mangalapak
lupi	‘fold (e.g., cloth)’	lumupi	mongolupi
patut	‘break (rope etc.)’	mutut	monutut
tipu	‘break (stick etc.)’	tumipu	monipu
uyas	‘pull apart’	muyas	monguyas

*Hit* verbs (excerpted from Kroeger 2010: 4, Table 1)

Root	Gloss	Intransitive	Transitive
bobog	‘beat (w. stick)’	*mobog	monobog
duntuk	‘bump, knock’	*dumuntuk	mongoduntuk
duntung	‘punch (w. fist)’	*dumuntung	mangoduntung
lapis	‘slap’	*lumapis	mangalapis
pasut	‘came’	*masut	mamasut
sudsur	‘poke’	*sumudsur	monudsur

• Normally, instruments can be expressed with the transitive prefix *poN-* plus the bare instrument voice (IV) form of the verb (i.e. zero affix); however, some *hit*-verbs also can express an instrument in the bare instrument voice form, with a change in the realization of the surface argument.

— The *poN-* + instrument voice form is available to verbs generally, including *break* and *hit* verbs.

- (15) Dunsul ot pinangababak dilot pampang.  
hammer NOM IV-TR-chop <in>0-poN-babak that rock  
'It was a hammer that that rock was broken up/shattered with.' (Kroeger 2010: 10, (17b))
- (16) Gibang nopo ot pongoduntung ku dialo, aba no.  
left only REL IV-TR-punch ISG.GEN 3SG faint PRICL  
'Even if it is only my left (hand) that I hit him with, he will pass out.' (Kroeger 2010: 10, (20b))

— The bare instrument voice form is available to *hit* verbs, but not *break* verbs; the surface is now marked with dative case.

- (17) \*i-babak \*i-putut \*i-lupi \*i-nyas etc. (Kroeger 2010: 10, (17a))  
IV-shatter IV-break IV-fold IV-pull.apart

- (18) N-i-duntung dialo sid tobon a tonggom yo  
PST-IV-punch 3SG DAT wall NOM fist 3SG.GEN  
'He punched his fist against the wall.' (Kroeger 2010: 10, (20a))

Sentences with the bare instrument voice form have an interpretation comparable to the *against* variant of the English *with/against* alternation.

'certain roots in the *hit* class have secondary senses which describe a particular manner of moving a theme in order to bring it into contact with a surface.' (Kroeger 2010: 11)

- The non-volitive form of *break* verb roots describes (and entails) a result, whereas the non-volitive form of *hit* verb roots only describes an action.

- (19) Mononutut oku do wakaw nga', amu n-a-putut  
PST-AV-TR.break ISG.NOM ACC rattan but not PST-INVOL-break  
'I (tried to) break some rattan, but it didn't break.' (Kroeger 2010: 6, (7c))
- (20) \*Minamasut oku do karabaw nga', amu n-a-pasut-0.  
PST-AV-TR.whip ISG.NOM ACC buffalo but not PST-INVOL-whip-OV  
'I (tried to) whip a buffalo, but it didn't whip/get whipped.' (intended; Kroeger 2010: 6, (8c))

- *break* verbs impose 'selectional restrictions' on their patient, *hit* verbs on their instrument.

#### 4 Behind hitting and breaking: The manner/result verb distinction

A dichotomy relevant to verb meaning and verb behavior: The manner vs. result verb dichotomy among nonstative verbs.

##### 4.1 Hitting and breaking revisited

- *hit* and *break* jointly make for a compelling case study because certain events could be described by either one, yet the choice of one verb or the other has significance.

EXAMPLE: A vandal throws a rock at a store window and the window breaks.

This event could be described with either verb, though each describes a different facet of the event:

- (21) a. The vandal broke the window with a rock.  
b. The vandal hit the window with a rock.

(a) asserts that the window is no longer intact, but is silent about how it happened: the window could have been hit, kicked, punched, or pounded and a variety of instruments could have been used: rocks, hammers, fists, sticks, balls, etc.

→ This is because *break* is a change of state verb.

(b) asserts that something forcefully came into contact with the window, but is silent as to whether this contact had any effect on the window. The verb does not entail that the window broke, though it may have, as it describes an action that often results in this change of state.

- (22) The rock that the vandal threw hit the window, but luckily it wasn't damaged.

→ This is because *hit* is a surface contact verb.

- Generalizing, verbs describing events in which physical objects are damaged fall into two classes: — verbs like *hit* that describe making surface contact with an object via forceful impact; these MANNER(/means) verbs describe ways of potentially damaging objects;

e.g., *hit, kick, punch, slap, whack*.

- verbs like *break* that describe changes in an object's "material integrity" (Hale & Keyser 1987); these RESULT verbs describe specific types of damage that often result from forceful impact; e.g., *break, crack, shatter, splinter, split*.

#### 4.2 Beyond hitting and breaking: The pervasiveness of the dichotomy

The bifurcation in the "verbs of damaging" class is representative of a more pervasive split in the English nonstative verb inventory (L&RH 1991, RH&L 1998, 2010).

Other apparently "semantically coherent" verb classes of English can be similarly subdivided, giving rise to lexical domains with two subclasses of verbs:

- Manner verbs: specify manner of carrying out an action
- Result verbs: specify result of an action

	Manner verbs	vs.	Result verbs
— Verbs of damaging:	<i>hit</i>	vs.	<i>break</i>
— Verbs of putting — 2-dim:	<i>smear</i>	vs.	<i>cover</i>
— Verbs of putting — 3-dim:	<i>pour</i>	vs.	<i>fill</i>
— Verbs of removal:	<i>shovel</i>	vs.	<i>empty</i>
— Verbs of combining:	<i>shake</i>	vs.	<i>combine</i>
— Verbs of killing:	<i>stab</i>	vs.	<i>kill</i>

- The verb class defined by the Manner column is grammatically relevant despite the perceived semantic diversity of its members; the same holds of the class defined by the Result column.

- However, the "semantic classes" in the leftmost column are not grammatically relevant; they may be perceived as semantic classes since certain manner verbs and certain result verbs can sometimes describe the same events, just as *break* and *hit* do.

The source of this intuition most likely lies in the observation that:

— Many result verbs lexicalize results that are conventionally associated with particular manners. e.g., *clean* and *clear* lexicalize states that may result from removing stuff from a surface in a prototypical manner.

— Many manner verbs lexicalize manners that are conventionally associated with particular results. e.g., *wipe* and *scrub* lexicalize actions involving surface contact and motion, which are often used to remove stuff from a surface.

HOWEVER, such result verbs don't entail the manners, nor do such manner verbs entail the results.

- (23) a. I just wiped the table, but it's still dirty/sticky/covered in crumbs.  
 b. I cleaned the dress by soaking it in vinegar/pouring bleach on it/saying "abracadabra".

• A proposal concerning the origins of the dichotomy: it arises from a lexicalization constraint.

(24) MANNER/RESULT COMPLEMENTARITY: Manner and result meaning components are in complementary distribution: a verb lexicalizes only one (L&RH 1991, RH&L 2010).

(25) LEXICALIZED MEANING: Those components of a verb's meaning that are specified and entailed in all uses of the verb, regardless of context.

• RH&L (2010) propose this distinction is rooted in the notion 'scalar change' (Hay, Kennedy & Levin 1999, McClure 1994, Rappaport Hovav 2008).

• A comparable dichotomy is found in the motion domain, as reflected in Talmy's classification of motion verbs in terms of "conflation" of meaning components (1975, 1985, 2000):

— Motion and path verbs: e.g., *arrive*, *ascend*, *descend*, *enter*  
 e.g., *ascend* specifies a direction of motion, but not the manner in which the motion is effected.  
 — Motion and manner verbs: e.g., *amble*, *fly*, *jog*, *plod*, *run*, *saunter*, *swim*, *walk*  
 e.g., *jog* specifies a manner of motion, but is neutral as to the specific direction of motion.

→ Path (i.e. Directed motion) verbs, then, can be subsumed under result verbs.

• The notions "manner" and "result" apply to verbs that do not easily fit into larger lexical "domains" spanning the manner and result verb classes.

- (26) a. MANNER VERBS: cry, eat, exercise, mutter, scribble, shout, squeak, waltz, ...  
 b. RESULT VERBS: arrive, dry, come, destroy, gladden, melt, widen, ...

• The dichotomy figures in language acquisition (Behrend 1990, Gentner 1978).

#### 4.3 A second case study: The verbs *clear* and *wipe* (L&RH 1991)

Goals:

— Reinforce the bottom lines of Fillmore's case study with another one.  
 — Determine whether some verb properties reflect membership in the manner or result verb class.  
 • *Clear* and *wipe* represent two classes of verbs, whose members share patterns of behavior.

- (27) a. Doug cleared the table.  
 b. Kay wiped the counter.  
 (28) a. *Clear* Verbs: **clear**, clean, ?drain, empty  
 b. *Wipe* Verbs: buff, brush, erase, file, mop, pluck, prune, rake, rinse, rub, scour, scrape, scrub, shear, shovel, sweep, trim, vacuum, **wipe**, ...

• The *clear* and *wipe* verbs show considerable divergences in their argument realization options.

(29) Availability of the causative alternation (V-transitive = 'cause to V-intransitive'):

- a. Martha emptied the tub./<sup>is</sup>The tub emptied.  
 b. Sam mopped the floor./<sup>is</sup>The floor mopped.

(30) Availability of the conative alternation:

- a. Martha emptied the tub./<sup>is</sup>Martha emptied at the tub.  
 b. Kay rubbed/scrapped the counter./Kay rubbed/scrapped at the counter.

(31) Availability of unspecified objects:

- a. Martha emptied the tub./<sup>is</sup>Martha emptied.  
 b. Kay swept/wiped the floor./Kay swept/wiped.

(32) Availability of non-subcategorized objects:

- a. \*Martha emptied the floor wet.  
 b. Kay scrubbed her hands raw.

• Even the "names" of the verbs of each type are different in origin.

(33) The *clear* verbs are largely deadjectival:

- a. clean the blackboard; a clean blackboard  
 b. clear the road; a clear road  
 c. empty the drawer; an empty drawer

(34) No *wipe* verb is deadjectival; however, some are denominal:

- a. buff, erase, pluck, prune, rinse, rub, scour, scrape, scrub, shave, sweep, wipe, ...  
 b. brush, file, mop, rake, shear, shovel, sponge, vacuum, ...

(35) Sylvia mopped the spots from the floor.

• Though the *wipe* verbs can be used to describe actions of removal, few *wipe* verbs lexicalize a notion of removal: for instance, many can be used in the description of putting events.

(36) a. Kay wiped/rubbed the fingerprints from the counter.

- b. Kim scrubbed the soap scum out of the sink.  
 c. Pat raked the leaves off the lawn.

- (37) a. Kay wiped/rubbed the polish over the table.  
 b. Lynn raked the fertilizer into the lawn.  
 c. Sylvia shovelled the gravel onto the path.

• What is basic to the *wipe* verbs is the description of an event of contact with a surface, but the verb itself need not entail a particular change to that surface.

(38) Evidence bearing on whether a change of state is lexicalized:

- a. Kay wiped the counter, but it was still dirty when she finished.  
 b. # Kay cleaned the counter, but it was still dirty when she finished.

• The members of each set of verbs share the same broad semantic characterization:

- (39) a. *Clear* Verbs: Verbs of change of state: involve a change of state in an entity.  
 b. *Wipe* Verbs: Verbs of surface contact: involve contact with an entity, without entailing a change in its state.

Thus, *wipe* verbs are manner verbs, and *clear* verbs are result verbs.

## 5 The grammatical relevance of the manner/result verb dichotomy

Not only do manner and result verbs differ systematically in meaning, but they differ in their argument realization options (RH&L 1998, 2005). (See Levin 1999, 2006, RH&L 1998 for a theory of event structure that accounts for these differences in behavior.)

### 5.1 The basic differences in argument realization

• Result verbs show the causative alternation, but manner verbs do not.

- (40) a. Kim broke the window./The window broke.  
 b. Kim wiped the window./#The window wiped.

• More generally, manner verbs show considerably more and different argument realization options than result verbs. (RH&L 1998).

- (41) a. Terry wiped. (activity)  
 b. Terry wiped the table. (activity)  
 c. Terry wiped the crumbs off the table. (removing)  
 d. Terry wiped the crumbs into the sink. (putting)  
 e. Terry wiped the slate clean. (change of state)  
 f. Terry wiped the crumbs into a pile. (creation)  
 (likewise many surface contact verbs)

- (42) a. The dishes broke.  
 b. Kelly broke the dishes.  
 c. \* Kelly broke again tonight when she did the dishes.  
 d. \* The clumsy child broke his knuckles raw.  
 e. \* Kelly broke the dishes off the table.  
 (meaning: Kelly removed the dishes from the table by breaking the table;  
 cf. *Kelly wiped the crumbs off the table.*)  
 f. \* Kelly broke the dishes off the table.  
 (meaning: Kelly broke the dishes and as a result they went off the table;  
 cf. *Kelly shoved the dishes off the table.*)  
 (likewise many change of state verbs)

• The most significant differences between manner and result verbs involve objects, including object types and object alternations.

• Manner verbs, but not result verbs are found with unspecified objects without recourse to generic or repetitive contexts (RH&L 1998, Wright & Levin 2000, notwithstanding questions raised by Goldberg 2001).

- (43) a. Leslie swept/scrubbed (the floor) this morning.  
 b. \* Kelly broke again tonight when she did the dishes.

• Manner verbs, but not result verbs are found with nonsubcategorized objects.

- (44) a. The child rubbed the tiredness out of his eyes.  
 Cinderella scrubbed her hands raw.  
 b. \* The clumsy child broke the beauty out of the vase.  
 \* The clumsy child broke his knuckles raw.

### 5.2 Further differences: Object alternations

Many well-known object alternations are found with manner—and not result—verbs (Levin 2006).

OBJECT ALTERNATIONS: Argument alternations involve an apparently triadic verb, which maintains the same association of an argument with subject, but can express either of its other two arguments as its object, with the third usually expressed as an oblique.

(45) Locative alternation — putting subtype:

- a. Jill sprayed paint on the wall.  
 b. Jill sprayed the wall with paint.

(46) Locative alternation — removing subtype:

- a. Jack wiped crumbs off the counter.  
 b. Jack wiped the counter.

- (53) Material/product alternation:
- Martha carved a toy out of the piece of wood.
  - Martha carved the piece of wood into a toy.
- (48) Image impression alternation:
- Taylor embroidered peonies on the jacket.
  - Taylor embroidered the jacket with peonies.
- (49) *With/against* alternation:
- Sam hit the fence with a stick.
  - Sam hit a stick against the fence.
- CAVEAT: Assume following RH&L (2008) that the dative alternation is not an object alternation in that the first object in the double object construction is not a true "object" (Baker 1997, Hudson 1992, Levin 2006, Maling 2001, Marantz 1993).
- Verbs from some semantic classes do not show object alternations:  
Change of state verbs (e.g., *break, crack, dim, widen*) don't, nor do verbs of putting (e.g., *insert, put*), filling (e.g., *cover, fill*), or taking (e.g., *take, obtain*).
- (50) a. Lee broke the fence with the stick.  
Lee broke the stick against the fence. (CAN'T MEAN: 'Lee broke the fence')  
b. Corey shortened the dress.  
\* Corey shortened an inch off the dress  
c. Shannon put/\*filled the groceries into the bag.  
Shannon filled/\*put the bag with the groceries.  
d. Alex obtained the rare metal from Transylvania.  
\* Alex obtained Transylvania of the rare metal.
- These verbs don't allow unspecified and nonsubcategorized objects.
- (51) \* Kelly broke/dimmed/filled/covered/obtained/inserted.
- (52) a. \* My kids broke me into the poorhouse.  
\* The puppy broke his way out of the china shop.  
b. \* The stagehand dimmed the scene dark.  
\* The stagehand dimmed his way off the set.  
c. \* The waiter filled the table wet.  
\* The waiter filled his way to a maître d' position.  
d. \* Sam inserted the door open.  
\* Sam inserted his way to the jackpot.
- Verbs attested in these object alternations are manner verbs (e.g., they don't entail a result).
- (53) a. Locative alternation — adding subtype: dab, smear, splash, spray, sprinkle, ...  
b. Locative alternation — removing subtype: rake, rub, scrub, shovel, sweep, wipe, ...  
c. Image impression alternation: emboss, embroider, engrave, paint, ...  
d. Material/product alternation: carve, knit, sculpt, sew, weave, whittle, ...  
e. *With/against* alternation: beat, hit, pound, tap, whack, ...
- Object alternation verbs show key properties of manner verbs: they allow unspecified and nonsubcategorized objects.
- (54) Shelly swept/scratched/hit/carved/sewed/knit.
- (55) Locative alternation — removing subtype:
- Cinderella swept and scrubbed her way to a new ball gown.
  - Cinderella swept and scrubbed herself into catatonia.
- (56) Locative alternation — putting subtype:
- With hot, molten drippings falling from the ceiling onto his arms and back, Tarantino **sprayed** his way through the debris with a fire extinguisher. ("Doctor Saves Navy Drug Operations Manager", MSNBC Newsbreak, October 26, 2001)
  - With great difficulty, he and the other two men **splashed** and forced their way through the rusted, barnacle-encrusted supports of the pier. (A. Lurie, *The Last Resort*, Henry Holt, New York, 1998, p. 211)
- (57) Image impression alternation:
- Whether you've never put a needle to cloth, or you're a tailor 'extraordinaire' you can **embroider** your way into a really classy piece of art ... (http://www.sfx.ac.uk/groups.html)
  - To quickly drill through glass, use the tip of the cutting bit to **engrave** your way through the glass. (http://www.truebite.com/drill\_degroul/)
- (58) Material/Product Alternation:
- Drew **sewed** her way to a job in the fashion industry.  
... she could, and did, **knit** her way serenely through all the complications which murder produces ... (P. Wentworth, *Pilgrim's Rest*, 1946; HarperPerennial, New York, 1993, p. 12)
- (59) *With/against* alternation:
- And **kicked** himself into contention for the league's Most Valuable Player honor. (J. Duarte, "Goal-Oriented: Rested Dougherty Has Hoishots Ready for the Title Run", Sports Section, *The Houston Chronicle*, August 8, 1997, p. 6)
  - I **whacked** my way through juicy green kiwi, fat, ultra-red strawberries, and pineapple so sweet you wondered why they'd let it leave Hawaii. (D.M. Davidson, *Dying for Chocolate*, Bantam, New York, 1992, p. 7)

- (47) Material/product alternation:
- Martha carved a toy out of the piece of wood.
  - Martha carved the piece of wood into a toy.
- (48) Image impression alternation:
- Taylor embroidered peonies on the jacket.
  - Taylor embroidered the jacket with peonies.
- (49) *With/against* alternation:
- Sam hit the fence with a stick.
  - Sam hit a stick against the fence.
- CAVEAT: Assume following RH&L (2008) that the dative alternation is not an object alternation in that the first object in the double object construction is not a true "object" (Baker 1997, Hudson 1992, Levin 2006, Maling 2001, Marantz 1993).
- Verbs from some semantic classes do not show object alternations:  
Change of state verbs (e.g., *break, crack, dim, widen*) don't, nor do verbs of putting (e.g., *insert, put*), filling (e.g., *cover, fill*), or taking (e.g., *take, obtain*).
- (50) a. Lee broke the fence with the stick.  
Lee broke the stick against the fence. (CAN'T MEAN: 'Lee broke the fence')  
b. Corey shortened the dress.  
\* Corey shortened an inch off the dress  
c. Shannon put/\*filled the groceries into the bag.  
Shannon filled/\*put the bag with the groceries.  
d. Alex obtained the rare metal from Transylvania.  
\* Alex obtained Transylvania of the rare metal.
- These verbs don't allow unspecified and nonsubcategorized objects.
- (51) \* Kelly broke/dimmed/filled/covered/obtained/inserted.
- (52) a. \* My kids broke me into the poorhouse.  
\* The puppy broke his way out of the china shop.  
b. \* The stagehand dimmed the scene dark.  
\* The stagehand dimmed his way off the set.  
c. \* The waiter filled the table wet.  
\* The waiter filled his way to a maître d' position.  
d. \* Sam inserted the door open.  
\* Sam inserted his way to the jackpot.
- Verbs attested in these object alternations are manner verbs (e.g., they don't entail a result).

### 5.3 Grain-size and verb classification

- The manner/result distinction does not obviate the need for Fillmorean verb classes (Levin 2010).

WHY THE MANNER/RESULT DISTINCTION MATTERS: It influences argument realization options: manner verbs show considerably more and different options than result verbs, particularly with respect to object types and object alternations (RH&L 1998).

WHY FILLMOREAN CLASSES MATTER: They determine quite specific argument realization options, such as types of objects allowed, participation in specific object alternations.

- Whether a verb shows an object alternation depends on its being a manner verb.
- Which object alternations a verb shows depends on the specific manner it lexicalizes: contrast *vacuum* which shows the removing form of the locative alternation to *hit* which shows the *with/against* alternation.

- SUMMARY: Manner/result classification determines the properties a verb may have available; finer-grained classification arising from further lexicalized elements of meaning determine how and whether these properties are actually instantiated.
- See Boas (2006, 2008) and Levin (2010) on whether even finer-grained verb classes are necessary.

## 6 Implications of the manner/result dichotomy for the Valency Project

### A question for the Valency Project:

Does the manner/result verb dichotomy play a role in understanding the argument alternations and other verb-related phenomena of languages beyond English?

### More specific questions for investigation:

- Do manner verbs show more argument realization options than result verbs in other languages?
- Do manner verbs show more variety than result verbs in their argument realization options across languages?

CASE STUDY: Argument realization options of surface contact verbs within and across languages.

### 6.1 The data

- HEBREW: The surface contacted is expressed in a PP headed by the locative preposition *be*.

(60) *ba'at* 'kicked', *dafiq* 'knocked/beaten', *halam* 'beaten/hit', *hika* 'beaten/hit', *naga* 'touched', *xavat* 'hit', ... (Botwinik-Rotem 2003: 10, Halevy 2008: 63)

- LHASA TIBETAN: The counterpart of English *hit* is not transitive: the argument denoting the surface contacted takes a locative marker. Concepts expressed by other surface contact verbs involve verb-noun combinations (DeLancey 1995, 2000).

(61) *thub=bstan-gyis* *blo=bzang-la* *gzhus-song-*  
*Thubten-ERG* *Lobsang-LOC* *hit-PERF*  
 'Thubten hit Lobsang' (DeLancey 2000:6, (18))

- (62) *shing-la* *stia=re* *gzhus-pa-*  
*tree-LOC* *axe* *hit*  
 'hit the tree with an axe' (DeLancey 2000:13, (61))
- (63) *thub=bstan-gyis* *blo=bzang-la* *mur=rdzog* *gzhus-song-*  
*Thubten-ERG* *Lobsang-LOC* *hit* *hit-PERF*  
 'Thubten punched Lobsang' (DeLancey 2000:13, (64))
- (64) *nga-s* *blo=bzang=la* *rdog=rdyag* *gzhus-pa yin*  
*I-ERG* *Lobsang-LOC* *kick<sub>N</sub>* *hit/throw-PERF/CONJUNCT*  
 'I kicked Lobsang' (DeLancey 1995: (20))

Locative case is not found on the patient argument of change of state verbs.

- ENGLISH: The counterparts of certain English surface contact verbs are also expressed via verb-noun combinations (Nichols 1982: 447, 1984: 188). With them, the surface is again expressed with an oblique case and the instrument with the nominative case—a case-marking pattern common across Caucasian languages (Nichols 1984: 188).

(65) *urs tuoxan* 'knife hit' means 'stab', not 'hit with a knife', *tuop tuoxan* 'rifle hit' means 'shoot', not 'beat with a rifle' (Nichols 1984: 189).

(66) *as* *phagalna* *tuop* *qtössira*.  
*I-ERG* *rabbit-DAT* *rifle-NOM* *threw*  
 'I shot at the rabbit with a rifle.' (Jakovlev, 1940: 43; cited in Nichols 1984: 189, (12c))

- PORTUGUESE: While there are some surface contact verbs (e.g., *bater* 'hit'), the happenings described by many English surface contact verbs are only expressible via light verb-noun combinations, with the surface expressed in a PP (Baptista 2004).

These verb-noun combinations often involve what Baptista calls a "predicative violent action noun" formed by adding the suffix *-ada* to a concrete noun denoting an instrument that can be used to hit or hurt, *face* 'knife' + *-ada* in the examples. (An exception is *dar pontapé* 'give kick<sub>N</sub>').

- (67) a. *O João deu uma facada ao Pedro.*  
 'John gave a knife-*ada*, i.e. a stabbing to Peter.' (Baptista 2004: 33, (2a))  
 b. *O João deu uma facada na perna do Pedro*  
 'John gave a knife-*ada*, i.e. a stabbing in the leg of Peter.' (Baptista 2004: 33, (2a))  
 c. *O João deu uma facada ao Pedro na perna.*  
 'John gave a knife-*ada* to Peter in the leg.' (Baptista 2004: 33, (2b))

(68) BASES FOR *-ada* NOUNS: *agulha* 'needle', *bastão* 'club', *staff*, *bengala* 'cane', *chibata* 'switch, rod', *face* 'knife', *porra* 'club', ... (from Baptista 2004: 39–40)

(69) *chicotear* 'whip', (cf. *chicote* 'whip'), *martelar* 'hammer', (cf. *martelo* 'hammer',) (from Baptista 2004: 39–40)

The process of forming the nouns in *-ada* is productive, with nonce instances being encountered (e.g., *sapatada* 'shoe-*ada*', *cadeirada* 'chair-*ada*').

- VIETNAMESE: Surface contact verbs may express the surface as an object or take a cognate object with the surface expressed in a PP.

(70) *da* 'kick', *dam* 'punch', *thui* 'punch', *cao* 'scratch', *cau* 'pinch/nip', *nen* 'beat', *quat* 'beat',  
*can* 'bit', *danh* 'hit', *tat* 'slap', *vuot* 'stroke/fondle', *liem* 'lick', *hon* 'kiss', *cu* 'tickle', *phang*  
 'strike with a stick', *quat* 'strike', ... (Pham 1999: 233)

(71) *Ti da toi.*  
 'Ti kicked me.' (Pham 1999: 232, (10a))

(72) *Ti da mot da.*  
 'Ti kicked a kick' (Pham 1999: 233, (10b))

(73) *Ti da [mot da] [vao toi.]*  
 'Ti kicked a kick on me'  
 'Ti kicked me a kick.' (Pham 1999: 233, (10c))

## 6.2 Is there unity in the attested diversity?

• While *break* is included among the canonical causative alternation verbs of language after language (e.g., Haspelmath 1993, Nedjalkov 1969, Nichols et al. 2004), even this cursory survey reveals a fair amount of variability in the argument realization options for surface contact verbs.

• An observation: across the languages surveyed there seems to be some resistance to expressing the surface as a canonical object.

• This observation is reflected in the placement of surface contact verbs in Tsunoda's transitivity hierarchy (1981, 1985: 388–389).

(74) Tsunoda's Hierarchy (simplified):  
 change of state verbs > surface contact verbs > perception/cognition/emotion verbs

This implicational hierarchy organizes semantic classes of two-argument verbs according to how likely their members are to be transitive in a language.

TSUNODA'S PROPOSAL: The hierarchy is organized in terms of a decrease in "affectedness" of the second argument, based on an assessment of the semantic components of transitivity suggested by Hopper & Thompson (1980). (See Malchukov (2005) for a refinement of Tsunoda's hierarchy, which recognizes two dimensions of variation, affectedness and agentivity.)

• The *against* variant of the English *with/against* alternation characteristic of *hit* verbs apparently reflects what is a primary argument realization option for such verbs in some languages: Caucasian, also (18) in Kinaragang Dusun, (62) in Tibetan.

(75) *With/against* alternation: Sam hit the fence with a stick./Sam hit a stick against the fence.

This argument realization option appears to give moving arguments—themes in the Gruber/Jackendoff sense—priority as objects.

• Another observation: the manner is sometimes expressed outside of the verb, either as a complement to a light verb or as a cognate object.

—The light verb option is apparently accompanied by a reduced inventory of surface contact verbs.

— Studies of lexicalization patterns of motion events note that verb-framed languages tend to have reduced inventories of manner of motion verbs—and most likely manner verbs in general—when compared to satellite-framed languages (Baird 2008, Shi 2008, Slobin 2000, 2006, Wiens 1995).

Specifically, verbs specifying major gaits (e.g., the equivalents of English *walk*, *run*) tend to be lexicalized across languages, while their hyponyms are not (e.g., *jog*, *lope* or *amble*, *creep*, *prance*, *strut*), particularly in verb-framed languages (Malt et al. 2008; see also Slobin 2000, Wiens 1995).

— The notions expressed by some of the "missing" manner of motion verbs are expressed outside the verb via ideophones or other adverbial modifiers: e.g., Japanese (Wiens 1995: 320, Table 8).

Ideophone	Verb	Gloss
<i>yochiyochi</i>	<i>aruku</i> 'walk'	'toddle, totter'
<i>sutasuta</i>	<i>aruku</i>	'walk briskly'
<i>burabura</i>	<i>aruku</i>	'stroll'
<i>tohotoho</i>	<i>aruku</i>	'trudge along, tread on'
<i>shamarishamari</i>	<i>aruku</i>	'walk daintily'

— Wiens (1995: 320, Table 7) also points out that where English has a number of verbs of crying, Japanese has one verb, making finer distinctions via ideophones.

Ideophone	Verb	Gloss
<i>wawawa</i>	<i>naku</i> 'cry'	cry
<i>mesomeso</i>	<i>naku</i>	weep
<i>kasunkusan</i>	<i>naku</i>	sob
<i>otoi</i>	<i>naku</i>	blubber
<i>shikushiku</i>	<i>naku</i>	whimper
<i>hiitii</i>	<i>naku</i>	pule
<i>yowayowashiku</i>	<i>naku</i>	mewl

— Thus, there is evidence that in other domains, manners that are lexicalized as part of English verb meanings are expressed outside of the verb.

• More immediately, the observations suggest that there may be an abstract behavioral unity across languages despite differences in their argument realization patterns.

• These observations suggest there is a still-to-be-uncovered logic underlying the diversity of argument realization options for surface contact verbs.

## 7 Conclusion

• Verb classes play an important part in characterizing verb behavior within and across languages (though most likely the classes are not primitive but emerge due to more fundamental meaning components).

• The manner/result verb distinction may contribute to our understanding of patterns of verb behaviors across languages.

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## Valence Classes in Mandarin

Bingfu Lu (Nanchang University, Shanghai Normal University)

[lubingfu@yahoo.com](mailto:lubingfu@yahoo.com)

Guohua Zhang (Huazhong Agricultural University)

[huntergh@126.com](mailto:huntergh@126.com)

### 1 Introduction

This chapter describes the main regularities in the valency properties of verbs in Mandarin, a member of the Sino-Tibetan family. Mandarin, also known as (Modern) Standard Chinese or *Putonghua*, is the official language of the People's Republic of China and Chinese Taiwan, one of the four official languages of Singapore and one of six official languages of the United Nations. It is known as *Guoyu* or *Huayu* in other parts of the world. It has the largest population of native speakers in the world.

According to an official definition, Mandarin is based phonologically on the northern dialects of Chinese, grammatically and lexically standardized to the body of modern Chinese literary works that define modern written vernacular Chinese, the colloquial alternative to Classical Chinese.

The Chinese written language employs the Han characters, the majority of characters being phonetically based rather than logographically based. However, the Chinese writing system is mostly logographic, i.e., each character expresses a monosyllabic word part, tantamount to a morpheme. The majority of modern words, however, are multisyllabic and multigraphic. In this chapter, the Chinese characters involved are put in simplified forms.

The official romanization system used in China and in Western publications about China is *hànyǔ pīnyīn* (lit. Chinese phonetic spelling) or simply *pīnyīn*, which uses all the letters of the Latin alphabet (except 'v') and is internationally recognized.

As a tonal or stress-timed language, vowels and tones are statistically of similar importance in Mandarin. However, for technical convenience, the tonal symbols are all omitted in the present chapter.

The paper is organized as follows. Section 2 summarizes the most basic aspects of Mandarin morphosyntax. Section 3 gives a sample set of Mandarin verbs with their valency patterns based on the previous studies conducted in relation to the Valency Project, with some additional comments and explanations about the valency patterns of Mandarin verbs. Section 4 mainly deals with the morphologically unmarked valency alternations. The last section is a brief discussion. The following are some important abbreviations used in the chapter.

#### Mandarin-specific abbreviations:

- BA an object maker: preposition *ba* (把), followed by a raised, specific pre-verbal object.
- BEI a passive marker *bei* (被), preceding a degraded subject in passive constructions. Occasionally, the degraded subject can be omitted.
- CRS Currently Related State: sentence-final *le* (了).

DE a modification marker, clitic *de* (的).

DUR Duration Aspect: verbal suffix *-zhe* (着).

EXP Experiential Aspect: verbal suffix *-guo* (过)

PFV Perfective Aspect: verbal suffix *-le* (了).

For conciseness, [digit] is used to directly locate the relevant examples. It immediately follows an expression and reads 'as shown in'.

## 2 Basics of Mandarin morphosyntax

### 2.1. General characteristics of Mandarin

Mandarin is an isolating/concatenative language using word order, adpositions (overwhelmingly prepositions) and suffixation.

Mandarin is a SVO language. However, in the following two aspects, it resembles typical SOV languages.

1. With few exceptions (see section 2.2.2), all oblique nominal participants and adverbials precede the main verb.

2. Further, the word order on the NP level is completely head-final (2.3).

While Mandarin is basically a dependent-marking language, it uses applicative verbal suffixes to a considerable extent, indexing valence change of the verb (2.2.4).

### 2.2 Basic clause structure

#### 2.2.1 Information status and word order

Mandarin word-order is highly sensitive to the pragmatic and information status of constituents, and highly iconic with temporal sequence. The most important pragmatic factor is the identifiability hierarchy, which greatly favors a higher-lower order of identifiability. For instance, non-specific nominals can only occur after the main verb. For example:

- (1) a. 他 买了 一辆 车。  
ta mai-le yi-liang che  
he buy-PFV one-CL car  
'He bought a car.'
- b. 他 卖了! 一辆 车。  
ta mai-le yi-liang che  
he sell-PFV one-CL car

<sup>1</sup> 买 *mai* 'buy' and 卖 *mai* 'sell' differ in tones.

could come' and 'I'm really disappointed that you can't come' respectively, though it is only indirectly implied by the correlation between linear order and the information flow in Mandarin. The above phenomenon is also motivated by the temporal sequence principle (Tai 1985) as well.

The difference is not only a phenomenon of word order. It further affects whether the participant is coded as oblique or direct object (see 2.2.3).

### 2.2.2 Post-verbal nominal obliques

The following fig shows the most striking features of Mandarin clausal word order compared with those in all other VO languages.

Fig. 1 Order of object, oblique and verb (Dryer & Gensle 2005)

VO languages		OV languages			No dominant order
VOX	XVO	XVO	OXY	OXY	
189	3	0	45	23	37
					152

Among the world's 192 VO languages surveyed by Dryer & Gensle (2005, see Fig. 1), only three languages dominantly put obliques (nominal adjuncts) before V. These three languages are Mandarin and its two major dialectal variations: Hakka and Cantonese.

However, there are two kinds of obliques that do follow the verb. They are the expressions of event quantity (time or occurrence) and Goal/Recipient, both highly motivated to appear later by information status, especially definiteness effect [1-3] and temporal sequence [4-5].

1). Indefinite time expressions referring to quantity of time and occurrence.

- (1) a. 他 上个月 病了 三天/三次。  
 ta shanggeyue bing-le san-tian/ san-ci  
 he last month ill-PFV three day/three time  
 'He was ill for three days/times last month.'
- b. 他 去年 病了 一个月。  
 ta qunian bing-le yi-ge yue  
 he last year ill-PFV one month  
 'He was ill for one month last year.'

Since the time location 'last month' is a definite term while the event quantity expressions 'three days' and 'three times' are indefinite, they occur pre-verbally and post-verbally respectively.

Further, the word order among post-verbal nominals is also greatly affected by the identifiability hierarchy. When the object is definite and/or animate, it precedes the indefinite expression of time or occurrence. See the following examples where a definite object and a definite animate object are involved respectively in (2a) and (2b):

- (2) a. 我 看了 这本书 三天/次。  
 wo kan-le zhe-ben shu san tian/ci  
 I read-PFV this-CL book three day/time  
 'I read this book for three days/times.'

- 'He sold a car.'
- (2) a. \*他 把 一辆 车 买了。  
 ta ba yi-liang che mai-le  
 He BA one-CL car buy-PFV  
 'He bought a car.'
- b. 他 把 一辆 车 卖了。  
 ta ba yi-liang che mai-le  
 He BA one-CL car sell-PFV  
 'He sold a car.'

Since the number of cars in the market is huge, 'one car' in (2a) is much less specified than 'one car' in (2b). Therefore, the bought car in (2a) cannot precede the verb while the sold car in (2b) can. See more instances in the following pairs:

- (3) a. 我 很 希望 你 能 来。  
 wo hen xiwang ni neng lai  
 I very hope you can come  
 'I really hope that you can come.'
- b. \*对 你 能 来 我 很 希望。  
 dui ni neng lai wo hen xiwang  
 about you can come I very hope  
 'I really hope that you can come.'
- (4) a. \*我 很 失望 你 不 能 来。  
 wo hen shiwang ni bu neng lai  
 I very disappointed you not can come  
 'I'm really disappointed that you couldn't come.'
- b. 对 你 不 能 来 我 很 失望。  
 dui ni bu neng lai wo hen shiwang  
 about you can't come I very disappointed  
 'I'm really disappointed that you couldn't come.'

The above asymmetry in the word order, and the corresponding differences in grammaticality as well, can be explained as follows. What the speaker hoped for has not happened yet, hence being newer information and tending to appear later. (3b) does not meet this positioning requirement, thus ungrammatical. On the contrary, what the speaker is disappointed with has happened already, hence being older information and tending to appear earlier. (4a) does not meet the requirement either. Therefore, the ungrammaticality of (3b) and (4a) can be hinted by 'I really hope that you

- b. 我 照顾了 他/李四 三天/次。  
 wo zhaog-*le* ta/Li Si san tian/ci  
 I look.after-PFV he/Li Si three day/time  
 'I looked after him/Li Si for three days/times.'

When the object is generic, it follows the expression of indefinite event quantity. See examples:

- (3) a. 他 看了 三天/次 书。  
 ta kan-*le* san tian/ci shu  
 he read-PFV three day/time Book  
 'He has been reading for three days.'
- b. \*他 看了 书 三天/次。  
 ta kan-*le* shu san tian/ci  
 he read-PFV book three day/time  
 'He did book-reading for three days/times.'

In addition to the object and the expressions of event quantity, another post-verbal constituent of participants is the goal, which reflects the iconicity of temporal sequence of event (Tai 1985). For example:

- (4) 他 送了 一本书 给 他。  
 ta song-*le* yi-ben shu gei ta  
 he send-PFV one-CL book to He  
 'He sent a book to him.'
- (5) 他 放了 一本书 到 桌子上。  
 ta fang-*le* yi-ben shu dao zhuozhi shang  
 he fang-PFV one-CL book onto table LOC  
 'He put a book on the table.'

Lu and Wu (2009) attribute this unique characteristic of Chinese syntax to its greater sensitivity to the principle of information status, and its clearer Ground-Figure segregation. Specifically, Mandarin puts those constituents that are neither topic nor focus in the sentence-middle position, thus extending the distance between topicalized and focused constituents.

### 2.2.3 Three basic codings of non-subject nominal constituents

A semantic role, if not coded as subject, can mainly be coded in three other forms, i.e., oblique, applicative object or direct object, according to the pragmatic status. See the following examples:

- (1) a. 他 在 上海 住。  
 ta zai Shanghai zhu  
 he in Shanghai live  
 'He lives in Shanghai.'
- b. 他 住在 上海。  
 ta zhu-zai Shanghai  
 he live-in Shanghai  
 'He lives in Shanghai.'
- c. 他 住 上海。  
 ta zhu Shanghai  
 he live Shanghai  
 'He lives in Shanghai.'

(1a) is a pragmatic-neutral statement. (1b) emphasizes the location as a focus, a piece of new information. (1c) raises the transitivity of the verb, emphasizing the subject's control and volition. The contrast between (1a-b) and (1c) is similar to that between 'to ride on the horse' vs. 'to ride the horse' in English.

That the location in (1c) should be taken as an object can be further confirmed by the absence of postpositional locative marker 上 *shang* ('top'), following a noun to indicate 'on the surface of the entity expressed by the noun' in the following example (2c):

- (2) a. 他 在 这条 路\* (上) 走。  
 ta zai zhe-tiao lu (shang) zou  
 he in this-CL road (LOC) walk  
 'He walks on this road.'
- b. 他 走在 这条 路\* (上)。  
 ta zou-in zhe-tiao lu (shang)  
 he walk-in this-CL road (LOC)  
 'He walks on this road.'
- c. 他 走 这条 路 ( \*上)。  
 ta zou zhe-tiao lu \*(shang)  
 he walk this-CL road  
 'He takes this way.'

Unlike a proper place name like 上海 'Shanghai', 路 *lu*, 'road or way', is not a place name, and it therefore must take a locative marker to express a place. However, when it functions as a direct

object, the use of a locative marker is prohibited [2c], which implies 走路 (*zǒulù*, lit. 'walk road') is a volitional action.

### 2.2.4 Applicatives

Indexing applicatives play a great role in valency structure. There are three sources of applicatives in Mandarin.

- 1). Prepositions. The function of preposition-derived applicatives is similar to that of prepositions in English phrasal verbs. For example, 写 *xiě* 'write' cannot take a recipient and be used in DOC, while 写给 *xiě-gěi* 'write to' can. What makes it different from English phrasal verbs is that the Mandarin preposition is further incorporated into the verb, rendering the element very much like a compound. The compound might be analogized in form to English *upload*, *download*, though the Mandarin applicative suffixes affect the valency structure in a more obvious way.

- 2). Directional verbs. Mandarin has a set of directional verbs which indicate the movement direction of relevant participant in the event. For example, 租 *zū* 'rent' is ambiguous or neutral in directions of transferring. When 租 *zū* 'rent' makes a compound with a directional verb, the ambiguity disappears. 租进 *zū-jìn* 'lit. rent-enter' and 租出 *zū-chū* 'lit. rent-exit' mean 'rent (from)' and 'rent out' respectively (3.3.1).

- 3). Aspect-tense-modality markers. For example, Duration Marker 着 *-zhe* changes an action to a state, thus affecting the valency structure (3.1.2). In particular, 得 *-de*, originally a modality suffix meaning 'be able, can', is widely used to index a predicative complement (4.4). In some cases, it functions as even to change an ordinary verb into a copular verb followed by a predicative complement (2.2.2.2).

### 2.3 Basic NP construction

The NP-internal word-order of Mandarin is basically the same as those in the rigid SOV languages. One of its characteristics that somehow differentiates it from SOV languages is that it is more sensitive to information structure.

When an otherwise non-restrictive modifier gains restrictiveness (becomes restrictive), it can either be stressed or move leftward over the numeral or even the demonstrative. The achieved restrictive function provided by the position makes the mother NP definite, as shown below:

- (1) a. \*三本 红 的 书 很 有 趣。  
 san-ben hong de shu hen youqu  
 three-CL red book very interesting

'Three red books are very interesting.'

- b. 三本 红 的 书 很 有 趣。  
 san-ben HONG de shu hen youqu  
 three-CL red DE book very interesting

(stressed)

'The three red books are very interesting.'

- c. 红 的 三本 书 很 有 趣。  
 hong de san-ben shu hen youqu  
 Red three-CL book very interesting  
 'The three red books are very interesting.'

- d. 红 的 这 三本 书 很 有 趣。  
 hong de zhe san-ben shu hen youqu  
 red DE this three-CL book very interesting  
 'The three red books are very interesting.'

(1c) is reminiscent of the highway signpost *Use left three lanes*, where the pre-numeral *left* makes the mother NP definite. Modifiers in Mandarin NP can even move further leftward over the determiner to emphasize their restrictive function [1d].

Relative clauses not only always precede the head noun, but they normally precede the determiner, mainly due to their heaviness (Lu 1993: 117-120). In the following examples, though (2b) is grammatical, it sounds awkward. In contrast, (2a) is much more natural and preferable.

- (2) a. 他 昨天 买 来 的 那本 有 趣 的 书  
 ta zuotian mailai de na-ben youqu de shu  
 he yesterday buy DE that-CL interesting DE book  
 'The interesting books that he bought yesterday'  
 b. 那本 他 昨天 买 来 的 有 趣 的 书  
 na-ben ta zuotian mailai de youqu de shu  
 that-CL he yesterday buy DE interesting DE book  
 'The interesting books that he bought yesterday'

It can be seen that Mandarin NPs are completely of head-final type, including the postpositional modification marker 的 *de*.

### 3 Valency classes

#### 3.1 Mono-valent verbs

Mandarin mono-valent verbs can be divided into two categories: unergative and unaccusative verbs (Huang 2006). An unergative verb expresses an agent-centered event, emphasizing an action, while an unaccusative verb denotes a patient-centered event, emphasizing a state.

##### 3.1.1 <S V> : Unergative mono-valent verbs

Just like in all other SVO languages, the single argument NP of unergative mono-valent verbs in Mandarin, which is highly agentive, can only precede the verb. For instance:

- (1) a. 一个 孩子 笑了。  
 yige haizi xiao-le  
 one-CL child laugh-PFV  
 'A child cried.'
- b. \*笑了 一个 孩子。  
 xiao-le yige haizi  
 laugh-PFV one-CL child

##### 3.1.2 <(X) V S> : Unaccusative mono-valent verbs

The single argument NP of unaccusative mono-valent verbs, which is somewhat patient-like, takes postverbal position (4.1.1), especially when the NP is indefinite. The pre-verbal position can be taken by a topic-like nominal X. The post-verbal S can be seen as in its default position. This can be confirmed by the fact that in relative clauses, the NP occurs post-verbally as well [2b]. However, when the argument is a definite one, it normally moves over the verb [2c], though it is still possible to stay post-verbally in some context [2d].

- (2) a. ( 村子-里 ) 死了 一个 人。  
 cunzi li si-le ren  
 (village-LOC) die-PFV one-CL person  
 'A person died (in the village).'
- b. 死了 人 的 村子。  
 si-le ren DE DE cunzi  
 die-PFV person DE DE village  
 'the village where some persons died'
- c. 张三 死了。  
 Zhangsan si-le  
 Zhangsan die-PFV  
 'Zhangsan died.'
- d. 张三 五岁 那年 死了 父亲。  
 Zhangsan wusui nanyang si-le fuqin  
 Zhangsan five years old that year die-PFV father  
 'Zhangsan's father died when he was five years old.'

Zhangsan wusui nanyang si-le fuqin  
 Zhangsan five years old that year die-PFV father  
 'Zhangsan's father died when he was five years old.'  
 Zhangsan lost his father (to death) when he was five years old.'

张三 Zhangsan in (2d) is treated as kind of experiencer or 'effectee' by some scholars (Huang 2006). Thus, the literal counterpart of (2d) could be 'Zhangsan's father died on him when he was five years old.'

Mandarin does not have valent verbs in strict sense. Instead, valent verbs in other languages, like metoverbs, are normally coded as unaccusative mono-valent verbs in Mandarin.

- (3) a. 下 雨 了。  
 Xia Yu le  
 Fall Rain CRS  
 'It's raining.'
- b. 雨 下 了。  
 Yu xia le  
 Rain fall PFV CRS  
 'The rain started.'

The word-order change in (3) is motivated by information structure. The English counterparts of (3a) and (3b) are also consistent with information structure in word-order, because *the rain* as new information is also postponed, regardless of its being coded superficially and morphologically as a verb.

When S stays after V, a topic-like oblique normally appears sentence-initially. And frequently, an empty subject-like NP 天 *tian* 'sky' appears in the subject position.

- (4) 今天外面/天 下 雨 了。  
 jintian/waimian/tian xia yu le  
 Today/outside/sky fall rain CRS  
 'It is raining today /outside /on the sky.'

Quantity, especially proportion, is another factor that affects the placement of the single argument of unaccusative mono-valent verbs. A minor portion strongly tends to follow an unaccusative mono-valent verb [4] while the whole or majority to precede [5] (Lu and Wu 2009).

- (5) a. 来了 一部分/少数 学生。  
 lai-le yibufen/shaoshu xuesheng  
 come-PFV a part/ minority students  
 'There came part of the students/few students.'

### 3.2.1 Agentivity Hierarchy and the alignment of subject and object

Based on the Dowty's (1991) continuum of pro-agent vs. pro-patient, Chen (2004) proposes the following hierarchy of pro-agent vs. pro-patient in Mandarin<sup>2</sup>:

- (1) agent > experiencer > instrument > circumstantial > inner location > theme > patient

In SVO constructions, S always takes a semantic role that is higher on the hierarchy than what is taken by O. For example:

- (2) 我听耳机。 (agent > instrument)  
 wo ting erji

I listen earphone  
 'I use an earphone for listening.'

- (3) 我喝小杯。 (agent > instrument)  
 wo he xiaobei

I drink little cup  
 'I drink with a little cup.'

- (4) 磨子磨麦子。 (instrument > theme)  
 mozi mo maizi

mill grind wheat  
 'The mill is for grinding wheat.'

- (5) 萝卜切丝。 (theme > patient)  
 luobo qie si

radish cut strip  
 'The radish should be cut into strips.'

- (6) 米煮了粥。 (theme > patient)  
 mi zhǔ-le zhōu

rice cook-PFV gruel  
 'The rice has been cooked into gruel.'

Occasionally, the two roles on the two sides of the verb can switch their positions.

- (7) a. 人参泡酒。  
 renshen pao jiu

ginseng steep spirits  
 'The ginseng (is to be) steeped in spirits.'

- b. 酒泡人参。  
 jiu pao renshen

- b. ?一部分/少数 学生 来了。  
 yibufen/shaoshu xuesheng lai-le  
 A part/minority students come-PFV

- (6) a. \*来了 全部/多数 学生  
 lai-le quanbu/duoshu xuesheng  
 come-PFV all/majority students

- b. 全部/多数 学生 来了。  
 quanbu/duoshu xuesheng lai-le  
 all/majority students come-PFV  
 'The majority of the students came.'

Other common unaccusative mono-valent verbs include existential verbs like 有 *you*

'have/exist', verbs of appearing and disappearing like 来 *lai* 'come', 出现 *chūxiàn* 'appear', 离开 *líkai* 'leave', 发生 *fāshēng* 'happen', and other verbs that focus on the state or state change of the single argument S.

The duration marker 着 *zhe* can change many unergative verbs into an unaccusative one. In the following, (7b) is regarded as an existential sentence without implying an unspoken agent. However, when 'the painting' is taken as a subject, the duration marker should be replaced by an applicative 在 *zài* indicating a locative object [7c].

- (7) a. 我往墙上挂了 一幅画  
 wo wang qiang-shang gua-le yi-fu hua  
 I onto wall-LOC hang-PFV one-CL painting  
 'I put a painting onto the wall.'

- b. 墙上挂着 一幅画  
 qiang-shang gua-zhe yi-fu hua  
 wall-LOC hang-DUR one-CL painting  
 'There is a painting on the wall.'

- c. 一幅画 挂在 墙上  
 yi-fu hua gua-zai qiang-shang  
 One-CL painting hang-on wall-LOC  
 'There is a painting on the wall.'

### 3.2 Bivalent verbs

<sup>2</sup> Chen's 'circumstantial' and 'inner location' mean 'time/location' and 'goal/source' respectively.

spirits steep ginseng  
'Spirits with ginseng steeped in it.' Or 'Ginseng steeped in spirits.'

This is because the two roles, which can be taken as Instrument and Location respectively though, are in fact very similar functionally, and both can as well be taken as kind of Instrument/Source, being mixed and becoming one single product 人參酒 *rensenjiu* (lit. ginseng spirits).

### 3.2.2 <A V (P)> : Unergative bivalent verbs

Mandarin bivalent verbs can also be divided into the unergative and unaccusative ones, though the difference is not as great as that in mono-valent verbs.

- (1) a. 我们 打败了 敌人。  
 women dasheng-le Diren  
 we defeat-PFV Enemy  
 'We defeated the enemy.'
- b. 我们 打败了 (Object omitted)  
 women dasheng-le  
 we defeat-PFV  
 'We won.'
- c. \*敌人 打败了 (Subject omitted and Object raised)  
 diren dasheng-le  
 enemy defeat-PFV  
 'The enemy was defeated.'

Since the verb 打败 *dasheng* 'beat, win' is agent-centered, the agent can stand alone [1b] while the patient cannot occur without the agent [1c].

### 3.2.3 <(A) V P> : Unaccusative bivalent verbs

By contrast, the following verb 打败 *dabai* 'be beaten, loose' is patient-centered, so the patient cannot be deleted [2b] while the agent can be absent. Further, the patient can be raised to the subject position [2c]. In fact, the construction with an unaccusative bivalent verb is partly featured with the characteristics of causative verbs, according to which the agent/causer causes something to happen to the patient. Thus, (1a) has a causative alternation [2d]. The unergative verbs do not have the causative alternation.

- (2) a. 我们 打败了 敌人。  
 women dabai-le Diren

- we beat-PFV Enemy  
 'We beat the enemy.'
- b. \*我们 打败了 (Object omitted)  
 women dabai-le  
 we beat-PFV  
 'We won.'
- c. 敌人 打败了 (Subject omitted and Object raised)  
 diren dabai-le  
 enemy beat-PFV  
 'The enemy was beaten.'
- d. 我们 使 敌人 打败了  
 diren shi diren dabai-le  
 we make enemy defeat-PFV  
 'We made the enemy defeated.'

### 3.2.4 <A V P> : Neutral bivalent verbs

Perhaps most bivalent verbs are neither typically unergative nor typically unaccusative. The can take either A-deletion or P-deletion.

- (1) a. 我们 赢了 比赛  
 women ying-le bisai  
 we win-PFV game  
 'We won the game.'
- b. 我们 赢了。  
 women ying-le  
 we win-PFV  
 'We won.'
- c. 比赛 赢了  
 bisai ying-le  
 game win-PFV  
 'The game was won.'

### 3.2.5 <X V C> : Verbs with a predicative complement

Some bivalent verbs take a predicate complement like English *feel* in *He felt cold*:

- (4) 他 感到 冷  
 ta gandao leng  
 he feel cold  
 'He feels cold.'

Almost all verbs can form this construction with the help of an applicative 得 *dé* (4.4.1)

intransitive resultative alternation).

- (5) 他走得很快  
 tā zǒu-de hěn kuài  
 he walk very fast  
 'He walks very fast.'

### 3.3 Three-valent verbs

In three-valent verbs, the distinction between unergative and unaccusative is not so obvious; we therefore divide them into the following three categories.

#### 3.3.1 <A cong Sr V T>, Source related verbs

The Sr (Source) of the verb is introduced by the preposition 从 *cong* 'from' [lɑ]. If Sr is not a place term, it must take 那儿 *nǎr* 'there'. The construction has the DOC (Double Object Construction) as its alternation: <A V Sr T>. The DOC of source related verbs is used much more widely in Mandarin than in English (Zhang 2009), as shown by (1b) and (2a). The counterpart English verbs of *receive* and *buy* cannot be coded in DOC, either in a grammatical way or without changing the intended meaning.

- (1) a. 李四 从 张三 那儿 接受了 一本 书。  
 Lǐ Sì cong Zhāngsān nǎr jiēshòu-le yī-ben shū  
 Li Si from Zhāngsān there receive-PFV one-CL book  
 'Li Si received a book from Zhang San.'
- b. 李四 接受了 张三 一本 书。  
 Lǐ Sì jiēshòu-le Zhāngsān yī-ben shū  
 Li Si receive-PFV Zhāngsān one-CL book  
 'Li Si received a book from Zhang San.'

- (2) a. 李四 买了 张三 一本 书。  
 Lǐ Sì mǎi-le Zhāngsān yī-ben shū  
 Li Si buy-PFV Zhāngsān one-CL book  
 'Li Si bought a book from Zhang San.'
- b. 李四 买给了 张三 一本 书。  
 Lǐ Sì mǎi-gěi-le Zhāngsān yī-ben shū  
 Li Si buy-to-PFV Zhāngsān one-CL book  
 'Li Si bought Zhang San a book.'

The contrast between (2a) and (2b) suggests that source-related ditransitive verbs are less marked in Mandarin. See some more examples:

- (3) a. 李四 租了 张三 一套 房子。<sup>3</sup>  
 Lǐ Sì zū-le Zhāng Sān yī-tào fángzi  
 Li Si rent -PFV Zhang San one-CL house  
 'Li Si rent a house from Zhang San.'
- b. 李四 租给了 张三 一套 房子。  
 Lǐ Sì zū-gěi-le Zhāng Sān yī-tào fángzi  
 Li Si rent-to-PFV Zhang San one-CL house  
 'Li Si rent out a house to Zhang San.'
- c. 李四 租了 一套 房子。  
 Lǐ Sì zū-le yī-tào fángzi  
 Li Si rent -PFV one-CL House  
 'Li Si rent a house.'
- d. \*李四 租给了 一套 房子。  
 Lǐ Sì zū-gěi-le yī-tào fángzi  
 Li Si rent-to-PFV one-CL house  
 'Li Si rent a house out.'
- e. 李四 租出了 一套 房子。  
 Lǐ Sì zū-chū-le yī-tào fángzi  
 Li Si rent.out -PFV one-CL house  
 'Li Si rent a house out.'

(3c) indicates that the unmarked interpretation of 'getting' allows the omission of source while that of 'giving' does not, unless the applicative marker is changed from 给 *gěi* 'to' to 出 *chū* 'out'. Like 租 *zū* 'rent', Mandarin 借 *jiè* 'borrow/lend' is also ambiguous. It demonstrates the exactly same features of 租 *zū* 'rent':

- (4) a. 李四 借了 张三 一套 房子。  
 Lǐ Sì jiè-le Zhāng Sān yī-tào fángzi  
 Li Si borrow -PFV Zhang San one-CL house  
 'Li Si borrowed a house from Zhang San.'
- b. 李四 借给了 张三 一套 房子。  
 Lǐ Sì jiè-gěi-le Zhāng Sān yī-tào fángzi

<sup>3</sup> The sentence is ambiguous. 张三 *Zhāngsān* can be interpreted as Patient, in a proper context.

- Li Si lend-to-PFV Zhang San one-CL house  
'Li Si lent a house to Zhang San.'
- c. 李四 借了 一套 房子。  
Li Si jie-le yitao fangzi  
Li Si borrow -PFV one-CL house  
'Li Si borrowed a house.'
- d. \*李四 借给了 一套 房子。  
Li Si jiegei-le yitao fangzi  
Li Si borrow/to-PFV one-CL house
- e. 李四 借出了 一套 房子。  
Li Si jiechu-le yitao fangzi  
Li Si lend/out -PFV one-CL house  
'Li Si lent a house out.'

The fact that source-related ditransitive verbs with 'getting' meaning are dominant over the recipient/goal-related ones with 'giving' meaning can be attributed to the iconicity of source-goal temporal sequence, since source precedes goal in the temporal sequence.

Interestingly, the English verbs *rob* and *steal* cannot be used in DOC, while their Mandarin counterparts can [5a, 6a].

- (5) a. 李四 抢了 张三 100 元 钱。  
Li Si qiang-le Zhang San 100 yuan qian  
Li Si rob -PFV Zhang San 100 dollar money  
'Li Si robbed Zhang San of 100 dollars.'
- b. 李四 抢了 张三。  
Li Si qiang-le Zhang San  
Li Si rob -PFV Zhang San  
'Li Si robbed Zhang San.'
- c. 李四 把 张三 抢了。  
Li Si ba Zhang San qiang-le  
Li Si BA Zhang San rob -PFV  
'Li Si robbed Zhang San.'
- d. 李四 从 张三 那里 抢了 100 元 钱。  
Li Si cong Zhang San nali qiang-le 100 yuan qian  
Li Si from Zhang San there rob -PFV 100 dollar money  
'Li Si robbed Zhang San of 100 dollars.'

- (6) a. 李四 偷了 张三 100 元 钱。  
Li Si tou-le Zhang San 100 yuan qian  
Li Si steal -PFV Zhang San 100 dollar money  
'Li Si stole 100 dollars from Zhang San.'
- b. \*李四 偷了 张三。  
Li Si tou-le Zhang San  
Li Si steal -PFV Zhang San  
'Li Si stole something from Zhang San.'
- c. \*李四 把 张三 偷了。  
Li Si ba Zhang San tou-le  
Li Si BA Zhang San steal -PFV  
'Li Si stole something from Zhang San.'
- d. 李四 从 张三 那里 偷了 100 元 钱。  
Li Si cong Zhang San nali tou-le 100 yuan qian  
Li Si from Zhang San there steal-PFV 100 dollar money  
'Li Si stole 100 dollars from Zhang San.'

However, the two verbs have different alternations. Since the source of '抢 *qiang* 'rob' is more affected by the action, it can stand alone without the patient [5b] and be coded as a BA object [5c]. By contrast, the source of '偷 *tou* 'steal' does not have the same two alternations [6b-c]. In short, Mandarin 抢 and 偷 share the common basic valence frame [5a, 6a] while they differ in patient-deleted alternation and BA alternation due to difference in the degree of the affectedness and salience of sources in their event structures.

Both words have the oblique alternation [5d, 6d], where the source must take 那里 *nali* 'there', which indicates their nature of source.

DOC of 'getting' type is very productive in Mandarin. Many bi-valent verbs can take a source argument to form a DOC, on the condition that the semantic frames related to event structure knowledge accords with the constructional meaning of DOC (Zhang 2009). For example:

- (7) 他 拿了 我 一本 书。  
ta na-le wo yiben shu  
he take-PFV me one-CL book  
'He took a book away from me.'

<sup>4</sup> It is very interesting and suggesting that the same order in English *Li Si stole Zhangsan 100 dollar* means 'Li Si stole 100 dollars for Zhangsan.'

- (8) 他 喝了 我 一瓶 茅台 酒。  
 ta he-le wo yiping Moutai jiu  
 he drink-PFV me one-CL Moutai alcohol  
 'He drank a bottle of Moutai wine of mine.'

In fact, the most striking feature of Mandarin DOC is that the 'getting' type is dominant over the 'giving' type. The following contrast between Mandarin and English is very suggesting in this aspect.

- (9) a. A 偷了 B 100 元钱。 = c

A toutle B 100 yuan qian  
 A steal-PFV B 100 dollar money  
 'S stole 100 dollars from B.'

- b. A stole B 100 dollars.

- c. A 从 B 那里偷了 100 元钱。 = a

A cong B nail tou-le 100 yuan qian  
 A from B there steal-PFV 100 dollar money

- d. A 为 B 偷了 100 元钱。 = b

A wei B tou-le 100 yuan qian  
 A for B steal-PFV 100 dollar money  
 'A stole 100 dollars for B.'

- e. A 偷了 100 元钱 给 B。 = b

A tou-le 100 yuan qian gei B  
 'A stole 100 dollars and gave them to B.'  
 (9a) has alternation (9c), while the meaning of (9b) can be expressed by (9d) and (9e) in Mandarin.

### 3.3.2 <A V T gei R>, Recipient related verbs

The Recipient of ditransitive verbs with 'giving' meaning can be coded as a PP oblique either pre-verbally [10a] or post-verbally [10b]. However, the pre-verbal oblique is ambiguous. It could mean either a Patient or a Benefactive. We therefore take (10b), i.e., <A V T gei R>, as the typical valency structure for Recipient related ditransitive verbs. The DOC of this kind of verbs is <A V R T> [10c], whose verb contains an applicative 给 *gei*, derived from the preposition 给. In other words, the Recipient of this kind of ditransitive verbs can be coded in DOC only as an applicative object [10c]. The situation stands in sharp contrast to the source of ditransitive verbs with 'getting' meaning.

- (10) a. 我 给 他 买了 一本 书。  
 wo gei ta mai-le yi-ben shu

I for him buy-PFV one-CL book  
 'I bought a book for him.'

- b. 我 买了 一本 书 给 他。  
 wo mai-le yi-ben shu gei ta

I buy-PFV one-CL book give he  
 'I bought a book and gave him.'

- c. 我 买给了 他 一本 书。 (DOC)

wo maigei-le ta yi-ben shu  
 I buy.for-PFV he one-CL book

- d. 我 买了 他 一本 书。 (DOC)

wo mai-le ta yi-ben shu  
 I buy-PFV he one-CL book  
 'I bought a book from him.'

Generally, only ditransitive verbs inherently implying a transferred patient/theme can be coded in DOC without employing an applicative. Different from English, Mandarin ditransitive verbs with a benefactive/goal argument cannot take DOC. However, a considerable number of bivalent verbs, like 写 'write', 教 *jiào* 'teach' and 留 *liú* 'leave (sth to sb)', etc, may be used in DOC only when an applicative mark 给 *gei* 'to' is incorporated into them and the new form becomes conventionalized. Compare:

- (11) a. 我 送了 一本 书 给 他。  
 wo song-le yi-ben shu gei ta

I give-PFV one-CL book give/to He  
 'I give a book to him.'

- b. 我 送 (给) 了 他 一本 书

wo song(gei)-le ta yi-ben shu  
 I give(give)-PFV he one-CL book

- (12) a.

我 写了 一封 信 给 他。  
 wo xie-le yifeng xin gei ta

I write-PFV one-CL letter give/to he  
 'I wrote a letter to him.'

- b. 我 写\* (给) 了 他 一封 信。

wo xie(gei)-le ta yifeng xin  
 I write-APPL-PFV he one-CL letter

'I wrote him a letter.'

Whether the applicative mark 给 *gei* 'to' is optional or necessary is closely related to the event structure knowledge of the verb involved. In DOC of 送 *song* 'send', the applicative mark 给 *gei* 'to' is optional, while it is obligatory in DOC of 写 *xie* 'write', since the latter does not directly implies a recipient by its own.

### 3.3.3 <A ba V P G>, Verbs of loading

There has been ample discussion about the so-called Locative Alternation in English and other languages. Interestingly, Mandarin has similar alternation, the nature of which is still a topic for hot debate, though. See the following pairs:

- (13) a. 我把 (所有) 干草 装上了 ( \*整辆 ) 卡车。  
 wo ba (suoyou) gancao zhuangshang-le (zheng-liang) kache  
 I BA (all) hay load-PPFV (whole-CL) truck  
 'I loaded (all) the hay onto the (\*whole) truck.'
- b. 我把 (整辆) 卡车 装上了 ( \*所有 ) 干草。  
 wo ba (zheng-liang) kache zhuangshang-le (suoyou) gancao  
 I BA (whole-CL) truck load-PPFV (all) hay  
 'I loaded the (whole) truck with (\*all) the hay.'

This construction is not derived from a construction without BA, it is thus different from common BA Alternation (4.2.6), which can be recovered to a construction without BA.

It is well-known that the locative alternation (13b) suggests a holistic/partitive effect on the truck. In fact, the effect is also available to (13a), though not so obviously, as indicated by the optional *all*. The Chinese counterparts of the two sentences, in spite of the structure being very different from that of the English versions, show the same holistic effect, indicated by the distributions of *zheng-liang* (lit. the whole truck) and *suoyou* (lit. all). We therefore take this alternation as the Mandarin Locative Alternation.

In fact, the holistic/partitive effect extends to many constructions of three-valent verbs (Lu 2010). Take a DOC for example.

- (14) 学校 提供 (所有) 学生 ( \*全部 ) 住房。  
 xuexiao tigong (suoyou) xuesheng (quanzu) zhuofang  
 school provide (all) student (all) lodgings  
 'The school provides (all) the students with (\*all) rooms.'

### 3.4 None-verbal predication

Adjectives in Mandarin are regarded as kind of verbs. They thus can function as predication independently of copular verbs. \*\*\*

(17) a.

他 聪明

ta congming  
 he clever  
 'He is clever.'

b.

他 很 聪明

ta hen congming  
 he very clever  
 'He is rather clever.'

他 不 聪明

ta bu congming  
 he not clever  
 'He is not clever.'

In addition, nominals implying certain properties or classifications can directly serve as predication. However, the negation of the predication requires the use of the copular verb 是 *shi* 'be'. For instance:

(18) a.

他 上海人。

ta Shanghairen  
 He Shanghaiese  
 'He is a Shanghai native.'

b.

他 不 是 上海人。

ta bu shi  
 he NEG copular  
 'He is not a Shanghaiese.'

(18) a.

他 黄头发。

Ta huangtoufa  
 He yellow hair  
 'He is yellow-haired.'

b.

他 不 是 黄头发。

ta bu shi  
 he NEG copular  
 'He isn't yellow-haired.'

## 4 Alternations

While most of the alternation types listed below are taken from Levin (1993), with some slight changes in terminology and properties, those marked with # are Mandarin-specific and not included in Levin's. Most of the alternations are uncoded, with few exceptions, mainly in the last two alternations involving the applicative 得 *de* (4.4) and others (4.1.1, 4.2.11).

### 4.1 Mono-argument Alternations

#### 4.1.1 Postverbal Subject Alternation

- (1) a. 一个 老女人 住在 森林里。  
 yi-ge    lao nüren    zhu-zai    zhu-ni-li    sen-li-li  
 one-CL    old woman    live-APPL    woods-LOC  
 'An old woman lives in the woods.'
- b. (在) 森林里 住着 一个 老女人。  
 Zai    senlin-li    zhu-zhe    yi-ge    lao nüren  
 In    woods-LOC    live-DUR    one-CL    old woman  
 'In the woods lives an old woman.'
- (Alternation)
- (Basic Construction)

There are two differences of this alternation in Mandarin from Levin's Post-verbal Subject Alternation.

1. In the Mandarin basic construction, the preposition 在 *zai* (lit. in) is incorporated into the verb 住 *zhu* (live), functioning in nature as an applicative, which triggers the necessary use of a locative object.

2. In contrast with the basic construction, the presence of the sentence initial preposition would make the alternation marginal. This may be due to the fact that the sentence-initial locative expression in Mandarin is in nature a topic-like subject and thus its locative function, and its function-coding as well, are reduced.

Meteorological phenomena are usually expressed by this alternation (3.1.2).

- (2) a. 下 雨 了。  
 xia    yu    le  
 fall    rain    CRS  
 'It's raining.'
- b. 雨 下 了。  
 yu    xia    le  
 rain    fall    PFV    CRS  
 'The rain started.'

## 4.2 Bi-argument Alternations

### 4.2.1 # Quantity Ratio Alternation

- (1) a. 三个 人 吃 一锅 饭。  
 san-ge    ren    chi    yi-guo    fan  
 three-CL    person    eat    one-CL    rice  
 '(Every) three persons eat one pot of rice.'
- b. 一锅 饭 吃 三个 人。  
 yi-guo    fan    chi    san-ge    ren  
 one-CL    rice    eat    three-CL    person  
 'Each pot of rice is (enough) for three persons to eat,' or  
 'Each pot of rice provides three person for eating.'

Both arguments must be quantificational expressions in this alternation, which emphasizes the ratio relationship, thus the action meaning of the verb is greatly deemphasized, and it is therefore applicable to a variety of verbs.

### 4.2.2 Ambitransitive Alternation

- (1) a. 我 打碎了 杯子。  
 wo    da-sui-le    bei-zi  
 I    hit-break-PFV    cup  
 'I broke the cup.'
- b. 杯子 打碎了。  
 bei-zi    da-sui-le  
 cup    hit-break-PFV  
 'The cup broke.'

Though unaccusative bivalent verbs frequently use this alternation, it is also widely available to neutral bivalent verbs (3.2.4). In fact, the alternation could be taken as the result of the object topicalization with the subject deletion, which is very productive and quite common in Mandarin. For example, (1b) can be paraphrased as the result of subject deletion of the following sentence.

- (2) 杯子 (我) 打碎了。  
 bei-zi    wo    da-sui-le  
 cup    I    hit-break-PFV  
 'The cup broke,' or 'The cup, I broke it.'
- (3) 比赛 (我们) 赢了。  
 bisai    women    ying-le  
 game    we    win-PFV  
 'As for the game, I won,' or 'The game was won.'

Therefore, the number of verbs with this alternation is much greater in Mandarin than in English.

#### 4.2.3 Reciprocal Subject Alternation

- (1) a. 我 遇见了 他。  
 wo yu-jian-le Ta  
 I meet-see-PFV He  
 'I met him.'
- b. 我 和 他 遇见了。  
 wo he ta yu-jian-le  
 I and he meet-see-PFV  
 'He and I met.'
- c. 我 和 他 相遇了。  
 wo he ta xiang-yu-le  
 I and he mutual-meet-PFV  
 'He and I met.'

This alternation sounds a little awkward without an appropriate context. Usually, a reciprocal adverb is needed, which is incorporated into the verb and results in a compound, as shown in (c).

#### 4.2.4 # Split Verb Alternation

- (1) a. 他 睡觉了。  
 ta shuijiao-le  
 he sleep-PFV  
 'He slept.'
- b. 他 睡了 一个 好觉。  
 ta shui-le yige hao jiao  
 he sleep-PFV one-CL good sleep  
 'He slept a sound sleep.'

The alternation is developed from the V-O compound and can be seen as the residue of VO phrases. The nature of the alternation is similar to the cognate object VO construction like in *to sleep a sleep*, *to die a violent death*, and to the empty proverb construction like in *to do a call*, *to have a visit*. It is now expanding to disyllabic verbs of various internal structures, especially in a colloquial register. Even phonetic loan words such as 幽默 *youmo*, being a phonetic translation

of 'humor(ous)', can be used in this alternation. For example, 幽默了他一默 (lit. hu-ed him a mor 'made a joke with him'). Chao (1968: 430-434).

#### 4.2.5 Object Omission Alternation

- (1) a. 我 吃了 面包。  
 wo chi-le mianbao  
 I eat-PFV bread  
 'I ate the bread.'
- b. 我 吃了  
 wo chi-le  
 I eat-PFV  
 'I ate.'

In English, the omitted object must be unspecified. However, in Mandarin, the omitted object can be either unspecified or contextually specified. Thus, the frequency of its use is much greater than that of its English counterpart.

#### 4.2.6 # BA Alternation

- (1) a. 我 看过 书了。  
 wo kan-guo shu le  
 I read-EXP book CSR  
 'I have read books.'
- b. 我 把 书 看过了。  
 wo ba shu kan-guo le  
 I BA book read-EXP CSR  
 'I have read the book(s).'

BA is an object-marking preposition. The raised BA object must be definite or specific. The nature of the alternation is to raise an object of old information to the preverbal position, thus emptying the post-verbal position for focused new information. Therefore, the verb in the BA alternation must be followed by some elements, of which the limit form is the PFV marker.

The post-verbal new information can be a complicated predicate clause [2].

- (2) 我 把他 批评得 脸 都 红了。  
 wo ba ta piping-de lian dou hong-le  
 I BA he criticize-APPL face even red-PFV  
 'I criticized him so much that his face even turned red.'

This alternation is available to almost all transitive verbs.

#### 4.2.7 # Double Accusative Alternation

As have been shown in 3.1.2, an unaccusative mono-valent verbs can have a two-argument alternation:

- (1) a. 他的眼睛瞎了。  
 tade yanjing xia-le  
 His eye blind-PFV  
 'He is blind.'  
 b. 他瞎了眼睛。  
 Ta xia-le yanjing  
 He blind-PFV eye  
 'He has been blind.'

Parallel to (1), an unaccusative bivalent verb can also take a three-argument alternation in BA and BEI constructions.

- (2) a. 敌人打瞎了他的眼睛。  
 Diren daxia-le tade yanjing  
 enemy strike-blind-PFV his eye  
 'The enemy stroke him blind.'  
 b. 敌人把他打瞎了眼睛。  
 diren ba ta daxia-le yanjing  
 enemy BA he strike-blind-PFV eye  
 'The enemy stroke him blind.'  
 c. 他被敌人打瞎了眼睛。  
 ta bei diren daxia-le yanjing  
 he BEI enemy strike-blind-PFV eye  
 'The enemy stroke him blind.'  
 d. 他把敌人把眼睛打瞎了。  
 ta bei diren ba yanjing daxia-le  
 he BEI enemy BA eye strike-blind-PFV  
 'The enemy stroke him blind.'

(1b) is dubbed as double accusative construction in the literature (Chappel 1999) and have been hotly discussed.

#### 4.2.8 BEI Passive Alternation

- (1) a. 我送这本书给他。  
 wo song zhe-ben shu gei ta  
 I send this-CL book to he

'I send this book to him.'

- b. 这本书被我送给了他。  
 zhe-ben shu bei wo song-gei-le ta  
 this-CL book by I send-to-PFV he  
 'This book was sent to him by me.'

Though the alternation is widely applicable to transitive verbs, its use is much less frequent than that of their English counterparts in real texts because the alternation generally carries a strong adversary favor in Mandarin. In addition, the agent, even together with *bei*, can be deleted. See the following examples:

- (2) a. 这本书被我送掉了。  
 zhe-ben shu bei wo song-gei-le  
 this-CL book by I send-away-PFV  
 'This book is sent away by me.'  
 b. 这本书被 [ ] 送掉了。  
 zhe-ben shu bei [ ] song-gei-le  
 this-CL book by [ ] send-away-PFV  
 'This book is sent away. (It is a pity.)'  
 c. 这本书 [ ] 送掉了。  
 zhe-ben shu [ ] song-gei-le  
 this-CL book [ ] send-away-PFV  
 'This book is sent away. (the whole *bei*-phrase deleted)'

The difference between (b) and (c) is that (b) implies an adversative nuance that it is a sorry that the book is not available for the moment. Though the BEI passive construction does not necessarily carry a strong adverse favor in present-day use of Mandarin (like *bei shouyu*, lit. 'be bestowed or conferred', See Zhang 2009), the adverse favor denoted by the construction is none the less strong as a conventional meaning factor. And importantly, adversative passive is peculiar syntactically in that it can fulfill both valency-increasing and valency-decreasing function once the constructional meaning is widely understood and the use of the construction is flexibly and creatively extended. The common denominator of the adversative form in both uses is that the subject of the adversative form (which may but need not correspond to the P argument of the underlying verb) is adversely affected. For example, in the contemporary popular use of the BEI passive construction, the verb position can be held by a bivalent VO phrase or a mono-valent phrase like 被代表 *bei daibiao* 'lit. ( be forced ) to be represented' and 被就业 *bei jiuye* 'lit. be (statistically counted as) employed'. This kind of use is in fashion especially on the internet, clearly with a sarcastic implication.

#### 4.2.9 Oblique Subject Alternation

- (1) a. 我用这把钥匙开了门。  
 wo yong zhe-ba yaoshi kai-le men  
 I with this-CL key open-PFV door  
 'I opened the door with this key.'
- b. 这把钥匙开了门。  
 zhe-ba yaoshi kai-le men  
 this-CL key open-PFV door  
 'This key opened the door.'

The subject of this type of alternation includes various semantic roles but not Agent, Experiencer or Patient. The subject of the Patient [1b] should be taken as belonging to Ambitransitive alternation.

#### 4.2.10 Oblique Object Alternation

What Mandarin is different from other major languages in this aspect is that those participants that are normally coded as obliques are easier to be coded as objects in Mandarin. For instance:

- (1) a. 他用大碗在食堂吃饭。  
 ta yong da-wan/zai shitang chi fan  
 he with big-bowl/in cafeteria eat meal  
 'He takes his meal with a big bowl / in the cafeteria.'
- b. 他吃大碗/食堂。  
 ta chi da-wan/shitang  
 he eat big-bowl/cafeteria  
 'He takes his meal with a big bowl / in the cafeteria.'

The objects of this type include all kinds of non-Patient and non-Agent semantic objects. Only highly frequently used verbs have such an alternation (Williams 1991). Common examples include 写 *xie* 'write' and 考 *kao* 'examine, take examination'. The former can take various writing instruments or ways as its objects, such as a pen, brush, pencil, ink, paper, calligraphic styles, literary content, etc. The latter can take course content, credit, a degree, job, or a school, college, university, etc.

#### 4.2.11 Middle Alternation

- (1) a. 我切这块面包。  
 wo qie zhe-kuai mianbao  
 I cut this-CL bread

'I cut the bread.'

- b. 这块面包切起来很容易。  
 zhe-kuai mianbao qie-qilai hen rongyi  
 this-CL bread cut-APPL very easy  
 'This bread cuts very easily.'

Unlike its English counterpart, Mandarin Middle Alternation is a coded alternation with an applicative marker 起来 *qilai*, derived from a directional verb meaning 'get up' (2.2.4).

### 4.3 Three-argument Alternations

#### 4.3.1 Double Object Alternation

Generally, double object construction (DOC) is used to mean a transfer of something between two animate beings after which the possession of the object transferred changes accordingly (Zhang 2009). In its prototype, Mandarin DOC allows verbs of two types, i.e., 'giving' type and 'getting/costing' type. 'Giving' type DOC denotes a rightward transfer of the object from the agent to the recipient, while 'getting/costing' type DOC denotes a leftward transfer of the object from the source to the agent. Therefore, 'giving' type DOC can be rewritten as dative construction where a preposition-like morpheme 给 *gei* is used to denote the direction of transfer. See the following examples:

- (1) a. 我送他书。  
 wo song ta shu  
 I give he book  
 'I give him books/a book.'
- b. 我送书给他。  
 wo song shu gei ta  
 I give book To he  
 'I give books/a book to him.'

As an uncoded alternation, the number of verbs fitting this alternation is much fewer in Mandarin than in English. Specifically, among Mandarin three-valent verbs, only verbs of transfer fit. Verbs of non-transfer can appear in the coded double object alternation, where 给 *gei*, (originally used as a verb meaning 'give'), meaning 'to', must be incorporated into the verb, as shown below. The incorporated *gei* therefore can be treated as an applicative. Understandably, *gei* generally can't be incorporated into a 'getting/cost' type verb to be used grammatically in DOC because the directions denoted by the verb and *gei* are conflictory. Exceptions are a few conventional ones like 买给 *maigei* (lit. buy something for somebody or intend to give somebody). However, verbs that do not denote clear or strong meaning of 'getting' or

'dispossession' generally can carry a *gei* applicative and used grammatically in a DOC, especially those bi-valent verbs implying a directional transfer or movement in their event structure knowledge. For example:

- (2) a. 我 写了 一封 信 给 他。  
 wo xie-le yifeng xin gei ta  
 I write-PFV one-CL letter give/to he  
 'I wrote a letter to him.'
- b. 我 写(给)了 他 一封 信。  
 wo xie(gei)-le ta yifeng xin  
 I write-APPL-PFV he one-CL letter  
 'I wrote him a letter.'
- c. 我 拷给了 他 一个 文件。  
 wo kao-gei-le ta yige wenjian  
 I copy-APPL-PFV he one-CL document  
 'I copied a document and gave it to him.'

In Mandarin, the double object construction with a source is used much more frequent than in English. Thus, the direct object 他 *ta* 'he' in the following (3b) refers a source, instead of a recipient.

- (3) a. 我 向 他 买了 一本 书。  
 wo xiang ta mai-le yi-ben shu  
 I from he buy-PFV one-CL book  
 'I bought a book from him.'
- b. 我 买了 他 一本 书。  
 wo mai-le ta yi-ben shu  
 I buy-PFV he one-CL book  
 'I bought a book from him.'

Diransitive verbs frequently used in Mandarin double object construction with an indirect object of source include 拿 *na* ('take'), 用 *yong* ('use'), 吃 *chi* ('eat'), 喝 *he* ('drink'), 租 *zu*

('rent') and 借 *jie* ('borrow'). The common semantic feature of those verbs can be summed up as 'dispossession or take away, or consumption'. Limited by the direction of transfer involved, 'getting/cost' type DOC generally has an alternation involving the use of a preposition denoting source of transfer, like 从 *cong* 'from' or 向 *xiang* 'from'. As to DOC involving the use of those

bi-valent verbs, the most common alternation is BA construction. Notice, both 租 *zu* 'rent' and 借 *jie* 'borrow or lend' are ambiguous, one of the object being source or recipient, as exemplified in (4a). When the context is not enough to disambiguate, the following means of using applicative or directional prepositions are used as in (4b-d).

- (4) a. 我 借了 他 一本 书。  
 wo jie-le ta yi-ben shu  
 I borrow/lend-PFV he one-CL book  
 'I bought a book from him,' or 'I lent him a book.'
- b. 我 借给了 他 一本 书。  
 wo jie-gei-le ta yi-ben shu  
 I lend-to-PFV he one-CL book  
 'I lent him a book.'
- c. 我 借了 一本 书 给 他  
 wo jie-le yi-ben shu gei ta  
 I lend-PFV one-CL book to he  
 'I lent a book to him.'
- d. 我 向 他 借了 一本 书  
 wo xiang ta jie-le yi-ben shu  
 I from he lend-PFV one-CL book  
 'I borrowed a book from him.'

#### 4.3.2 Locative Alternation

Mandarin Locative Alternation concerns with the use of the so-called verbs of loading, which has been discussed in section 3.3.3.2.

#### 4.4 Alternations with a predicative complement

In Mandarin, two types of resultative alternations can be distinguished: intransitive resultative and transitive resultative alternations. In the former case, a predicative complement is generated to describe a result that happens to the agent of the action doer, which is usually the subject of the sentence, hence 'Subject Complement' in traditional grammar. While in the latter case, a predicative complement is generated to describe a result that happens to the patient of the action doer, which is usually the object of the sentence, hence traditionally known as 'Object Complement'. In both cases, an applicative marker 得 *de* is necessary to index the predicative complement, hence the intransitive *DE* alternation and the transitive *DE* alternation.

#### 4.4.1 # Intransitive DE Alternation

In intransitive DE alternation, the verbs can take an adjective phrase [1b] or a clause [1c] as its complement with the help of the applicative 得 *-de*:

- (1) a. 他 哭了。  
ta ku-le  
he cry-PFV  
'He cried.'
- b. 他 哭得 很难过。  
ta ku-de hen nanguo  
he cry-APPL very sad  
'He cried so much that his eyes were red.'
- c. 他 哭得 眼睛 红了。  
ta ku-de yanjing hong-le  
he cry-APPL eyes red-PFV  
'He cried so much that his eyes were red.'

Conventionally, Chinese grammarians call the post-verbal predicate as 'resultative complement'. However, its nature is a focused adverbial [2] or the predicate of a copular verb [3]:

- (2) a. 他 愤怒地 拒绝了。  
ta fennudi jujue-le  
he angrily refuse-PFV  
'He angrily refused.'
- b. 他 拒绝得 很愤怒。  
ta jujue-de hen fennu  
he refuse-APPL very angry  
'He refused very angrily.'
- (3) a. 他 变 教授了。  
ta bian jiaoshou le  
he change professor CSR  
'He became a professor.'
- b. 他 变得 很聪明了。  
ta bian-de hen congming le  
he change-APPL very clever CSR  
'He became very smart.'

This alternation allow various verbs, either transitive or intransitive, even adjectives [4], since the adjective is a subcategory of verbs.

- (4) a. 他 很 悲伤。  
ta hen beishang  
he change  
'He is very sad.'
- b. 他 悲伤得 哭了。  
ta beishang-de ku le  
he sad-APPL cry CSR  
'He is so sad that he cries.'

#### 4.4.2 # Transitive DE Alternation

Transitive verbs can take this alternation while keeping the object. The complement can be a VP [1b] or a clause [1c]. The object can be raised and changed into a BA object [1d]. The complement gives a description of to what extent the related subject does the action, thus, functioning as an object complement in nature.

- (1) a. 我 批评 他。  
wo piping ta  
I criticize he  
'I criticize him.'
- b. 我 批评得 他 大声地 哭了。  
wo piping-de ta dashengdi ku-le  
I criticize-APPL he loudly cry-PFV  
'I criticized him so much that he cried loudly.'
- c. 我 批评得 他 脸 都 红了。  
wo piping-de ta lian dou hong-le  
I criticize-APPL he face even red-PFV  
'I criticized him so much that he even flushed.'
- d. 我 把他 批评得 脸 都 红了。  
wo ba ta piping-de lian dou hong-le  
I BA he criticize-APPL face even red-PFV  
'I criticized him so much that he even flushed.'

This alternation is in nature a kind of causative construction. In fact, the typical causative verb 使 *shǐ* 'make', which can only used in causative sentences, can optionally take the causative applicative marker 得 *-de*.

The (in)transitive DE alternations are widely applicable to almost all verbs and property adjectives<sup>5</sup>. The applicative 得 *-de* just adds a predicate complement, hence not directly interfering the verb's nominal argument.

#### 4.5 #Compound Alternations

As have been seen in (1d) of 4.4.2, the BA alternation and the transitive alternation can combine to produce a compound alternation. Below are some commonly used compound alternations.

BA-DE Alternation [1a] and BEI-DE Alternation [1b].

- (1) a. 我把他批评得脸都红了。  
 wo ba ta piping-de lian dou hong-le  
 I BA he criticize-APPL face even red-PFV  
 'I criticized him so much that his face even turned red.'
- 他被我批评得脸都红了。  
 ta bei wo piping-de lian dou hong-le  
 he BEI I criticize-APPL face even red-PFV  
 'He was criticized by me so much that his face even turned red.'

BEI-BA Compound Alternation [2a] and BEI-BA-DE alternation [2b]

- (1) a. 他被敌人把眼睛打瞎了。  
 ta bei diren ba yanjing daxia-le  
 he BEI enemy BA eye strike-blind-PFV  
 'The enemy stroke him blind.'
- b. 他被敌人把眼睛打得瞎掉了。  
 ta bei diren ba yanjing daxia-de xia-diao-le  
 he BEI enemy BA eye strike-de blind-off-PFV  
 'The enemy stroke him blind.'

## 5 Discussion

1). Some alternations are very common and productive, for example, DE Alternation is applicable to almost all verbs (including adjectives). BA Alternation is available to all transitive verbs. For those common alternations, the more significant and constructive approach should be to paid more attention on the verbs which cannot take the alternation, but not which can.

<sup>5</sup> There are two subcategories of adjectives in Mandarin: property adjective and descriptive adjectives. The latter is also known as 'vivid form of adjective', being morphologically complex, such as 白白 *haibai* 'lovely white, lit. white-white', 雪白 *xuebai* 'snow-white'. Descriptive adjectives behave like an AP, which cannot be modified by degree adverbs.

2). There are some pairs whose basic frame and the alternation are hard to decide in some languages. Cross-linguistic comparison can help to make choice in this aspect. For examples, it seems hard to make decision which is the basic valency frame between *to provide somebody with something* and *to provide something for somebody* in English. However, it is easier to make the choice between the corresponding constructions in Mandarin. The one with an applicative should be taken as the alternation [1b].

- (1) a. 为学生提供伙食  
 wei xuesheng tigong huoshi  
 for student provide food  
 'to provide food for the students'
- b. 把伙食提供给 学生  
 ba huoshi tigong-gei xuesheng  
 BA food Provide-APPL student  
 'to provide the food for students'

Therefore, the cross-linguistic comparison can provide the choice a subsidiary criterion. Another subsidiary criterion could be the agentivity hierarchy. The construction that fits the hierarchy better should take as the basic frame. For example, in English locative alternation 'to load the truck with hay', where the less patient-like goal, not the more patient-like, is coded as the object. The construction thus does not fit the transitivity hierarchy very well, hence an alternation. By contrast, 'to load the hay onto the truck' does not deviate from the hierarchy, it is therefore should be taken as the basic frame.

It seems the two subsidiary criteria are consistent in most of cases. Take an instance, in the English version of (1a), the more patient-like noun 'students' is coded as an object. Therefore, it should be taken as the alternation. The Mandarin version of (1a) is a less marked valency frame, it is thus the alternation. The two conclusions are consistent.

3). *De* Alternation seems to be Mandarin specific. However, its functional foundation is not totally language-specific. Some of them resemble English 'copular + predicative complement':

- (1) a. 他变得很聪明了。  
 ta bian-de hen congming le  
 he change-APPL very clever CSR  
 'He became very smart.'

In fact, the functional foundation is also shown somewhat in English:

- (2) a. He drives slow(ly).  
 He slow\*(ly) drives.  
 c. He drives his car slow?(ly).  
 d. He drives his car slow\*(ly) into the garage.

That (2a) with *slow* is allowed might be attributed to the complement-like nature of *slow*. Or in other words, *drives* in (2a) behaves somewhat as a copular verb. That (2c) with *slow* is marginal might be explained that it resembles a causative construction, where *slow* behaves like a predicate

complement. That (2d) is out, since there are already two arguments and thus *slow(y)* must be taken as an adverbial, hence the adverb form *slowly*.

(2) can be translated into Mandarin as follows.

- a. He drives slow(y).  
 b. He slow\*(y) drives.  
 c. He drives his car slow\*(y).  
 d. He drives his car slow\*(y) into the garage.

(3) a. 他 开得 很慢

ta kai-de hen man  
 he drive-APPL very slow  
 'He drives slow.'

b. 他 慢慢地 开

ta manmandi kai  
 he slowly drive  
 'He slowly drives.'

c. 他 把车 开得 很慢

ta ba che kai-de hen man  
 he BA car drive-APPL very slow  
 'He drives slow.'

d. 他 慢慢地 把车 开进 车库

ta manmandi ba che kai-jin cheku  
 he slowly BA car drive-into garage  
 'He drives his car slowly into the garage.'

What is specific in Mandarin is that all focused 'adverbials' are coded directly as complements with the help of the applicative 得 *-de*.

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## Leipzig Conference on Valency Classes

Leipzig, 14-17 April, 2011

Andrej Malchukov

### Leipzig Valency Classes Project: Goals and research agenda

## Introduction. Goals of the project

- Goals of the Leipzig Valency Classes Project:
  - Systematic cross-linguistic investigation of valency patterns in 20-odd languages, based on the Leipzig Valency Questionnaire
  - 70 verb list as a toy lexicon: which verbs cluster together in terms of coding and alternations across languages
  - publication of the volume "Valency Classes: a comparative Handbook" (edited by Comrie and Malchukov), which including general chapters, as well as chapters on 20-odd individual languages
  - publication of the database (edited by Haspelmath and Hartmann) with contributions on individual languages based on the Database Questionnaire

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## Introduction: Background

- The Project brings together several lines of research:
  - Systematic in-depth studies of the verbal lexicon in individual language, most famously by Levin (1993) for English (see also Apresjan's (1969) earlier study on Russian)
  - Lexicographic tradition of valency dictionaries
  - Typological studies of verb types
    - Lehmann's 1991 comprehensive ontology of predicate classes
    - Tsunoda's (1981; 1985) studies on transitivity explicitly attempting to make typological predictions (in the form of hierarchies)

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## Introduction: scope of the project

- look at coding
  - flagging (case/adpositions)
  - indexing (agreement/cross-referencing)
  - (to some extent) word order (in the absence of flagging and indexing)
- look at alternations
  - uncoded alternations (case alternations)
  - (verb-)coded alternations (voice alternations)
- See, Haspelmath, this workshop, for further discussion with respect to the database implementation

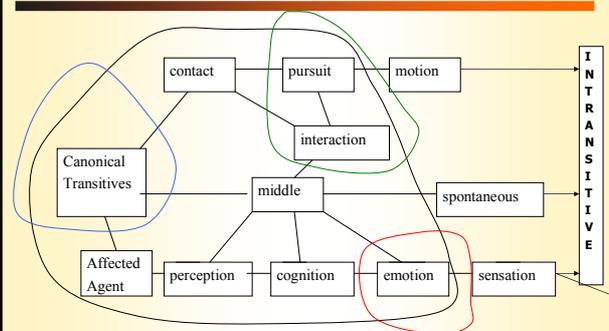
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## Coding

- Focus on clustering of verbs with respect to coding frames
  - in order to capture language-particular patterns
  - investigate to which extent they follow a universal pattern
- Both universal patterns and language-particular extensions of individual constructions can be captured in the form of transitivity hierarchies (Tsunoda (1981;1985), or semantic maps (Malchukov 2005))
- Below are shown extensions of coding frames on the two-dimensional map for Even (see Malchukov, draft)
  - the two-dimensional map from Malchukov 2005 (which builds on and decomposes Tsunoda's 1981 one-dimensional hierarchy), showing different "routes" from the transitive to intransitive domain (only subset of verbs figuring on Tsunoda's and Malchukov's hierarchies is included).
  - It is assumed that certain constructions extend contiguously across the map ("no gaps")

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## Transitive domain in Even



Black line: extension of the transitivity domain; red line instrumental marking; green line dative marking; blue line P-resultative construction

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## Universals and variation in argument coding

- Clearly, individual language will reveal language-particular clustering of arguments with respect to coding and alternations
- The basic question is whether there is a general underlying configuration with individual languages differing only in extensions of certain language-particular constructions across the map.
  - Currently computational implementations of semantic maps (see Wichmann, this workshop; Hartmann, this workshop); still the same question: how statistically robust is clustering of particular types and whether it can be interpreted as a hierarchy.
- A separate issue is to what extent results gathered for our toy lexicon of 70 verbs can be extended to the whole lexicon, to approximate a level of granularity of Levin's classification.
  - Note that the contributors are encouraged to provide further information about "other verbs" sharing the same pattern in the database contribution. And such generalizations should certainly be attempted in the discussion/conclusions sections of the contributions to the Handbook.

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## Coding: arguments and adjuncts

- The focus of the project is clustering of verbs with respect of argument marking
  - Less so on the distinction between arguments and adjuncts cross-linguistically, which is a problem that deserves to be studied in its own (see forthcoming SLE-workshop organized by the project members that addresses this issue)
  - Yet some results of this project can contribute to this enterprise, for example, concerning levels of under-specification of language-particular coding constructions

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## Valency classes: typological variation

- Some languages under-differentiate valency classes
  - no (clear) coding distinctions even within transitive and intransitive verbs (Indonesian may be such a limiting case, Gil, this workshop)
  - no (clear) distinction beyond transitive/intransitive distinction (cf. Nordhoff on Sri Lanka Malay)
- Other languages more fine-grained classification with subclasses of intransitive and transitive verbs
- The project investigates:
  - Typological determinants of such classification (e.g., consistently head-marking languages seem to provide more support to an opposition of monotransitive vs. ditransitive vs. (extended) monotransitive with an adjunct, as compared to dependent-marking languages)
  - Scenarios for collapsing valency classes (e.g., scenarios behind blurring transitive/intransitive distinctions)

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## Predicting coding cross-linguistically

- Malchukov (2005): 5 determinants of valency patterns, conceptualized as OT-style (potentially) conflicting constraints, or competing motivations
  - Role relations (FaithRole, similarity in roles favors similar marking)
  - Analogy (Transitive Default, analogical extension of the transitive pattern to other verb types)
  - Lexical class of the predicate (an independent variable only partially reduced to semantic features; cf. dispreference of the transitive pattern on the part of nominal predicates; cf. <DAT-NOM> and <NOM-NOM> patterns in Japanese; Kishimoto et al., this workshop)
  - Structural type (e.g., derived ditransitives (applicatives, causatives) may behave differently from basic ditransitives; Malchukov, Haspelmath, Comrie 2010)
  - Polysemy/inheritance (the coding pattern may be motivated only by one of the meanings of the verb; e.g., a verb meaning both 'throw' and 'hit', can take an allative pattern expected for the first meaning, less so for the second meaning)
- The project seeks to explain to what extent valency patterns can be predicted on the basis of these 5 variables

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## Coding and alternations

- The project studies interaction and also trade-offs between coding types and alternations.
- Thus, a language, may be under-differentiating with respect to coding, but allow segmentation of the verb lexicon once alternations are considered
  - thus, Indonesian is a particular striking case of underdifferentiation, yet different verbs apart from allowing a general underspecified construction allow for alternative constructions with prepositions (that is, partial disambiguation through case alternations)

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## Coding and alternations

- More subdivisions are also possible for languages with a richer coding inventories.
  - Thus, in Japanese, the constructions with the dative NI argument can be subdivided into 3 distinct types on the basis of alternations (Kishimoto et al., this workshop):
    - Dative NI (can be promoted to a subject in a passive construction)
    - Locative NI (can't be promoted to a subject in a passive construction)
    - Malefactive NI (with 'take'-verbs; alternates with the ablative)
- On the other hand, certain alternation can target different arguments which are coded differently, giving evidence for covert similarities between arguments

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## Alternations: typology

- Are there cross-linguistic lexical preferences for certain alternations?
- First, one needs to generalize across language-particular alternations

Uncoded alternations

- S=P ambitransitives (break)
- S=A ambitransitives (eat)
- A=S=P ambitransitives (wash, meet)
- S=P ambitransitives (break)
- S=A ambitransitives (eat)
- A=S=P ambitransitives (wash, meet)
- O/O alternations (give, load)

Coded alternations

- Decreasing:**  
 anticausatives/(agentless) passives  
 antipassives  
 reflexives/reciprocals
- Increasing**  
 causatives  
 applicatives  
 causatives/applicatives
- Rearranging**  
 applicatives

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## Alternations: lexical preferences

- A sample of transitivity alternations from 5 languages
  - English: labile verbs
  - Russian: reflexive voice (-sja)
  - Eskimo: ambitransitive indexing alternation (choice of transitive/intransitive agreement, Miyaoka, this workshop)
  - Mandinka: unmarked ambitransitive ("passive") alternation; Creissels, this workshop)
  - Japanese: basic ambitransitive alternation (suppletive, and detransitivizing; Kishimoto et al., this workshop)

	English	Russian	Eskimo	Mandinka	Japanese
'build'		+	(+)	+	+
'break'	+	+	+	+	+
'eat'	+		+	(+; drink)	
'wash'	+	+	(+)		
'meet'	+	+	(+)		

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## Markedness effects: taking meaning into account

- The general pattern emerges more clearly when one takes meaning of a polysemous form into account.
- Same 5 constructions from 5 languages, with the alternation effect indicated
  - anticausative (AC) S=P
  - (agentless) passive (PS) S=P
  - antipassive (AP) S=A
  - reflexive (RF) A=S=P
  - reciprocal (RC) A=S=P

	English (labiles)	Russian (-sja)	Eskimo (ambitr)	Mandinka (ambitr)	Japanese (ambitr)
'build'		PS	(?PS)	PS	PS
'break'	AC	AC	AC	AC	AC
'eat'	AP		AP	(AP: 'drink')	
'wash'	RF	RF	(?RF)		
'meet'	RC	RC	RC		

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## Markedness hierarchies

- This pattern shows consistency in the preferred interpretation of polysemous forms.
- The question to be addressed in a project is how strong is cross-linguistic evidence for lexical hierarchies going beyond preference for:
  - "natural unaccusatives" (freeze, break)
  - "natural antipassives" (eat, spit)
  - "natural reflexives" (wash),
  - "natural reciprocals" (meet).
- So far, some proposals have been made only for unaccusatives
  - (cf. discussion of inchoative-causative alternation in Nedjalkov 1969, Haspelmath 1993, Nichols et al. 2004)

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## Lexical hierarchies: subhierarchies?

- Extensions along each of the dimensions might involve a separate hierarchy (tentative):
  - Anticausative Hierarchy (cf. Haspelmath 1993)  
 freeze > burn > break > build
  - Antipassive Hierarchy  
 blink > eat > hit > kill
  - Reflexive Hierarchy  
 sit\_down > wash > hide > kill
- Verbs highest on the hierarchy are natural anticausatives, natural antipassives, natural reflexives
  - often they are unmarked (intransitives),
  - but if they are marked voice marking proceeds in accordance with the hierarchy

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## Valency Classes in Central Alaskan Yupik, an Eskimoan Language

Osahito Miyaoka

Kobe, Japan

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This is a brief survey of valency classes and patterns shown by them in Central Alaskan Yupik (CAY), an Eskimoan language by following the structures in the Contents above. While intended to give a minimum idea of the topic, it attempts to spotlight some cross-linguistically interesting features of the language.

CAY belongs to the Eskimo-Aleut family, with Eskimo consisting of five Yupik (or Western) languages and one dialect continuum of Inuit (or Eastern) which includes the well-known West Greenlandic (Woodbury 1984). It has been spoken in the southwestern Alaska and now also in major Alaskan cities by about 10,000 people (of 21,000 Yupiks), but is a very rapidly changing and severely endangered language, with fluent and traditional speakers getting fewer and fewer. The information comes from my fieldnotes and on-going documentation (Miyaoka 2010b). CAY forms are represented here by the new practical orthography which replaced the old one around 1972.<sup>1</sup>

**§2. Morphosyntactic preliminaries**

Morphologically CAY is an agglutinative language characterized by non-templatic polysynthesis (with no incorporation as a type of stem compounding) by means of a rich variety of derivational suffixes, which shows basically predictable phonological adjustments.<sup>2</sup> A functional variety of suffixes, some with a limited extent of recursiveness, are responsible for the remarkable degree of synthesis and for the extremely complex internal syntax, allowing in particular (i) *multivalent verbs* by way of multiple valency increases (incl. upper clause agent) and (ii) *transcategorical expansions*, the latter of which is beyond the scope of this paper. Many grammatical markers are *composite suffixes*.

Syntactically it is basically an *ergative* (absolutive-relative) language and is a *double-marking* language at the clause and the (attributive) nominal phrase level where grammatical relations are marked on both the head and the dependent simultaneously; thus both flagging and indexing are equally important. *Word order* is largely free, though possibly determined by discourse factors and minimally relevant to the expression of grammatical relations.

**§2.1. Verb and nominal inflection** CAY has three morphologically distinct categories, i.e. verbs, nominals, and particles (incl. a limited number of mostly second-word enclitics, interactive in general). A verb and a nominal are composed of one stem, derivational suffix(es), and one inflection (consisting of one to three inflectional suffixes), occurring in this particular order. A stem and an inflection are obligatory, but a derivational suffix is not, thus:

- (1) STEM<sup>1</sup> + DERIVATIONAL SUFFIX<sup>0-2</sup> + INFLECTION<sup>1</sup>

The superscript<sup>1</sup> on stem implies no compounding or noun incorporation and <sup>0-2</sup> means zero or many.

<sup>1</sup> I would like to thank Marianne Mithun and Anna Bugaeva who gave me comments and suggestions on the draft of this presentation.

<sup>2</sup> The letters *e, ng, g, r, q* stand for high-central vowel /e/, front velar nasal /ŋ/, front velar fricative /g/, back velar fricative /r/, back velar stop. The fricative *v, s, l, g, r* are voiced next to a voiced sound but voiceless next to a voiceless, but a voiceless one between voiced is written double (*vv, ss, ll, gg, rr*). The apostrophe (') stands for i) blocking of devoicing and ii) unpredictable consonant gemination. Miyaoka and Mather (1979) for orthographical details. The equal and non-equal signs (=≠) in this paper stand for *enclitic* and *non-enclitic bound phrases*.

<sup>3</sup> Though with only a small number of suppletive markers (e.g. *-vkar-*, *-cic-*, *§5.2.1*) and an extent of fusion in inflections.

Verbal inflection is used to mark i) mood and ii) person-number (subject or subject and object; hence intransitive or transitive, with one- or two-slot agreement), while nominal inflection is used to mark i) case, ii) number, and iii) person (possessor; optional). Number category includes singular, dual, and plural, and person includes first, second, third, and *reflexive third*.

Verb mood includes: (independent moods) *indicative, participial, interrogative, optative*; (subordinate) *connective*, and (cosubordinate) *appositional*<sup>3</sup>, which are all marked for person-number. On the other hand, there are seven cases for nominals: (1) *absolute and relative*<sup>4</sup> for core arguments, (2) *ablative-modalis, allative, locative*—for oblique (demoted) arguments and for adjuncts, and (3) *perlativae, equalis*—for adjuncts. An absolutive-case (or a relative-case) NP is subject to relativization.

P/S in the absolutive case and A in the relative control verbal indexing, with S and A as the subject and P as the object. Case marking of core NPs and verbal indexing are thus ergative, but this holds only for the third person arguments.<sup>5</sup>

The language has no morphosyntactically distinct class of adjectives and no pre- or post-positional clitics. There is a rich system of nominal demonstratives (thirty kinds) which have functions similar to definite articles in other languages; articles proper are absent in CAY. Free personal pronouns are used optionally for emphasis or when informationally inexpressible, and the absolutive-relative distinction is only made for a third person, which is used only with reference to humans.

**§2.2. Primary and extended verbs** Primary verbs, i.e. ones without valency extension, are of three kinds: intransitive (monovalent), monotransitive (bivalent), and ditransitive (trivalent). Arguments involved in each are given in §2.2.1.

### §2.2.1. Arguments in primary verbs

intransitive	S (may be <i>impersonal</i> [S <sub>IMP</sub> ])	§3.1
monotransitive	<i>agentive</i> : P#S=A <i>patientive</i> : P–S#A (A may be <i>impersonal</i> [A <sub>IMP</sub> ])	§3.2
ditransitive	<i>secundative</i> : (T) R A <i>indirective</i> : T (R) A	§3.3

As far as primary verbs are concerned, valency patterns are straightforward in terms of the coding and indexing frames, and show little subclassification:

Agentive monotransitive verbs show *uncoded antipassive* and (*TAM-sensitive*) *passive* alternation, while patientive ones are characterized by *uncoded mediopassive* alternation and *coded antipassives* (though impersonal patientives cannot be antipassive)—§3.2.1 vs. §3.2.2, §4.1, §5.1.5.

The impersonal argument (S<sub>IMP</sub> and A<sub>IMP</sub>) is some *natural process/force* and is subject to indexing (as 3<sup>rd</sup> person singular subject), but it cannot be expressed externally by a free-standing NP, that is, it is not subject to flagging.

### §2.2.2. Valency patterns of primary verbs

<sup>3</sup> An appositional mood verb is monopersonal in that it marks only one argument S or P (with A being correlative with the main clause subject), cf. §5.2.1.

<sup>4</sup> CAY relative case can not only be ergative (A) but also be genitive (G) for the dependant of an attributive phrase.

<sup>5</sup> If P/S and A/G refers to a first or a second person, the (dependant) NPs neutrally occur in the locative case (Miyaoaka 2010b: §2.7.4).

(3)

intransitive	Sabs V.subj[A]	§3.1
monotransitive	(S <sub>IMP</sub> abs) V.subj[S <sub>IMP</sub> ] Pabs Arel V.subj[A].obj[P]	§3.2.1, §3.2.2 §3.2.3
ditransitive	(A <sub>IMP</sub> rel) V.subj[A <sub>IMP</sub> ].obj[P] Tabm Rabs Arel V.subj[A].obj[T]	§3.3
indirective	Tabm Rall Arel V.subj[A].obj[R]	

Denominal verb stems (derived from noun stems) are intransitive or monotransitive, with one or two arguments supplied by the verbalizing suffix involved. There are no denominal ditransitive verbs.

**§2.2.3. Valency-increasing markers** Secondary (i.e. extended) verbs are morphologically characterized by argument increasing (and rearranging) by means of (4). They are responsible for a rich pattern of valency changes of the language (§6): There are two kinds of them, *simplex* (§5.1) and *complex* (§5.2). A complex verb introduces one or more upper-layer verbs to a simplex verb, cumulatively (thus A+A'+...). Despite a bi- or multi-clausal construction, this is morphologically a single verb by suffixation (thus neither a compound or a periphrastic verb like a serial verb). There is a continuation and an interrelatedness between a simplex and a complex verb. The latter shows a much more regular pattern the former. More focus will be directed to the appositive and the adversative E and their connection to the two valency-decreasing antipassive markers in (5).

(4)

simplex	A ( <i>causative</i> )	-c- +	* occur only after intransitives or roots * cf. complex causative A'
§5.1.1–4	E ( <i>applicative</i> ) (means/T) (place/R)	-uc- -ucke- -vike-	* wide range of roles incl. benefactive * valency rearranging as well as increasing
	E ( <i>adversative</i> )	-gi-	* malclausive 'on, to the disadvantage of'
	A <sub>IMP</sub> ( <i>necessitative</i> )	-narge- +	* may also be modality marker
complex	A' ( <i>causative</i> )	-kair-~cic- +	'make, let s.o.–'; cf. simplex A
	A' ( <i>directive</i> )	-sqe- +	'ask, tell s.o.–to'
§5.2.1–6	A' ( <i>speculative</i> )	-cuke- +	'think that s.o.–'
	A' ( <i>reportative</i> )	-ni-	'say that s.o.–'
	A' ( <i>ignorative</i> )	-ucit- +	'not know, be unsure that/whether s.o.–'
	A' ( <i>expectant</i> )	-nercit-	'wait s.o.–to'

+ less common or more specific alternative markers are given in footnotes.

E<sub>s</sub>, either applicative *-uc-* (E<sub>APP</sub>) or adversative *-gi-* (E<sub>ADV</sub>), is an extended argument with semantic role of 'experiencer', not in the more common sense of a recipient of a sensory impression or a psychic state,<sup>6</sup> but in its wider sense of an indirectly affected participant of some event or activity. It is possible not only with an intransitive, monotransitive (incl. impersonal patientive with uncoded A<sub>IMP</sub> in (2)), but also with a ditransitive verb. It can also occur after an antipassivized verb. E<sub>APP</sub> has a wider range of roles—benefactive, accompaniment, goal, recipient, etc.—than E<sub>ADV</sub>. E<sub>ADV</sub> can be benefactive. Given the variety of roles, two Es (E<sub>APP</sub> + E<sub>APP</sub> or E<sub>APP</sub> + E<sub>ADV</sub>) may coexist.

<sup>6</sup> CAY treats recipient of a sensory impression or a psychic state as A or S for purposes of grammatical expression.

$E_{APL}$  and  $E_{ADV}$  syntactically behave the same way except for one important respect (i.e. in relation to intransitive verbs: §5.1.2, §5.1.3, §5.3).  $E_{APL}$  + S serves as a patientive monotransitive (with P + A).

It is a remarkable fact that  $E_{APL}$  and  $E_{ADV}$  occur as the valency-decreasing antipassivizers (APAS) in (5). Interrelatedness between the two functions of increase and decrease is briefly touched upon §5.1.5.

Another extension is  $A_{MIP}$  which is *necessity or destiny*, distinct from the uncoded  $S_{MIP}/A_{MIP}$  in (2). Again, it cannot be expressed externally (like uncoded one). An extended  $A_{MIP}$  is possible with  $E_{APL}$  but apparently not with  $E_{ADV}$ .

A simplex verb extension (A, E, or  $A_{MIP}$ ) cannot stand after a complex verb (A').

Any argument, primary or coded, can eventually be indexed as a core (intransitive subject, transitive subject or object), and any argument other than  $S_{MIP}$  and  $A_{MIP}$  (primary or coded) can be flagged by a syntactic case (absolutive or relative) and can be relativized.

Any expanded verb, either simplex or complex, is patientive (§2.2.1), except for a complex verb with reportative complex *-ni-* (§5.2.4), thereby requiring coded antipassivization (by *-gi-*).

### §2.2.4. Valency-decreasing markers

(5)

decreasing	<i>antipassive</i>	-gi-	* cf. $E_{APL}$ ; most productive
§5.1.5-6		-uc-	* cf. $E_{ADV}$
		-kenge-	
	<i>pseudo-passive</i> <sup>7</sup>	-sci(u)-	* dynamic; generally adversative
		-gaur- / -gac-	* stative

\*\* phonological adjustments involved in the markers above: suffix-initial *u* is deleted after stem-final full vowel (*a, i, u*); *g* is deleted between two single vowels; *c* of *-cike-* alternates with *s* and *y*; suffix-initial *s* of *-sci(u)-* is deleted postconsonantially.

**§2.2.5. Multi-valent verbs and multifarious patterns** Most of the valency-increasing markers listed in (4) are very productive and can occur one after another, often recursively, with decreasing ones (esp. antipassivizers) in (5) intervening also recursively. Their varied combinations yield multivalent verbs with multifarious valency patterns, which makes it almost impossible to list up and explain all the patterns that a verb may occur in.

Since the number of arguments that can be indexed and flagged is limited to two core positions (subject and object), multivalent verbs with three or more arguments are obligatorily subject to the process of valency *reduction* such as demotion and deletion in order to promote the lower argument. Trivalent verbs (incl. primary ditransitive) require one reduction, quadrivalent ones require two, and so on.

*Demotion* is made from the absolutive to the ablative-modalis or from the relative to the allative. *Deletion* is limited to  $A$ ,  $A_{MIP}$  and  $A'$  ( $A''$ ...). In addition, reduction may also be attained by *subject coreference* specific to complex verbs (e.g.  $S/A = A'$ ,  $A' = A''$ ) as well as the cases of reflexivization and reciprocalization.

This leads us to recognize that CAY operates with its own argument hierarchy in view of accessibility or advancement to the absolutive status (§2.2.3, §6).

### §3. Basic patterns

There is a great number of *a-valent roots*, which are mainly emotional (e.g. 'afraid', 'lovely', 'lonesome', 'frustrated'), physical (e.g. 'throw', 'vocalize'), positional (e.g. 'open', 'bent', 'face down', 'upright', 'standing', 'hanging', 'dirt'). In order for them to be inflected, they are subject to an obligatory extension by one of a fairly limited number of root expanders as either intransitive or transitive verbs, as exemplified in (29). Representative lists of the two kinds and the more common expanders are available in Miyaoka (2010b: §36.2 and §36.3).

Primary-intransitive, monotransitive, and ditransitive-verbs respectively show the unanimous valency pattern as given in (3), with little subgrouping.

Of the eighty meanings in the database, 9 are denominal ('think about', 'slave', 'name', 'build', 'fill', 'load', 'rain', 'be a hunter', 'cook'), 3 are root-expanded ('shout', 'throw', 'wipe'), and 11 are extended, i.e. non-primary verbs ('fighten', 'dress', 'talk to', 'ask for', 'tell', 'kill', 'peel', 'sit down', 'bring', 'teach'). Out of the sixty-nine primary verbs (including denominals and root-expanded), 22 are intransitive, 37 monotransitive (22 agentive / 14 patientive incl. 1 impersonal), and 11 ditransitive. The CAY forms for the eighty are given in the relevant sections below.

#### §3.1. Intransitive verbs: <Sabs V.subj[S]>

This is the invariable pattern for intransitive verbs with no alternative frames. Intransitives include, among all, animate / agentive, inanimate / non-agentive verbs, adjectival verbs, but two other groups are represented below, (i) meteorological (season) verbs and (ii) denominal (copula-like) *relational* verbs (see fn.13 and §3.2.2.1):

- (6) a. *Kiag-kuq* *Mamtiellier-ni*  
summer-IND.3SG place-LOC.PL  
'It has become (is now in) the summer in Bethel.'  
b. *Kiag-nuk* *[ma-n'a* *qag-ne=llu]*  
summer-IND.3DU this-EX.ABS.SG outside-EX.ABS.SG=and  
'It has become (is now in) the summer here and in the north.'  
-location NP in the locative case in (a) but as intransitive subject in (b).
- (7) *[Ing-na* *angun]* *elinauriste-ngu-uq*  
that-EX.ABS.SG man.ABS.SG teacher-be-IND.3SG  
'That man (over there) is a teacher.'

in which the 'teacher' is not a core argument or a "copula complement" (Dixon 2002) but simply the head (noun stem) of the predicate. S argument ('that man') is a topic. (7) has the corresponding transitive relational verb (10).

Intransitive verbs of motion, e.g. *ame-* 'go out' as in (19), often occur with a locational adjunct, e.g. 'out of the river' (ablative-modalis) and 'to the mouth of the river' (allative), and many of them may be inflected transitively (uncoded transitivization): §4.2.1. They nevertheless should not be taken as monotransitive verbs, given the diagnostic evidence by adversative *-gi-* (§5.1.3).

The twentytwo verbs in the 80-verb database are intransitive: *qelme-* 'blink', *qurs-* 'cough', *mayor-* 'climb', *aqvaqur-* 'run', *aqume-* 'sit down', *qekkar-* 'jump', *ayag-* 'go'/'leave', *uitalar-* 'live', *ni(ge)l'ar-* 'laugh', *aarpag-* 'scream', *abangi-* 'feel pain', *tuqui-* 'die', *aqut-* 'play', *lituqe-* 'be sad', *kaig-* 'be hungry', *akag-* 'roll', *kic-* 'sink', *qalla-* 'boil', *kine-ngqa-* 'be dry', *(c)ellal-ir-* 'rain' [denominal; *(c)ella-llug-ir-* weather-bad-supply], *pisie-ngqa-* 'be a hunter' [denominal; cf. (7) 'be a teacher' above].

#### §3.2. Monotransitive verbs: <Pabs Arel V.subj[A] obj[P]>

CAY monotransitive verbs with P and A arguments are basically labile, being either transitively or intransitively

<sup>7</sup> The two in CAY are composite suffixes (§5.1.6-i, ii). CAY has no solid suffix whose function is productive passivization like the 'unreservedly productive' *-ni(ge)l'ar-* in West Greenlandic (Fortesque 1984: 266).

inflected (uncoded alternation, §4.1).<sup>8</sup> Morphosyntax necessitates classification of monotransitive verbs into two types –*agentive* with accusative alignment P and S=A and *patientive* with ergative alignment P=S and A. The latter type includes a fair number of impersonal patientive verbs with an impersonal A. As noted in §2, the A<sub>IMP</sub> (some natural process/force) cannot be external, hence no flagging.

**§3.2.1. Agentive monotransitives** This type of monotransitive verbs is represented by *nere-* ‘to eat’ in the following –(a) is transitive and (b, c) are intransitive, i.e. antipassive and passive (uncoded alternation):

- (8) a. *Angute-m neqa ner-aa* <Pabs Arel V.subj[A]obj[P]>  
man-REL.SG fish.ABS.SG eat-IND.3SG.3SG  
‘The man is eating the fish.’  
b. *Angun neq-mek ner-’uq.* <S/Aabs Pabm V.subj[S/A]>  
man.ABS.SG fish-ABM.SG eat-IND.3SG  
‘The man is eating a fish.’<sup>9</sup> –antipassive (“indefinite” P demotion)  
cf. coded antipassive for patientive verbs (9)c and §5.1.5)  
c. *Nega ner-’uq ak’a.* <S/Pabs V.subj[S/P]>  
fish.ABS.SG eat-IND.3SG already  
‘The fish is / has been eaten.’ –TAM-sensitive passive (A deletion).<sup>10</sup>

The passive alternation (c), which is lexically restricted, does not allow for the expression of agent. It is deleted.

There are twentytwo agentive monotransitives in the 80-verb database: *qep’ag-* ‘hug’, *tangvag-* ‘look at’, *tangr-* ‘see’, *nare-* ‘smell’, *nalunrit-* ‘know’, *yuar-* ‘search for’, *nuligc-* ‘follow’, *paic-* ‘meet’, *qayagpag-* ‘shout at’, *qam-* ‘say’, *N-li-* ‘build’ [denominal], *kaugur-* ‘hit’, *agur-* ‘touch’, *teglcg-* ‘take’, *ang’age-* ‘carry’, *atur-* ‘sing’, *milil-grnd*, *elg-* ‘dig’, *teglg-* ‘steal’, *nice-* ‘hear’, *kar-ir-* ‘cook’ [denominal from *kar-* ‘fire’], beside the illustrated *nere-* ‘eat’. No special valency pattern is shown by any semantic subclasses, say, the three verbs of perception, for instance.

**§3.2.2. Patientive monotransitives** This type of monotransitive verbs is represented by *allg-* ‘to tear’, though many of this type are not inchoative-causative “destruction verbs”: (a) transitive and (b) intransitive (uncoded alternation), i.e. medio-passive. By contrast with agentive (8)a, antipassivization (c) is a coded productive alternation by one of the three antipassivizers (§5.1.5):

- (9) a. *Angute-m kuvya-ni allg-aa.* <Pabs Arel V.subj[A]obj[P]>  
man-REL.SG net-ABS.3RSGSG tear-IND.3SG.3SG  
‘The man tears/tears his (own) net.’  
b. *Kuvya-a allg-tuq.* <Sabs V.subj[S/P]>  
net-ABS.3SGSG tear-IND.3SG  
1) ‘His net tears/tears (by itself).’ –taken as “medialization” (neutralization) between P and A<sup>11</sup>

<sup>8</sup> Many or perhaps all of the so-called “transitive-only” verbs (Jacobson 1984: 19, 1995: 116; Mithun 2000: 87), including ditransitives, will turn out to occur with intransitive inflection as well, within a special context.

<sup>9</sup> Note the resultant ABS#ABM alternation yields contrast in definiteness of ‘fish’.

<sup>10</sup> By means of a particle (like *ak’a* m.c.), a suffix (continuative/perfective *-ma-* [cf. Jacobson 1995: 208; Mithun 2000: 91-93], necessitative *-naryc-* [§5.1.4]), or an appositional clause (*nang-’laka* use up-APP.3.sg. ‘finishing it’).

- ii) ‘His net was torn (by someone).’ –passivization (A deletion), less common than i) above<sup>12</sup>  
–hence “medio-passives” for intransitives (like *allg-tuq*) for patientive monotransitives  
c. *Angun kuvya-minek allg-’uq.* <S/Aabs Pabm V-aps.subj[S/A]>  
man.ABS.SG net-ABM.3RSGSG tear-APAS-IND.3SG  
‘The man tore his (own) net.’ –coded antipassive, cf. (42) and (44).

Just like (8)c, (b-ii) above cannot have the agent expressed.

The thirteen patientive monotransitives in the 80-verb database are: *alt-ke-* ‘fear’, *assi-ke-* ‘like’, *umvua-qe-* ‘think’ [root-expanded above], *erur-* ‘wash’, *imga-ir-* ‘shave’ [denominal], *ikayur-* ‘help’, *kang-* ‘beat’, *ngqir-* ‘cut’, *kii-c-* ‘peel’, *iri-* ‘hide’, *okur-* ‘burn’, *per-ir-* ‘wipe’ [root-expanded], beside *allg-* ‘tear’. No valency pattern specific to any semantic subclasses is observed, except for impersonal patientives (§3.2.3 below).

The following two types of patientive monotransitive verbs (§3.2.2.1, §3.2.2.2) are characterized by a semantically atypical A argument.

**§3.2.2.1. Relational verbs -ke-** vs. intransitive *-ngir-* A very important class of patientive verbs is denominal *relational verbs* as the warp and weft of CAY morphosyntax (Miyaoaka 2009b), which are copula-like indeed but functionally much more than copulas in many languages.<sup>13</sup> Corresponding to the intransitive verb (7) marked by *-ngir-* (§3.1), there is a (patientive) monotransitive verb construction characterized by the verbalizing suffix *-ke-*, which yields a copula-like sentence (‘X is Z’s Y’) like the following:

- (10) *[Ing-na angun] elnairiye-k-aqa.*  
that-EX.ABS.SG man.ABS.SG teacher-have.as-IND.ISG3SG  
‘That man (over there) is my teacher; lit. I have that man as a teacher.’

where Y (‘teacher’), again, is not a core argument or a “copula complement” but simply the head (noun stem) of the predicate, while P argument is the topic (‘that man’) and A argument is the possessor (‘my’) for the head.

A detransitivized *-ke-* relational verb with dual subject is a reciprocal construction:

- (11) *aana-k-uk* (mother-have.as-IND.IDU)  
‘they(DU) are mother and daughter; lit. they two have each other as mothers’  
cf. *aana-ir-guk* (mother-be-IND.IDU)  
‘they(DU) are (two) mothers (but not related)’ –intransitive relational verb.

The transitive and intransitive pair of relational verbs with *-ke-* and *-ngir-* are also involved in the grammaticalization of (i) a fair number of composite suffixes as grammatical markers such as TAM, valency-modification, etc.,<sup>14</sup> (ii) being morphologically expanded into an inchoative pair *-k-sagrc-* (monotransitive) / *-ngir-rc-* (intransitive), yielding quaternary opposition (transitive / intransitive and stative / inchoative) in not only copular-like constructions (e.g. ‘he is / has now become my / a teacher’) but also in comparative verbs just below (§

<sup>11</sup> Instead of anticausativization. Medialization occurs not only of P and A but also of E and A (which is responsible for CAY antipassivization) §5.1.5. See Bergsland (1955: 108-9) for the use of “medialization” for West Greenlandic.

<sup>12</sup> See (28)b and (29)b also for two readings (i, ii), the crucial significance of which will turn out later (§5.1.5).

<sup>13</sup> Distinct from what has been traditionally called “relational” verb construction in the Algonquian literature since Bloomfield (1928)

<sup>14</sup> E.g. past marker *-lru-* (passim), *Aur-naryc-* (§5.1.4), and *E-’uake-* / *-’uake-* (§5.1.2; fn. 21).

3.2.2.2) and pseudo-passive (§5.1.6-ii), as summarized in §6.2-ii, and (iii) are productive devices for synchronic trans-categorical (or ‘cyclical’) expansions, though this last is beyond the scope of the present topic. Details are available in Miyaoaka (2010b:§20.4,§37,§45).

**§3.2.2.2. Comparative verbs** *-niqe-* vs. intransitive *-nru-*. Only the stative comparative degree (out of twelve) is illustrated; (a) transitive and (b) intransitive:

- (12) a. *Angvaq angva-ni-aa (~ ang-neq-aa)*<sup>15</sup> *pi-na (~ angva-na)*.  
 boat.ABS.SG big-more-IND.3SG.3SG thing(boat)-REL.1SG.SG  
 ‘The boat is bigger than mine (~ my boat) (lit. mine has the boat as the big(ger) one).’  
 –the pro-noun *pi-na* is more common here than *angva-na* with the repeated stem  
 b. *Angvaq angva-nru-iq pi-mni (~ angva-mni)*.  
 boat.ABS.SG big-more-IND.3SG thing(boat)-LOC.1SG.SG  
 ‘The boat is bigger than mine (~ my boat).’

The comparative markers *-niq(e)- / -nru-* and are derived from the abstract nominalizer and the monotransitive and intransitive relational verb and *-ke-* (§3.2.2.1) and *-niq-* (§3.1). A parameter for CAY comparative verbs can be non-adeverbal intransitive (e.g. ‘go, speak’) or monotransitive (e.g. ‘eat, freeze... more than’). A time word can be the standard of comparison (e.g. ‘hotter than yesterday’).

Note above that the comparee (‘the boat’) is in the absolutive case, functioning as P in (a) and S argument in (b), while the standard of comparison (‘[than] mine / my boat’) is in the relative case in (a), functioning as A argument, but it is in the locative case in (b). Accordingly, the standard of a transitive comparison can be relativized but not the one of an intransitive comparison (since this is an oblique).

In addition, the transitive vs. intransitive pair is coupled with a stative (30) vs. inchoative one (‘the boat is / becomes bigger than mine’) as mentioned in §3.2.2.1.<sup>16</sup>

Parallelism of the atypical A argument as the possessor is also found in the pseudo-passive (§5.1.6-ii; (46)b). More details of CAY comparative constructions in Miyaoaka (2009a).

**§3.2.3. Impersonal patientives:** <Pabs A<sub>IMP</sub>(rel) V<sub>sub</sub>[A<sub>IMP</sub>]obj[P]> This type of verbs (with no external A<sub>IMP</sub>) concern a natural process or force like freezing/heating/burning and changes in condition/shape/position (‘ripen’, ‘get dry’, ‘swell’, ‘bend’) and in body parts (‘heal’, ‘shed hair’, ‘get head sores’). The intransitive alternation, with A<sub>IMP</sub>-deleted passivization, is nearly equivalent or quasi-equivalent (≈) to the transitive:

- (13) a. *Nanvaq ciki-a*.  
 lake.ABS.SG freeze-IND.3SG.3SG <Pabs A<sub>IMP</sub>(rel) V<sub>sub</sub>[A<sub>IMP</sub>]obj[P]>  
 b. *Nanvaq ciki-iq*.  
 lake.ABS.SG freeze-IND.3SG <Sabs A<sub>IMP</sub>∅ V<sub>sub</sub>[S]>  
 a=b ‘The lake is frozen.’ –literally, (a) ‘it (A<sub>IMP</sub>) has frozen the lake’ (transitive) vs. (b) ‘the lake is frozen’ (intransitive), with a possible semantic difference (Miyaoaka 2010b:§34.3.1).

Impersonal patientives cannot have medialization like (9)b-ii, this for a good reason (see §5.1.5). The database includes only one verb *qerru-c-* ‘feel cold’, an impersonal causative from *qerru-* ‘freeze to death’, but CAY impersonal patientives include not only verbs of freezing/heating/burning (cell, melt, cool, smoke, etc.)

<sup>15</sup> The verb variations with/without *e* insertion depend on a speaker.

<sup>16</sup> This quaternary opposition is also the case with a superlative (‘the biggest’) and an equalitive (‘as big as’) comparison; see §6.2-ii.

but also of changes in body parts (heal, get sores, get chapped, shed hair / fur, etc.), changes in condition / shape / position (dry, get dirty, get rusty, shrink, swell, ooze, move, fly, etc.).

**§3.3. Ditransitive verbs:**  
 <Tabm Rabs Arel V<sub>sub</sub>[A]obj[R]> secundative pattern  
 <Tabs Rall Arel V<sub>sub</sub>[A]obj[T]> indirective pattern  
 the choice of which is lexically determined

As mentioned in §2, the demotion of one argument in order for a ditransitive verb to be inflected. T and R are demoted respectively to the ablative-modalis or the allative (as parenthesized in (2)). The ditransitive ‘give’ is illustrated: Note R in (a) secundative and T in (b) indirective are encoded as the transitive object and T in (a) and R in (b) are demoted to one of the oblique cases.

- (14) a. *Angute-m qimuga neq-mek ciki-r-aa*.  
 man-REL.SG dog.ABS.SG fish-ABM.SG give-IND.3SG.3SG  
 ‘The man gave fish to the dog.’  
 b. *Angute-m neqa wange-nun tun-aa*.  
 man-REL.SG fish.ABS.SG 1SG-ALL sell-IND.SG.3SG  
 ‘The man sold the fish to me.’

The two types of ditransitive constructions are correlated in valency pattern with two types of complex transitives (1 vs. 2) and trivalent applicatives (non-recipient vs. recipient) applicatives, as mentioned in §5.2 and §6.

If valency rearrangement is made by the composite applicative *-uteke-* or *-vike-* (§5.1.2), a secundative verb becomes indirective, or vice versa. See e.g. (15)b and (37)b.

A ditransitive verb may be (unencoded) passive, e.g. *ciki-r-* with R as subject and A deletion in the following (a), as is the case with (8)b-i for patientive monotransitives. But the indirective *tune-* is used, the valency rearrangement is obligatory as in (b):

- (15) a. *Angun ciki-lru-iq neq-mek* <S/Rabs Tabm V<sub>sub</sub>[S/R]>  
 man.ABS.SG give-PT-IND.3SG fish-ABM.SG  
 ‘The man was given fish.’  
 b. *Angun tune-vike-lru-iq neq-mek* <S/Rabs Tabm V<sub>sub</sub>-vike.subj[S/R]>  
 man.ABS.SG give-PT-IND.3SG fish-ABM.SG  
 ‘The man was given/sold fish.’

Medialization is not possible with ditransitive verbs, but antipassivization occurs as a coded alternation.

The verb ‘give’ as above has two separate stems with the secundative and the indirective alignment, while all the other ditransitive verbs have coded alternations, i.e. a primary stem, either secundative or indirective, may be rearranged into indirective or secundative particularly by the applicative *-ac-* or *-vike-* in (4), as is shown by the ten ditransitives in the database (secundative / indirective): *ac-ir-* ‘name’[denominal], *nas-vic-* / *nas-vag-* ‘show’, *ciki-r-* / *tune-* ‘give’, *tiqu-r-* / *tiqu-qe-* ‘send’, *mitqar-* / *mitqa-ac-* ‘throw’, *puing-vike-* / *puing-* ‘tie’, *elli-vike-* / *elli-* ‘put’, *patu-* / *patu-c-* ‘cover’,<sup>17</sup> *imr-* / *imr-ac-* ‘fill’, *ucilir-* / *ucil-ac-* ‘load’, and *cing-vike-* / *cinge-* ‘push’. Three of them, *acir-*, *imr-*, and *ucilir-*, are denominal ditransitives from the noun stems *acir-* ‘name’, *imar-* ‘content’, and *ucir-* ‘load’ with the verbalizing suffix *-ir-* ‘supply with’ (cf. intransitive *(c)ellalir-* ‘rain’, §3.1).

<sup>17</sup> The indirective *patu-c-* is derived not by the causative *-c-* but by applicative E-*ac-*, with regular deletion of *r* (see note \*\* for (5)), cf. homophonous *patu-c-* ‘cover’ (patientive transitive) with the causative A-*c-*.

More details about ditransitive verbs are available in Miyaoka (2010a).

#### §4. Uncoded alternations

Major uncoded alternations that are more or less restricted to certain verbs include two types:

##### §4.1. Uncoded detransitivization

As already illustrated (§3.2.1 through §3.2.3), monotransitive verbs show uncoded and (generally) productive detransitivization, that is, antipassive and (TAM-sensitive) passive alternations relevant to agentive verbs and (ii) medipassive alternation relevant to patientive verbs, e.g. (8).

A limited extent of verbs also have uncoded reflexive and retroflexive alternations, though some verbs require (or prefer to) coded ones, see §3.2.2.1 and §5.1.2-ii.

i) *Reflexives* concur with a reflexive pronoun in the ablative-modalis case:

- (16) *Qimuga*    *evayg-ŋq*    *ellmi-nek*  
 dog.ABS.SG    shake-IND.3SG    3RSG-ABM  
 ‘The dog is shaking / brushing himself (off snow).’

- (17) *Tun-ua*    *wang-nek*    *Agayut-mun*.  
 give-IND.1SG    ISG-ABM    God-ALL.SG  
 ‘I am giving (voluntarily surrender) myself/to God.’  
 ~ *Ciki-utek-ua*    *wang-nek*    *Agayut-mun*, with valency rearrangement.

ii) *Reciprocals* with dual subject, often concurring with a reflexive pronoun

- (18) *Ikayur-tukuk*    *wangkug-nek*.  
 help-IND.1DU    IDU-ABM  
 ‘We(DU) are helping each other.’

##### §4.2. Uncoded transitivity

Two kinds of uncoded transitivity (of intransitive verbs) are found, that is, (i) locational alternation and (ii) causative alternation. These are patterns now in marked disuse among speakers, by contrast with uncoded detransitivization (§4.1).

**§4.2.1. Locational alternation** This alternation is found with many intransitive verbs of motion. With uncoded P, the primary S becomes A. A transitive construction like (b) in the following is employed mostly by the older generation, though to different extents depending upon speakers, but it seems to sound odd or unnatural to younger speakers in general.

- (19) a. *Angyar-pak*    *kuig-mek*    *an-ŋq*  
 boat-big.ABS.SG    river-ABM.SG    go.out-IND.3SG  
 ‘The big boat went out of the river.’  
 b. *Angyar-pi-t-m*    *kuik*    *an-aa*.  
 boat-big-EV-REL.SG    river.ABS.SG    go.out-IND.3SG.3SG  
 ‘The big boat made it out of the river (at full tide).’

An opposite or the other way round interpretation of taking the verbs basically as monotransitive instead of intransitive is rejected by the diagnostic property of the adversative E-*g/-* (§5.1.1.3) that the E argument (with the role of sufferer) becomes a transitive subject, when added to a intransitive verb, but a transitive object, when added to a transitive.

In the following example with *teki-* ‘arrive (at place, time)’, the uncoded transitive alternation (b) is subject to uncoded antipassivization in (c), thus with ablative-modalis NP, like (8)b above since it is an agentive monotransitive verb:

- (20) a. *Tekit-ŋq*    *[u-t-mun*    *ene-mun]*  
 arrive-IND.3SG    this-EX-ALL.SG    house-ALL.SG  
 b. *Tekit-aa*    *[u-na*    *ena]*.  
 arrive-IND.3SG.3SG    this-EX.ABS.SG    house.ABS.SG  
 c. *Tekit-ŋq*    *[u-t-mek*    *ene-mek]*.  
 arrive-IND.3SG    this-EX-ABM.SG    house-ABM.SG  
 a ~ b ~ c ‘He arrived at this house.’

–with a slight semantic difference that (b), as contrasted to (a), implies ‘his’ arrival at ‘this house’ despite some doubt, uncertainty, limit or comotes ‘accidentally, happen to’.<sup>18</sup> (c) is an antipassivization of (b).

The uncoded locational object may also be a time noun:

- (21) a. *Up herkaq*    *[qabn-ŋ-m*    *ella-m]*    *tekit-aa*.  
 spring.ABS.SG    outside-EX-REL.SG    weather-REL.SG    arrive-IND.3SG.3SG  
 ‘the weather outside became (arrived at) the spring.’  
 b. *Agayuney*    *tekit-lukta*, ...  
 Sunday.ABS.SG    arrive-APP.3SG  
 ‘arriving at Sunday, i.e. until Sunday’.

The uncoded locational P argument may be relativized:

- (22) *kuik*    *kuime-ki-t*    *angate-m*  
 river.ABS.SG    swim-RLVZ-ABS.3SG.SG    man-REL.SG  
 ‘the river that the man is swimming’  
 cf. *kuim-ŋq* ‘i/he swims’ vs. *kuim-aa* ‘i/he is swimming it’.

For other verbs of motion attested with this alternation which include ‘go down’, ‘go up’, ‘jump over’, ‘(liquid) ooze, flow out on’, ‘land at’, see Miyaoka (2010b:§3.4.1).

##### §4.2.2. Causative alternation<sup>19</sup>

Both impersonal (a) vs. personal (b) causation are shown:

- (23) a. *lqtu-a*    *kuik*    *ataam*.

<sup>18</sup> Accordingly often accompanied by adverbial adjuncts *alpaŋaq* ‘suddenly’ or *aya-inamemini* (CNN.3RSG) ‘while I was going on my way’.

<sup>19</sup> Major type of CAY causatives are coded, that is, suffixal as described in §5.1.1 (simplex) and §5.1.6 (complex). The language has no analytical causatives.

- wide-IND.3SG.3SG river.ABS.SG look/heey  
 'Hey, the river is (has become) wide, lit. *it* ( $A_{MP}$ ) has widened it (unnoticed by hearer)']  
 cf. intransitive *iqtu-iq* (IND.3SG) *kaik* 'the river is wide' –mere statement  
 b. *iqtu-an* *qasp-e-l-a-n*  
 wide-IND.2SG.3SG parka-EV-make-RLVZ-ABS.2SG.3SG  
 'You(SG) made your parka (lit. your made parka) too wide.'

At least some of the speakers who accept the transitive construction seem to perceive that the transitive alternate often implies a mirative sense of the speaker noticing or encountering (with surprise) some natural or supernatural change / force involved, or something that is unseen or unnoticed by the hearer ('here it is'). This leads to frequent co-occurrence of attention-calling interjectional particles like *atam* 'look!' as above - see also (26).

Acceptability is generally lower for  $A_{MP}$  as in (a) than for A as in (b), but transitive alternations with  $A_{MP}$  are found at least with adjectival verbs such as 'be small', 'be big', 'be wide', 'be short', 'be clever', 'be tasty'. Personal A only is attested for verbs as 'be dirty', 'be hard', 'be little', 'be heavy/light' at least.

CAY color terms belong to this group and show the causative alternation:

- (24) a. *Kelipa-a* *tungu-iq* ~ *tungu-a*.  
 bread-ABS.3SG.3SG black-IND.3SG ~ -IND.3SG.3SG  
 'Her bread is black; *it* ( $A_{MP}$ ) has blackened her bread.'  
 b. *Ara-m* *tungug-a* *mingug-a-ni*.  
 woman-REL.SG black-IND.3SG.3SG paint-RLVZ-ABS.3RSG.3SG  
 'The woman made her painting (painted one) too black.'<sup>20</sup>

Another group of monominal verbs which are subject to impersonal causative alternation consists of several kinds of denominal verbs (including relational verbs, §3.2.1):

- (25) *Tep-liq-aa* ~ *Tep-liq-iq* *issuriq*.  
 smell-affected-IND.3SG.3SG ~ -IND.3SG seal.ABS.SG  
 'The spotted seal smells bad.'  
 (26) *Cil-va-u-gaa* ~ *Cil-va-u-guq* *atam* *Nac'iq*.  
 ear-big-be-IND.3SG.3SG ~ -IND.3SG look name.ABS.SG  
 'See, Nac'iq is big-nosed.'

Other kinds of denominal verbs are formed by such verbalizing suffixes as 'acquire', 'have a cold-', 'have a good-', 'be in a bad condition in'.  
 Finally, a number of motion verbs also exhibit the  $A_{MP}$  causative alternation, such as 'go away', 'move', 'roll':

- (27) *Akag-aa* ~ *akag-tuq* *angqa-a*.  
 roll-IND.3SG.3SG ~ -IND.3SG ball-ABS.3SG.3SG  
 'His ball is rolling, lit. *it* rolls his ball.'  
 –transitive form much less common.

<sup>20</sup> Note the contrast between the reflexive third person possessor for 'her (own) painting' vs. the third person for 'her bread', triggered by the impersonal vs. personal A.

More details and examples of uncoded causative alternation are available in Miyaoaka (2010b:§33.4.2,§33.4.3).

### §5. Coded alternations

Given the variety of valency-increasing suffixes (simplex and complex) and their (limited) cumulativity, verbs can be multivalent, sometimes with six or seven arguments at least. See §5.3 for the argument hierarchy for case assignment in view of accessibility to the absolutive status. Given the great variety of dynamic processes for reducing them to either one or two core argument status, the valency patterns for extended verbs are too multifarious to be exclusively listed up, unlike those of primary verbs.

#### §5.1. Simplex verbs

**§5.1.1. Causative A:** -c- 'make' (coercive).<sup>21</sup> By contrast with the other valency-increasing markers, this is only possible with i) intransitive verbs and ii) postural roots, yielding patientive monotransitive verbs P(=)A; the original S becomes P. Just like patientive monotransitives mentioned in §3.2.2, the derived verbs may undergo a further detransitivization like (9)bc. This may be regarded as a direct causation, while causative complex verbs with A' (§5.2.1) which may be regarded as an indirect causation. See uncoded causatives (§4.2.2) also.

- (28) a. *tuq-iq* (IND.3SG) 'he died'  
 b. *tuq-t-aa* (IND.3SG.3SG) 'he killed her/it', with the regular change of -c- to -t-  
 c. *tuq-t-iq* (IND.3SG) i) 'he choked', ii) 'he killed himself' (with reflexive pronoun *eliminek*)  
 d. *tuq-c-i-iq* (APAS-IND.3SG) 'he killed (s.o./s.t.)'–§5.1.5  
 –compare (b) with causative complex verb (47)a 'he is making/letting her die', which may be coercive or permissive (§5.2.1):
- (29) a. *nanger-t-aa* (IND.3SG.3SG) 'he stood her/it up, he helped her to stand up'  
 b. *nanger-t-iq* (IND.3SG) i) 'she/it stood up', ii) 'she/it was helped to stand (by s.o.)'.

#### §5.1.2. Applicative E:

-*uc-* / -*uteke-* and -*vike-*  
 i) -*uc-*, with roles of accompaniment, addressee, goal, beneficiary (or maleficiary), and recipient. The  $E_{APL}$  is possible not only with intransitives (33), monotransitives (30), (30), (31), but also with ditransitives (32). See §6.2-i for correspondence of trivalent applicative constructions (non-recipient vs. recipient) from monotransitive verbs with two types of ditransitive verbs (§3.3) and of trivalent complex verbs (§5.2):

- (30) *Nalaq-ut-aanga* *irni-a-ma* *sas' a-mek*.  
 find- $E_{APL}$ -IND.3SG.1SG child-REL.1SG.3SG watch-ABM.SG  
 'My child found a watch for me.' –beneficiary E  
 –cf. *nalaq-aa* (IND.3SG.3SG) 'he found it', *nalaq-iq* (IND.3SG) 'it has been found', with patientive monotransitive *nalaq-'find'*.
- (31) *Imi-ut-aa* *emeq* *qalla-mun*.  
 fill- $E_{APL}$ -IND.3SG.3SG water.ABS.SG pail-ALL.SG  
 'She poured the water into the pail.' –recipient-like E on patientive *imi-'fill'*.
- (32) a. *naasya-ut-aanga* 'he showed (s.t.; ABM) (to s.o.; ALL) for me'  
 show- $E_{APL}$ -IND.3SG.1SG—from indirective *naasya-'show'*

<sup>21</sup> And less common +*cay-* / +*cayra-* 'make s.t. -er', +*cip-* 'wait / let – (to)' ('causation without direct effort'; Mithun 2000: 100), and -*yge-* 'make repeatedly'.

- b. *paŋig-ut-aqa* 'he brought (s.t.; ABM) (to s.o.; ALL) for her'  
bring-E<sub>ADV</sub>-IND.3SG.3SG—from secundative *paŋig*- 'bring (food)'.

With intransitive verbs, the applicative E (but not adversative E) becomes P, while the primary S becomes A (cf§5.1.3): <P(E)abs A(Strel V.subj[S].obj[E]>

- (33) a. *Kičaq* *kit-ıq* 'The anchor sank.'  
anchor.ABS.SG sink-IND.3SG  
b. *Kiča-m* *kis-ıq-aŋga* 'The anchor sank with me, i.e. I (entangled) sank along with the anchor.'  
anchor-REL.SG sink-E<sub>ADV</sub>-IND.3SG.1SG

Only with intransitive verbs (but not with monotransitives or ditransitives as above), the applicative E *-ıq-* and the adversative E *-gı-* show a contrast in view of argument hierarchy (§5.6), as illustrated with (38). Compare (35b) with adversative (38)a ('the seal sank on me'), which will show the opposite person relationship (IND.1SG.3SG) in verb inflection.

Two applicative Es may occur ('he spoke English to s.o. for s.o.') or be reduplicated for emphasis, and an applicative E may be followed by an adversative E ('he went with (took away) s.t. to the disadvantage of her').

A part form the above-mentioned contrast of the applicative E *-ıq-* against the adversative E *-gı-* in relation to the intransitive S, it is to be mentioned beforehand, it would be most important that both the E markers also function as antipassivizers (APAS).

- ii) *-ıq-* for reflexives/reciprocals, cf. (16) through (18) in§4.1 for uncoded reflexives/reciprocals

- (34) a. *Qemr-ut-ıq* *elimi-mek*.  
angry-E<sub>ADV</sub>-IND.3SG 3RSG-ABM  
'He is angry at himself.'

- b. *Qemr-ut-uk* (IND.3DU) 'They(DU) are angry at each other.'

iii) *-ıteke-* and *-vike-*,<sup>22</sup> the former of which adds instrumental P or replaces R with T, while the latter adds locational P or replaces T with R.

- (35) a. *qıya-tek-aqa* 'I am thankful/glad of it/him; I have it/him as reason for being thankful'  
b. *qıya-vik-aqa* 'I am thankful/glad for it/him; I have it/him as place for being thankful'  
*-qıya-* 'be thankful, glad', *-aqa* IND.1SG.3SG

- (36) *Nuk a-m* *namıq* *kımar-vik-aq*.  
name-REL.SG lake.ABS.SG swim-place-IND.3SG.3SG  
'The lake is where Nuk'aq swims.'

- (37) a. *Čikıř-aqa* *qımuŋge-mek* *irıñı-aq*.  
give-IND.1SG.3SG dog-ABM.SG child-ABS.1SG.SG  
'I gave the black dog to my child.'—secundative ditransitive

<sup>22</sup> Both of which are composite suffixes from relativizers *-ıq-* (means, instrument) and *-vıg-* (place) followed by the transitive relational verb *ke-* 'have—as' (§3.2.2.1).

- b. *Čikıř-ıteke-aqa* *qımuŋga* *irıñı-mıñı*.  
give-means-IND.1SG.3SG dog.ABS.SG child-ALL.1SG.SG  
'I gave the black dog to my child (it is the black dog I gave away to my child).—indirective ditransitive.

Cf. also (15)b.

**§5.1.3. Adversative E: *-gı-*** Introduces an adversative E argument, exclusively with the role of sufferer, hence E<sub>ADV</sub>, though it can be benefactive depending upon verbs' semantics and contexts. As such, CAY adversative constructions are primarily transitive, though they may be subject to detransitivization.<sup>23</sup>  
With intransitive verbs like *kič-* 'sink' below, the adversative E (experientive) becomes A, while the primary S becomes P:<P(S)abs A(E)rel V.subj[S].obj[E]>—this in contrast with applicative E which becomes P (§5.1.2). Compare (33)b with the following (a), showing the opposite person relation of 3SG.1SG vs. 1SG.3SG. The transitive (a) is quasi-equivalent to its detransitivized, i.e. antipassivized, (b):

- (38) a. *Kič-t-aqa* *maklaar-t-a-qa*.  
sink-E<sub>ADV</sub>-IND.1SG.3SG young seal-catch-RLVZ-ABS.1SG.SG  
cf. (33)a *kič-ıq* (IND.3SG) 'it sank'  
b. *Kič-t-ıngga* *maklaar-t-a-mnek*.  
sink-E<sub>ADV</sub>-IND.1SG young seal-catch-RLVZ-ABM.1SG.SG  
a ~ b 'The young (spotted seal) I caught sank on me (me negatively affected), I had my caught seal sunk.'

By contrast, the following has the agentive monotransitive *nere-* 'eat'. Note that the affected participant or experiencer (1SG) is the subject in (38) but is the object in (39):

- (39) a. *Ner-t-ıngga* *neqa-m* *neqa-mnek*. <Pabm E<sub>AD</sub>abs Arel Vsubj[A].obj[E<sub>ADV</sub>]>  
eat-E<sub>ADV</sub>-IND.3SG.1SG fish-REL.SG bait-ABM.1SG.SG  
'The fish ate my bait (on me).—with obligatory demotion of P (due to trivalency)  
cf. (8)a *nere-aq* (IND.3SG.3SG) 'he eats it'  
b. *Ner-t-ıngga* *neqa-mnek* <Pabm E<sub>AD</sub>abs A0 Vsubj[E<sub>ADV</sub>]>  
eat-E<sub>ADV</sub>-IND.1SG bait-ABM.1SG.SG  
'I had my bait eaten.—adversative experience is retained by A demotion.

An example of patientive monotransitive verb in the adversative construction would be in order, but it will be postponed until§5.1.5 because of two readings, one of which is antipassive: see (44).

Other verbs attested in adversative constructions include: [intransitive] 'die', 'extinguish', 'go out', 'flow out / ooze', 'fly away', [monotransitive] 'steal', 'take (away)'; 'hide', 'bruise', 'lose', 'acquire', 'find', 'wash'; 'freeze', etc. Atmospheric verbs occur instead with the applicative *-ıtt-* for adversative constructions.<sup>24</sup>

Incidentally, as is clear from the indexing in (38) and (39)a, E<sub>ADV</sub> *-gı-* serves as a diagnostic of intransitive vs. monotransitive verbs, as mentioned in§4.2.1.

Though rarely, an adversative E may occur after an applicative E.

**§5.1.4. Impersonal A: *-narıge-*** 'necessitate—to'.<sup>25</sup> Introduces impersonal A (although it often serves merely as a

<sup>23</sup> I am aware of a possibility of a causative construction for the adversative verbs and of the similarity, say, to the Japanese

'adversative-passive', but the CAY argument E is not taken here as causative, cf. P>E<sub>ADV</sub>>A vs. P>A>A' (§6.1).

<sup>24</sup> E.g. *qanı-a-a-ıngga* 'it is snowing on me', with the same person relation of (33)b:3SG.1SG instead of (38)a 1SG.3SG.

<sup>25</sup> Less common *-narı-* 'be time-wise necessitated to, be time to', *-legnarıge-* 'be a good time to'.

modality marker ['should'] with no valency increase). As mentioned (§2.2), the extended argument  $A_{IMP}$  does not co-occur with  $E_{ADV}$ . It is illustrated below only with a monotransitive *ner-e-* 'eat' (40) and a secondative ditransitive *cihi-* 'give' (41), thus forming a quadrivalent impersonal verb. (40) has the marker serving merely as a modality marker and has no connection to the valency topic, but is given just for comparison with (40)—note the difference in the indexing between the two. More details about (coded) impersonal verbs, including their case assignment processes (as distinct from modality), are available in Miyaoaka (2011, esp. 479–485).

- (40) a. *Ner-narq-aanga* *neq-mek* <Pabm Aabs  $A_{IMP}(rel)$  V.subj[ $A_{IMP}$ ].obj[A]>  
eat-NEC-IND.3SG.ISG fish-ABM.SG  
'I have to eat fish.'—with P demoted  
cf. the contrastive person relation in the primary constructions:  
*ner'-aqa* (IND.1SG.3SG) 'I am eating it' vs. *ner-aanga* (IND.3SG.ISG) 'he is eating me'  
b. *Ner-narq-aa* *neq-mek* <Pabm S/A abs  $A_{IMP}\emptyset$  V.subj[S/A]>  
eat-NEC-IND.1SG fish-ABM.SG  
'I should eat fish.'—with  $A_{IMP}$  deleted in detransitivization.  
cf. *ner'-aa* (IND.1SG) 'I am eating (s.t.)' (uncoded antipassive).

- (40') a. *Ner-narq-aqa* *neqa* <P abs A rel V.subj[A].obj[P]>  
eat-VV m-IND.1SG.3SG fish.ABS.SG  
'I should eat the fish (e.g. before a dog eats it).'  
b. *Ner-narq-aa* *neq-mek* <P abm S/A abs V.subj[S/A]>  
eat-VV m-IND.1SG fish-ABM.SG  
'I should eat fish (right away).—with P demoted.

- (41) a. *Angun* *cihi-narq-aa* *akata-mek*  
man.ABS.sg. give-NEC-IND.3sg.3sg. ice.cream-ABM.sg.  
i. 'The man has to be given ice cream.' (less acceptable) <Tabm R abs A $\emptyset$   $A_{IMP}(rel)$ >  
ii. 'She must give ice cream to the man.'  
b. *Angun* *cihi-narq-uq* *akata-mek*  
man.ABS.sg. give-NEC-IND.3sg. ice.cream-ABM.sg.  
'The man must be given ice cream.'—with both  $A_{IMP}$  and A deleted.

Next, the following two (§5.1.5, §5.1.6) are valency-decreasing markers:

**§5.1.5. Antipassive:** *-gt-*, *-uc-*, *-kange-* for patientive verbs (§3.2.2); as contrasted with uncoded antipassives for agentive verbs, §2.1 and (8b). The first marker is the most productive, and the next two are lexically much more restricted. A verb may use a second antipassive in addition to the productive one. The two less productive markers, if any, may not be equally common, as some speakers may prefer one to the other. If both are used, there may be some appreciable difference:

The first two *-gt-* and *-uc-* are illustrated. The following with *-gt-* is a repetition of (9):

- (42) *Angun* *kavya-minek* *allg-i-uq* <S/Aabs Pabm V-aps.subj[S/A]>  
man.ABS.SG net-ABM.3RSGSG tear-APAS-IND.3SG  
'The man tore his (own) net.'—repeated again as (44)b-i.

- (43) *Nalag-ut-uq* *pi-ya-llr-amek*  
find-APAS-IND.3SG thing-wish-VNrl-ABM.3SGSG  
'He found what she wanted.'

*nalag-ut-uq* ~ *nalag-i-uq*.

It is noteworthy that the first and the second antipassive markers as in (42) and (43) are identical with the adversative *-gt-* and applicative *-uc-* (see (4)§5.1.3, §5.1.2, and cf. Mithun 2000: 97), which suggests a parallel pattern between an antipassive and an applicative in this language. This bifunctionality would actually be the same problem as the two readings of a (uncoded) detransitized form of patientive verbs like (9)b, (28)c, and (29)b. The detransitized (9)b *allg-i-uq* (with patientive monotransitive *allg-* 'tear', for instance, has two readings of i) 'it tears/tore (by itself)' with medialization between P and A (cf. fn. 10) and ii) 'it was torn (by someone)' with A deletion.

In order to grasp the nature of CAY antipassives (42), we have to consider the postponed adversative construction with a patientive verb, mentioned just after the example (39), which is now given below:

- (44) a. *Kass'-a-m* *allg-i-a* *angun* *kavya-amek*  
white.man-REL.SG tear-E-IND.3SG man.ABS.SG net-ABM.3SGSG  
'The white man tore his (man's) net on the man; the white man tore the man's net.'  
cf. (9) *allg-gaa* 'he tears/tore it'  
b. *Angun* *kavya-minek* *allg-i-uq* <S/Aabs Pabm V-aps.subj[S/A]>  
man.ABS.SG net-ABM.3RSGSG tear-APAS-IND.3SG  
i) 'The man tore his (own) net.'—medialization  
ii) 'The man had his (own) net torn.'—passivization, accepted only by a limited number of speakers.

The first of the two readings of the detransitized (b) is exactly the antipassive (42) and the second is adversative. Just like the detransitized (9) *allg-i-uq* (with *allg-* 'tear') has two readings of i) 'it tears/tore (by itself)' with medialization between P and A and ii) 'it was torn (by someone)' with A deletion, a detransitized form of an adversative *-gt-* coded verb, for instance, is subject to the same two processes, i.e. medialization (between E [maleficiary] and A, in this case) and passivization (A deletion), which respectively yield (42)=(44)b-i and (39)b, that is the antipassive and the intransitive adversative. This is exactly the same pattern with *-uc-* coded verb which has the two readings, antipassive and intransitive applicative (incl. beneficiary).

It should be now clear that, as mentioned in §2.3, impersonal patientives cannot have medialization like (9)b-i, though they can have passivization like (9)b-ii, thus (13) *cihi-ut-uq* 'it (e.g. lake) is frozen'. By the same token, an impersonal patientive verb cannot have an antipassive. Something impersonal cannot be medialized with P or E (either maleficiary or beneficiary).

An antipassivizer may occur not only after patientive monotransitives (§2.2.1, §3.2.2), an applicative or adversative E (§5.1.2, §5.1.3; though not  $A_{IMP}$ ). Importantly, it also occurs after a complex transitive A (§5.2), as in (50)c; and (52)c, as a matter of fact, being the only valency-changing marker.<sup>26</sup> Thus a single word may have two antipassivizers.<sup>27</sup>

**§5.1.6. Pseudo-passive** *+sci(u)/r-* and *-ar-* / *-aqe-* Decreases valency by one argument. Coded passives but either of them are not so productive. Cf. fn. 7.

- i) Dynamic pseudo-passive *-sci(u)/r-* 'be —ed by s.o. to the detriment of' (suffix-initial *s* deleted)

<sup>26</sup> An applicative *E-uc-* may also be used after complex verb A by a few speakers but is not accepted by most speakers. It is suspected that this is a new innovation, though this remains a matter for further study.

<sup>27</sup> My data contains a case of two occurrences, i.e. after primary (patientive) stem and applicative E, as well as primary stem and complex verb A, as in (50c).

postconsonantly as noted by \*\* for (5).<sup>28</sup> The marker has to be analyzed as a composite suffix as below, which actually makes a pseudo-passive deceptive or confused with an uncoded passive (§3.2.2) of the causative *-ci/-* 'wait / let - (to)' (fn. 20).

Though mostly adversative, the pseudo-passive is distinct from the much more productive adversative *E-gi/-*. Also, as contrasted with uncoded passives (8)c and (9)b-ii where the agent can never be expressed, pseudo-passive construction may have it expressed notably either by an ablative-modals NP or an allative (as is the case with agent demotion in relation to complex verbs and to complement clauses), mainly depending on a dialect.

- (45) *Carayag-mek-#-nun* *maliŋce-sci(u)-liri-iaq* *nepa-i-nani*  
 bear-ABM.ISG/-ALL.SG follow-PPAS-PST-IND.3SG sound-PRV-APP.3RSG  
 'He was silently followed by the bear.'

In order to see the nature of the construction and the case fluctuation, it is necessary to understand that the suffix is a composition of the agentive/active relativizer *-st-* 'one who' followed by the verbalizing *-lir-* 'deal with' or *-liur-* 'supply with' (with regular /V-I/ demotion characteristic of *-li-* group suffixes), though the semantic difference between *-lir-* and *-liur-* seems irrelevant to the composite suffixes. The ablative-modals NP would eloquently suggest that the pseudo-passive construction derives from a verbalization by *-liri(u)-* of an appositive phrase such as:

- (45) *carayak* *maliŋce-sia*  
 bear.ABS.SG follow-RLVZ.ABS.SG

'the bear that is following, i.e. the bear, the one following.'

It is a very productive pattern that one nominal (e.g. *maliŋce-sia*) of an appositive phrase is verbalized (by *-lir-* or *-liur-*), with the other being stranded to the ablative-modals status (*carayag-mek*). Thus (45) should originally mean 'he was dealing with the bear that was following' where the 'bear' is far from an agent.<sup>29</sup>

More details in Miyooka (2010b:§25.2.3,§34.1.2.2,§39.3, etc.), illustrating pseudo-passive constructions with such verbs as [agentive] 'attack', 'scold', 'shoot', 'eat', 'see', 'work', 'steal', 'talk to / admonish', 'follow', [patientive] 'kill', 'wash', 'row', 'turn / translate', 'read', [impersonal patientive] 'grow'.

ii) Stative pseudo-passive *-gaur-* / *-gaqe-*, which is also a composite suffix from passive relativizer *-ga(r)-* followed by relational verb *-ngur-* / *-ke-* (§3.2.2.1). Far from being a productive passive. The agent may be expressed by a perlicative or an ablative-modals NP, but its occurrence is very rare.

- (46) a. *Qaya-qa* *mingag-aur-gaq* *assir-luka*  
 kayak-ABS.1SG.SG paint-PPAS-IND.3SG good-APP.3SG  
 'My kayak is painted well, lit. is (the one) painted (it) being good.'  
 -cf. passive-relative clause *mingag-a-ni* 'her own painted one, the one painted by herself' in (24)b.  
 b. *Qaya-qa* *mingag-aq-aga* *assir-luka*  
 kayak-ABS.1SG.SG paint-PAPAS-IND.1SG.3SG good-APP.3SG  
 'I had my kayak painted well. -painter being 'I' or 'someone else'.'

Note in a 'passive of experience'-like (b) the parallelism with the transitive relational verb (10) and with the standard of

<sup>28</sup> Jacobson (1984:445-46) suggests that *-sci-* is more typical in Yukon area and *-sciru-* in non-Yukon, by giving two forms with *nere-* 'to eat' and *leg'eg-* 'to steal'.

<sup>29</sup> The use of an allative NP seems to have different interpretations, which will require cautious consideration.

comparison in transitive comparative construction (12)a. Likewise, the transitive vs. intransitive pair of this pseudo-passive is coupled with a stative vs. inchoative one ('my kayak got pained well' / 'I got my kayak painted well') just as is the case with relational verbs and comparative verbs (§3.2.2.1,§3.2.2.2).

**§5.2. Complex verbs** Added to a simplex verb (irrespective of valency), a complex verb forms an upper clause with its own agent (A') of six kinds, like a causer, 'director', reporter, etc., see (4) and §5.2.1 through §5.2.6. Two or more complex verbs may occur in one word, e.g. (51), (54), (56), and the six kinds are freely combinable. A complex transitive construction of any kind has two types, called 'Transitive 1' and 'Transitive 2', e.g. (47) and (50)b (Miyooka 1010a:556-7). Since a complex verb construction is primarily transitive (at least transitive), it may be subject to detransitivization, e.g. (49), (52)b, (53), (55)b, (57)b.

**§5.2.1. Causative A':** *-vkar-* / *-ci/-* (postconsonantal suppletion).<sup>30</sup> Introduces an upper clause causer 'one who makes (coercive) / lets (permissive) / has (coreferential)'.<sup>31</sup> The following example shows two types of extended complex transitive constructions (a) and (b) and that they respectively correspond to simplex (a') intransitive (antipassive) and (b') transitive sentences:

- (47) a. *tuqir-vkar-aa* (die-A'-IND.3SG.3SG) 'he is letting her die'  
 b. *tuqir-te-vkar-aa* (die-A'-IND.3SG.3SG) 'he is letting (s.o.) kill her/it' OR 'he is letting her kill (s.o./s.t.) / choke'  
 -(28)a *tuqir-* 'die' and (28)b *tuqir-t-* 'kill (choke)' with A.

- (48) a. *Angute-m* *taqikaq* *qimigle-mek* *nere-vkar-aa*  
 man-REL.SG bear.ABS.SG dog.ABM.SG eat-A'.make-IND.3SG.3SG  
 'The man caused/let the bear eat a dog. -Transitive 1  
 b. *Angute-m* *taqika-mun* *qimigta* *nere-vkar-aa*  
 man-REL.SG bear-ALL.SG dog.ABS.SG eat-A'.make-IND.3SG.3SG  
 'The man caused/let the bear eat the dog. -Transitive 2  
 -respectively corresponding:

- a. *Taqikaq* *qimigle-mek* *nere-iaq*  
 bear.ABS.SG dog-ABM.SG eat-IND.3SG  
 'The bear is eating a dog. -cf. antipassive (8)b  
 b'. *Taqika-m* *qimigta* *nere-aa*  
 bear-REL.SG dog.ABS.SG eat-IND.3SG.3SG  
 'The bear ate the dog. -cf. transitive (8)a.

Besides this correspondence to simplex verb constructions, a Transitive 1 complex construction is in valency pattern correlated with a secondarive ditransitive, e.g. (14)a, and a non-recipient-like applicative (P E=monR A), while a Transitive 2 complex construction to an indirective ditransitive, e.g. (14)b, and a recipient-like applicative (P E=R A), as shown by Table (comparison of three types of trivalent verbs) in Miyooka (1010a: 558).

<sup>30</sup> Less common *-c'iaar-* 'A try to make/induce (by taking time)'.

<sup>31</sup> Coreferential in the sense that it supplies an appositional (coreferentiate) verb with a subject coreferential to the main clause subject, E.g. *iangra-aga* (see-IND.1SG.3SG) *qia-vkar-lukir* (cry-lave-APP.3SG) 'I saw her crying / I saw her, / having her cry.' This is distinct from the agent coreference specific to complex verbs (mentioned at the end of §6).

The following example show passivization (by deletion of the upper agent 'man'):

- (49) *Qimigta taqika-mun nere-vkar-tiq.*  
dog.ABS.SG bear-ALL.SG eat-A'.make-IND.3SG  
'The dog let itself be eaten by the bear.'

**§5.2.2. Directive A':** *-sqe-*<sup>32</sup> Introduces an upper clause directive agent 'one who asks/tells s.o. - to', as a more indirect causation than the preceding.

- (50) a. *Qimigte-la qetunra-mun auluke-sqe-saaq-aqa.*  
dog-ABS.1SG.SG son-ALL.1SG.SG take care-A'.ask-but-IND.1SG.3SG  
'[I] asked/wanted my son to take care of my dog (but...)' – Transitive 1  
b. *auluk-i-sq-aqa*  
(take care-APAS-A'.ask-IND.1SG.3SG)  
i. 'I asked him to take care of (s.o.; ABM)' – Transitive 1  
ii. 'I asked (s.o.; ALL) to take care of him' – Transitive 2

- (51) *Erur-i-ni-sq-iu angat-mun.*  
wash-APAS-A'.say-A'.ask-OPT.2SG.3SG man-ALL.SG  
'(You) ask her to say that the man is washing dishes!'

**§5.2.3. Speculative A':** *-cuke-*<sup>33</sup> Introduces an upper clause speculative agent 'one who speculates/thinks that s.o. -'. The last (54) is a penavalent complex verb.

- (52) a. *angut-ngit-yuk-aa* (man-be-A'.think-IND.3SG.3SG) 'she thinks it is a man'  
b. *angut-ngit-yuk-iuq* (IND.3SG) 'she thinks her(self) to be a man'  
c. *angut-ngit-yuk-i-uq* (APAS-IND.3SG) 'she thinks (s.t./s.o.) to be a man'.

The following two examples are both penavalent constructions: The first contains two antipassivizations (on simplex and complex verbs), while the second contains three complex verbs, two agent NPs of which (for directive 'Nuk'aq' and causative 'woman') are flagged by the allative case:

- (53) *Tuqit-e-i-yuk-i-ungu taqika-mun qimigte-mek.*  
die-A-APAS-A'.think-APAS-IND.1SG bear-ALL.SG dog-ABM.SG  
'I thought the bear killed (made-die) a/the dog.'
- (54) *Nere-vkar-a-sqe-sauk-aqa Nuk'a-mun arna-mun mikelngug.*  
eat-A'.make-EV-A'.ask-A''think-IND.1SG.3SG name-ALL.SG woman-ALL.SG child.ABS.SG  
*ngayir-mek.*  
seal-ABM.SG  
'I think Nukaaq asked the woman to let the child eat a seal.'

The word order of the two *-mun* words helps avoid any possible ambiguity as it bears a 'mirror image' relation to the suffix order concerned: i.e. *Nuk'a-mun* for 'asker/orderer' preceding *arna-mun* for 'causer/allower' just opposite to the suffix *-vkar(?)*-A' preceding the suffix *-sqe-* for A'. See also Woodbury (1985: 275).

<sup>32</sup> Also *-sqama-* 'wish continuously (s.o.) to do (s.t.)'.

<sup>33</sup> Also *-ngayuke-* 'speculate / think that (s.o.) might'.

**§5.2.4. Reportative A':** *-nit-*. Introduces an upper clause reportative agent 'one who says/considers that s.o. -':

- (55) a. *Tangerr-sug-ni-a arna-m angun Nuk'a-mek.*  
see-DES-A'.say-IND.3SG.3SG woman-REL.SG man.ABS.SG name-ABM.SG  
'The woman says that the man wants to see Nuk'aq.'  
b. *Tangerr-sug-ni-uq arnaq Nuk'a-mek.*  
see-DES-A'.say-IND.3SG woman.ABS.SG name-ABM.SG  
'The woman says that she wants to see Nuk'aq.'  
–de-transitivization owing to subject coreference (S/A=A).

Doubly occurs in main and relative clauses:

- (56) *iga-y' / u-ni-lriaar-u-ni-luni'<sup>34</sup>*  
write-well-A'.say-RLVZ-be-APP.3RSG  
'(he) saying that he is one who brags he is a good writer'  
cf. *iga-y' / u-ni-lria* 'one who says (brags) he is a good writer'.

**§5.2.5. Ignorative A':** *-ucitl-*<sup>35</sup> ++. Introduces an upper clause ignorative agent 'one who does not know / is unaware that s.o. -':

- (57) a. *Na-ni-ʔapiar kavya-lru-citl-aqa May'aq.*  
where-LOC=ITS net-PST-A'.IGN-IND.1SG.3SG name.ABS.SG  
'[I] do not know exactly where May'aq drift-netted.'  
b. *Na-ni-ʔapiar kavya-lru-citl-uq May'aq.*  
net-PST-A'.IGN-IND.3SG name.ABS.SG  
'Mayaq does not know exactly where he (himself) drift-netted.'  
–de-transitivization owing to subject coreference (S = A).

**§5.2.6. Expectant A':** *-nercir-*. Introduces an upper clause expectant agent 'one who waits s.o. - to':

- (58) a. *Tuntuq qimigte-mun tuqit-i-nercir-aa.*  
caribou.ABS.SG dog-ALL.SG die-A-A'.wait-IND.3SG.3SG  
'He waited until the/a dog killed the caribou.'  
b. *Tuntuq qimigte-mek tuqit-i-nercir-aa.*  
caribou.ABS.SG dog-ABM.SG die-A-A'.wait-IND.3SG.3SG  
'He waited until the caribou killed a dog.'

## §6 Summaries

**§6.1 Argument hierarchy** CAY arguments, both primary (non-extended) and extended ones responsible for verb-coded alternations, are hierarchically ordered in terms of accessibility to the absolutive status (intransitive subject or transitive object) and the whole case assignment of arguments involved. Non-italics represent primary arguments,

<sup>34</sup> Regressive accent (gemination) indicated by the apostrophe is optional.

<sup>35</sup> Composite suffix from nominalizer *-ucir-* followed by privative *-ngit-*. Also *-ucir/laif'* 'not know that – will', *-ucir/taf-* 'now not to know (any longer)', be (get) confused'.

while italics are extended ones:

(59) *Valency extension and argument hierarchy:*

simplex		complex
$S > E_{ADV} / E_{APL} > S^{36}$		$> A' > A'' \dots$
P	$> E > A$	$> A_{IMP}$
T	$> R$	

Extended arguments are shown in italics. S extended with causative A is comprised in  $P > A$  (§5.1.1)

The hierarchy reflects the morphological ordering inside a verb except for an *E* argument (both applicative and adversative). This means that an *E* does not split a primary verb but follows it. *E* and (coded) *A<sub>IMP</sub>* never co-occur, and they do not occur after an *A*.<sup>37</sup>

In the foregoing sections, case alignment of extended verbs, either simplex or complex, is hardly explained. Extended trivalent verbs, which include only  $P E A$ ,  $P A A_{IMP}$ ,  $P A A'$  (from monotransitive),  $S E_{ADV} A'$ , [but apparently no  $S E_{ADV} A_{IMP}$  §2.2.3],  $E_{APL} S A'$ ,  $E_{APL} S A_{IMP}$ ,  $E_{APL} S A'$ ,  $S A_{IMP} A'$ , or  $S A' A''$  (from intransitive), follow exactly the same pattern for (primary) ditransitives of the two types (§3.3).

Assignment starts from the absolutive case on the highest (leftmost) argument and the relative on the next, followed by their demotion (absolutive to ablative-modalis or relative to allative) or deletion (of *A*, *A<sub>IMP</sub>*, or *A'*, ...) in order to promote the next higher (if any) to fill the vacated position. Subject conference specific to complex verbs (i.e. of *A'* with lower- or upper-clause agent) also serves for valency reduction, as illustrated by (57)b. A full explanation and illustration of case assignment is available in Miyaoka (1010a: 558-60, 1010b§30).

**§6.2 Coded vs. uncoded (0) alternations:**

(60) *Passives, antipassive, and causatives*

	intransitive	monotransitive		ditransitive
		agentive	patientive	
PASSIVE	x	$\emptyset$ (ATM-sensitive)	$\emptyset$ (mediopassive)	$\emptyset$
pseudo-passive	x	$^{-}sc(i)u(r)_{-}$ ; $^{-}ga(r)_{-}$ / $^{-}gaqe_{-}$		?
ANTIPASSIVE	x	$\emptyset$	$^{-}gi_{-}$ , $^{-}ac_{-}$ , $^{-}kengar_{-}$	$^{-}gi_{-}$ , $^{-}kengar_{-}$
CAUSATIVE direct	-c-		x	
	$\emptyset$ [adjectival]		x	
indirect			$^{-}kar_{-}$ / $^{-}cic_{-}$	

**§6.3 Interrelated patterns**

- i) Three basic and productive constructions are interrelated with each other through case alternation:

<sup>36</sup> Reflects the caveat unique to  $E_{APL}$  in relation to intransitive verbs (§5.1.2), requiring argument rearrangement (reversal).

<sup>37</sup> Occurrence of *E* after *A'* is recorded from some speakers but is not accepted by conservative speakers.

(61) *Comparison between ditransitives (§3.3) and extended trivalents (§5.1.2, §5.2):*

DITRANSITIVES	TRIVALENTS				TRANSITIVES	
	secundative:	(T) R A	indirective:	T (R) A	antipassive	transitive
EXTENDED	complex 1: $(E_{APL}) S A^{**}, (S) E_{ADV} A', (S) A_{IMP} A', (S) A' A'', (P) A A', (P) A' A''$		complex 2: $S (E_{APL} = R^{***}) A'$		(P) A	P A
CASE ALIGNM.	simplex: (P) <i>E</i> <i>A</i> <sup>**</sup> , (P) <i>A</i> <i>A</i> <sub>IMP</sub>	ABM ABS REL	ABS ALL REL	---	ABM ABS	ABS REL

This is a fuller version of Table 1 in Miyaoka (2010a: 558). \* Reflects the mentioned caveat, i.e. valency rearrangement concerning  $E_{APL}$ . \*\* *E* here may be  $E_{APL}$  or  $E_{ADV}$ . \*\*\*  $E_{APL} = R$  stands for R-like  $E_{APL}$ .

Comparison with transitives (right column) shows that the two types of trivalents correspond to the antipassive (either coded or not) vs. transitives of monotransitives.

As stated (§5.2), six types of VVcm complex transitives with different upper-layer agents *A'* (causative, directive, speculative, reportative, ignorative, and expectant) behave the same way in case assignment except that, in view of detransitivization, only the reportative [+NH] (§40.2.4) is agentive (hence uncoded antipassive) while the other four types are patientive.

We are here only concerned with trivalent verbs, but quadrivalent and multivalent verbs, with one or more additional arguments (*E* or/and *A', ...*) extended, all follow exactly the same pattern of case assignment according to the hierarchy, necessarily accompanied by further reduction, as stated at the end of §6.1.

- ii) Medialization of *P* and *A* for i) patientive monotransitive verbs is parallel to that of  $E_{ADV}$  and *A* (with demoted *P*) for ii) adversative trivalent verbs, the former being responsible for (medial) intransitives and the latter for antipassives, while deletion of *A* may also occur, responsible for passives (thus “medio-passives”) with the former and intransitive adversatives, to be summarized as:

(62) *Medialization and passivization*

patientive monotransitives with <i>P A</i>	<i>medialization</i>	<i>A deletion</i>
adversative trivalents with (P) $E_{ADV} A$	medials	passives
	antipassives	intransitive adversatives

- iii) Finally, it is to be noted that a portion of CAY valency pattern is organized on the same quaternary opposition of relational verbs as the following table summarizes: The second and the third are characterized by composite suffixes based on relational verbs.

(63) *Patterns with quaternary opposition:*

relational verbs (copula-like)§3.2.2.1	intransitive stative
pseudo-passives (stative)§5.1.6-ii	intransitive inchoative
comparative / superlative / equalitive§3.2.2.2	transitive stative
	transitive inchoative

**ABBREVIATIONS/CONVENTIONS:** ABM: ablative-modalis / ADV: adversative / APL: applicative / APAS: antipassive / APP: appositional mood / CNN: connective mood / EV: epenthetic vowel / EX: root expander / IMP: impersonal / ITS: intensifier / NEC: necessitative / PPAS: pseudo-passive / REL: relative (case) / RLYZ: relativizer  
 1: first / 2: second / 3: third / 3R: reflexive third | SG: singular / DU: dual / PL: plural | 1SG for first person subject / 3PL 1SG for third person plural subject - first person singular object / 3PL-SG for third person plural possessor - singular possessed.

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## Valency classes in Xârâcùù (New Caledonia)

Claire Moyse-Faurie (LACITO-CNRS)

### 1. Basics of Xârâcùù morphosyntax

- SVO basic word order (< Proto New Caledonian  $\text{S}_\text{V}_\text{O}$  smS); VO smS still possible (1b):

- 1a. *Pa dopwa pia.*      b. *Ri pia, ngê pa dopwa.*  
 COLL young.people fight      3PL fight SM COLL young.people  
 'Young people fight.'      'They fight, the young people.'

- lost of Proto Oceanic transitive/applicative suffixes, except a residual *-ri* suffix
- no passive voice
- no verbal morphology depending on the grammatical status or the degree of animacy
- productive serial verb constructions (nuclear-layer serialization)
  - ⇒ (i) prepositions, (ii) verbal modifiers and (iii) verb compounds.
- TAM-features don't interfere on alignment patterns.
- few basic (non derived) bivalent verbs, no three-place predicates.
- productive causative derivation strategy
- 'extended transitive' configuration, no clear distinction between obliques and adjuncts

### 2. Valency classes

#### 2.1. Monovalent verbs

2. *Mwêê-nâ xânî cuè tō nâ.*  
 uncle-1SG often sit LOC there  
 'My uncle often sits there.'
3. *È pwârà kèèrè nyî-ji.*  
 3SG white as juice-breast  
 'It is as white as mother's milk.'

#### 2.2. Bivalent verbs

##### 2.2.1. Bivalent verbs with direct objects

*chavaa* 'pay attention to', *pè* 'take', *xwata* 'hear', *fùtù* 'to make fool of', *nèi* 'lay out', *xöyö* 'marry', *da* 'eat', *wîjö* 'drink', *xwèrii* 'want', 'like', *tâmwâ* 'know', *tê* 'throw', etc.

- location:

4. *Siibù cura bwasituu rè sêgè.*      5. *Xötö nää nöö döxûâ.*  
 rat baste heap POSS stone      boy IPFV.PST live village  
 'The rat is basting under stones.'      'The boy used to live in the village.'

- goal:

6. *Nâ rè siè chavaa sêgè.*      7. *Nâ chörö têpe réé.*  
 and 3SG NEG pay.attention stone      1SG argue speech POSS+3SG  
 'And he was not paying attention to the stone.      'I am arguing against his speech.'

- patient:

8. *Pa Pokwé tê kwii mwîrî nâ rè chètùrù kwââ-dèèri rè Deekwââxiti.*  
 COLL Uvea throw rope ANAPH and 3SG pull+block boat-people POSS Deekwââxiti  
 'People from Uvea threw the rope and blocked up the boat of Deekwââxiti's sailors.'
9. *Êê nää chûrû mê bikörö rè pîi-köfi.*  
 3SG.IPERS PST.PROG grill and turn+crush IPFV grain-coffee  
 'We used to grill and grind coffee beans.'

### 2.2.2. Pseudo-bivalent verbs

*pètù* and *pètoa* ‘boast’, *pitèri* ‘roll on the floor’; *bachëe* ‘be unsuccessful (for a speech), *bagwéré* ‘be successful (for a speech)’ and *gwébasùù* ‘secouer, cahoter’:

10. *Ke pètù rō tiwā panèè-rō.*  
2SG boast 2SG LOC father-2SG  
‘You think you're your father?’ (Lit. you are boasting up to your father)
11. *Nā pitèri nā.* 12. *Tèpe bachëe è.*  
1SG roll 1SG talk miss 3SG  
‘I am rolling (on the floor).’ ‘The talk was unsuccessful.’

### 2.2.3. Bivalent verbs with an oblique object

#### Main argument prepositions

a) *xù* (< *xù* ‘give’): beneficiary preposition, with verbs of communication (*nîmō* ‘tell a story’, *ngââ* ‘cry out’, *yaaru* ‘set riddles’, *xa* ‘speak’, *ché* ‘say’), and *baa* ‘appear’.

13. *Nā nîmō xù chaa kâmûrû.*  
1SG tell.story BEN one man  
‘I am telling the story of a clan to someone.’
14. *Anyââ xa xù xûûchî a.*  
Mummy speak BEN child DEIC  
‘Mummy speaks to this child.’

b) *taa* (< *witaa* ‘throw away, take off’): malefactive/disassociative ‘away from’ (*könyi* ‘avoid something’, *mawâ* ‘avoid a blow’, *mâ* ‘be discouraged with’, *chörè* ‘pass’, *tecâ* ‘leave someone’, *mââ* ‘preceede’, etc.)

15. *Nā könyi chaapu na taa loto.*  
1SG avoid suddenly PST FROM car  
‘I got right out of the way of the car.’

c) *tara* (< ‘to see, to note’): goal ‘towards’

16. *Nā piaxô mwâmwaa na tara dèèri.*  
1SG whistle long PST TOWARDS people  
‘I am whistling to the people (to get their attention).’

(=*nâ piaxô mwâmwaa tara na dèèri*; = *nâ piaxô tara na dèèri mwâmwaa*)

d) *tùù/-dùù* ‘concerning’, ‘with regard to’: *bere* ‘be angry’, *pia* ‘fight for sth.’; *mââ* ‘struggle’, *tèpe* ‘speak about’; *têi* ‘cry on’, *xati* ‘quarrel for’, etc.

- 17a. *Nā mââ na tùù dōō.* b. *Nā mââ=dùù na dōō.*  
1SG struggle PST CONCERN earth 1SG struggle=CONCERN PST earth  
‘I struggled for earth.’

e) *ngê* instrumental (+ locative, subject marker): *jana* ‘to trade’, *sôôbö* ‘fool with’, *cîîrî* ‘dispose, set out’, etc.

18. *Ri xwi kaasé rè mwè [...] nâ ri wâ cîîrî ngê dōu wânîi.*  
3PL make heap POSS taro then 3PL PFV dispose INS thing all  
‘They make heaps of taros [they make heaps of sea products...] and then they dispose of all these things.’

19. *Papêê jana ngê na mwè* (= *Papêê jana na ngê mwè*)  
 COLL+woman trade INS PST taro  
 ‘Women are trading [their] taros.’

f) *wâ* ‘about’, ‘at’ with verbs of emotions (*ooro* ‘rejoice at’, *bere* ‘be angry at’, etc.), verb of unpleasant attitudes (*virè* ‘wrong s.o.’, *gîi* ‘injure, damage’, *chèfa* ‘disobey’, *mêmè* ‘be jealous’, *nêê* ‘be fussy (about food)’, etc.), and a few verbs of communication (*tèpe* ‘speak about’, *xanyê* ‘insult’, *jaxûju* ‘make fun of’).

20. *È pia, è bere wâ dèèri.*  
 3SG unkind 3SG angry AT people  
 ‘He is unkind; he gets angry at people.’
21. *Ri gîi wâ mwââkè rè bée-nâ.*  
 3PL damage AT belongings POSS friend-POSS.1SG  
 ‘They are causing damage to my friend’s belongings.’

g) *cè* ‘in the purpose of’: adverb (22) and preposition (23-24):

22. *Mè êê wâ nâ chuè cè rè balôô dôbwanâ mwârâ nâ nââbu rè*  
 FUT 3SG.IPERS PFV IPFV blow PURP IPFV ball when play IPFV begin IPFV  
 ‘Someone will have blown up the ball when the game will start.’
23. *È cemîâ mwâmwaâ na cè dù rè kwââ-rè*  
 3SG suffer for.long PST PURP price POSS boat-POSS.3SG  
 ‘He had to suffer a long time before paying for his boat.’
24. *Nâ târâ cè nîi-rô.*  
 1SG ignore PURP name-2SG  
 ‘I don’t know your name.’

+ compounds: *xa-cè* ‘appeler’ (*xa* ‘speak’), *pii-cè* ‘search for’, *xwi-cè* ‘try’ (*xwi* ‘do’).

## 2.3. Trivalent verbs

### 2.3.1. One oblique argument in addition to the direct object

#### 2.3.1.1. Indirective alignment (T=P xù/taaR)

a) Recipient (beneficiary): *numârâ* ‘give away’, *su* ‘write’, *suè* ‘entrust’, *xipwèi* ‘announce’, *nêgé* ‘request respectfully’, *xaciè* ‘show’, *nû* ‘send’, *xâdùù* ‘pay’, etc.

25. *Mwêê-nâ xâdùù na chaa lotoo xù Dapé.*  
 uncle-POSS.1SG pay PST one car BEN Dapé  
 ‘My uncle bought Dapé a car.’
26. *Nâ xaciè bée-nâ xù wîrî*  
 1SG show friend-POSS.1SG BEN 2PL  
 ‘I [would like to] introduce you to my friend.’
27. *Ke xù xù na nû chaa mwanöö.* (= *Ke xù na chaa mwanöö xù nâ.*)  
 2SG give BEN PST 1SG one cloth  
 ‘You gave me a piece of cloth.’

b) Malefactive/Disassociative (non-beneficiary) recipient: *pêdè* ‘rob’, *fatere* ‘ask’, *nââ* ‘ask for sth.’, *xâdùù* ‘buy, pay for’, etc.

28. *Nâ xâdùù na chaa lotoo taa Dapé.*  
 1SG pay PST one car FROM Dapé  
 ‘I bought a car from Dapé.’

29. *Nâ nââ sää-pwî taa rö.* (= *Nâ nââ taa rö sää-pwî.*)  
 1SG ask.for sucker-banana.tree FROM 2SG  
 ‘I am asking you for banana-tree suckers.’ (Lit. I request banana-tree suckers from you)
30. *Nâ fatere taa è xöu rè nâ.*  
 1SG ask FROM 3SG cloth POSS 1SG  
 ‘I asked him for my clothes.’

### 2.3.1.2. *Secundative alignment (R=P ngêT)*

Pronominal recipient (unmarked) and theme (instrumental/means preposition *ngê*):

31. *È xagèri nâ ngê chaa catùmé.*  
 3SG welcome 1SG INS one gift  
 ‘He makes me welcome [with a gift].’
32. *Dèèri nâ xwiri rè ri ngê mîi nô a*  
 people IPFV sell IPFV 3PL INS these fish this  
 ‘People sell them these fish.’
33. *Ke xacè è ngê Dapé.*  
 2SG name 3SG INS Dapé  
 ‘You can call him Dapé.’
34. *Ri wâ fèi ngê è kwiinètoo nâ ri wâ fida ngê è sîmîâgatè.*  
 3PL PFV bind INS 3SG rainbow and 3PL PFV tap INS 3SG lightning  
 ‘They bounded him with the rainbow and tapped him with a lightning.’

### 2.3.2. *Two oblique arguments*

- Indirective alignment (*ngêT=ngêP xùR*): *xwiri* ‘sell’, *sù* ‘write’, *xù* ‘give’, etc.

35. *È xwiri ngê nô xù sîbèèrî a.*  
 3SG sell INS fish BEN old.lady DEIC  
 ‘He is selling fish to the old lady’. (Compare with example (32) above, in which the recipient is a pronominal)
36. *Nâ faxwata xù rö ngê chaa êrêché.*  
 1SG tell BEN 2SG INS one story  
 ‘I am going to tell you a story.’

### 3. *Main case alternations: uncoded alternations (no formal change on the verb)*

- Labile alternations: impersonal construction vs intransitive construction (*mègi* ‘warm; to have fever’, *müü* ‘cold and humid’ and *xùpè* ‘cold’ + *xutuè* ‘be a long time’ and *cokwa* ‘be finished’); resultative vs causative pairs (*tèi* ‘be empty, empty’, *xwi* ‘exist, build’, *cokwa* ‘be finished, finish’ *nââbu* ‘begin’, *ké* be burned, ‘burn’, *sùù* ‘suffer, treat’, *xwêê* ‘fall, pour’, *sukwa* ‘be sugared, sugar’); middle alternation (grooming events: *xii* ‘shave’; inherent reciprocity: *tôôbùtù* ‘assemble’, *penyi* ‘separate’; uncontrolled events: *xwêê* ‘fall’).

- Argument deletion alternation

- Conative alternation (with verbs of consumption)

#### 3.1. *Experiencer flagging alternation*

Verbs of feelings or emotions such as *saa* ‘bad, bad looking’, ‘feel bad’; *kwèti* ‘be tired’, ‘feel tired’; *wîrî* ‘disgusting’, ‘feel disgusted’; *mârà* ‘be worried’, ‘feel dizzy’.



- grooming actions: *cù* ‘comb s.o.’ > *ù-cù* ‘comb one's hair’
- inherent reciprocity: *cuè* ‘sit’ > *ù-cuè* ‘assemble’; *juu* ‘to agree’ > *ù-juu* ‘come to an agreement’

#### 4.1.3. Object incorporation

- 42a. *Eni a öj la itre ono.* DREHU (Lifu, Loyalty islands)  
 1SG IPFV press ART PL coconut  
 ‘I am squeezing the milk out of the coconut gratings.’
- b. *Eni a öji ono.* DREHU (Lifu, Loyalty islands)  
 1SG IPFV press coco  
 ‘I am squeezing coconut gratings.’
- 43a. *Chaa kamûrû nã tuu rë chaa kwâ.*  
 one man IPFV step.on IPFV one boat  
 ‘The man is stepping on the boat.’
- b. *Chaa kamûrû nã tuu kwâ.*  
 one man IPFV step.on boat  
 ‘The man is going on board.’

## 4.2. Valency increase operation

### 4.2.1. Transitivity/applicative suffix -ri

Verbs denoting emotions or feelings:

44. *fiö* ‘be lazy’ *fiö-ri* ‘to refuse, to have had enough of’  
*mârâ* ‘be worried, be upset’ *mârâ-ri* ‘be disgusted with’  
*nyôô* ‘foolish, drunk’ *nyôô-ri* ‘be confused about’  
*kwèti* ‘be tired’ *kwèti-ri* ‘be tired of’  
*cara* ‘be ashamed, dazzled’ *cara-ri* ‘be ashamed of, be dazzled by’
- 45a. *È kwèti.* b. *Ri wâ kwèti-ri kèchö.*  
 3SG be.tired 3PL PFV tired-APPL magnania  
 ‘He is tired.’ ‘They are sick of (eating) magnania.’
- c. *nâ kwèti-ri môrô rë.*  
 1SG be.tired-APPL already 2SG  
 ‘I am already tired of you.’

### 4.2.2. Causative prefix fa-

Exceptions: verbs denoting inherent properties (*aéé* ‘(be) authentic’, *afädë* ‘(be) foreign’, *xwâkètè* ‘profane’), or inherited distortions and diseases (*amè* ‘(be) paralysed’, *bëpaii* ‘(be) sickly’, *dööpwe* ‘hunchbacked’, *mèrèdêê* ‘deaf’), or natural ineluctable processes (*kèpwiri* ‘(be) high (tide)’, *pââmé* ‘toothless’), etc.

## 5. Verbal compounds

\* Nuclear-layer serialization:

47. *Ri wâ cuè köö pwâârî ségè mwîrî gaka nã saù mé da ti xû.*  
 3PL PFV sit hide pass.round stone ANAPH crow IPFV each.time come eat LOC on  
 ‘They [turtledoves] lay in ambush around the stone to which the crow used to come and eat on top of.’

\* Compound verbs:

- (i) bound stem elements of verbal origin: *xuru* ‘flee’ > *xö-*; *ta-* ‘shoot’ < ?

48. È wâ xö-fètaa möö chaa nii.  
3SG PFV flee-leave first one penis.sheath  
'He fled, first leaving his penis sheath.'
49. Ri wâ ta-faaté è ngê a wââi nä.  
3PL PFV shoot-run.after 3SG SM DEIC these.men DEIC  
'Those who were running after him shot at him.'

(ii) classificatory prefixes

50. È tètùrù chaa xwâkûû-purèkwé. 51. Ná jèsùù bereda.  
3SG hand+pierce one shard-bottle 1SG foot+push spear  
'He hurt his hand on a shard of bottle.' 'I stepped on a spear.'

## 6. Oblique arguments or adjuncts?

a) Fronting

52. Ngê chéédè, è wâ toa.  
INS evening 3SG PFV arrive  
'In the evening, he arrived.'
53. Pupèè rèè, Famuru sôóbö ii ngê na è.  
doll POSS+3SG Famuru play.with always INS PST 3SG  
'Her doll, Famuru used to play with it all the time.'
54. Ngê kwâdè, è wâ sa ngê ri.  
INS wind 3SG PFV hit INS 3PL  
'The wind, he begins to hit them with it.' (Lit. with the wind, he begins to hit with them)

b) Nominalization: only obliques?

55. péci êê su rè aaxa  
paper RES write POSS chief  
'paper written by the chief'
56. bwaa-rè êê chä rè kâmîâ  
head-3SG RES strike(sun) POSS sun  
'the sun beating down on him/his head' (Lit. his head strike of the sun)
57. döö êê pia tùù  
earth RES fight CONCERN  
'the earth about which [we] fought'
58. pupèè êê sôóbö ngê rè Famuru  
doll RES play.with INS POSS Famuru  
'the doll Famuru played with'

c) Argument deletion

- 59a. È fi!  
3SG lie  
'He is lying!'
- b. È fi rö.  
3SG lie 2SG  
'He is lying to you.'
- c. È fi xù rö mè siè kii.  
3SG lie BEN 2SG COMP not.exist key  
'He is lying to you [saying that] he doesn't have any key.'

- d. *È fi ngê îrî xwâvirè.*  
 3SG lie INS 1PL.INCL unkindness  
 'He is unkindly lying to us.' (Lit. he is lying us with unkindness)
- 60a. *Nâ xwata nââ xârâcùù.*  
 1SG listen language Xârâcùù  
 'I understand the Xârâcùù language.'
- b. *È fa-xwata chaari chaa tèpe.*  
 3SG CAUS-listen spontaneously one story  
 'S/he tells a story spontaneously.'
- c. *Nâ fa-xwata xù rō ngê chaa êrêché.*  
 1SG CAUS-tell BEN 2SG INS one story  
 'I am going to tell you a story.'
- 61a. *Nâ fadù ääda.*  
 1SG share food  
 'I am sharing the food.'
- b. *Nâ fadù dèèri ngê ääda.*  
 1SG share people INS food  
 'I am sharing the food among the people.'

**Abbreviations:** ANAPH anaphoric, COLL collective (human), DEIC deictic, DIR directional, IPERS impersonal (pronoun), SM subject marker

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## Argument/adjunct-distinctions

- ▶ The distinction between arguments and adjuncts is often weak or absent in Austronesian languages (Himmelmann 2005)
- ▶ This is true in SLM as well
- ▶ Frequent dropping of arguments
  - ▶ *su-uujang* 'It rained.'
  - ▶ *su-kaasi* 'X gave Y to Z.' (X,Y,Z inferrable from context)

## Valency in Sri Lanka Malay

Sebastian Nordhoff

April 14, 2011

## Preliminaries

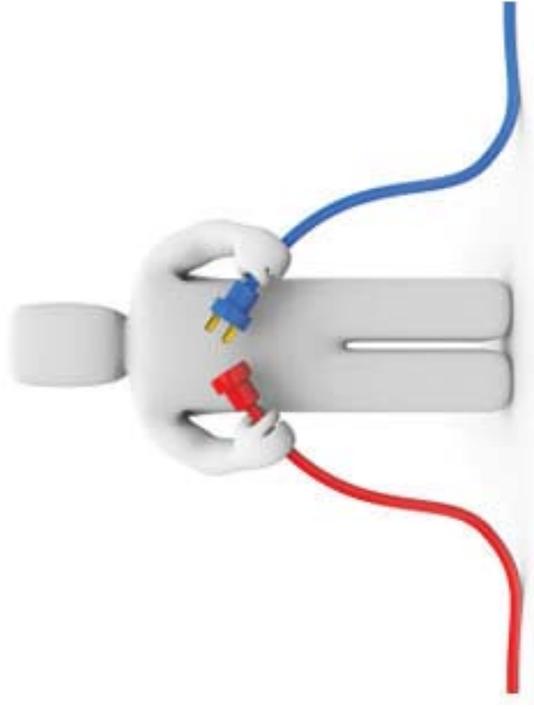
- ▶ Sri Lanka Malay is spoken by the ethnic group of the Malays in Sri Lanka (60,000 people)
- ▶ The language is losing domains of use to the national language Sinhala and English
- ▶ Sri Lanka Malay is about as remote from Standard Malay as English is from Turkish as far as its grammar is concerned
- ▶ SOV, dependent marking, some synthesis, no fusion

## Argument/adjunct-distinctions

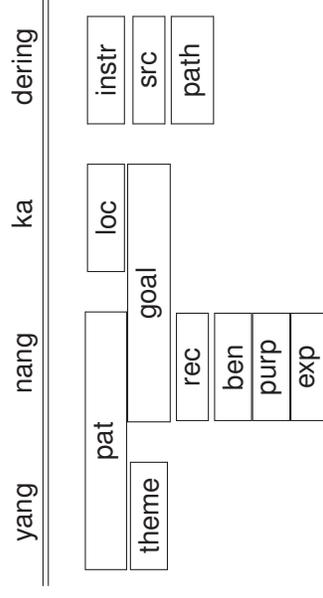
- ▶ Free addition of extra participants
- (1) *Itthu baathu=**yang** incayang=∅ Seelong=**dering** laayeng*  
DIST stone=ACC 3s.POLITE Ceylon=ABL other  
*nigiri=**nang** asà-baapi.*  
country=DAT CP-carry.away  
'These stones, he brought them from Ceylon to other countries.' (K060103nar01)
- (2) *Tony=∅ piiso=**dering** ini daaging=**yang** kaake=**nang***  
Tony knife=ABL PROX meat=ACC grandfather=DAT  
*arà-poothong*  
NONPAST-cut  
'Tony cuts this meat for his grandfather with a knife.'

- ▶ No morphosyntactic tests to distinguish between the licensing properties of *baapi* 'carry.away' and *poothong* 'cut'
- ▶ to be discussed in more detail below

## Linking



## Mapping of semantic roles on cases



## Linking

- ▶ no agreement
- ▶ no grammatical relations
- ▶ free word order in the preverbal field (APV, PAV).
- ▶ linking is accomplished by dependent-marking postpositions
- ▶ =yang 'accusative', =nang 'dative', =dering 'ablative', =ka 'locative' and a handful of others
- ▶ These markers are phonologically clitics, morphologically postpositions and serve to indicate semantic roles
- ▶ Your favourite morphological theory might consider them case markers or not based on the criteria mentioned above
- ▶ In this talk I will use "case marker" as a shorthand for "encliticized postposition expressing semantic roles"

## Mapping of semantic roles on cases

- ▶ three verbs of physical damage take dative rather than accusative marking
  - ▶ puukul 'hit', thiikam 'stab', theerñbak 'shoot'
- ▶ goal of motion can be indicated by either the dative or the locative
- ▶ the accusative marker is often dropped for participants which are inanimate, non-topical, indefinite, non-affected etc
- ▶ other than that, the morphosyntactic expression of semantic roles is completely predictable

## n-place predicates

- $(X)$   $(X, Y)$   $(X, Y, Z)$   $(X, Y, Z, U)$   
 $(X, Y, Z, U, V)$   $(X, Y, Z, U, V, W)$   $(X, Y, Z, U, V, W, a, b)$   
 $(X, Y, Z, U, V, W, a, b)$   $(X, Y, Z, U, V, W, a, b, c)$   $(X, Y)$   $(X, Y, Z)$   $(X, Y, Z, U)$   
 $(X, Y, Z, U, V)$   $(X, Y, Z, U, V, W)$   $(X, Y, Z, U, V, W, a, b)$   
 $(X, Y, Z, U, V, W, a, b)$   $(X, Y, Z, U, V, W, a, b, c)$   $(X, Y)$   $(X, Y, Z)$   $(X, Y, Z, U)$   
 $(X, Y, Z, U, V)$   $(X, Y, Z, U, V, W)$   $(X, Y, Z, U, V, W, a, b)$   
 $(X, Y, Z, U, V, W, a, b)$   $(X, Y, Z, U, V, W, a, b, c)$

## Some complications of case frames

- ▶ institutional actors are marked with the ablative, rather than the nominative
- ▶ modals in the clause trigger dative marking on the actor (*maau* 'want', *boole* 'can', *thusa* 'want.not', *thàrboole* 'cannot')
- ▶ all verbs can be derived with *kàrà-* to yield involitive actors, which are marked with the dative
- ▶ These special cases will be marked with an asterisk in the case frames

## 0-place predicates

- (3) [V]  
(4) *su-uujang*  
*past-rain*  
'It rained.'

## 1-place predicates

- (5)  $\left[ \begin{array}{l} \text{NOM} \\ \text{ACC} \\ \text{DAT} \\ \text{DAT}^* \\ \text{ABL}^* \end{array} \right] \text{V}$



## NOM-ABL

- ▶ The ablative is used for source and instrument

(16) Spaaru<sub>A</sub> Indonesia<sub>SRC</sub>=*dering* dhaathang aada.  
 some Indonesia=ABL come exist  
 'Some came from Indonesia.' (K060108nar02)

(17) Ø<sub>A</sub> Thaangang<sub>INSTR</sub>=*dering* bukung kaaki<sub>INSTR</sub>=*dering*  
 hand=ABL NEG.NONV leg=ABL  
 masà-maayeng.  
 must-play

'You must play not with the hands, but with the feet.'  
 (N060113nar05)

## Summary of two-place predicates

- ▶ two-place predicates normally have zero-marked actors
- ▶ undergoers are either marked for accusative or dative
- ▶ locative and ablative are more marginal possibilities
- ▶ In special cases, actors can be marked for dative
- ▶ The usual exception wrt institutional actors, involitive derivation and modals apply

## DAT-NOM, DAT-ACC

(18) [svaara<sub>ST</sub> hatthu]<sub>=Ø</sub> derang<sub>EXP</sub>=*nang* su-dinggar.  
 noise INDEF 3PL=DAT PAST-hear  
 'They heard a noise.' (K070000wrt04)

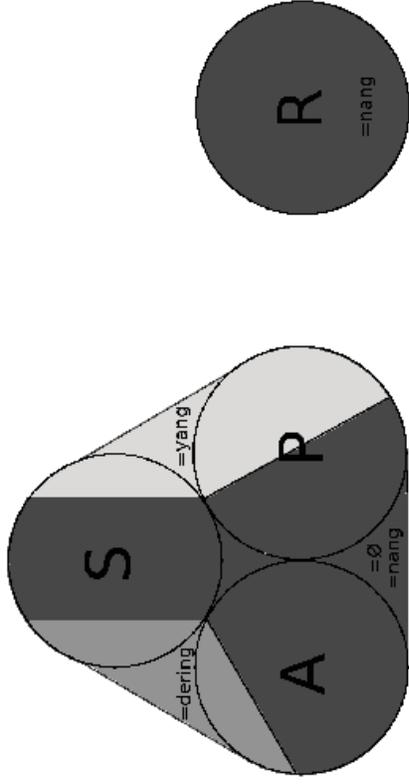
(19) se=*dang*<sub>EXP</sub> ini oorang<sub>T</sub>=*yang* thaau  
 1S=DAT PROX man=ACC know  
 'I know this man.'

## 3-place predicates

$$(20) \left[ \begin{array}{l} \text{NOM} \\ \text{DAT}^* \\ \text{ABL}^* \end{array} \right] \left\{ \begin{array}{l} \text{NOM} \\ \text{ACC} \end{array} \right\} \left\{ \begin{array}{l} \text{DAT} \\ \text{ABL} \end{array} \right\} \text{V}$$



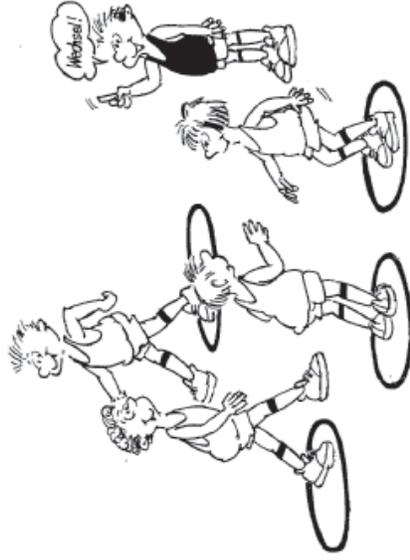
## Illustration of summary



## Alternations

- ▶ Definition: An alternation pair involves a difference in quantity or quality of participants
  - ▶ more/less participants
  - ▶ different encoding of participants
- ▶ There are close to no 'real' alternations in SLM
- ▶ Most candidate constructions in SLM are either lexically heavily restricted or turn out to not change the quantity or quality of marking

## Alternations



## Candidates for alternations

- ▶ locative/dative alternation
- ▶ =yang-drop
- ▶ involitive derivation
- ▶ causativization
- ▶ prefix kasi-
- ▶ Vector Verb *kaasi*
- ▶ Vector Verb *ambel*

## =ka/=nang-alternation

- ▶ verbs of motion (mainly *pii* 'go') can be found with both locative and dative

(25) a. *Tony Kluuṃbu=nang su-pii*  
*Tony Colombo=DAT PAST-go*

'Tony went to Colombo.'

b. *Tony Kluuṃbu=ka su-pii*  
*Tony Colombo=LOC PAST-go*  
'Tony went to Colombo.'

## Involitive derivation

- ▶ All verbs can be derived with *kàná-*, upon which they become non-volitional
- ▶ The actor is then marked with the dative
- ▶ This changes the semantic role from agent to experiencer
- ▶ The change in encoding is not due to voice or valency in this case, but to the change of a semantic feature of a participant

(28) *Tony arà-nyaanyi*  
*Tony NONPAST-sing*  
'Tony is singing.'

(29) *Tony=nang arà-kàná-nyaani*  
*Tony=DAT NONPAST-INVOL-sing*  
'Tony is singing involuntarily/against his will.'

## =yang-drop

- ▶ The accusative marker is often dropped
- ▶ Depending on analysis, this is an alternation between accusative and nominative

(26) *Baapa derang=pe kubbong=ka hatthu pohong=0*  
*father 3PL=POSS garden=LOC INDEF tree*  
*nya-poothong.*  
*PAST-cut*  
'My father cut a tree in their garden.' (K051205nar05)

(27) *Ithukapang lorang=pe leher=(yang) kithang=0*  
*then 2PL=POSS neck=ACC 1PL*  
*athi-poothong.*  
*IRR-cut*  
'Then we will cut your neck.' (K051213nar06)

## Verbs which can be derived with *kàná-*

- ▶ A range of verbs varying wrt to number, role, involvement and volition of participants were tested whether they can undergo this derivation
- ▶ There seem to be no morphosyntactic restriction, but some of the verbs become semantically odd and require special contexts
- ▶ The following verbs were tested

<i>thaaṅdak</i> 'dance'	<i>kriingath</i> 'sweat'
<i>giigit</i> 'bite'	<i>thirbang</i> 'fly'
<i>puukul</i> 'hit'	<i>jaatho</i> 'fall'
<i>pii</i> 'go'	<i>suusa</i> 'become.sad'
<i>maakang</i> 'eat'	<i>kuthumung</i> 'see'

## Causativization

- ▶ the causativizer *-king* can introduce an additional participant. It can attach to:
  - ▶ intransitive verbs: *miliidi-king* 'make boil'
  - ▶ transitive verbs: *buunung-king* 'make kill/have s.o. executed'
  - ▶ adjectives: *panas-king* 'make hot'
  - ▶ marginally nouns: *kafan-king* 'enshroud'
- ▶ *-king* changes the quantity and quality of participants, but seems to be outside the main domain of inquiry of this conference

## Vector Verb *kaasi* 'give'

- ▶ This construction highlights the 'alterbenefactive' nature of an event
- ▶ 'alterbenefactive saying' equals explaining
- ▶ *biilang* 'say' takes three arguments
  - ▶ actor (Ø), recipient (DAT), message (Ø)
- ▶ the same is true of *biilang kaasi* 'explain'
- ▶ the quantity and quality of arguments do not change by adding *kaasi*
- ▶ *kaasi* can also be added to verbs which are clearer instances of three-place predications, e.g. *aaajar* 'teach'

## Prefix *kasi-*

- ▶ There are three verbs with the formative *kasi-*, etymologically 'to give':
- ▶ *kasithaau* 'inform' (*thaau* 'know')
- ▶ *kasikaaving* 'give in marriage, marry off' (*kaaving* 'marry')
- ▶ *kasikinnal* 'introduce' (*kinnal* 'be acquainted with')
- ▶ This construction does not seem to be productive anymore

## Vector Verb *kaasi* 'give', cont.

- (30) *Kithang=pe ini* younger generation=*nang=jo* *konnyong*  
1PL=POSS PROX younger generation=DAT=EMPH few  
*masà-biilang kaasi, masà-aaajar.*  
*must-say give must-teach*  
'It is to the younger generation that we must explain it, must teach it.'
- (31) *Itthu muusing, [Islam igaama nya-aaajar kaasi Ø] Jaapna*  
*dist time Islam religion PAST-teach give Jaffna*  
*Hindu teacher.*  
*Hindu teacher*  
'At that time, those who taught Islamic religion were Hindu teachers from Jaffna.' (K051213nar03)

## Vector Verb *ambel* 'take'

- ▶ While *kaasi* is alterbenefactive, *ambel* 'take' is 'self-benefactive'
- ▶ Like *kaasi*, *ambel* does not change the quantity or quality of participants
- ▶ The verb *peegang* 'catch' takes an actor and an undergoer
- ▶ This does not change upon adding *ambel*
- ▶ What changes is the beneficial nature of conquests as compared to heart attacks

◀ ▶ ↻ 🔍

## Vector Verb *ambel* 'take', cont.

- ▶ *ambel* can also carry a reflexive meaning
- ▶ But even in this case, quantity and quality of participants do not change
- ▶ Due to reasons of economy, either actor or undergoer will be dropped in normal circumstances, but it is possible to realize both overtly, as in a non-reflexive clause

(34) *Incayang incayang=yang(=jo) su-buunung ambel.*  
3s.POLITE 3s.POLITE=ACC=EMPH PAST-kill take  
'He killed himself.' (K081106ei01)

(35) *Kaake baapa=yang su-buunung.*  
*grandad father=DAT PAST-kill*  
'His grandad killed his father.' (K081103ei04)

◀ ▶ ↻ 🔍

## Vector Verb *ambel* 'take', cont.

(32) ∅ Heart attack *asà-peegang*, *baapa=le su-niñggal.*  
*heart attack CP-catch father=ADDIT PAST-die*  
'(My father) got a heart attack and died as well.'  
(K051205nar05,K081104ei06)

(33) British government Malaysia Indonesia *ini nigiri pada*  
*British government Malaysia Indonesia PROX country PL*  
*samma anà-peegang ambel.*  
*all PAST-catch take.*  
'The British government captured Malaysia, Indonesia, all these countries.' (K051213nar06,K081104ei06)

◀ ▶ ↻ 🔍

## Discussion

- ▶ Verbs do not seem to fall into morphosyntactic classes wrt to the way they encode arguments
- ▶ There are classes, but these classes seem to be semantic in nature (experiencer verbs, transfer verbs, motion verbs etc)
- ▶ No information needs to be stored in the lexicon since the encoding of semantic roles is completely regular
- ▶ The only possible exception is the accusative marker =*yang*, which seems to have some arbitrary properties

◀ ▶ ↻ 🔍

## Discussion

- ▶ While NPs marked with all other markers can be added or suppressed without problems, =*yang* cannot always be added
- ▶ Verbs subcategorize whether they allow for a =*yang*-NP or not
- ▶ Interestingly, [+*yang*]-verbs and [-*yang*]-verbs are found with verbs of different arity
  - ▶ 1-place: *thinggalam* 'sink', but not *jaatho* 'fall'
  - ▶ 2-place: *poothong* 'cut', but not *maakang* 'scold'
  - ▶ 3-place: *ambel* 'take', but not *oomong* 'talk'
  - ▶ 4-place: *kiiring* 'send', no known exceptions

## Conclusion

- ▶ There is no argument/adjunct-distinction in Sri Lanka Malay
- ▶ There are no clear cases of alternations
- ▶ There is no way to change the morphosyntactic expression of a given semantic role
  - ▶ dropping of accusative could be considered an exception
- ▶ Verbs can still be clustered

## Conclusion

- ▶ The resulting clusters are not about arguments licensed by the verb (since there are no arguments)
- ▶ There is direct clustering according to semantic roles
  - ▶ unmarked role → ∅
  - ▶ THEME → ACC
  - ▶ REC → DAT
  - ▶ LOCATION → LOC
  - ▶ SRC → ABL
  - ▶ INSTR → ABL
- ▶ Outlook: is this a kind of semantic alignment?

## Thank you



Kan Sasaki  
Sapporo Gakuin University  
ksasaki@sgu.ac.jp

## 1. Introduction

Japanese dialects exhibit two types of grammatical variation relating to valency classes the variation with respect to case system  
the variation with respect to voice system.

### Case system

- *The Grammatical Atlas of Japanese Dialects*, edited by National Institute of Japanese Language and Linguistics: case marking of goal, recipient, passive agent and so on.
- Case marking of core arguments in most Japanese dialects is of the accusative type, although the case morphemes employed as nominative and accusative are different from dialect to dialect. But the Kikaijima dialect (Matsumoto 1982) is argued to be active/inactive type.
- Voice system
- Coded valency alternation: The dialects spoken in the northern part of the main island (Honshu) and Hokkaido have an additional suffixal auxiliary: spontaneous /-rasar/, which has anticausative usage.
- Uncoded valency alternation: Some dialects exhibit types of possessor ascension construction not found in Standard Japanese.
- Thanks to the existence of *Suffixalname* (multiple case marking), the Hachijojima dialect exhibits a wide range of possessor ascension constructions (Kaneda 1993).
- The wide range of possessor ascension constructions is also found in the Mitsuikaido dialect, which has two accusative case forms (Sasaki 2002).

### Different case frame for the same verb

- The fact that the lexical case frame of a verb bearing the same meaning differs from dialect to dialect can be regarded as relevant for the study of valency classes. For example, in the Nakaniiida dialect spoken in the northern part of Miyagi prefecture, the dative objects sometimes correspond to the accusative case marked objects in Standard Japanese (Kobayashi 2004).
- Because of the time limitation, it is difficult to introduce all of them. So, in this presentation, I would like to make a brief illustration of the two types of grammatical variation, using the data from the Mitsuikaido dialect and the Hokkaido dialect, gathered through my own research.

## 2. Different case inventory induces different case alternations

The Mitsuikaido dialect is spoken in the southwestern part of Ibaraki prefecture, the area around the ex-Mitsuikaido city (now incorporated into Joso city). This area is 50km north to Tokyo, capital of Japan. Despite its close location to the economic and political center of Japan, the Mitsuikaido dialect exhibits grammatical difference from Standard Japanese.

- (1) The voice suffixal auxiliaries in the Mitsuikaido dialect and Standard Japanese

	Mitsuikaido dialect	Standard Japanese
Passive	/rare/	/rate/
Causative	/rase/	/sase/
Potential	/e, rare/	/e, rate/

Table 1. Case system in the Mitsuikaido Dialect and in Standard Japanese (Sasaki 2001)

	Mitsuikaido dialect	Standard Japanese
	Animate NP	Inanimate NP
Nominative	NP- <i>o</i>	NP- <i>ga</i>
Accusative	NP- <i>o</i>	NP- <i>o</i>
Experiencer case	NP- <i>godo</i>	
Dative	NP- <i>ni</i>	NP- <i>ni</i>
Locative	NP- <i>ni</i>	NP- <i>ni</i>
Ablative	NP- <i>gara</i>	NP- <i>kara</i>
Instrumental	NP- <i>de</i>	NP- <i>de</i>
Comitative	NP- <i>do</i>	NP- <i>to</i>
Genitive	NP- <i>ni</i>	NP- <i>no</i>
Adnominal locative	NP- <i>ni</i>	NP- <i>ni</i>

Using *godo* as an accusative marker is also found in some Tohoku (northeastern) dialects. The marked animate direct object is crosslinguistically well attested pattern (see Comrie 1979).

## Uncoded valency alternations

- Due to having two types of accusative case marking, the Mitsuikaido dialect has an uncoded valency alternation which is not found in Standard Japanese, namely double accusative possessor ascension and (unproductive) double accusative type dative alternation.
  - These constructions are important for considering the relation between case and grammatical relation.
- (2)
- Double accusative possessor ascension  
*jaro-nga adama bukkuraji-*te* jak-ka* (non-ascension)  
 man-POSS head-ACC hit-COMP give-Q  
 '(Someone) hit the man's head.'
  - jaro-godo adama bukkuraji-*te* jak-ka* (possessor ascension)  
 man-ACC head-ACC hit-COMP give-Q  
 '(Someone) hit the man on the head.'
- (3)
- Dative alternation (the data is from Tsuchi 'the earth')  
*warra-*ni*ge mizime mise-*te*-kotoa* ... (data from Tsuchi)  
 2PL-DAT misery-ACC show-want-COMP  
 '(I don't) want to make you miserable.'
  - uh<sup>1</sup>-*godo* mizime misete-*ni*-*ronga** (data from Tsuchi)  
 Uhei-ACC misery-ACC show.PROG-COMP  
 '(He) is making Uhei miserable.'

- The double nominative possessor ascension, of which host nominal is intransitive subject, is possible in both Standard Japanese and the Mitsuikaido dialect as illustrated in (4).
- But double accusative possessor ascension constructions are ruled out in Standard Japanese, as illustrated in (5), due to the Double-*o* constraint (Harada 1973, Shibatani 1973), a constraint banning the multiple occurrence of accusative NPs within a single clause.

- (4) Double nominative possessor ascension

	Standard Japanese	<i>o:ki:</i>
a.	<i>kare-wa te-ga</i> 3sg.masc-TOP hand-NOM	<i>o:ki:</i> big
	'He has big hands.'	
b.	Mitsuikaido dialect <i>are-wa te:</i> 3sg-TOP hand-NOM	<i>egae</i> big
	'S/he has big hands.'	

<sup>1</sup> *Tsuchi* (The Earth) is a novel written by Takashi Nagatsuka, published in 1910. The conversation in this novel is considered to reflect the dialect of this area in those days.

- (5) Double accusative possessor ascension (Standard Japanese)
- a. *otoko-no atama-o but-ta*  
 man-POSS head-ACC hit-PST  
 '(Someone) hit the man's head.'
- b. *\*otoko-o atama-o but-ta*  
 man-ACC head-ACC hit-PST
- In the Mitsuikaido dialect, the double accusative possessor ascension is ruled out when the two accusative NPs employ the same case form as shown in (6). (Sasaki 2002)
- (6) Ungrammatical double accusative possessor ascension
- a. *\*seNse: are-godo kodomo-godo home-da*  
 teacher-NOM 3SG-ACC child-ACC praise-PST
- b. *\*nezami kono iskue asi kaziri-ta*  
 mouse-NOM this desk-ACC foot-ACC bite-PST

This grammatical restriction indicates that the constraint banning the multiple occurrence of the same accusative case form is active also in the Mitsuikaido dialect. The grammatical double accusative constructions in (2) and (3) do not incur the duplication of the NPs with the same case ending. The grammaticality of the double accusative possessor ascension in (2) and dative alternation in (3) is considered to be sanctioned by the morphological difference of two accusative NPs, i.e., their case form is different: one is NP-*godo* but the other is NP- $\phi$ .

#### Double accusative construction in coded valency alternation

- In Standard Japanese, the causative construction of motion verb with accusative path does not take two accusative NPs. However, the Mitsuikaido dialect counterpart takes two accusative NPs.
- (7) Standard Japanese causative based on motion verb
- a. motion verb (plain)  
*kodomo-ga miti-o arui-te I-ru*  
 child-NOM road-ACC walk-PROG-PRES  
 'The child is walking on the road.'
- b. Double accusative causative  
*\*kodomo-o miti-o aruki-ase-ta*  
 child-ACC road-ACC walk-CAUS-PST
- c. Single accusative causative  
*kodomo-o aruki-ase-ta*  
 child-ACC walk-CAUS-PST  
 '(Someone) made the child walk.'
- (8) Mitsuikaido dialect causative based on motion verb
- a. motion verb (plain)  
*kodomo mizi arue-de-ru.*  
 child-NOM road-ACC walk-PROG-PRES  
 'The child is walking on the road.'
- b. Double accusative causative  
*kodomo-godo mizi arig-ase-ru*  
 child-ACC road-ACC walk-CAUS-PRES  
 '(Someone) makes the child walk on the road.'

- However, the double accusative causative construction from the transitive verb is ruled out even when the case forms of the two accusative NPs are different.

- (9) a. *sengare e:ngo nara:*  
 son-NOM English-ACC learn-PRES  
 'My son learns English.'

- b. *sengare-nge e:ngo nara-ase-da*  
 son-DAT English-ACC learn-CAUS-PST  
 '(Someone) made the son learn English.'
- c. *\*sengare-godo e:ngo nara-ase-da.*  
 son-ACC English-ACC learn-CAUS-PST

- Doubling of grammatical relation, i.e., direct object, is strongly prohibited, while doubling of case, i.e., accusative, is not banned when the phonological shape of the case morpheme is different.
- The different status of doubling of case and grammatical relation in the Mitsuikaido dialect attracts interest in the formal theory. Hirawa (2010) cites the Mitsuikaido dialect data above as a supporting evidence for his analysis of case doubling exclusion with a PF-Interface constraint.

#### Obliques

- Concerning the oblique cases in this dialect, the most important thing is the existence of an experienter-specific case particle *-ngani*. The oblique case specific to experienter is considered to be typologically rare. The similar type of oblique case specific for experienter is found in Andi (Comrie 1981), Bhojpurī (Verma 1990) and Godoberi (Kibrik 1996).
- In some languages, including Standard Japanese, the oblique experienter and indirect object are case-marked in the same way, i.e., in dative.
  - On the other hand, in the Mitsuikaido dialect, the oblique experienter and indirect object are case-marked differently, as illustrated in the examples (10) and (11).

- (10) Oblique experienter  
*are-nganja (\*-nge-wa) ome-godo wagan-me*  
 3sg-EXP.TOP 2sg-ACC understand-MAY.NOT  
 'S/he may not be able to understand you.'
- (11) Indirect Object  
*sengare kono nimozu siNsegi-nge (\*-ngani) oga-ta*  
 son-NOM this package-ACC relative-DAT send-PST  
 'My son sent this package to his relative.'
- The <EXP-ACC> case frame illustrated in (10) is not ruled out and the nominative requirement is inert.

#### Potential constructions without nominative nominal

- The case frame without nominative is also found in a construction with valency alternation morphology.

- (12) Intransitive-based potential  
*are-ngani-wa iskabasan-sa nobor-e-be-na*  
 3sg-EXP-TOP Mt. Tsukuba-DAT climb-POT-may-PRT  
 'S/he may be able to climb Mt. Tsukuba.'
- (13) Transitive-based potential  
*ano jarokko-nganja hebi-godo butadag-e-ru*  
 that boy-EXP.TOP snake-ACC hit-POT-PRES  
 'That boy can hit a snake.'
- (14) Standard Japanese Mitsuikaido dialect
- |           |     |     |     |     |     |   |
|-----------|-----|-----|-----|-----|-----|---|
|           | S   | A   | S   | A   | EXP |   |
| Active    | ↓   | ↓   | ↓   | ↓   | ↓   | ↓ |
| Potential | ↓   | ↓   | ↓   | ↓   | ↓   | ↓ |
|           | NOM | DAT | EXP | EXP | EXP |   |

#### Demoted subjects

- In Standard Japanese, the oblique elements 'demoted from subject', i.e., oblique subject in potential constructions, cause in transitive-based causative constructions and oblique agent in passive constructions, are case-marked in the same way, i.e., in dative.
- On the other hand, in the Mitsuikaido dialect, these elements are case-marked differently. (Sasaki 2001)
- The oblique subject in potential sentence is case-marked with the experienter case particle *-ngani*.



SINK	<i>sizum-u</i>	N/A	<i>sizume-ru</i>	<i>sizum-asar-u</i>
SHAVE	<i>sor-u</i>	FALSE	N/A	<i>sor-asar-u</i>
GRIND	<i>sur-u</i>	FALSE	N/A	<i>sur-asar-u</i>
HIT	<i>tatak-u</i>	FALSE	N/A	<i>tatak-asar-u</i>
build	<i>tate-ru (C)</i>	<i>tai-u</i>	N/A	<i>tai-asar-u</i>
POUR	<i>tug-u</i>	FALSE	N/A	<i>tug-asar-u</i>
LOAD	<i>tum-u</i>	FALSE	N/A	<i>tum-asar-u</i>
TIE	<i>tunag-u</i>	<i>tunagar-u</i>	N/A	<i>tunag-asar-u</i>
BOIL	<i>wakas-u (C)</i>	<i>wake-u</i>	N/A	<i>wakas-ar-u</i>
BREAK	<i>war-u</i>	<i>ware-ru</i>	N/A	<i>war-asar-u</i>
COVER	<i>yak-u</i>	<i>yake-ru</i>	N/A	<i>yak-asar-u</i>
FRIGHTEN	<i>kake-ru</i>	<i>kakar-u (E)</i>	N/A	FALSE
HELP	<i>kowagarase-ru (C)</i>	<i>kowagar-u</i>	N/A	FALSE
KNOW	<i>tasuke-ru</i>	<i>tasakar-u (E)</i>	N/A	FALSE
BURN	<i>sir-u</i>	FALSE	<i>sirase-ru</i>	FALSE
	<i>moe-ru (E)</i>	N/A	<i>moyas-u</i>	N/A

34 verbs exhibit causal/inchoative alternation. Anticausativization with /-rasar/ is found in 29 verbs, 85.3%. The number of lexical causative/inchoative pairs without anticausatives with /-rasar/ is 5, 14.7%. The lexical causative/inchoative pairs contain 3 equipollent alternations and 2 causative alternations. They do not include anticausative alternations. The verbs having lexical anticausatives are subclass of the verbs having anticausatives with /-rasar/. 20.9% of transitive verbs with anticausativization with /-rasar/ have lexical anticausatives.

#### Syntactic nature of anticausativization with /rasar/

- The verb *os-u* ‘push’ does not always imply change of state.
- When the verb phrase does not imply the change of state, the anticausativization with /-rasar/ fails to apply, as in (18).
- On the other hand, when the verb phrase indicates the change of state as in (19), the anticausativization applies.

- (18) \**senaka-ga os-asat-te-ru*  
back-NOM push-SP-PROG-PRES  
<=> *senaka-o os-*  
back-ACC push  
‘to push someone’s back’
- (19) *saise:botan-ga os-asat-te-ru*  
replay button-NOM push-SP-PROG-PRES  
‘The replay button is on.’  
<=> *saise:botan-o os-*  
replay button-ACC push  
‘to push the replay button’

- The anticausativization with /-rasar/ can be regarded as a syntactic process, while that with /-e/ and /-ar/ is lexical process.
- Syntactic process tends to be more productive than lexical process.
- The productivity of anticausativization with /rasar/ is considered to reflect its syntactic status.

#### Restrictions on anticausativization with /rasar/

- (20) Ungrammaticality of anticausatives derived from the verbs of giving  
a. *kure-ru* ‘give (to me)’ → \**kure-rasar-u* ‘give-SP-PRES’  
b. *yar-u* ‘(I) give’ → \**yar-asar-u* ‘give-SP-PRES’
- The ungrammaticality shown in (20) indicates that the causing event suppression is blocked when the person of the argument is specified for the lexical meaning of the verb.
  - The verbs *yar-u* and *kure-ru* are distinguished by the deixis (Hidaka 2007) or directionality (Newman

- 1996) of giving.
- For the verb *yar-u*, the direction of the donation is from speaker to non-speaker. For the verb *kure-ru*, it is from non-speaker to speaker.
- The directionality of giving is a matter of person specification of agent and recipient.
- The person specification cannot be overridden even by the anticausativization with /-rasar/.

- (22) The range of anticausativization
- Verbs unspecified for manner of activity →
- Verbs specified for manner of activity →
- Verbs with person specification of arguments →
- Lexical AC (SI, HD) →
- AC with /rasar/ →

#### Areal feature?

The existence of additional voice suffix /-rasar/ has another typological importance. According to Nichols, Peterson and Barnes (2004), the north-eastern Eurasia, along with North America, is an area where transitive morphology is dominant. Japanese dialects are consistent with Nichols *et al*’s observation. Nichols *et al*’s study is based on a limited number of transitive-intransitive pair of verbs. When we look at the productive transitivity alternation morphology, dialectal variation emerges. For most of the Japanese dialects, the sole productive transitivity alternation morphology is causativization, a transitivity. On the other hand, the dialects spoken in the northern main island and Hokkaido do not conform to this characterization. They are bidirectional with respect to productive transitivity alternation, having both causativization and anticausativization. Concerning the transitivity alternation, the northern dialects, including the Hokkaido dialect, resemble the languages spoken in the neighboring area, namely, Ainu (Bugaeva 2004) and Nivkh (Nedjalkov, Otaima and Xolodovic 1995), both of which employ reflexive morphemes as an expression of anticausativization. Ainu, Nivkh, and Northern Japanese dialects are genetically unrelated. The morphemes employed for anticausativization are different from languages to languages. Despite of this fact, these languages shows grammatical affinity in that productive transitivity alternation is bidirectional. This situation suggests that the areal linguistic consideration other than comparative method is required.

#### 4. Future perspective of the research on valency classes in Japanese dialects

In this presentation, I talked about the two types of grammatical variation relating to valency classes in Japanese dialects, the variation with respect to case system and the variation with respect to voice system, and argued that the different types of case frames and the different range of transitivity alternations in the dialects can be regarded as a reflection of these morphological variations. My presentation is based on the data from two dialects, the Mutsu dialect and the Hokkaido dialect. More examples from a wider variety of dialects would enable us to make more valuable observations on the study of valency classes and valency alternation. The inventory of case particles and voice morphologies is already described in most of the dialects but their syntactic manifestation has tended to be ignored and the data relevant to the study of valency classes and valency alternation are not always accessible. However, the situation is improving. The progress in the systematic description will reveal the grammatical nature of Japanese dialects and their contribution to the topics of general linguistics, including valency classes.

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## Possessor ascension in the Mitsukaikado dialect

*jaro-godo adama bukkurasj-te jak-ka*  
 man-ACC head-ACC hit-COMP give-Q  
 ‘(Someone) hit the man on the head.’



## 2. Different case inventory induces different case alternations

- Mitsukaikado dialect



**Dative object in the Nakaniida** (the northern Miyagi) **dialect** (Koyabashi 2004: 366)  
*usagi-o oikake-ta* (Standard Japanese)  
 rabbit-ACC chase-PST  
*usarji-sa oekake-ta* (Nakaniida dialect)  
 rabbit-DAT chase-PST

‘(Someone) chased a rabbit.’



## Voice morphology: same as SJ

(1) The voice suffixal auxiliaries in the Mitsukaikado dialect and Standard Japanese

	Mitsukaikado dialect	Standard Japanese
Passive	/rare/	/rare/
Causative	/rase/	/sase/
Potential	/e, rare/	/e, rare/

## Case system: different from SJ

Table 1. Case system in the *Mitsukaido Dialect and in Standard Japanese* (Sasaki 2001)

	Mitsukaido dialect		Standard Japanese
	Animate NP	Inanimate NP	
Nominative	NP-Ø	NP-Ø	Nominative
Accusative	NP-godo	NP-Ø	Accusative
Experiencer case	NP-ngani		
Dative	NP-nge	NP-sa, e	Dative
Locative	NP-nge	NP-ni	
Ablative	NP-gara	NP-kara	Ablative
Instrumental	NP-de	NP-de	Instrumental
Comitative	NP-do	NP-to	Comitative
Genitive	NP-no		
Possessive	NP-nga		NP-no
Adnominal locative		NP-na	Genitive

## Case system: different from SJ

Table 1. Case system in the *Mitsukaido Dialect and in Standard Japanese* (Sasaki 2001)

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	Animate NP	Inanimate NP	
Nominative	NP-Ø	NP-Ø	Nominative
Accusative	NP-godo	NP-Ø	Accusative
Experiencer case	NP-ngani		
Dative	NP-nge	NP-sa, e	Dative
Locative	NP-nge	NP-ni	
Ablative	NP-gara	NP-kara	Ablative
Instrumental	NP-de	NP-de	Instrumental
Comitative	NP-do	NP-to	Comitative
Genitive	NP-no		
Possessive	NP-nga		NP-no
Adnominal locative		NP-na	Genitive

## Double accusative constructions

- (2) Double accusative possessor ascension
- a. *jaro-nga adama bukkurasj-te jak-ka* (non-ascension)  
 man-POSS head-ACC hit-COMP give-Q  
 '(Someone) hit the man's head.'
- b. *jaro-godo adama bukkurasj-te jak-ka* (possessor ascension)  
 man-ACC head-ACC hit-COMP give-Q  
 '(Someone) hit the man on the head.'
- (3) Dative alternation (the data is from Tsuchi 'the earth')
- a. *warra-nge mizime mise-te:-kota: ...* (data from Tsuchi)  
 2PL-DAT misery-ACC show-want-COMP  
 '(I don't) want to make you miserable.'
- b. *uhe:-godo mizime miseN-noiga* (data from Tsuchi)  
 Uhei-ACC misery-ACC show.PROG-COMP  
 '(He) is making Uhei miserable.'

## Possessor ascension in SJ & MD

- (4) Double nominative possessor ascension
- a. Standard Japanese  
*kare-wa te-ga o:ki:*  
 3sg.masc-TOP hand-NOM big  
 'He has big hands.'
- b. Mitsukaido dialect  
*are-wa te: egae*  
 3sg-TOP hand-NOM big  
 'S/he has big hands.'
- (5) Double accusative possessor ascension (Standard Japanese)
- a. *otoko-no atama-o but-ta*  
 man-POSS head-ACC hit-PST  
 '(Someone) hit the man's head.'
- b. \**otoko-o atama-o but-ta*  
 man-ACC head-ACC hit-PST

Ungrammatical

## Restrictions on Possessor ascension in MD

- (6) Ungrammatical double accusative possessor ascension
- \**se*/Vse: *are-godo* *kodomo-godo* *home-da*  
teacher-NOM 3SG-ACC child-ACC praise-PST
  - \**nezumi* *koto tsukue* *asi* *kaziti-ta*  
mouse-NOM this desk-ACC foot-ACC bite-PST

In the Mitsuikaiko dialect, the double accusative possessor ascension is ruled out when the two accusative NP employ the same case form as shown in (6).

This grammatical restriction indicates that the constraint banning the multiple occurrence of the same accusative case form is active also in the Mitsuikaiko dialect. The grammatical double accusative constructions in (2) and (3) do not incur the duplication of the NP with the same case ending. The grammaticality of the double accusative possessor ascension in (2) and dative alternation in (3) is considered to be sanctioned by the morphological difference of two accusative NP, i.e., their case form is different: one is NP-godo but the other is NP- $\phi$ .

## Double accusative causatives

- (7) Standard Japanese causative based on motion verb

- motion verb (plain)  
*kodomo-ga miti-o arui-te i-ru*  
child-NOM road-ACC walk-PROG-PRES  
'The child is walking on the road.'
- Double accusative causative  
\**kodomo-o miti-o aruk-ase-ta*  
child-ACC road-ACC walk-CAUS-PST
- Single accusative causative  
*kodomo-o aruk-ase-ta*  
child-ACC road-ACC walk-CAUS-PST  
'(Someone) made the child walk.'

Standard Japanese
*causee path V-caus
ACC ACC

- (8) Mitsuikaiko dialect causative based on motion verb

- motion verb (plain)  
*kodomo mizi arue-de-ru*  
child-NOM road-ACC walk-PROG-PRES  
'The child is walking on the road.'
- Double accusative causative  
*kodomo-godo mizi arug-ase-ru*  
child-ACC road-ACC walk-CAUS-PRES  
'(Someone) makes the child walk on the road.'

Mitsuikaiko dialect
causee path V-caus
ACC ACC

## Restrictions on double accusative causatives

- (9) a. *sengare e:ngo nara:*  
son-NOM English-ACC learn.PRES  
'My son learns English.'
- b. *sengare-nge e:ngo nara-ase-da*  
son-DAT English-ACC learn-CAUS-PST  
'(Someone) made the son learn English.'
- c. \**sengare-godo e:ngo nara-ase-da*  
son-ACC English-ACC learn-CAUS-PST

In the Mitsuikaiko dialect, the clause including two direct objects is prohibited even though the structure with two accusative NPs itself is not ruled out. This situation indicates that the different status of doubling of case and grammatical relation. Doubling of grammatical relation, i.e., direct object, is strongly prohibited, while doubling of case, i.e., accusative, is not banned when the phonological shape of the case morpheme is different.

## Case system: different from SJ

Table 1. Case system in the Mitsuikaiko Dialect and in Standard Japanese (Sasaki 2001)

	Mitsuikaiko dialect		Standard Japanese
	Animate NP	Inanimate NP	
Nominative	NP- $\emptyset$	NP- $\emptyset$	Nominative
Accusative	NP-godo	NP- $\emptyset$	Accusative
Experiencer case	NP-ngani		
Dative	NP-nge	NP-sa, e	NP-ni
Locative		NP-ni	
Ablative		NP-gara	NP-kara
Instrumental		NP-de	NP-de
Comitative		NP-do	NP-to
Genitive		NP-no	
Possessive	NP-nga		NP-no
Adnominal locative		NP-na	
			Genitive

## Oblique experiencer and indirect object in MD

- (10) Oblique experiencer  
*are-nganija* (\*-nge-wa) *ome-godo* *wagaN-me*  
 3sg-EXP.TOP 2sg-ACC understand-MAY.NOT  
 'S/he may not be able to understand you.'
- (11) Indirect Object  
*sengare koto nimozu siNsegi-nge* (\*-ngani) *ogut-ta*  
 son-NOM this package-ACC relative-DAT send-PST  
 'My son sent this package to his relative.'

The example (10) is noteworthy in that it has no nominative NP.As illustrated in Prof. Kishimoto's presentation, at least one the nominative NP is required in Standard Japanese. The <EXP-ACC> case frame illustrated in (10) is not ruled out and the nominative requirement is inert.

## Demoted subjects

- (15) Case differentiation of demoted subjects
- are amakko-godo taske-da* (active)  
 3sg-NOM girl-ACC help-PST  
 'S/he helped a girl.'
  - are-ngani-wa amakko-godo taske-rare-be*: (potential)  
 3sg-EXP-TOP girl-ACC help-POT-may  
 'S/he can help the girl.'
  - ore are-nge amakko-godo taske-rase-da* (causative)  
 1sg-NOM 3sg-DAT girl-ACC help-CAUS-PST  
 'I made her/him help the girl.'
  - amakko are-ni taske-rare-da* (passive)  
 girl-NOM 3sg-LOC help-PASS-PST  
 'The girl was helped by her/him.'

Table 2. Case-marking of "demoted" subjects

	Standard Japanese	Mitsukaido dialect
Oblique subject		EXP (-ngani)
Causee	DAT (-ni)	DAT (-nge)
Passive agent		LOC (-ni)

## Potential construction without nominative nominal

- (12) Intransitive-based potential  
*are-ngani-wa tsukubasan-sa nobori-e-be-na*  
 3sg-EXP-TOP Mt. Tsukuba-DAT climb-POT-may-PRT  
 'S/he may be able to climb Mt. Tsukuba.'
- (13) Transitive-based potential  
*ano jarokko-nganja hebi-godo*  
 that boy-EXP.TOP snake-ACC hit-POT-PRES  
 'That boy can hit a snake.'

- (14)
- |           |                   |                    |
|-----------|-------------------|--------------------|
| Active    | Standard Japanese | Mitsukaido dialect |
|           | S A               | S A                |
|           | ↓ ↓               | ↓ ↓                |
| Potential | NOM DAT           | EXP EXP            |

## 3. Different voice morphology induces different range of transitivity alternations

- Hokkaido dialect



Hokkaido

## Spontaneous predicate

- Verb root+/*rasar*/
- Three usages
  - Unintentional
  - Potential (middle)
  - Anticausative

	Standard Japanese	Hokkaido dialect
Passive	V-rare	V-rare
Causative	V-sase	V-sase
Potential	V-e/rare	V-e/rare (V-ni i)
Anticausative	---	V- <i>rasar</i>

(16) (\**dareka-nijotte*) *ko:te-ni* *o:kina maru-ga kak-asat-te-ru*  
 someone-by ground-DAT big circle-NOM draw-SP-PROG-PRES  
 'A big circle has been/was drawn.'

## Anticausativization with /*rasar*/

- In the Hokkaido dialect, the range of lexical transitivity alternation is the same as that in Standard Japanese. However, the range of anticausativization with /-*rasar*/ is wider than that of lexical anticausativization.
- See Table 3 and 4 in the handout.

## The range of anticausativization

- As argued by Hayatsu (1989) and Sato (2005), lexical transitivity alternation is possible only when the transitive counterpart indicates the change of state of the reference of object and the manner of activity of the agent is not specified.

(17) A verb meaning that refers to a change of state or going-on may appear in an inchoative/causative alternation unless the verb contains agent-oriented meaning components or other highly specific meaning components that make the spontaneous occurrence of the event extremely unlikely. (Haspelmath 1993: 94)

## Syntactic nature of anticausativization with /*rasar*/

(18) \**senaka-ga os-asat-te-ru*  
 back-NOM push-SP-PROG-PRES

<== *senaka-o os-*  
 back-ACC push  
 'to push someone's back'

(19) *saise:botan-ga os-asat-te-ru*  
 replay button-NOM push-SP-PROG-PRES  
 'The replay button is on.'

<== *saise:botan-o os-*  
 replay button-ACC push  
 'to push the replay button'

The aspectual condition of lexical anticausativization is determined by the lexical meaning of verb roots. On the other hand, the contrast among the sentences in (18) and (19) shows that the aspectual condition of anticausativization with /-*rasar*/ is determined by the syntactic entity, i.e., verb phrase.

## Restrictions on anticausativization with /rasar/

(20) Ungrammaticality of anticausatives derived from the verbs of giving  
a. *kure-ru* “give (to me)” → \**kure-rasar-u* “give-SP-PRES”  
b. *yar-u* “(I) give” → \**yar-asar-u* “give-SP-PRES”

(21) *The range of anticausativization*  
Verbs unspecified for manner of activity      Verbs specified for manner of activity      Verbs with person specification of arguments

Lexical AC (SJ, HD)----->  
AC with /rasar/ ----->

## Areal feature?

- Productive transitivity alternation morphology
  - For most of the Japanese dialects, the sole productive transitivity alternation morphology is causativization, a transitivity.
  - On the other hand, the dialects spoken in the northern main island and Hokkaido do not conform to this characterization.
    - They are bidirectional with respect to productive transitivity alternation, having both causativization and anticausativization.
    - Concerning the transitivity alternation, the northern dialects, including the Hokkaido dialect, resemble the languages spoken in the neighboring area, namely, Ainu (Bugueva 2004) and Nivkh (Nedjalkov, Otaina and Xolodovic 1995), both of which employ reflexive morphemes as an expression of anticausativization.

# Valency classes in Emai

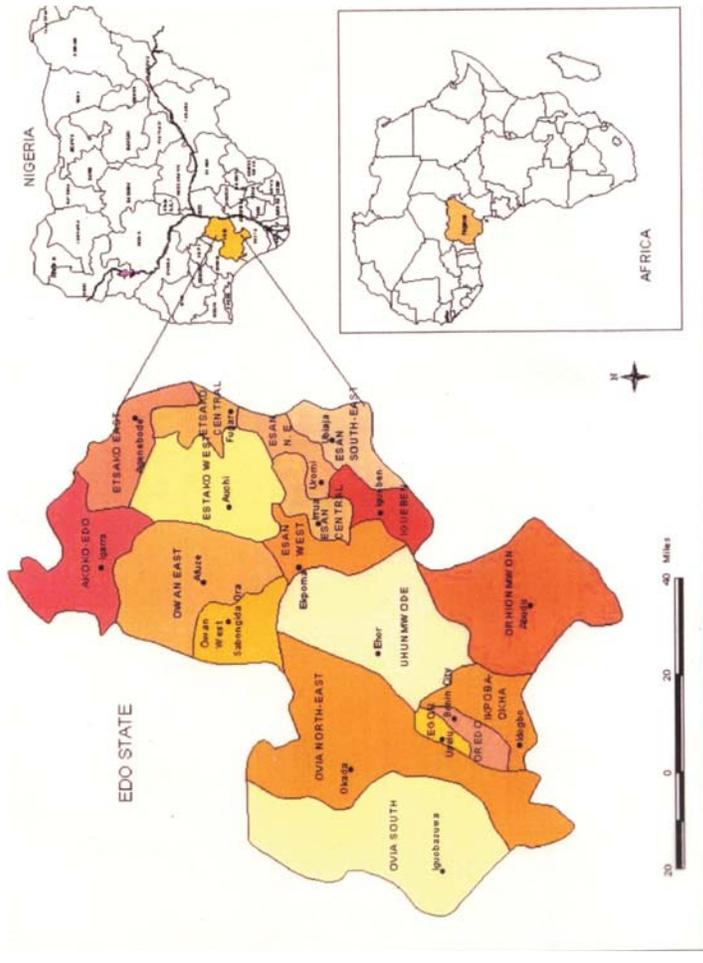
Ronald P. Schaefer  
Southern Illinois University Edwardsville

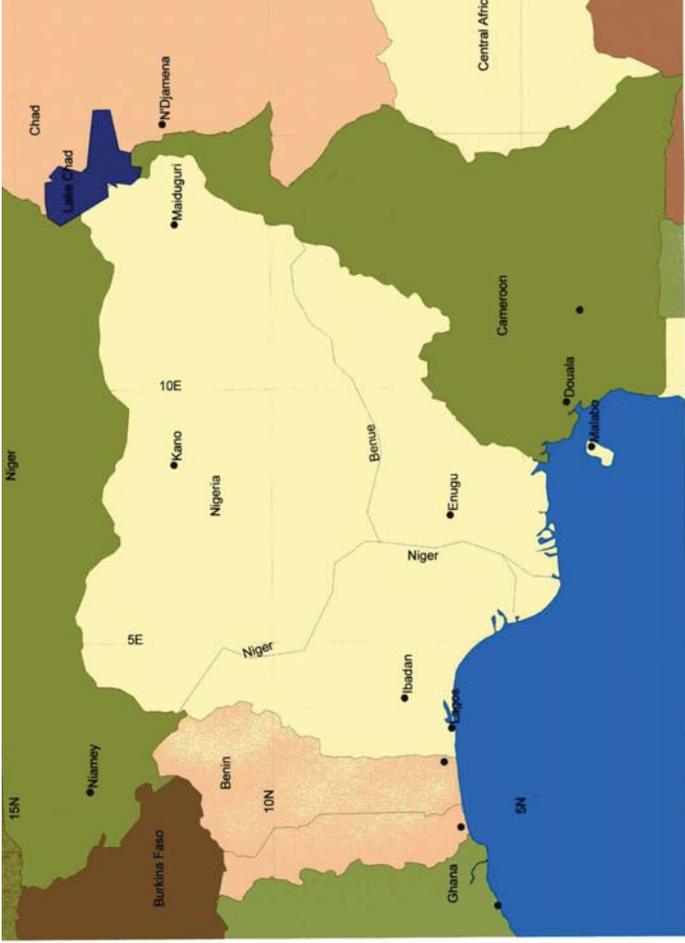
and

Francis O. Egbokhare  
University of Ibadan

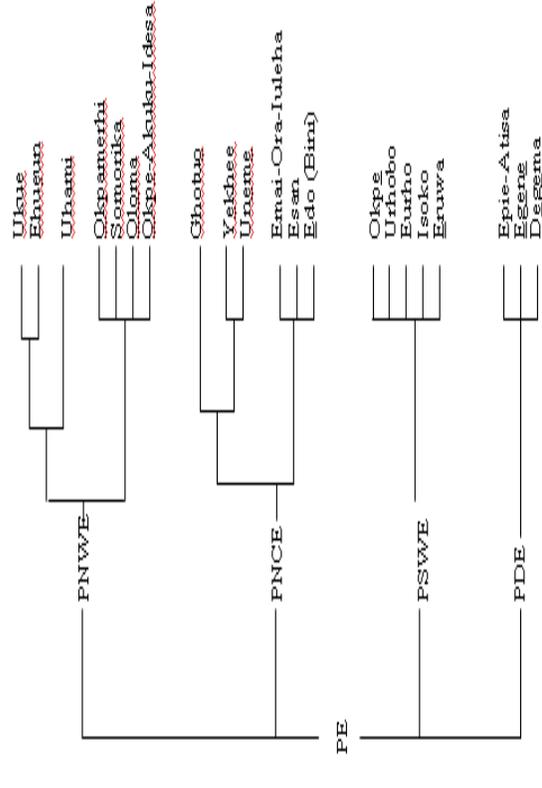
- Emai codes arguments by word order positioning relative to predicate elements or by flagging via preposition, postverbal particle, verb in series or both verb in series and postverbal particle.
- Each coding strategy is not aligned with each predicate.
- Individual predicates rely exclusively on one or another coding strategy or some combination of strategies.
- Our principal aim is to explore the extent to which postverbal particles, with secondary support from verbs in series, allow one to analyze predicate valency frames in a manner that reveals empirically significant predicate classes.
- Before proceeding further, we provide a brief overview of grammatical structure in Emai, whose affiliation is Niger Congo, West Benue Congo and Edoïd.

- We explore the character of valency frames for Emai predicates corresponding to the Leipzig Valency Project inventory.
- Frames are composed of predicate elements and their associated arguments.
- A predicate refers to a particular type of event.
- Arguments are constituents permitted by a particular predicate rather than predicates in general.
- Arguments relate to their predicates in several ways: some never change, some undergo position change through alternation and others increase or decrease the valency profile of a predicate through alternation.
- A predicate may thus show a valency profile consisting of a single basic frame or multiple frames, depending on its alternation potential.





- Emai is a relatively strict SVO language, minimal inflectional morphology and relatively few prepositions or adjectives.
- Emai relies on lexical as well as grammatical tone, showing high, low and high downstep.
- Lexical tone exists in contrast sets for nouns, adjectives and adverbs.
- Verb tone, actually verb phrase tone generally, contrasts only across clausal constructions, where Emai tone and morphology distinguish three degrees of aspect (perfect, imperfect and prospective) interacting with inherent tone values assigned to polarity, modality and preverbal adverbial categories.



**ABBREVIATIONS**

- PE Proto Edoid
- PDE Proto Deka Edoid
- PSWE Proto Southwestern Edoid
- PNCE Proto Northeastern Edoid
- PNWVE Proto Northwestern Edoid

Figure 1. Family tree for Edoid group according to Edoib (1982).

- Within a clause, Emai reveals simple and complex predicates.
- Simple predicates consist of single verb. Simple predicate pairs contrast according to number, e.g. *nwu* 'take hold of a singleton' with *hwa* 'take hold of a multiplicity', *fi* 'project, throw a singleton' with *ku* 'project, throw a multiplicity or mass', and *gbe* 'kill a singleton' with *gboo* 'kill a multiplicity'.
- Complex predicates are formed by a verb and postverbal particle, by verbs in series or by verbs in series with postverbal particle.
- Verb forms in series and postverbal particle forms articulate relations that change argument structure for a predicate or change its aspectual, non-argument lexical structure.

While particle *a* codes lexical aspect, other particles code argument relations.

Applicative (APP) particle *li* designates a syntactic dative relation that has beneficiary, recipient and aversive semantic functions.

- (2) a. *òjè zé óà lí òhí.*  
Oje build house APP Ohi  
'Oje built a house for Ohi.'
- b. *òjè ré éghó' lí ònwimè.*  
Oje take money APP farmer  
'Oje gave money to a farmer.'
- c. *òjè róó ólì ògò hée lí òhí.*  
Oje pick.out the bottle hide APP Ohi  
'Oje hid the bottle from Ohi.'

The postverbal particle *a* articulates change in material state (CS) for an event participant or confirms a change in material state.

- (1) a. *àlèkè gbé ólì ákhè á.*  
Aleke break the pot CS  
'Aleke broke the pot.'

b. *òjè gúúghò úkpásánmì.*

Oje break cane

'Oje broke the cane.'

c. *òjè gúúghò úkpásánmì á.*

Oje break cane CS

'Oje broke the cane apart.'

The verb in series *re* 'arrive' conveys change in existence state from absence to presence for event participants.

d. *àlèkè nyé òmì ré.*

Aleke cook soup arrive

'Aleke brought soup.'

Postverbal particle *o* followed by preposition *vbi* encodes a syntactic locative relation for a change of location (CL) function.

- (3) *àlèkè gbá isávbéé ó vbi áwé.*  
Aleke tie dika.nut.string CL LOC feet  
'Aleke tied the dika nut string onto her feet.'

Postverbal particle *e* followed by an accusative position argument signals a contactive relation of projected adherence (PA) for a moving object relative to a human goal.

(4) *àlèkè fì èkhòì fì é òhí.*

Aleke throw worm spread PA Ohi

'Aleke threw a worm onto Ohi.'

A postverbal particle immediately preceded by a verb in series expresses argument changing and aspect changing relations.

Either of the verbs in series *fi* 'spread a singleton' or *ku* 'spread a multiplicity or mass' identify a change in lexical aspect in construction with particle *a* but a change in lexical aspect and in argument structure with particle *o*.

Relative to a distributive condition on the extent of a change of position or change of state, *fi a* or *ku a* underspecifies extent, allows for indefinite extent.

- (5) a. *òjè kénhén kù á*  
Oje cough spread CS  
'Oje coughed all over.'

Relative to the same distributive condition on extent of a change of position or change of state, *fi o* or *ku o* and preposition *vbi* specifies extent relative to a locative argument.

- b. *òjè kénhén kù ó vbi émàé*.  
Oje cough spread CL LOC food  
'Oje coughed all over the food.'

Within clauses, argument relations to predicate elements are conveyed by word order for the case relations nominative (NOM) preceding a simple verb and accusative (ACC) following a simple verb and by preposition *vbi* for the case relation locative (LOC) following a simple verb.

Transitive case frames take the shape <NOM V1 ACC>.

Intransitive frames take the shape <NOM V1 *vbi*+LOC> or <NOM V1>.

Oblique position (OBL) is exclusively word order marked and follows accusative position in a double object sequence <NOM V1 ACC OBL>.

Case relations are also flagged by particles or by verbs in series.

An argument functioning as a locative reference point for a change of location is coded by postverbal particle *o* and preposition *vbi* as locative (LOC).

An argument functioning as a benefactive, recipient or aversive event participant is signaled by postverbal particle *fi* as dative (DAT).

Verbs in series occur with a following ACC or LOC argument. Relative to V1 in a simple one or two argument clause, a V2 in series and its argument exhibit a precedence or succedence relation; V2 precedes V1 or V2 succeeds V1.

A precedence V2 and its ACC argument tend to flag a notional comitative, replacive or instrument/means relation.

- (6) a. *òjè kpáyé òhí híán òlì úì*.  
Oje replace Ohi cut the rope  
'Oje cut the rope instead of / in lieu of Ohi.'  
b. *òjè ré úvbiághàè híán òlì úì*.  
Oje take knife cut the rope  
'Oje used a knife to cut the rope / cut the rope with a knife.'

A succedence V2 with either ACC or LOC position argument, on the other hand, articulates a variety of goal and destination relations for moving object and addressee.

- (7) a. *òjè súá ékpété ó vbi ékéín iwè*.  
Oje push stool enter LOC inside house  
'Oje pushed a stool into the house.'  
b. *òjè súá òlì údò yé òhí*.  
Oje push the stone move.to Ohi  
'Oje pushed the stone toward Ohi.'

We turn now to valency profiles Emai predications. Corresponding to the LVP, we reviewed about 100 Emai predicates and their accompanying frames. Roughly 70% of these predicates displayed basic bivalent frames, some bivalent showing monovalent or trivalent potential, others showing both and still others neither.

Only two predicates exhibited basic quadravalent frames, each also manifesting trivalent potential. The remaining predicates, about 28% of the total, manifested a basic frame that is either monovalent or trivalent, many displaying valency changing potential.

With respect to basic frame types, we scrutinized Emai argument coding initially for use of postverbal particles, and only subsequently considered verbs in series relative to relations of precedence or succedence. Overall, our analysis resulted in predicates whose valency profiles fell into 42 classes.

### 3.0 Monovalent Predicates

Emai monovalent predicates consist of either a single verb or verbs in series along with a single argument in nominative position (NOM).

Monovalent predicates augment basic frames through alternations coded by a postverbal particle and its argument in a succedence relation to V1 or by a verb in series and its argument in a precedence or succedence relation to V1.

Since monovalent predicates also adjust non-argument, aspectual value with postverbal particles (rather than verbs in series), aspectual frames allow one to undertake broad-stroke verb grouping of basic monovalent predicates that ultimately leads to seven verb classes.

<NOM V1 > <NOM V2 ACC V1>

*ste* 'play, exhibit playing behavior', *vbaye* 'talk, chat' comitative alternation  
*ka* 'be dry' causative alternation  
disallow other V2 verb in series.

<NOM V1 V2>

*de* 'fall' *o* 'enter' = 'sink, of moon'  
disallow other V2 verb in series.

<NOM V1 V2> ~ <NOM V1 ACC V2>

*de o* 'sink, of ground' ~ 'ground swallow up someone'  
disallow other V2 verb in series.

<NOM V1 V2 *vbi*+LOC>  
*de o* 'sink, of a canoe'

Basic monovalent predicates reflect seven classes

<NOM V1 > *ghanghon* 'be happy'

disallows a postverbal particle or a verb in series.

<NOM V1 > <NOM V1 V2 *a* > *rogn* 'rain,'

disallows other postverbal particles or verb in series.

<NOM V1 > <NOM V1 V2 *a* > <NOM V1 *i*+DAT> *la* 'run' and *lahee* 'hide'

*la* 'run' takes V2 verb in series precedence or succedence relation to V1.  
*lahee* 'hide' disallows other postverbal particles or verb in series.

<NOM V1 > <NOM V1 V2 *a* > <NOM V1 *o*+*vbi*+LOC> *gbulu* 'roll'

takes V2 verb in series succedence relation to V1.

<NOM V1 > <NOM V1 V2 *a* > <NOM V1 V2 *o* *vbi* +LOC >

*tin* 'boil', *kenhen* 'cough', *vboo* 'jump, leap', *san* 'jump, leap' *de* 'fall,' *u* 'die'

*vboo* 'jump, leap', *san* 'jump, leap' *de* 'fall' take other V2 verb in series succedence relation to V1.

*tin* 'boil', *kenhen* 'cough', *u* 'die' disallow other V2 verb in series.

### 4.0 Bivalent Predicates

Bivalent predicates display two arguments and consist of a single verb, a single verb with a postverbal particle or verbs in series.

One argument occupies NOM position, leftmost in the structure. Second argument either occupies ACC position or LOC position flagged by preposition *vbi*.

Bivalent predicates are a semantically heterogeneous group and manifest a range of alternation potential and coding properties.

For purposes here, bivalent predicates are most efficiently described assuming a division between cognitive/mental events and physical events. Accordingly, bivalent physical events first, followed by bivalent mental events.

#### 4.1 Basic Bivalent Physical Event Predicates

Bivalent predicates denoting physical events reflect nineteen classes.

Five classes exhibit only bivalent potential, a larger group of predicates adjusts valency through alternation: monovalent from bivalent, trivalent from bivalent, as well as both monovalent and trivalent from bivalent, although none of the latter alternations flag arguments with postverbal particles.

#### 4.2 Bivalent ~ Monovalent Physical Event Predicates

Small number of predicates exhibit valency change potential where a bivalent and monovalent frame alternate. No bivalent predicates of this sort adjust valency via postverbal particles or verb in series.

Bivalent predicates with exclusively monovalent potential show contrary alternations, leading to two classes.

<NOM V1 ACC1 > <NOM1 V1 > *vōgn* 'fill' , *vbie* 'cook'  
reflects ambitransitive alternation

<NOM V1 *vbj*+LOC V2 > <NOM V1 V2> *shōō re* 'leave, exit, move out of, off of'  
<NOM V2 *vbj*+LOC V1 > <NOM V1 > *raaŋ* 'leave, move away'  
reflects locative omission

#### 4.3 Bivalent ~ Trivalent Physical Event Predicates

A substantial number of bivalent predicates encoding physical events show trivalent potential with postverbal particles *ii* and/or *g*.

They fall into four classes depending on whether valency increases with a dative argument, locative argument or both. Bivalent predicates in these classes also augment valency with a precedence or succedence relation verb in series.

#### 4.1 Basic Bivalent Physical Event Predicates

Bivalent predicates denoting physical events reflect nineteen classes.

Five classes exhibit only bivalent potential, a larger group of predicates adjusts valency through alternation: monovalent from bivalent, trivalent from bivalent, as well as both monovalent and trivalent from bivalent, although none of the latter alternations flag arguments with postverbal particles.

Physical event bivalent predicates with no potential for valency change reflect five classes. They disallow verb in series precedence or succedence relation to V1 / V1 V2.

<NOM V1 ACC> *vbj óhùà* 'be a hunter', *kpaye* 'help, give a helping hand to',  
*khaan* 'load, fill a gun with gunpowder'

<NOM V1 *vbj*+LOC> *lodē* 'go to', *dia* 'live'                      preposition *vbj*

<NOM V1 *vbj*+LOC> *dia* 'sit', <NOM V2 ACC V1 > *re* 'take' *dia* 'sit' = 'sit down'

<NOM V1 ACC > e 'eat' , <NOM V1 *vbj*+LOC> e *vbj* 'eat from'

<NOM V1 V2 ACC > *tutu nwu* 'hug'

<NOM V1 ACC V2> *ga ze* 'meet', *nwu re* 'bring,' and *do nwu* 'steal'

Bivalent predicates with trivalent potential reflect four classes.

<NOM V1 ACC> <NOM V1 ACC /#+DAT>  
*ton* 'dig, harvest', *vun* 'dig, uproot, harvest', *hoo* 'search for', *gbe* 'beat',  
*ehen* 'build, make', *nye* 'cook', collocation *zē étò* 'shave hair'  
<NOM V1 ACC V2 > <NOM V1 ACC V2 /#+DAT>  
*nwu hee* 'hide'

<NOM V1 ACC> <NOM V1 ACC g+vbi+LOC>  
*maa* 'arrange, load'

<NOM V1 ACC> <NOM V1 ACC /#+DAT> <NOM V1 ACC g+vbi+LOC>  
*zē* 'build', *hu* 'build' and *lō* 'grind'

<NOM V1 ACC>  
<NOM V1 ACC /#+DAT> <NOM V1 ACC g+vbi+LOC>  
<NOM V1 ACC OBL>  
*gba* 'bind, tie'

#### 4.4 Bivalent ~ Monovalent ~ Trivalent Physical Event Predicates

Substantial number of physical event bivalent predicates occur with postverbal particle *a* as obligatory or optional.

They exhibit trivalent frames with a dative or locative argument flagged by a postverbal particle, *li* or g respectively, along with some showing monovalent frames. Bivalent predicates of this nature fall into eight classes.

Bivalent with monovalent or trivalent potential show eight classes.

<NOM V1 ACC> *hian* 'cut'  
<NOM V1 ACC /#+DAT> <NOM V1 ACC g+vbi+ LOC> *hian* 'cut'  
<NOM V1 ACC *a*> <NOM V1 *a*> *hian* 'cut off'  
V2 verb in series in precedence or succession relation to V1.

<NOM V1 ACC *a*> <NOM V1 *a*> *gbe a* 'break in pieces', *nya a* 'tear, rip off',  
V2 verb in series precedence relations only.

<NOM V1 ACC > <NOM V1 ACC V2 *a*> *guggho* 'break apart', *too* 'burn up'  
<NOM V1 ACC > <NOM V1 > *guggho* 'break', *too* 'burn'  
V2 verb in series precedence relations only.

<NOM V1 ACC> <NOM V1 ACC *a*> ACC ómò 'child'  
*khoo* 'bathe off'  
<NOM V1 /#+DAT> DAT adult *ókpòsò* 'woman'  
*khoo* 'bathe'  
V2 verb in series precedence relations only.

<NOM V1 ACC> <NOM V1 ACC *a*>  
<NOM V1 ACC> <NOM V1 ACC /#+DAT> <NOM V1 ACC V2 g+vbi+LOC>  
*bolo* 'peel plantain' and *fóló* 'peel yam'  
V2 verb in series precedence relations only.

<NOM V1 ACC> and <NOM V1 ACC *a*>  
<NOM V1 ACC /#+DAT> ACC *itébú* 'table'  
<NOM V1 ACC g vbi LOC> ACC *évbì* 'oil'  
*kaíó* 'wipe, clean'  
V2 verb in series precedence or succession relations.

<NOM V1 ACC> <NOM V1 ACC V2 a>  
<NOM V1 ACC V2 o vbi +LOC>

*gbe* 'kill a singleton', *gboo* 'kill a multiplicity'  
*benn<sub>o</sub>* 'chop a multiplicity'. *gboo* 'break a multiplicity'  
V2 verb in series precedence relations only.

<NOM V1 ACC> <NOM V1 ACC V2 a>  
<NOM V1 ACC V2 o vbi +LOC>

*fi* 'throw' and *sua* 'push'  
V2 verb in series precedence or succession relations.  
<NOM V1 ACC V2 e ACC>

*fi* 'throw'  
V2 verb in series precedence or succession relations.

Bivalent with trivalent potential via verb in series show two classes.

<NOM V1 ACC> <NOM V2 ACC V1 ACC >, where V2 is *kpaye* 'replace /  
perform in someone's stead' precedence relation

<NOM V1 ACC> <NOM V1 ACC V2 vbi+LOC>, where V2 is *o* 'enter', or <NOM  
V1 ACC V2 ACC>, where V2 is *ye* 'move toward' succession relation  
*nwu* 'carry a sizeable singleton', *hua* 'carry a sizeable multiplicity', *gbulu* 'roll'  
and *rekhaen* 'follow'

<NOM V1 ACC> <NOM V2 ACC V1 ACC > where V2 may be *ze* 'scoop', *nwu*  
'take hold of a sizeable singleton', *ku* 'spread' precedence relation  
*voo* 'cover', *hee* 'load', *aan* 'fill, seal'

<NOM V1 ACC> <NOM V2 ACC V1 ACC >, where V2 is *kpaye* 'replace /  
perform in someone's stead' precedence relation  
*voo* 'cover', *aan* 'fill, seal', *heen* 'climb, ascend'  
disallow V2 verb in series succession relation.

## 5.0 Bivalent ~ Trivalent Physical Event Predicates via Verb in Series

A number of bivalent predicates encoding physical events show trivalent potential exclusively with a verb in series. These predicates divide into two classes based on the expression of valency change with precedence or succession relations. With a postverbal particle, they show no monovalent, bivalent or trivalent frame in which they retain their essential sense. Only one verb in these two classes exhibits monovalent potential.

## 6.0 Cognitive Event Predicates

Bivalent cognitive event predicates show two argument positions, NOM and ACC. To some extent the nominal type in NOM or ACC position correlates with valency change potential. While NOM position arguments tend to be human or animate for physical event predicates, this condition does not hold for cognitive event predicates. In NOM position they allow human and animate nominals as well as inanimate and, in some instances, body-part nominals. Similarly, in ACC position, cognitive predicates allow human, animate, inanimate or body-part nominals. Bivalent cognitive event predicates do not accept locative nominals in NOM or ACC position. As well, none of the bivalent cognitive event predicates analyzed for the LVP take the postverbal particle *a* in the frame <NOM V1 ACC *a*>. As a result, cognitive event predicates in the database tend not to adjust their non-argument, aspectual value with a postverbal particle.

Cognitive event bivalent predicates augment basic frames through alternations coded by a postverbal particle and its argument, by a verb in series and its argument in a precedence or succession relation to V1, or by a postverbal particle and verb in series. As postverbal particle, alternation frames are limited to dative *li*, even with a verb in series; locative particle o is never utilized in cognitive event frames. A decrease in valency for cognitive predicates is achieved via an object omission alternation more often than the ambitransitive alternation.

### 6.1 Bivalent Cognitive Event Predicates

One class of bivalent predicates expressing cognitive events exhibits no potential for valency change. Members are restricted to the basic frame <NOM V1 ACC>. As their ACC position argument, predicates in this class take either an abstract noun, as with *gue* 'know', or a body-part noun, as in the instance of *míẹ* 'see', oo 'think', to 'feel pain' and the collocation *gbe ẹ̀ò* 'blink'. For verbs such as *hɔ̀n*, which take *éhɔ̀n* 'ear' or *ihùé* 'nose' as ACC position argument, it is argument selection that determines equivalent English sense, 'hear' or 'smell', respectively. ACC position is not necessarily limited to body-part nouns exclusively for verbs in this class. *míẹ* takes physical object nouns and oo accepts abstract nouns like *émòj* 'issue'.

<NOM V1 ACC>

*gue* 'know' ACC abstract noun

<NOM V1 ACC>

*míẹ* 'see', oo 'think', to 'feel pain', collocation *gbe ẹ̀ò* 'blink'

ACC body-part noun, non-body-part nouns as well

*hɔ̀n* argument selection determines equivalent English 'hear' or 'smell' with ACC *éhɔ̀n* 'ear' or *ihùé* 'nose'

### 6.2 Bivalent ~ Monovalent Cognitive Event Predicates

Some bivalent predicates referring to cognitive events reveal monovalent potential, no trivalent potential with particles or verbs in series. They show two classes.

<NOM V1 ACC> <NOM V1 > object omission

*ẹ̀en* 'know', *je* 'laugh', *víẹ* 'cry', *khúee* 'scream', *eghɛn* 'please, like'

<NOM V1 ACC> <NOM V1 > ambitransitive alternation

*níaa* 'frighten', *yaa* 'smell'

### 6.3 Bivalent ~ Trivalent Cognitive Event Predicates

Some cognitive predicates show bivalent and trivalent frames. No monovalent frames. They utilize dative alternation coded by postverbal particle *li* or a causative alternation involving a verb in series. They do not adjust valency potential with particles or verbs in series. These verbs show five classes.

Bivalent with trivalent potential reflect five classes.

<NOM V1 ACC> <NOM V1 ACC /I+DAT >  
*ghoo* 'look at'

<NOM V1 ACC> <NOM V1 ACC /I+DAT *hgn*>  
*ta éta* 'speak, tell'

<NOM V1 ACC> <NOM V1 ACC V2 ACC>  
so 'sing'

<NOM V1 ACC> <NOM V1 ACC /I+DAT *hgn*> <NOM V1 ACC V2 ACC>  
*kpe* 'narrate, tell story', *gue* 'tell, inform'

<NOM V1 ACC1> <NOM V2 ACC2 V1 ACC1>  
*ófèn nwu* 'fear', *úììn gbe* 'feel cold', *òhànmì gbe* 'be hungry'  
causative alternation

## 7.0 Trivalent Predicates

Trivalent predicates exhibit three arguments. They denote cognitive events and physical events. Physical event trivalent predicates employ postverbal particles. Cognitive trivalent predicates do not, instead use verbs in series.

## 7.1 Trivalent Cognitive Event Predicates

Common basic frame for 'show', 'teach' and 'appear, become apparent to' is V1 *rè* 'take', V2 *vbièè* 'become apparent, show' takes ACC human noun. These predications reflect one class.

<NOM V1 ACC V2 ACC>  
'show', ACC of V1 *rè* inanimate, physical object noun, *úhááòbí* 'poison arrow'

<NOM V1 ACC V2 ACC>  
'teach', ACC of V1 *rè* abstract noun, *isóòmù* 'arithmetic'

<NOM V1 ACC V2 ACC> <NOM V1 V2 ACC>  
'appear', ACC of V1 *rè* is body-part noun *égbé* 'body', optional, *rè* itself obligatory

<NOM V1 ACC OBL> V1 OBL abstract noun, ACC human noun  
V1 *vbièè* 'teach', OBL abstract noun, ACC human noun

(8) a. *òjé ré' úhááòbí vbièé àlèké.*

Oje take poison.arrow show Aleke

'Oje showed Aleke the poison arrow.'

b. *òjè ré isóòmù vbièé òhí.*

Oje take mathematics show Ohi

'Oje taught arithmetic to Ohi'

c. *àlèké ré égbé vbièé ívbiá òí.*

Aleke take body show children her

'Aleke appeared / became apparent to her children.'

## 7.2 Trivalent Physical Event Predicates

Trivalent physical event predicates show a third argument flagged by a postverbal particle or a verb in series. They show four classes

Postverbal particle *li* or *o* with arguments in DAT position or LOC position.

Postverbal particle *li* predications reflect one class.

<NOM V1 ACC /#+DAT> 'to name'  
collocation with V1 *nwu* 'take hold of a singleton', ACC *éni* 'name'

<NOM V1 ACC /#+DAT> 'give'

V1 *nwu* 'take hold of a sizeable singleton', *hua* 'take hold of sizeable multiplicity', *roo* 'pick from a countable array', *re* 'take hold of a mass', *vbafo* 'scoop liquid with a ladle-like utensil', *sa* 'scoop liquid with a cup-sized utensil', *lie* 'gather, collect homogeneous, dispersed objects', *ze* 'scoop a sand mass'

V2 verb in series precedence relation only.

Postverbal particle *o* predications reflect one class.

<NOM V1 ACC *o*+*vb*/+LOC> 'put',

V1 *nwu* 'take hold of a sizeable singleton', *hua* 'take hold of a sizeable multiplicity' *roo* 'pick from a countable array', *re* 'take hold of a mass', *vbafo* 'scoop liquid with a ladle-like utensil' *sa* 'scoop liquid with a cup-sized utensil', *lie* 'gather, collect dispersed, homogeneous aggregate', *ze* 'scoop a sand mass'

V2 verb in series precedence relation only.

<NOM V1 ACC *o*+*vb*/+LOC> 'pour'

V1 *oon* 'pour, move a liquid', no 'fill' verb

V2 verb in series precedence relation only.

<NOM V1 ACC *o*+*vb*/+LOC> 'dress someone'

V1 *ku* 'spread, stretch', ACC dress object

V2 verb in series precedence relation only.

Trivalent predicates referring to physical events with verbs in series show two classes.

<NOM V2 ACC V1 ACC> 'touch'

V1 *so* 'touch', V2 *re* 'take' with ACC limited to body-part noun *óbò* 'hand'

<NOM V1 ACC V2 ACC> 'send'

V1 *ye* 'send' with ACC as human noun or communication noun *úhùnmí* 'message' and V2 *ye* 'move toward' with ACC as locative noun, human noun or human noun marked by place associative *ési*

Bivalent and trivalent potential for 'send'

<NOM V1 ACC > 'send'

V1 *ye* 'send' with ACC human noun only

<NOM V1 ACC OBL> 'send'

V1 *ye* 'send' with ACC human noun only, OBL *úhùnmí* 'message' only

## 8.0 Quadivalent Predicates

Physical event predicates with four arguments exist as quadivalent frames in one class.

<NOM V1 ACC OBL *vb*/+LOC> *míee* 'take from, seize', *fi* 'hit, strike a blow on'

LOC body-part noun only, as possessum for ACC external possessor

Trivalent potential through body part omission.

<NOM V1 ACC OBL> *míee* 'take from, seize', *fi* 'hit, strike a blow on'

No bivalent potential where quadivalent sense is retained.

<NOM V1 ACC>

bivalent *míee* 'receive/accept', bivalent *fi* 'throw, spread'

(9) a. *òjè míéé òhí ópíá vbi óbò.*

Oje seize Ohi cutlass LOC hand

'Oje seized a cutlass from Ohi's hand.'

b. *òhí fí òjé úkpórán vbi úòkhò.*

Ohi hit Oje stick LOC back

'Ohi hit Oje on his back with a stick / Ohi hit a stick on Oje's back.'

With respect to predications manifesting one of the four basic frame types, further valency potential was assessed by considering alternations as revealed by argument linear order as well as argument flagging by postverbal particle, verb in series or both. For purposes of frame analysis, priority was accorded particle occurrence followed by verb in series. Tier two analysis revealed some verbs with static frames displaying no alternation potential but others where basic monovalent frames alternated with bivalent frames, bivalent with monovalent, trivalent or both, trivalent with bivalent and quadravalent with trivalent. At least with respect to tier two analysis, predications with somewhat similar meanings exhibited similar alternation behavior and tended to fall into classes. While a clear majority of basic frames at tier one showed bivalent, argument coding properties, at tier two, where linear order, particle and verb usage flagged alternations, Emai LVP predication frames fell into 42 classes. Nonetheless, the cut off point for any given class remains problematic; one could just as well have far fewer classes or many more classes. Postverbal particle distribution provided at least a preliminary solution, helping to identify fewer classes.

## 9.0 Conclusion

To conclude, the arrangement of arguments and predicate elements in Emai corresponding to meanings identified for the Leipzig Valency Project (LVP) were assessed with respect to two analytic tiers. Both recognized the fact that Emai employs simple predicates as well as complex predicates. At tier one, our analysis revealed four valency frames: monovalent, bivalent, trivalent and quadravalent. A clear majority of Emai predications in the LVP database at tier one were bivalent. For analysis, it proved useful to assess frames for physical events separately from those for cognitive events.

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## Dominant patterns in the valency of Chintang verbs

Robert Schikowski (U. of Zürich), Balthasar Bickel (U. of Zürich), and Netra P. Paudyal (U. of Leipzig)

Conference on Valency classes, Leipzig, 16 April 2011

# 1 Introduction

## 1.1 The Chintang language

- **location:**

Eastern Nepal

> Kosi zone (कोशी अञ्चल)

> Dhankuta district (धनकुटा जिल्ला)

> Chintang<sup>1</sup> (छिन्ताङ) and Ahale (आहाले) VDC

- **genealogy:**

Sino-Tibetan > ... > Kiranti > Eastern Kiranti > Chintang

- **speakers:**

4000 - 5000, majority at least bilingual (with Nepali as the second language)

## 1.2 Overview of morphosyntax

### 1.2.1 Morphological marking

Overall low degree of fusion, syntheticity higher:

- 3 nominal categories: person/number/clusivity of possessor, case, number

<sup>1</sup>Usually spelt <Chhintang> in official texts. Here, <ch> is used for [tʃʰ] and <c> for [tʃ].



Figure 1: Location of the village Chintang

- 6 verbal categories: person/number/clusivity of one or two arguments, tense, mood, aspect, polarity; long verb forms through use of “vector verbs” (= dependent verb stems with grammatical function)
- rich deictic system with 3 categories: distance from speaker, location of object incl. altitude, location of reference point

### 1.2.2 Argument selectors (in the sense of Bickel 2010, Witzlack-Makarevich 2010)

- case marking and agreement (incl. raised / long-distance agreement)

- reference in argument-nominalising forms (e.g. active and passive participle, infinitive)
- coreferentiality constraints with converbs and subordinating particles
- antecedence and binding with reflexives and reciprocals
- moving referent in vector verbs coding motion
- various valency alternations - see below

### 1.2.3 Differential marking

- **Fluid A** (differential case marking): ergative obligatory on most nominals in A but optional (in part impossible) with SAP pronouns
- **Split T** (differential agreement link): SAP-T instead of G linked to O-AGR if G is NSAP (cf. Lier & Siewierska 2010)
- **Fluid A-AGR** (differential agreement link): A-AGR with transitive experiencer verbs variably linked to A or dummy 3rd person
- **Fluid raising** (differential agreement presence): *kond-* ‘must’ and two other complement verbs can inflect intransitively or raise embedded P/G/T to S-AGR

### 1.2.4 Alignment

Alignment depends on **argument selector**, **verb class** and **split factors**, e.g.

- case/default class/no split: S/P/T vs. A vs. G
- agreement/default class/no split: no uniform alignment pattern, varies from marker to marker
- nominalisation/default class/no split: S/A vs. P/G/T (or indifferent)
- coreferentiality/default class/no split: S/A vs. P/G/T (or indifferent)

We refer to the set set of P/G/T also as “object” (or “O”).

### 1.2.5 Other remarks on syntax

- word order is “free”, i.e. directly governed by information structure - defaults SV, APV, AGTV
- right-headed NPs, more than two elements rare; no evidence for other phrase-level entities
- complex sentences created by several means: conjunctions, converbs, nominalisation

## 2 Frames and classes

- **frame** := set of predicate with arguments, enhanced by information about morphosyntactic marking (case marking on arguments, agreement on predicate). Argumenthood is defined via entailments (cf. Dowty 1991, Bickel et al. 2010). Most important argument roles: S, A, P, T (ditransitive theme), G (ditransitive goal).
- **verb class** := set of verbs licensing identical sets of frames

Distinguish e.g.: **Intransitive frame**: {S-NOM V-s(S)}<sup>2</sup>:

- (1) *Ama, nunu hap-no.*  
mother baby cry-IND.NPST[.3sS]  
‘Mum, the baby is crying.’ [CLDLCh3R01S02.293]
- (2) *Asu-ko u-cheŋ ta od-ad-a-ŋs-e.*  
Asu-GEN 3sPOSS-bracelet FOC break-COMPL. ITR-PST-PRF-IND.PST[.3sS]  
‘Asu’s bracelet is broken.’ [CLLDCh2R12S08.548]

<sup>2</sup>The formalism employed in this talk for taking down frames is as follows:

- predicate with set of core roles X, Y: {X Y V}, e.g. {S V}: intransitive frame
- role X marked by case C: X-C, e.g. T-NOM: T marked by nominative
- roles X, Y associated with agreement marker sets a and b: V-a(X).b(Y), e.g. {V-a(S).o(3s)}: S linked to agreement marker set a, dummy third person singular in agreement marker set p

**Intransitive verb:** lexical item for which the intransitive frame is characteristic; e.g. *hap-* in (1)

**Potentially intransitive verb:** any lexical item licensing the intransitive frame; e.g. *ot-* in (2) (characteristic frame of this verb = primary object ditransitive, cf. below)

## 2.1 Frames

18 frames in the Chintang dictionary (Rāi et al. 2004-2011)<sup>3</sup>. 14 simple frames, of these 10 employed by more than one verb:

- **Monotransitive**, e.g. *ca-* ‘eat’  
{A-ERG P-NOM V-a(A).o(P)}
- **Intransitive**, e.g. *doŋd-* ‘be confused’  
{S-NOM V-s(S)}
- **Direct object ditransitive**, e.g. *yuŋs-* ‘put’  
{A-ERG G-LOC T-NOM V-a(A).o(T)}
- **Primary object ditransitive**, e.g. *hekt-* ‘cut’  
{A-ERG G-NOM T-ERG V-a(A).o(G)}
- **Double object ditransitive**, e.g. *pid-* ‘give’  
{A-ERG G-NOM T-NOM V-a(A).o(G)}
- **Intransitive experiential**, e.g. *jhoka lond-* ‘feel aggressive’  
{S-GEN/NOM poss(S)-N.EXP-NOM V-s(N.EXP)} (N.EXP = experiential noun)
- **Transitive experiential I**, e.g. *rek katt-* ‘be angry about’  
{A-ERG P-NOM poss(A)-N.EXP-NOM V-a(A/3s).o(P)}
- **Transitive experiential II**, e.g. *som set-* ‘be satisfied with’  
{A-ERG P-NOM poss(A/P)-N.EXP-NOM V-a(A).o(P)}

<sup>3</sup>Note that the electronic version of the dictionary that is cited here is not finished but continuously being updated. This and a change of the definition of ditransitive verbs to match the definition given in Bickel et al. (2010) explain the differences in some of the numbers presented here to those given in Schikowski et al. 2010.

- **Copular**, e.g. *lis-* ‘be(come)’  
{Theme-NOM Rheme-NOM V-s(Theme)}
- **Transimpersonal**, e.g. *lokt-* ‘boil’  
{S-NOM V-a(3s).o(S)}

4 complex frames (involving infinitival subclauses, all employed by more than one verb):

- **Raised O-AGR**, e.g. *hid-* ‘be able to’  
{A-ERG [(A) P/G/T-NOM INF] V-a(A).o(P/G/T)}
- **O-AGR with embedded clause**, e.g. *puŋs-* ‘start to’  
{A-ERG/NOM P[(S) INF] V-a(A).o(P)}
- **Intransitive matrix**, e.g. *lapt-* ‘be about to’  
{A-NOM P[(S) INF] V-s(A)}
- **S-AGR with embedded clause or raised S-AGR**, e.g. *kond-* ‘be necessary’  
{S[... INF] V-s(S/O)}

## 2.2 Classes

54 verb classes in the Chintang dictionary, 16 with more than one member. Most classes have one characteristic frame that cannot or only marginally be used by other classes and that gives them their name:

- **Monotransitive**, e.g. *copt-* ‘look at’
- **Intransitive**, e.g. *ims-* ‘sleep’
- **Direct object ditransitive**, e.g. *os-* ‘throw’
- **Primary object ditransitive**, e.g. *thatt-* ‘hit’
- **Double object ditransitive**, e.g. *cind-* ‘teach’
- **Intransitive experiential**, e.g. *chi?wa leŋs-* ‘feel queasy’
- **Reciprocal ambitransitive**, e.g. *tup-* ‘meet’
- **Intransitive, optionally experiential**, e.g. *kat-* ‘come up, be felt’
- **Transitive experiential I**, e.g. *niŋ nus-* ‘be happy about’
- **Monotransitive/raised O-AGR**, e.g. *ŋis-* ‘know, know to’

- **Direct/primary object ditransitive**, e.g. *tik-* ‘wipe away, wipe with’
- **Primary/double object ditransitive**, e.g. *rept-* ‘sprinkle’
- **Monotransitive/direct object ditransitive**, e.g. *pokt-* ‘leave (alone)’
- **Transitive experiential II**, e.g. *som set-* ‘be satisfied with’
- **Raised O-AGR**, e.g. *les-* ‘like ...ing’
- **O-AGR with embedded clause**, e.g. *phind-* ‘begin to’

### 2.3 Frequencies

18 frames and 54 classes - is there any system behind this? → frequency matters!

Intransitive and monotransitive frame clearly dominate in all domains (figures 2, 3, 4).

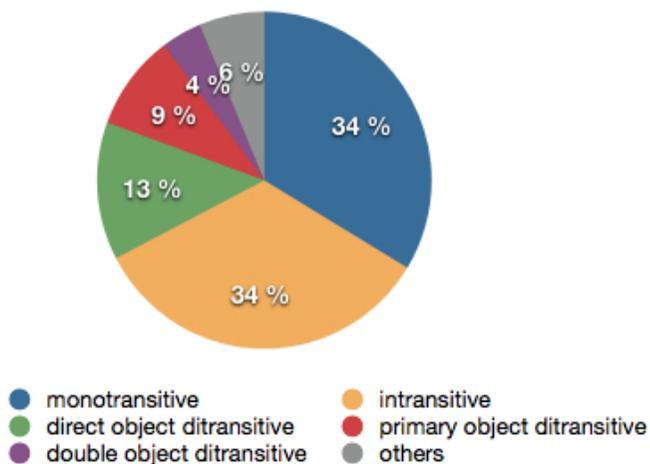


Figure 2: Number of verbs allowing frames

Class sizes are distributed unevenly so that there are few large and many small classes. The distribution looks Zipfian, barring formal tests (figure 9).

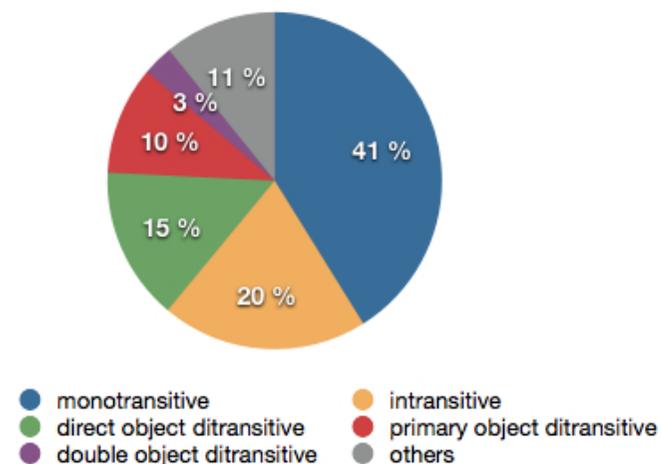


Figure 3: Size of verb classes

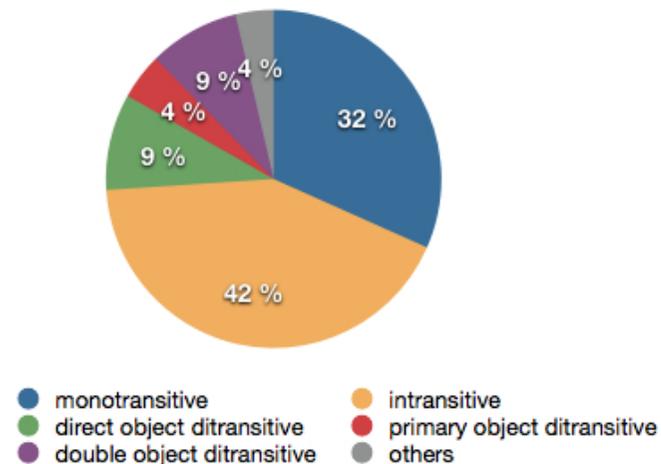


Figure 4: Corpus frequency of classes

### 3 Valency alternations

**Valency alternation** := co-existence of two or more frames sharing a *tertium comparationis* but being different with respect to at least two elements. The differences must be governed by non-lexical factors.

#### 3.1 Overview

Alternations without a dedicated marker:

- S/O ambitransitivity (see below)
- S/A detransitivisation (see below)
- Reciprocal ambitransitivity
- Copula alternation (switches between intransitive and copular frame)

Alternations with a dedicated marker:

- Reflexive *-ce/ci/(n)cĩ*
- Reciprocal *-ka lus-*
- Benefactives *-bid, -chokt, -dhatt*
- Augments (= largely lexicalised causative/benefactive markers) *-s, -t*
- Causative *-mett*
- Chained motion verbs, e.g. *-thand* ‘(bring) down’, *-gatt* ‘(bring) up’
- Passive participle *-mayan*
- Active participle *ka--pa*
- Auxiliary alternation (corresponds to S/O ambitransitivity with loan verbs from Nepali) *lis-/numd-/mett-*

S/O ambitransitivity and S/A detransitivisation are at the hear of Chintang syntax, and are by far the most frequent one (Figure 5).

#### 3.2 S/A detransitivisation

:= alternation between fully transitive frame (monotransitive, direct object ditransitive, primary object ditransitive, double object ditransitive) and variant with A-NOM and V.s(A):

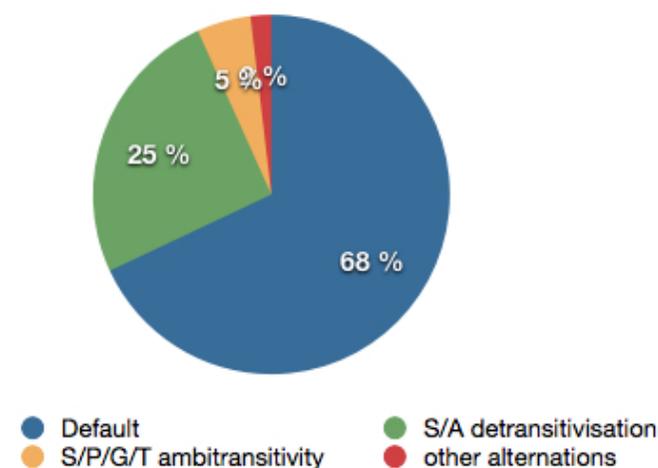


Figure 5: Corpus frequencies of transitive alternations

- (3) a. *Debi-ŋa seu kond-o-ko.*  
Debi-ERG apple look.for-3[s]O-IND.NPST[.3sA]  
‘Debi is looking for an apple.’ [elicitation 2010]
- b. *Debi seu kon-no.*  
Debi apple look.for-IND.NPST[.3sS]  
‘Debi is looking for apples.’ [elicitation 2010]
- (4) a. *Abo sa tac-c-o.*  
now meat bring-d-[3sA.]3[s]O  
‘Now let’s bring the meat.’ [elicitation 2010]
- b. *Abo sa tac-ce.*  
now meat bring-[1]d[iS]  
‘Now let’s bring (some) meat.’ [elicitation 2010]

**Function:** intransitive frame is used when the referent linked to O-AGR is portrayed as lacking a definite (delimited or countable) quantity.  
Possible with all potentially transitive verbs → not a lexical class

Often hard to determine “basic” variant for individual verbs. For some verbs like *copt-* ‘see’ the transitive frame is more frequent, for others like *ca-*

‘eat’ the detransitivised frame is preferred

### 3.3 S/O ambitransitivity

:= one verb can take both intransitive frame and either the monotransitive or one of the ditransitive frames. S of intransitive frame is potentially coreferential with the argument triggering O-AGR in the polyvalent frame:

- (5) a. *Saīli, kana-phak na ba-tta=kha*  
third.daughter 1pePOSS-pig TOP PROX-EXT-NMLZ<sub>2</sub>  
*ghoŋ haŋ na aŋ...*  
grow.big[.SUBJ.NPST.3sS] COND TOP QTAG  
‘Saīli, suppose our pig grew as big as this...’  
[CLLDCh1R06S03.0151]
- b. *Ba=go phak them-ma ba-tta*  
PROX-NMLZ<sub>1</sub> pig what-ERG PROX-EXT  
*ghoŋs-o-ŋs-e?*  
grow.big-3[s]O-PRF-IND.NPST[.3sA]  
‘What has let this pig grow this big?’ [elicitation 2010]
- (6) a. *Sa-ŋa u-lett-o=kha phuŋ?*  
who-ERG 3[p]A-plant-3P-NMLZ<sub>2</sub> flower  
‘Who planted the flower?’ [CLLDCh3R07S01.953]
- b. *Makkai-ce u-lett-a-ŋs-e.*  
maize-ns 3[p]S-plant-PST-PRF-IND.PST  
‘The maize plants have been planted.’ [field notes 2010]

**Function:** intransitive frame focusses on result, transitive frame on (caused) accomplishment → also not a lexical class because of predictability of occurrence!

Large group: 20% of all verbs, 45% of potentially intransitive verbs

Again often hard to determine “basic” variant for individual verbs. For instance, both verbs in the examples above are only attested in the variants in (5-a) and (6-a) in the Chintang corpus (intransitive for *ghoŋs-*, transitive for *lett-*) and were only revealed to be ambitransitive by field work.

### 3.4 Minor alternations

See Table 1.

## 4 Transitivity or flexibility?

The monotransitive and the various ditransitive frames have several characteristics in common:

- They have an A marked by A-ERG and linked to A-AGR.
- They have an ‘object’ argument marked by NOM and linked to P-AGR.
- This argument is of central importance for the two most frequent valency alternations:
  - Its referential properties trigger S/A detransitivation.
  - It corresponds to S in S/O ambitransitivity.
- This argument is also the one bound by reflexives and reciprocals, except for double object ditransitives (cf. Bickel et al. 2010).

Functionally, the T of direct object ditransitives and the G of primary object ditransitives would qualify as P in a bivalent role set.

→ Possible to merge monotransitives, direct object ditransitives, and primary object ditransitives to a “**macrotransitive**” class. G-LOC and T-ERG can (we assume!) be introduced constructionally through unification of a bare {A-ERG OBJ-NOM V-a(A).p(OBJ)} frame with locative NP and ergative NP ‘snippets’ that denote destinations and instruments, respectively. This has the following consequences (also cf. figures 6, 7, 7):

- The two big frames/classes become even clearer.
- The (macro)transitive frame/class becomes dominant in all domains.
- The class of ditransitives becomes very small, consisting only of the former double object ditransitives.

Closer look at macrotransitive class - really transitive or something else?

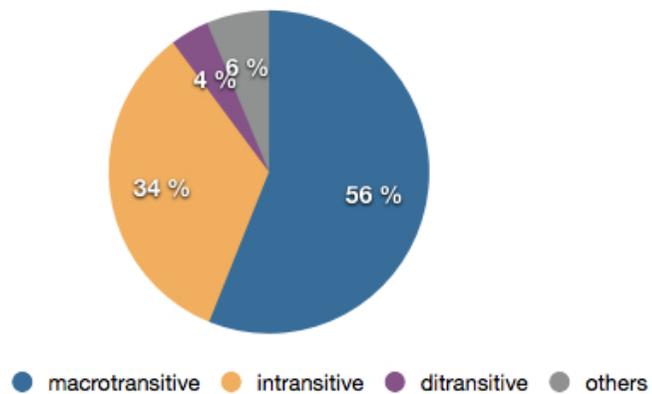


Figure 6: Relative size of verb potentials (transitive frames fused)

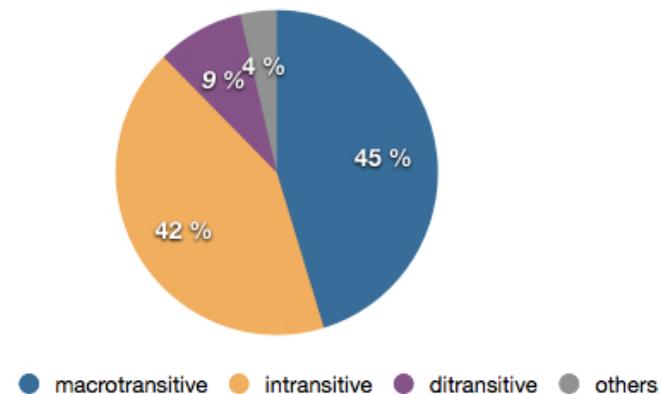


Figure 8: Frequency of classes in corpus (transitive classes fused)

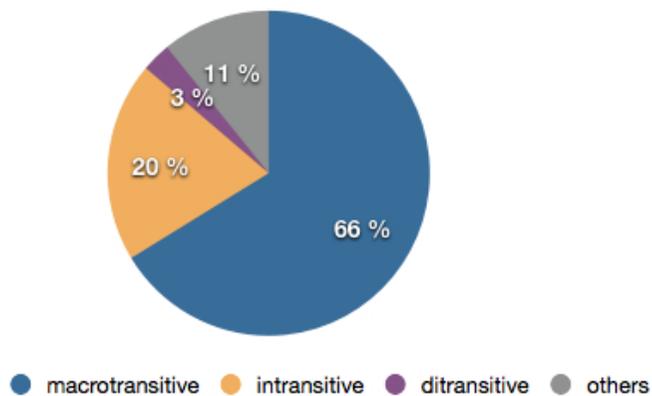


Figure 7: Relative size of verb classes (transitive classes fused)

- Default is most frequent (cf. 5), but lots of alternations; deviations from average frequency pattern with individual verbs
- Other big class (intransitive) allows much fewer alternations, and only one alternation that the transitive class does not allow, too
- → Possible way out of basicness dilemma (noted above): **flexible class** vs. **rigid class**

## 5 Summary

- Chintang has rich means for expressing valency in its case and agreement system.
- The details of valency are complex: in the present Chintang dictionary there are 18 frames combining to 54 classes.
- There are (about) 13 valency alternations.
- Frequency counts of various types make a big picture visible:
  - two dominant alternation patterns: S/A detransitivisation and S/O ambitransitivity
  - two dominant frames/classes: monotransitive and intransitive verbs
- Some frames/classes share important properties and can be summarised as the macrotransitive class.
- Under this analysis, there is a large flexible (i.e. open to alternation) class of macrotransitives and a relatively rigid class of intransitives.

## Abbreviations

<b>A</b>	agent	<b>NMLZ<sub>2</sub></b>	nominaliser II (=kha)
<b>COMPL</b>	completive (-hat(t))	<b>NPST</b>	non-past
<b>COND</b>	conditional	<b>p</b>	plural
<b>d</b>	dual	<b>P</b>	patient
<b>e</b>	exclusive	<b>POSS</b>	possessive
<b>ERG</b>	ergative (-ŋa)	<b>PRF</b>	perfect (-ŋs)
<b>EXT</b>	extensional (-tta)	<b>PROX</b>	proximal (ba)
<b>FOC</b>	focus (ta)	<b>QTAG</b>	question tag (aŋ)
<b>GEN</b>	genitive (-ko)	<b>s</b>	singular
<b>G</b>	ditransitive goal	<b>S</b>	intransitive subject
<b>i</b>	inclusive	<b>SUBJ</b>	subjunctive
<b>IND</b>	indicative	<b>T</b>	ditransitive theme
<b>ITR</b>	intransitive	<b>TOP</b>	topic
<b>NMLZ<sub>1</sub></b>	nominaliser I (=go)		

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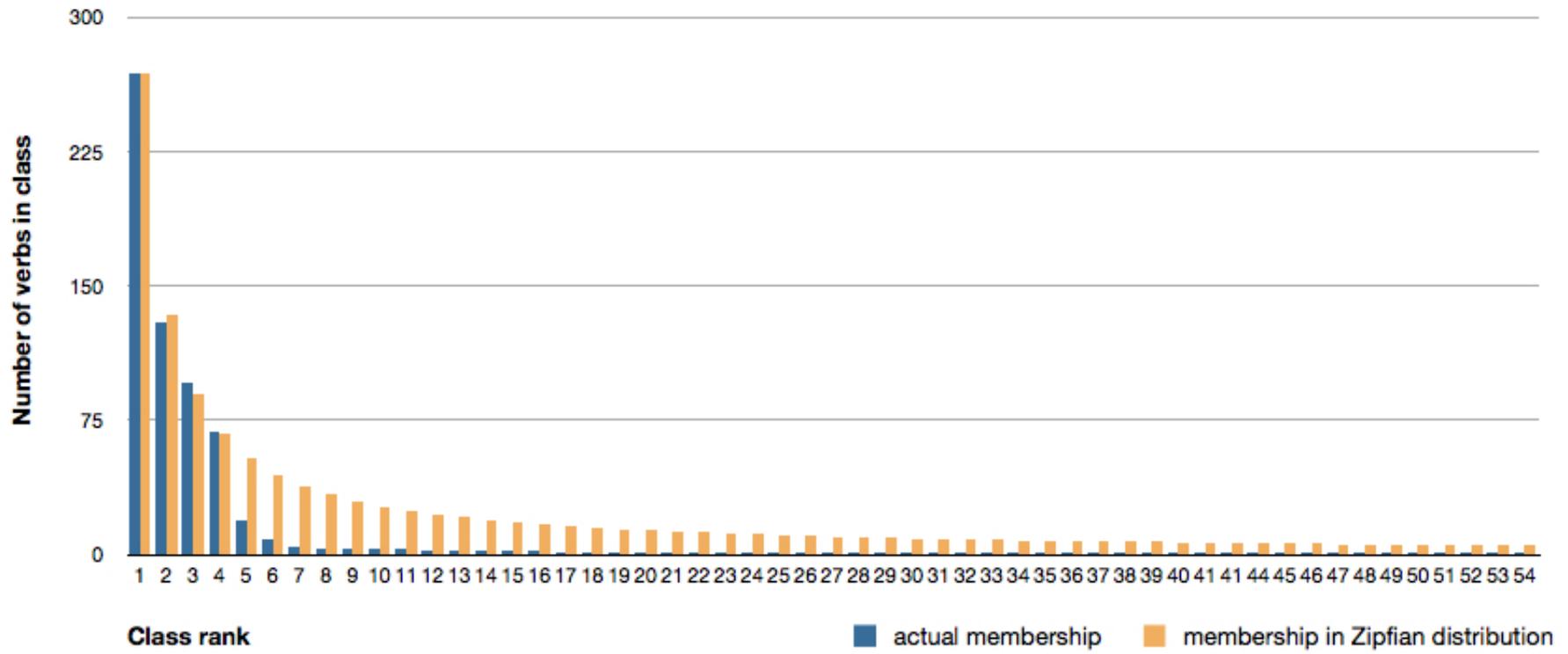


Figure 9: Relation between class size and rank

	<i>monotrans.</i>	<i>intrans.</i>	<i>DO ditrans.</i>	<i>PO ditrans.</i>	<i>double object ditr.</i>	<i>intrans. exp.</i>	<i>reciproc. ambitrans.</i>	<i>intrans., optionally exp.</i>	<i>trans. exp. I</i>	<i>monotr./raised O-AGR</i>	<i>DO/PO ditrans.</i>	<i>primary/double object ditr.</i>	<i>monotrans./DO ditrans.</i>	<i>trans. exp. II</i>	<i>raised O-AGR</i>	<i>O-AGR with emb. clause</i>
<b>S/O ambitransitivity</b>	+	-	+	+	-	-	+	-	-	-	+	+	-	-	+	-
<b>S/A detransitivisation</b>	+	-	+	+	+	-	+	-	+	+	+	+	+	?	-	-
<b>Reciprocal ambitransitivity</b>	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
<b>Copula alternation</b>	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Reflexive</b>	+	-	+	+	+	-	?	-	+	+	+	+	+	?	-	-
<b>Reciprocal</b>	+	-	+	+	+	-	?	-	?	+	+	+	+	?	-	-
<b>Benefactives</b>	+	-	+	+	?	-	+	-	?	+	+	+	+	?	-	-
<b>Augments</b>																
								(lexicalised)								
<b>Causative</b>	+	+	+	+	?	-	+	?	?	+	+	+	+	?	?	?
<b>Chained motion verbs</b>	+	+	+	+	?	-	+	-	-	+	+	+	+	-	-	-
<b>Passive participle</b>	+	-	+	+	+	-	+	-	?	+	+	+	+	?	?	?
<b>Active participle</b>	+	+	+	+	+	+	+	+	+	+	+	+	+	?	?	?
<b>Auxiliary alternation</b>																
																(only with Nepali loans)

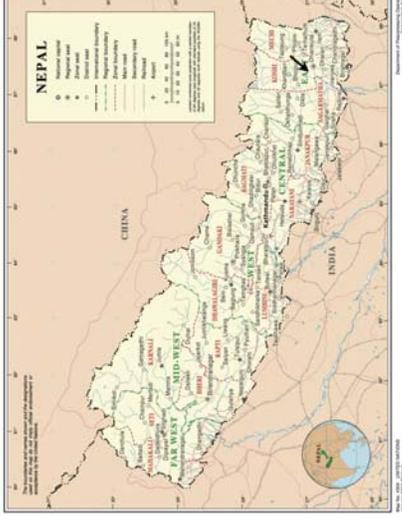
Table 1: Applicability of alternations to classes

Note that a plus only means that there are no arbitrary restrictions (as typical of lexical classes) on the combinability of an alternation and a class. This does not exclude the existence of transparent restrictions, which are especially prominent with S/O ambitransitivity and chained motion verbs.

# Introduction

## Dominant patterns in the valency of Chintang verbs

Robert Schikowski (U. of Zürich), Balthasar Bickel (U. of Zürich), Netra P. Paudyal (U. of Leipzig)



# Introduction

- Location:  
Eastern Nepal  
> Kosi zone (कोशी अञ्चल)  
> Dhankuta district (धनकुटा जिल्ला)  
> Chintang VDC (छिन्ताङ गा.वि.स.)
- Genealogy:  
> Sino-Tibetan > ... > Kiranti > Eastern
- Speakers:  
4000 - 5000, majority at least bilingual

# Morphology

- High degree of syntheticity
- nominal categories: possession, number, **case**
- verbal categories: mono- or bipersonal **agreement**, tense, mood, aspect, polarity
- > rich morphological means for coding

# Differential marking

- fluid A: ERG obligatory on most nominals but optional (in some cases impossible) with SAP pronouns
- split T: where P-AGR normally goes with G, T attracts agreement in scenarios where G is NSAP and T is SAP
- differential agreement with transitive experiencer verbs
- differential agreement raising with infinitival clauses

# Frames and verb classes

- **frame** := set of predicate with arguments, enhanced by information about morphosyntactic marking (case marking on arguments, agreement on predicate). Argumenthood is defined via entailments (cf. Dowty 1991, Bickel et al. 2010). Most important argument roles: S, A, P, T (ditransitive theme), G (ditransitive goal).
- **verb class** := set of verbs licensing identical frames

# Other relevant syntax

- case alignment most frequently ergative
- agreement marker alignment mixed, no uniform pattern
- word order „free“ > does not play a role for valency

# Types of verb classes

- Two examples for the intransitive frame:
  - (1) *Ama, nunu hap-no.*  
mother baby cry-IND.NPST  
'Mum, the baby is crying.'
  - (2) *Asu-ko u-chen ta od-ad-a-ŋs-e.*  
Asu-GEN 3sPOSS-bracelet FOC break-COMPL.1TR-PST-PRF-IND.PST  
'Asu's bracelet is broken.'
- (1) = **intransitive verb**, intransitive frame is characteristic
- (2) = **potentially intransitive verb**, intransitive frame is possible among others

# Frames

- In the current version of the Chintang dictionary (Rai et al. 2004-2011) there are **18 frames**
- **Monotransitive**, e.g. *ca*- 'eat' {A-ERG P-NOM V-a(A).p(P)}
- **Intransitive**, e.g. *ɔŋɔɔ*- 'be confused' {S-NOM V-s(S)}
- **Direct object ditransitive**, e.g. *yurɔs*- 'put' {A-ERG G-LOC T-NOM V-a(A).p(T)}
- **Primary object ditransitive**, e.g. *hekt*- 'cut' {A-ERG G-NOM T-ERG V-a(A).p(G)}
- **Double object ditransitive**, e.g. *pid*- 'give' {A-ERG G-NOM T-NOM V-a(A).p(G)}

# Frames

- **Intransitive experiential**, e.g. *jhoka lond*- 'feel aggressive' {S-GEN/NOM poss(S)-N.EXP-NOM V-s (N.EXP)} (N.EXP = experiential noun)
- **Transitive experiential I**, e.g. *rek katt*- 'be angry about' {A-ERG P-NOM poss(A)-N.EXP-NOM V-a(A/3s).p (P)}
- **Transitive experiential II**, e.g. *som set*- 'be satisfied with' {A-ERG P-NOM poss(A/P)-N.EXP-NOM V-a(A).p(P)}
- **Copular**, e.g. *lis*- 'be (come)' {Theme-NOM Rheme-NOM V-s(Theme)}
- **Transimpersonal**, e.g. *lokt*- 'boil' {S-NOM V-a(3s).p(S)}

# Frames

- **Raised P-AGR**, e.g. *hid*- 'be able to' {A-ERG [(A) P/G/T-NOM INF] V-a(A).p(P/G/T)}
- **P-AGR with embedded clause**, e.g. *purɔs*- 'start to' {A-ERG/NOM P[(S) INF] V-a(A).p(P)}
- **Intransitive matrix**, e.g. *lapɔ*- 'be about to' {A-NOM P[(S) INF] V-s(A)}
- **S-AGR with embedded clause** or raised S-AGR, e.g. *kond*- 'be necessary' {S[... INF] V-s(S/P/G/T)}
- 4 minor frames only with single verbs

# Verb classes

- Currently 54 classes
- Most classes have one characteristic frame that gives them their name
- Only 16 classes have more than 1 member:
- **Monotransitive**, e.g. *copt*- 'look at'
- **Intransitive**, e.g. *ims*- 'sleep'
- **Direct object ditransitive**, e.g. *os*- 'throw'
- **Primary object ditransitive**, e.g. *thatt*- 'hit'
- **Double object ditransitive**, e.g. *cind*- 'teach'

# Verb classes

- **Intransitive experiential**, e.g. *chi?wa lens-* 'feel queasy'
- **Reciprocal ambitransitive**, e.g. *tup-* 'meet'
- **Intransitive, optionally experiential**, e.g. *kaf-* 'come up, be felt'
- **Transitive experiential I**, e.g. *nij nus-* 'be happy about'
- **Monotransitive/raised P-AGR**, e.g. *njis-* 'know, know to'

# Verb classes

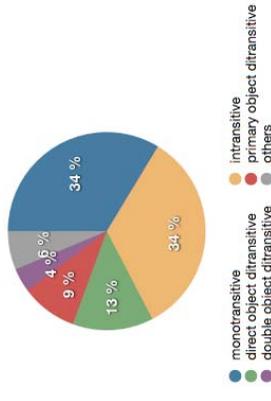
- **Direct/primary object ditransitive**, e.g. *#ik-* 'wipe away, wipe with'
- **Primary/double object ditransitive**, e.g. *rept-* 'sprinkle'
- **Monotransitive/direct object ditransitive**, e.g. *pokt-* 'leave (alone)'
- **Transitive experiential II**, e.g. *som set-* 'be satisfied with'
- **Raised P-AGR**, e.g. *les-* 'like ...ing'
- **P-AGR with embedded clause**, e.g. *phind-* 'begin to'

# Frame and class frequencies

- 18 frames and 54 classes - where is the big picture?
- Frequency counts can give some answers

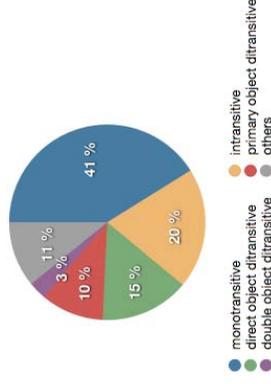
# Frame and class frequencies

- Two frames are licensed by most verbs:



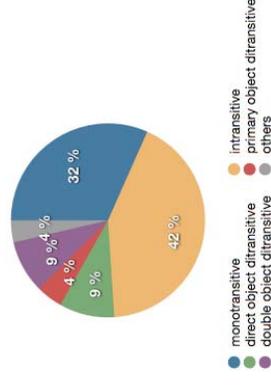
# Frame and class frequencies

- Two classes have most members:



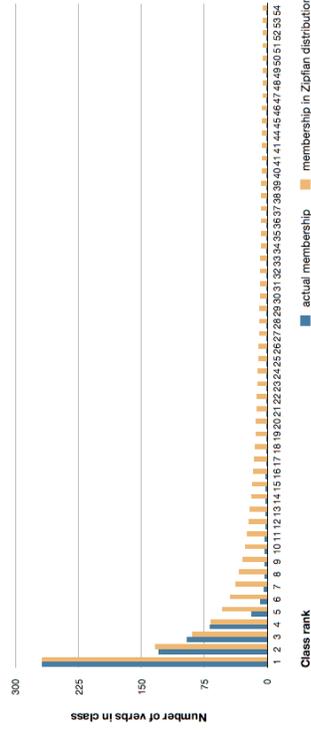
# Frame and class frequencies

- Two classes dominate the corpus:



# Frame and class frequencies

- Most classes are extremely small:



# Alternations I: unmarked

- S/O ambitransitivity
- S/A detransitivisation
- Reciprocal ambitransitivity
- Copula alternation (switches between intransitive and copular frame)

## Alternations II: marked

- Reflexive *-ce/ci/(n)ci*
- Reciprocal *-ka lus-*
- Benefactives *-bid, -chokt, -dhatt*
- Augments (= largely lexicalised causative/benefactive markers) *-s, -t*
- Causative *-mett*

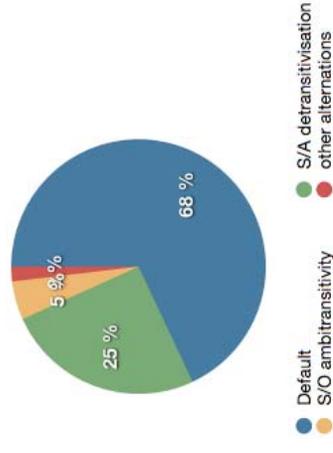
## Major and minor alternations

- Most alternations do not apply to intransitive verbs (except copula alternation, causative, chained motion verbs, active participle)
- Within alternations in the transitive domain, S/A detransitivisation and S/O ambitransitivity are clearly dominant in terms of frequency

## Alternations II: marked

- Chained motion verbs, e.g. *-thand* ‘(bring) down’, *-gatt* ‘(bring) up’
- Passive participle *-mayan*
- Active participle *ka--pa*
- Auxiliary alternation (corresponds to S/O ambitransitivity with loan verbs from Nepali) *lis-/numd-/mett-*

## Major and minor alternations



# S/A detransitivisation

- := alternation between fully transitive frame (monotransitive, direct object ditransitive, primary object ditransitive, double object ditransitive) and variant with A-NOM and V.s(A):

(3a) *Debi-ŋa seu kond-o-ko.*  
Debi-ERG apple look.for-3O-IND.NPST  
'Debi is looking for an apple.'

(3b) *Debi seu kon-no.*  
Debi apple look.for-IND.NPST  
'Debi is looking for apples.'

# S/A detransitivisation

- (4a) *Abo sa tac-c-o.*  
now meat bring-d-3O  
'Now let's bring the meat.'
- (4b) *Abo sa tac-ce.*  
now meat bring-d  
'Now let's bring (some) meat.'

# S/A detransitivisation

- **Function:** intransitive frame is used when the referent linked to P-AGR is portrayed as lacking a definite (delimited or countable) quantity. Possible with all potentially transitive verbs => not a lexical class
- Often hard to determine "basic" variant for individual verbs. For some verbs like *copt* 'see' the transitive frame is more frequent, for others like *ca* 'eat' the detransitivised frame is preferred

# S/O ambitransitivity

- := one verb can take both intransitive frame and either the monotransitive or one of the ditransitive frames. S of intransitive frame is potentially coreferential with the argument triggering O-AGR in the polyvalent frame:  
(5a) *Saŋi, kana-phak na ba-tta=kha ghoŋ haŋ na aŋ...*  
third.daughter 1pePOSS-pig TOP PROX-EXT-NMLZ2.grow.big COND TOP Q.TAG  
'Saŋi, suppose our pig grew as big as this...'  
(5b) *Ba=go phak them-ma ba-tta ghoŋs-o-ŋs-e?*  
PROX-NMLZ1 pig what-ERG PROX-EXT.grow.big-3O-PRF-IND.NPST  
'What has let this pig grow this big?'

# S/O ambitransitivity

- (6a) *Sa-ŋa u-lett-o=khapuhŋ?*  
who-ERG 3A-plant-3P-NMLZ2 flower  
'Who planted the flower?'
- (6b) *Makkai-ce u-lett-a-ŋs-e.*  
maize-ns 3S-plant-PST-PRF-IND.PST  
'The maize plants have been planted.'

# The macrotransitive class

- The monotransitive and the various ditransitive frames have several characteristics in common:
  - They have an A marked by A-ERG and linked to A-AGR.
  - They have an argument marked by NOM and linked to O-AGR.
  - This argument is of central importance for the two most frequent valency alternations:
  - Its referential properties trigger S/A detransitivisation.
  - It corresponds to S in S/O ambitransitivity.
- This argument is also the one bound by reflexives and reciprocals, except for double object ditransitives (cf. Bickel et al. 2010).

# S/O ambitransitivity

- **Function:** intransitive frame focusses on result, transitive frame on (caused) accomplishment => not a lexical class because of predictability of occurrence!
- Large group: 20% of all verbs, 45% of potentially intransitive verbs
- Again often hard to determine "basic" variant for individual verbs. For instance, both verbs in the examples above are only attested in the variants in (5a) and (6a) in the Chintang corpus (intransitive for *ghogs*; transitive for *lett-*) and were only revealed to be ambitransitive by field work.

# The macrotransitive class

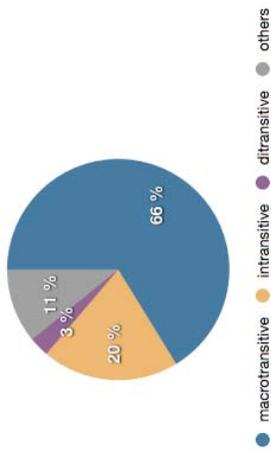
- Functionally, the T of direct object ditransitives and the G of primary object ditransitives would qualify as P in a bivalent role set.
- → Possible to merge monotransitives, direct object ditransitives, and primary object ditransitives to a "macrotransitive" class.
- G-LOC and T-ERG do not have to be introduced by lexically fixed frames but can be explained by pervasive functional factors that are valid in any possible frame (G-LOC as destination, T-ERG as instrument).

# The macrotransitive class

- Consequences:
- The two big frames/classes become even clearer.
- The (macro)transitive frame/class becomes dominant in all domains.
- The class of ditransitives becomes very small, consisting only of the

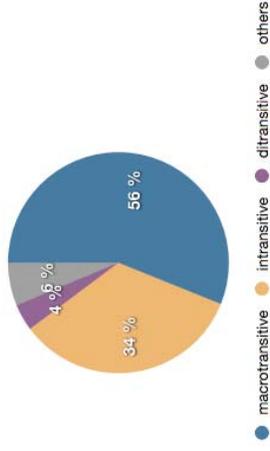
# The macrotransitive class

- Consequences for classes:



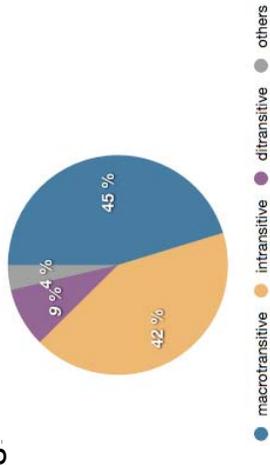
# The macrotransitive class

- Consequences for potential classes:



# The macrotransitive class

- Consequences for corpus frequency of classes:



# Flexible vs. rigid?

- Closer look at macrotransitive class - really transitive or something else?
- Default frame is most frequent in corpus, but lots of alternations are possible; deviations from average frequency pattern with individual verbs
- Other big class (intransitive) allows much fewer alternations, and only one that the transitive class does not allow, too (= copula alternation)
- → Possible way out of basicness dilemma: **flexible class vs. rigid class**

## Summary

- Chintang has rich means for expressing valency in its case and agreement system.
- The details of valency are complex: in the present Chintang dictionary there are 18 frames combining to 54 classes.
- There are (about) 13 valency alternations. Frequency counts of various types make a big picture visible:
  - two dominant alternation patterns: S/A detransitivisation and S/O ambitransitivity
  - two dominant frames/classes: monotransitive and intransitive verbs
- Some frames/classes share important properties and can be summarised as the macrotransitive class.
- This class is characteristically flexible (i.e. open to alternations, vs. the rigid intransitive class)

## Valency classes in Bora (Peru)

Frank Seifart (MPI-EVA)  
frank\_seifart@eva.mpg.de

### 1. Introduction<sup>1</sup>

#### Overview:

Some basics of Bora morphosyntax (section 2)

Three criteria for establishing valency classes:

- case frames (section 3)
- (morphologically unmarked) valency alternations (section 4)
- two types of valency-changing derivation (section 5)

#### Focus on two particularly noteworthy characteristics:

- A highly unusual pattern with some ditransitive verbs
- Morphological complexity of derivational systems involved in valency change

Still many open questions

### 2. Basics of Bora and its morphosyntax

#### 2.1. Bora and its speakers

spoken in the Colombian and Peruvian Amazon by about 2,500 speakers

a close dialectal variety is Miraña (Seifart 2005)

closely related to Muinane, possibly also related to the Witotoan languages Witoto, Ocaina, and Nonuya (Aschmann 1993; Seifart and Echeverri 2010)

an endangered language, displaced by local Spanish

<sup>1</sup> The analysis presented here builds on Seifart (2005, 31-71), Thiesen (1996), and Thiesen and Weber (2000). Text examples are from Seifart et al. (2009), for which the session name from that collection is indicated in brackets. They can be accessed online. Further examples are from the dictionary entries in Thiesen and Thiesen (1998). Examples with no indication of source are from the author's field work in Peru in 2010 and via telephone in 2011. These latter are mostly also contained in the Valency Database.

### 2.2. Typological profile

a complex tone system

fairly polysynthetic and agglutinating morphology

almost exclusively dependent marking at the clause level

### 2.3. Case markers

case	markers	functions
nominative	unmarked	- the only argument of intransitive predicates - the most agent-like argument of transitive predicates
accusative (ACC)	- <i>ke</i> (anim.) unmarked for inanimates	- the less agent-like argument of monotransitive predicates - the recipient argument of ditransitive predicates of transaction
allative (ALL)	- <i>divu</i> (anim.) - <i>vu</i> , - <i>u</i> (inanim.)	- the goal of the action/event - the theme argument (secondary object) of ditransitive predicates
ablative (ABL)	- <i>dityu</i> (anim.) - <i>tu</i> (inanim.)	- the source of the action/event - static location that involves protrusion
locative/instrumental (LOC/INST)	- <i>ri</i>	- static location without protrusion - instrument
benefactive (BEN)	- <i>liihye</i>	- beneficiary
sociative (SOC)	- <i>ma</i>	- a participant that accompanies the action/event
comparison (COMP)	- <i>du</i>	- a participant that is being compared to the subject of a predicate in terms of what is expressed by that predicate.

TABLE 1: CASE MARKERS

nominative-accusative

secundative system for (at least some) ditransitives where accusative is used for the recipient (see section 3.4)

the case system is sensitive to animacy:

- accusative case is only marked on animate noun phrases

- allative and ablative case involve an additional element -*di*- for animates  
ablative case covers also static location that involves protrusion (example 1)

- (1) *wajpi*    *chi-acó*    *#ju-ke*    *úmhé-tu*  
man    tie-SNG.TRANS    horse-ACC    tree-ABL  
'The man tied the horse to the tree'

2.4. Subject cross-reference and word order

Verbal predicates may include a noun class / gender suffix that cross-references the subject, of transitive as well as intransitive verbs (examples 2a-b)

An overt subject noun phrase is optional when such subject cross-reference is present on the verb (examples 2 vs. 3).

- (2) a. **S** **V-S**  
*wajpi dsíiné(-be)*  
 man run-M.SG  
 'The man ran'
- b. **A** **P-ACC** **V-A**  
*wajpi wáíle-ke wátájcoó(-be)*  
 man woman-ACC cover-M.SG  
 'The man covered the woman with the blanket'
- (3) a. **V-S**  
*dsíiné(-be)*  
 run-M.SG  
 'He ran'
- b. **P-ACC** **V-A**  
*wáíle-ke wátájcoó(-be)*  
 woman-ACC cover-M.SG  
 'He covered the woman'

In another form of verbal predicates, the verb ends in an optional 'predicate marker' (example 4)

With these verbal predicates, an overt subject noun phrase is obligatory and must precede the verb (example 5)

- (4) a. **S** **V-PRED**  
*wajpi dsíiné(-hi)*  
 man run(-PRED)  
 'The man ran'
- (5) a. **V-PRED**  
 \* *dsíiné(-hi)*  
 run(-PRED)  
 Intended reading: he/she/it ran

- b. **V-PRED** **S**  
 \* *dsíiné(-hi) wajpi*  
 run(-PRED) man  
 Intended reading: The man ran

There are no other word order restrictions in Bora main clauses, i.e. word order plays a very minor role in expression argument structure

2.5. Argumenthood and the identification of transitive verbs

Any noun phrase is always syntactically optional in Bora, except for subjects with the kind of verbal predicates just mentioned.

It was not possible to apply a test using a sentence frame like *I wrote with a pen. > I wrote, and I did it with a pen* to distinguish between arguments and adjuncts

Noun phrases marked with accusative are argument-like, e.g. centrally involved in valency-changing operations

Transitive verbs can be defined as verbs that *can* (but never *must*) take an (accusative-marked) object (examples 6-7)

- (6) a. *wajpi taavá*  
 man hunt  
 'The man hunted'
- b. *wajpi taavá níwúwa-ke*  
 man hunt deer-ACC  
 'The man hunted a deer'
- (7) a. *wajpi lliinájá*  
 man hunt  
 'The man hunted'
- b. \* *wajpi lliinájá níwúwa-ke*  
 man hunt deer-ACC  
 Intended meaning: The man hunted a deer

### 3. Valency patterns

#### 3.1. Summary of valency patterns

	meaning	verb	frame	caus	recip	refl	instr	derivational suffix in basic verb form	prefix
<b>intransitives</b>	BE A HUNTER	ijcya	S	+/-	-	-	-		
	COUGH	éfhésó	S	+	-	-	-		
	JUMP	éásimítyé	A	+	-	-	-		
	SING	májtisvá	S	+	-	-	-	SNG.INTR	
	FEEL								
	COLD	tsucó	S	+	-	-	-		
	BE HUNGRY	ajyábávaté	E	+	-	-	-	SNG.INTR-?	
	ROLL	přsavae	A	+	-	-	-	SNG.INTR	
	SINK	pámaave	S	+	-	-	-	SNG.INTR	
	BE DRY	daari	S	+	-	-	-		
	RAIN	alléne	S	+	-	-	-		
	BOIL	wáane	S	+	-	-	-		
BLINK	támihyáco	S	+	-	-	-	SNG.TRANS		
LAUGH	gocco	S	+	+	+	+			
PLAY	híeé	S	+	+	+	+			
RUN	dsimé	A	+	+	+	n.d.			
DIE	dsjivé	S	+	-	+	+	(SNG.INTR)		
ROLL	vřytive	A	+	-	+	+	SNG.INTR		
BURN	árvye	S	+	-	+	+	SNG.INTR		
BE SAD	idáásové	E	+	+	+	+	(CAUS-)(SNG.INTR)		
<b>extended intransitives</b>	LEAVE	ijchtye	A (L-abl)	+	-	-	-	(SNG.INTR)	
	GO	pee	S (L-adv)	+	-	-	-		
	SIT DOWN	ácuuvé	S (L-adv)	+	+/-	-	-		
	LIVE	cyahjicé	S (L-loc)	+	-	-	-	HAB	
	SIT	ácutucimú	S (L-loc)	+	-	-	-	SNG.STAT	
<b>mono-transitives</b>	EAT (non-meat)	tuu	A (P-acc)	+	-	+/-	-		
	FEEL	majchó	A (P-acc)	+	-	-	-		
	PAIN	avyé	M (E-acc)	+	-	-	-	(SNG.INTR)	
	HELP	přaabó	A (X-acc)	+	-	-	-		
	FOLLOW	úraavé	A (X-acc)	+	+	+	+		
	SHOUT AT	tsjipáju	A (X-acc)	+	+	+	+	SNG.INTR	
	CLIMB	néřivyé	A (L-acc)	+	+	+	+	SNG.INTR	
	DIG	tsehdi	A (X-acc)	+	+	+	+		
	PEEL	ihu	A (P-acc)	+	+	+	n.d.		
	EAT (meat)	do	A (P-acc)	+	+	+	-		
	HUG	ámabčeu	A (P-acc)	+	+	+	-	SNG.TRANS	
	LOOK AT	hité	A (P-acc)	+	+	+	-		
	SEE	ářivumi	E (M-acc)	+	+	+	-		
	SMELL	aráhjácu	E (M-acc)	+	+	+	-	SNG.TRANS	
	FEA	hili	E (M-acc)	+	+	+	-		
FRUGHTEN	řilivesebó	A (P-acc)	+	+	+	-			
LIKE	řmilé	E (M-acc)	+	+	+	-			
KNOW	wářiačé	A (P-acc)	+	+	+	-	(MULT.TRANS)		
THINK	řtsaave	A (X-acc)	+	+	+	-	SNG.INTR		

	meaning	verb	frame	caus	recip	refl	instr	derivational suffix in basic verb form	prefix
<b>extended mono-transitives</b>	SEARCH FOR	nehco	A (X-acc)	+	+	+	-		
	WASH	řijyvú	A (P-acc)	+	+	+	-		
	MEET	ářivumi	E (M-acc)	+	+	+	-		
	SHOUT AT	řihyicumu	A (X-acc)	+	+	+	-	(MULT.INTR)	
	SAY	neé	A (P-acc)	+	+	+	-		
	SCREAM	řihyicumu	A (X-acc)	+	+	+	-	MULT.INTR	
	HEAR	řleebo	E (M-acc)	+	+	+	-		
	SHAVE	řnřsu	A (P-acc)	+	+	+	+		
	HIDE	páátamú	A (T-acc)	+	+	+	-		
	STEAL	nanř	A (T-acc)	+	+	-	-		
	BUILD	meenú	A (P-acc)	+	+	+	-		
	TAKE	ujetú	A (P-acc)	+	+	+	-		
	TEAR	tábahyúetú	A (P-acc)	+	+	+	-	SNG.TRANS	y
	FILL	wahpésó	A (X-abl)	+	+	+	-	(CAUS)	
	WIPE	přchóúáco	A (T-acc)	+	+	+	-	SNG.TRANS	
	TIE	chjichú	A (P-acc)	+	+	+	+	MULT.TRANS	
	GRIND	čanú	A (P-acc)	+	-	-	-		
	BREAK	čápuhjáco	A (P-acc)	+	+	+	+/-	SNG.TRANS	y
TOUCH	dómajcó	(L-inst)	+	+	+	-	MULT.TRANS	y	
KILL	dsjivetsó	A (P-acc)	+	+	+	-	CAUS	y	
BEAT	wářihčó	A (P-acc)	+	+	+	+	MULT.TRANS	y	
HIT	wářihčó	A (P-acc)	+	+	+	+	MULT.TRANS	y	
CUT	kidyahinú	A (P-acc)	+	+	+	+	MULT.TRANS	y	
TALK	řhjjyvá	A (X-acc)	+	+	+	-	(Y-loc)		
<b>ditransitives I (extended mono-transitives with goal/recipient)</b>	BRING	řtsivá	A (T-acc)	+	+	-	-		
	THROW	waaó	A (T-acc)	+	+	+	-		
	PUSH	waaó	A (T-acc)	+	+	+	-		
	SEND	walló	A (T-acc)	+	+	+	-		
	CARRY	řtsajyé	A (T-acc)	+	+	+	-		
	PUT	přyvo	A (T-acc)	+	+	+	-		
	POUR	čáppinú	A (T-acc)	+	+	+	-		

	meaning	verb	frame	caus	recip	refl	instr	derivational suffix in basic verb form	prefix
	LOAD	pieyo	A (T-acc) (L-adjl)	+	+	+	-		
	DRESS	babyáro	A (P-acc) (X-adjl)	+	+	+	-	SNG.TRANS	
	COVER	wátájicó	A (P-acc) (X-adjl)	+	+	+	+	MULT.TRANS	
<b>ditransitives</b> <b>II</b>	SHOW	tújje-tsó	A (T-adjl) (R-acc)	n.d.	+	+	-	CAUS	
	GIVE	ájjeó	A (T-adjl) (R-acc)	+	+	+	-		
	TEACH	túwáábóó	A (T-adjl) (R-acc)	+	+	+	-		
<b>ditransitives</b> <b>III</b>	ASK FOR	táméfi	A (X-acc) (Y-acc)	+	+	+	-		
	NAME	dílló	A (X-acc) (Y-acc)	+	+	+	-		
	TELL	unbáille	A (X-acc) (Y)	+	+	+	-		

### 3.2. Avalent verbs

None. Even meteorological verbs can take a subject noun phrase (example 8a) or an inanimate gender suffix, which cross-references the subject (example 8b)

- (8) a. *níjyaba allé-hi*  
thunderstorm rain-PRED  
'The thunderstorm rained'
- b. *allé-ne*  
rain-INAN  
'It rained'

### 3.3. Monovalent (intransitive) verbs <NOM>

The only argument may represent an agent-like role, as with *llínájá* 'hunt', *dsiné* 'run', *cháfnírye* 'jump', *ptsaaavé* 'roll', and *véyíríyve* 'roll', a less clearly agent-like role, as with *áákítvé* 'fall' or *éjéhsó* 'cough', or an experiencer, as with *ajyáábáavaté* 'be hungry' or *ídáátsové* 'be sad'.

### 3.4. Bivalent (monotransitive) verbs

#### 3.4.1. Extended intransitives <NOM, {ALL, ABL, LOC, INST}>

A set of verbs take an agent-like argument in the nominative and a locative noun phrase in one of the three spatial cases: (i) allative, as in *ácuuvé* 'sit (down)' and *pee* 'go', (ii) ablative, as in *ijíhíyve* 'leave', and (iii) (stative) locative case, as in *ácuúumá* 'sit down' and *ícyahjicyá* 'live'. The (stative) locative case is polyfunctional and can also mean instrumental, as in example 9.

- (9) a. *llíhpye ijicyá caanúco-ri*  
mouse be mortar-LOC  
'The mouse is in the mortar'
- b. *ováhtsa dómajcó íííníme-ke úméchéco-ri*  
boy touch snake-ACC stick-INST  
'The boy touched the snake with the stick'

#### 3.4.2. <NOM, ACC>

This case frame is used for more or less prototypical transitive verbs, like with *néé* 'say', *wájajácú* 'know' (example 10), *íté* 'look at', *íllíyveebó* 'frighten', *táábavá* 'marry', *májchó* 'eat (non-flesh food)', *do* 'eat (flesh food)', *ámabúcu* 'hug', *náhsu* 'shave', *íhtu* 'peel', *tuu* 'cook', *taavá* 'hunt for', *úraavyé* 'follow' (example 11), *páaabó* 'help', *íksaaave* 'think', *nehco* 'search for', *tsíjipáju* 'shout at', and *íhijyácuu* 'shout at'.

- (10) A KNOW P-ACC  
*wajipi waajácú ováhtsa-ke*  
man know-SNG.TRANS boy-ACC  
'The man knew the boy'
- (11) A FOLLOW P-ACC  
*wajipi úraavyé bádsfécája-ke*  
man follow girl-ACC  
'The man followed the girl'

Related to this pattern is the verb *néritíyvé* 'climb', whose locative participant is also accusative, i.e. unmarked when it is inanimate.

This case frame is also used for an experiencer in the nominative (unmarked) and a stimulus in the accusative, as with *ájyymá* 'see, meet', *ílli* 'fear', *ímille* 'like', *árahjícú* 'smell', and *lleebo* 'hear'.

3.5. Trivalent (ditransitive) verbs

3.5.1. <NOM, T-ALL, R-ACC>

theme marked for allative case, recipient marked for accusative

cross-linguistically highly unusual

instantiated in Bora by three verbs out of the 80 verbs from the Valency Questionnaire: *ájcu* 'give' (example 12), *úwaabó* 'teach' (example 13), and *úúje-tsó* 'show (make see)' (example 14).

*ájcu* 'give' and *úwaabó* 'teach' are unanalyzable

*úúje-tsó* 'show (make see)' is a causativized transitive verb, and all other causativized verbs transitive verbs behave like it (see section 5.3.1)

- (12) a. **T-ALL** **R-ACC** **A** **GIVE**  
*téwaahyé-vá* *o-ke* *ú* *ájcuú*  
 leftovers-ALL 1.SG-ACC 2.SG give  
 'You give me the leftovers' [Iijchuri\_1: 685]

- b. **Tsá** **muurá** **éhne** **me-ke** **A** **GIVE** **T-ALL**  
 no well that 1PL-ACC *díyve* *ájcu-tú* *mééme-u*  
 'They did not give us palm fruits' [nivuwa 083]

- (13) a. **A** **TEACH** **R-ACC** **T-ALL**  
*Mé* *úwaabó* *tsimé-ké* *wákimyéi-vu*  
 1.PL teach children-ACC work-ADL  
 'We teach the children the work' (Thiesen & Thiesen 1998: 476)

- (14) a. **R/CAUSEE-ACC** **T-ALL** **A** **SHOW**  
*táj-tsiméne-ke* *tsúuca* *i-tyujpácyo-vu* *ú* *úúje-tsó*  
 1.S-child-ACC already 3-blood-ALL 2.SG see-CAUS  
 'You have already shown my child his blood' [nEjke\_kuriota 174]

- b. **R/CAUSEE-ACC** **A** **SHOW** **T-ALL**  
*o-ke* *mé* *úúje-tsó-vá* *ámúhpf* *táji-dívú*  
 1.SG-ACC PL see-CAUS-DIR:COME 2.DL.F husband-ALL  
 'Come and show me your husband!' [Iijchu\_ine\_III 154]

Why?

- Strong association of animate non-agents to accusative marking
- Unusual behavior of GIVE
- association of theme argument with allative unusual

3.5.2. <NOM, T-ACC, R-ALL>

theme marked for accusative and recipient for allative case

recipient is associated with goal (allative case)

a common pattern cross-linguistically

almost a mirror image of the above pattern

instantiated in Bora by the verbs *walloó* 'send' (example 15) and *tsirivá* 'bring' (example 16) and 4 others from the 80-meanings list (*waabó* 'throw', *tsajiyé* 'carry', *picyo* 'put', *cahpñú* 'pour'.

- (15) a. **A** **SEND** **T-ACC** **R-ALL**  
*ó* *walloó* *waajácuháámí* *tá-náábe* *éé/le-vu*  
 1.SG send letter 1.SG-brother there-ALL  
 'I am sending a letter to my brother' [Thiesen & Thiesen 1998: 325]

- b. **T-ACC** **A** **SEND**  
*múhisi-kye* *tehdájucó* *táhdí* **SEND**  
 1.DL.EXCL-ACC well grandfather *llíhi* **walloó-hi**  
 'Grandfather, father, send us (\*to us)' [mEEvaMM06\_3 39] send-PRED

- (16) **A** **BRING** **T-ACC** **R-ALL**  
*ováhtsa* *tsirivá* *wajácuháámí* *iwáábóóbe-dívu*  
 boy bring book teacher-ALL  
 'The boy brought the book to the teacher'

3.5.3. <NOM, P-ACC, T-ACC>

In a third case frame for trivalent verbs, both objects are in accusative case, i.e. unmarked if inanimate)

represented by three verbs: *táúmei* 'ask for' (example 17), *dílló* 'name' (example 18), and *unbálle* 'tell' from the 80-meanings list.

- (17) a. **P-ACC** **A** **ASK**  
*bolsí* *pívyéébe-ke* *ú* *táúmei-hí*  
 finally creator-ACC 2.SG ask-PRED  
**T-ACC**  
*mé-májchotá* *dooráábe-ke*  
 1PL-nutrition fish-ACC

'Finally you ask the creator for fish of our nutrition' [VerbaDicendi 043]

- b. **ASK-A** **T-ACC**  
*Táúme-íyúcco-be* *májchota*  
 ask-PRF-M.SG food-Ø  
 'He already asked for nutrition' [nEjke\_kuriota 083]

- c. **A ASK P-ACC**  
*mé táúmeíí* *táhdí-kye* *áji-jé* *ihidéjpi-kye*  
 IPL ask grandfather-ACC palm-people forehead-ACC  
**T-ACC**  
*piivyé* *áji-júúho*  
 creation palm-leaf-Ø  
 'We ask the grandfather, the forehead of palm people, for palm leaves of the creation' [origin\_maloka 27]

- (18) **A NAME P-ACC T-ACC**  
*wajpi dílló ováhsa-ke* *cutjúba-ke*  
 man name boy-ACC slow-AKK  
 'The man called the boy a fool'

Three types are interesting for a cross-linguistic typology

Fairly idiosyncratic in terms of the semantics of the verbs that go into them

### 3.5.4. Extended monotransitives <NOM, ACC, {LOC, ALL, ABL, INST}>

many monotransitive verbs take an additional participant in a spatial relation, marked with spatial cases (example 19)

in these cases, allative has a 'literal' spatial meaning (example 19b), i.e. unlike its use for theme (and recipient) marking (see sections 3.4.1 and 3.4.2).

- (19) a. **A P-ACC TEAR SOURCE-ABL**  
*ováhsa tsá-huami tá-ba-hjyúú* *wajácuháámí-tu*  
 boy one-leaf INST:FOOT-tear-SNG:TRANS book-ABL  
 'The boy tore the page from the book'
- b. **A PUT P-ACC GOAL-ALL**  
*ó piyóó wajácuháámí méésáwá hallú-vu*  
 I.SG put book table top-ALL  
 'I put my book on the table'

## 4. Uncoded alternations (case alternations)

(i) the deletion of non-subject noun phrases is always possible and therefore not interesting for valency classes in Bora.

(ii) with rearrangement of arguments: Instrument-subject alternation (examples 20-21), for (almost) all verbs that can take instruments

- (20) a. **A CUT**  
*ó wáhdahí-ní-hi*  
 I.SG cut-MULT:TRANS-PRED  
 'I cut'

- b. **INST CUT**  
*pidójowa wáhdahí-ní-hi*  
 knife cut-MULT:TRANS-PRED  
 'the knife cuts'

- (21) a. **A CUT**  
*ó víúf-ve-tsó-hi*  
 I.SG cut-SNG:INTR-CAUS-PRED  
 'I cut'

- b. **INST CUT**  
*pidójowa víúf-ve-tsó-hi*  
 knife cut-SNG:INTR-CAUS-PRED  
 'The knife cuts'

(iii) without rearrangement of arguments: ablative instead of allative case for theme arguments to express a partitive meaning with ájicu 'give' (example 22, compare with example 12), possibly also with other verbs

- (22) **R-ACC A T-ABL GIVE**  
*o-ke semi éhne móóhóúwáú-tu d-aácu*  
 I.SG-ACC proper\_name that string-DIM-ABL IMP:S-give  
 'Give me of that little string, Semi' [inf\_10strob\_etc2 18]

## 5. Verb-coded alternations (voice alternations and valency change)

### 5.1. Two kinds of morphologically marked valency changing operations

Two distinct derivational systems are involved in valency marking (Table 2):

- one occurs right after the verbal root and also marks verbal number (section 4.1)
- another consists of causative, reflexive and reciprocal markers (section 4.2)
- instrument prefixes do not influence valency (section 4.3)

instrument	root	verbal number and transitivity	other derivation	causative	reflexive, reciprocal	directional
dó- 'hand', ki- 'knife', dí- 'teeth', etc.		- <i>jcáro</i> 'SNG:TRANS', - <i>Vve</i> 'SNG:INTR', - <i>jco</i> 'MULT:TRANS', etc.	- <i>lle</i> 'consider', - <i>tijkénu</i> 'incipient', etc.	- <i>tso</i> 'CAUS'	- <i>mei</i> 'REFL', - <i>catsi</i> 'RECIP'	- <i>va</i> 'come', - <i>te</i> 'go', - <i>je</i> 'return', etc.

TABLE 2: TEMPLATE FOR DERIVATIONAL VERB STEM FORMATION

5.2. Verbal number and transitivity markers

morphologically complex with many irregularities (Table 3)

	verb stem class	singular verbal number affix	plural verbal number affix	verbs in class	examples verb stem class
transitive (>6 pairs of allomorphs)	I	-áco -áco -áco	-fco -fcu -nu	103 13 2	tálllyiáco - talllyijeyo 'turn' mbyeyáco - mbyeyeyu 'wrap' wájiáco - wájinu 'line up'
	II	-hjáco -hjáco -hjáco	-hco -hcu -fco	79 36 2	ávohjáco - ávohco 'turn around' íllimúthjáco - íllimúthcu 'vomit' vóihyáco - vóihyeyu 'blow'
	III	-hjúcu -hjúcu	-hco -hcu	14 27	árahjúcu - árahco 'smell' bécáyihjúcu - bécáyihyeyu 'serape'
	IV	-fjáco -fjáco	-fco -fcu	47 6	ávohfjáco - ávohfojco 'turn around' dóvúfjáco - dóvúfjeyu 'break'
	V	-fo -fco	-nu -fcu	82 19	bíjfo - bíjfinu 'wrap' bólllyfco - bólllyfeyu 'drill'
	VI	-fícu -fícu -fícu	-fcu -fcu -nu	15 4	déifícu - déifeyu 'chew' píhíyícu - píhínyu 'gather'
	mi-nor class	-cu -heáco -heáco	-nu -hco -fcu	11 2 2	wáyuhíscu - wáyuhíscinu 'raise' wátsoháco - wátsohco 'break' wátsuháco - wátsuhcu 'smash'
	ses	-húcu -fcaáyo -fcho	-cu -fco -fícu	2 2 2	dótsuhúcu - dótsuhcu 'squeeze' íllínémúfcaáyo - íllínémúfco 'listen' mávájícho - mávájínyu 'bother'
	Ia	V-ve	-h-ha	205	cáyavave - cáyavayaba 'fall down'
	Iia		-cunu	13	cunwá - cunwácu 'be sleepy'
intransitive (2 allo-morphs)					
stative		-úcumu	-fcatye	70	tódsúcumu - tódsúfcatye 'be lying'

TABLE 3: VERBAL NUMBER AND TRANSITIVITY MARKERS

The verbal number distinction (horizontal dimension in Table 3) has to do with plurality of actions, events, and participants, and with iterativity and distributivity.

The transitive - intransitive distinction (vertical dimension in Table 3) usually corresponds to a (anti)causative alternation, as in examples 23-25

- (23) a. wajpi ácu-uvé  
man sit-SNG.INTR  
'The man is sitting'
- b. wajpi ácu-fcáró  
man sit-SNG.TRANS  
'The man is seating the child'
- tsíméne-ke  
child-ACC

- (24) a. ta-hiya ái-ivyé-hi  
1.SG-house burn-SNG.INTR-PRED  
'My house is burning' [VerbaDicendi 098]
- b. fveéki íne mitesfst-bájú ú ái-úcu  
why this pear-plantation 2.SG burn-SNG.TRANS  
'Why did you burn this pear plantation?' [bora\_chac\_1\_119]

- (25) a. dí-wajjácuháámí ácádsí-ívé  
2.SG-book loose-SNG.INTR  
'Your book fell down'
- b. ú ácádsí-fcaayó dí-wajjácuháámí  
2.SG loose-SNG.TRANS 2.SG-book  
'You let your book fall down'

Difference between intransitive and stative is often hard to discern. For the verbs derived from ácu- 'sit', the stative form in example 26a corresponds to the meaning SIT from the 80-meanings list and may take a stative locative adjunct. The intransitive form corresponds to SIT DOWN from the 80-meanings list and may take an adjunct expressing the Goal (example 26b). The verb root ácu- 'sit' may combine with all three categories (examples 26a-c).

- (26) a. wajpi ácu-úcumú cúúmú hallú-ri  
man sit-SNG.STAT signal\_drum top-LOC  
'The man is sitting on the signal drum'
- b. wajpi ácu-uvé baa-vu  
man sit-SNG.INTR below-ALL  
'The man is sitting down below'
- c. wajpi ácu-fcáró tsíméne-ke  
man sit-SNG.TRANS child-ACC  
'The man is seating the child'

Roughly 50% of Bora verbs combine with forms from this derivational system.

Basic vocabulary tends not to combine with these forms. Therefore less than half of the verbs from the Valency Questionnaire combine with these.

This system divides the Bora verbal lexicon into formal classes of two kinds:

- (i) "allomorph classes": six sizable classes of verb stems that share pairs of allomorphs for transitive singular verbal number vs. transitive plural verbal number (Table 3 indicates the number of verbs for each allomorph class out of the approximately 866 verb stems in Thiesen & Thiesen's (1998) Bora dictionary that do combine with any of these forms).  
- much morphological irregularity remains  
- no semantically coherent verb classes (see Appendix)

- (ii) classes of verb stems that combine with only some forms from the paradigm

About 28% combine with intransitive and transitive markers (examples 23-25)

About 25% combine only with intransitive forms (example 27)

- (27) a. *uméneba búni-ivyé*  
log slip-SNG.INTR  
'the log slipped off'
- b. *uménebaá-ne búhni-bá*  
log-PL slip-MULT.INTR  
'the logs slipped off'
- c. \* *búni-járo/-hjáco/-ro/-ácu/-áco/-hjúcu*  
slip-SNG.TRANS  
Intended meaning: someone made something slip
- d. \* *búni-jco/-hco/-nu/-jcu/-jco/-eyo/-hcyo*  
slip-MULT.TRANS  
Intended meaning: someone made something slip

About 45% combine only with transitive forms (examples 28)

- (28) a. *wajpi bójór-áco*  
man scrape-SNG.TRANS  
'The man scraped something'
- b. *wajpi bójór-jco*  
man scrape-MULT.TRANS  
'The man scraped something repeatedly'
- c. \* *bójór-íve*  
scrape-SNG.INTR  
Intended meaning: Something was scraped
- d. \* *bóhór-ba*  
scrape-MULT.INTR  
Intended meaning: Something was scraped repeatedly

### 5.3. Causative, reflexive, and reciprocal markers

#### 5.3.1. The causative marker -*iso*

Can be used with almost every Bora verb, including intransitive (example 29) and transitive verbs (example 30)<sup>2</sup>

<sup>2</sup> The only verbs found so far that do not regularly combine with the causative marker are \**ákitye-iso* 'make fall', which is accepted by some but rejected by other Bora speakers, and \**íyabífyá-iso* 'make live', which is not accepted by any Bora speaker consulted so far.

increases valency by introducing a CAUSER in subject function and demoting the subject of the underived verb, the CAUSEE, to an accusative-marked primary object and the PATIENT of the underived verb to a secondary, allative-marked object

- (29) a. **S** **V**  
*ó dsíiné-hi*  
1.SG run-PRED  
'I ran'
- b. **A** **P-ACC** **V-CAUS**  
*wajpi o-ke dsíine-ísó-hi*  
man 1.SG-ACC run-CAUS-PRED  
'The man made me run'
- (30) a. **A** **V** **P-ACC**  
*ó híé-hi okáji-ke*  
1.SG see-PRED tapir-ACC  
'I saw a tapir'
- b. **A** **P-ACC** **V-CAUS** **T-ALL**  
*wajpi o-ke híe-ísó-hi okáji-dívu*  
man 1.SG-ACC see-CAUS-PRED tapir-ALL  
'The man made me see a tapir'

#### 5.3.2. The reflexive marker -*mei*

The reflexive marker *-mei* has the expected function (i) of deleting the object, thus reducing the valency by one, and conflating the agent and patient role (example 31a vs. 31b).

In this function, it can be used with (almost) any transitive verb.

It has two more functions:

(ii) it can be used without a valency reduction and the semantic effect of downgrading the agentivity of the subject (example 31c). Such verb forms are consistently translated by various Bora speakers independently as 'do x poorly' (Spanish 'hacer x pobremente').

- (31) a. **A** **V** **P-ACC**  
*wajpi tsájtýé-hi wajácuháámi*  
man carry-PRED book  
'The man carried the book'
- b. **A=P** **V-REFL**  
*wajpi tsájtýé-meí-hi*  
man carry-REFL-PRED  
'The man carried himself'

- c. **A(DOWNGR.) V-REFL P-ACC**  
*wajpi tsáŋtyé-méf-hi wajácuháámí*  
 man carry-REFL-PRED book  
 'The man tried to carry the book'

This agency-downgrading function is the only reading of reflexive-marked intransitive verbs (example 32).

- (32) a. *wajpi dsínté-méf-hi*  
 man run-REFL-PRED  
 'The man tried to run'
- b. *wajpi éjéhtso-méf-hi*  
 man cough-REFL-PRED  
 'The man tried to cough'

(iii) The reflexive marker can also have a passive function with transitive verbs (example 33).

- (33) a. *wajpi píchóujicá-hi ijyawa*  
 man wipe-PRED stool  
 'The man wiped the stool'
- b. *ijyawa píchóujicá-méf-hi*  
 stool wipe-REFL-PRED  
 'The stool was wiped'

### 5.3.3. The reciprocal marker *-jcatsf*

Only transitive verbs combine with the reciprocal marker *-jcatsf*, which has the expected semantic and syntactic effect (example 34). Intransitive verbs cannot combine with the reciprocal marker (example 35).

- (34) a. **A P-ACC V**  
*tá-ñahbe náámí-kye cábo-hó-hi*  
 I.SG-brother my\_uncle-ACC beat-MULT.TRANS-PRED  
 'My brother beat my uncle'

- b. **A=P V-RECP**  
*tá-ñahbé-mu cábo-hó-jcatsf-hi*  
 I.SG-brother-PL beat-MULT.TRANS-RECP-PRED  
 'My brothers beat each other'

- (35) a. \* *ováhtsa tsá-jcatsf-hi cóomj-tu*  
 boy come-RECP-PREDVillage-ABL  
 Intended meaning: The boy came himself (?) from the village

- b. \* *ováhtsa áákiityé-jcatsf-hi*  
 boy fall-RECP-PRED  
 Intended meaning: The boy fell himself (?)

### 5.3.4. Combinations of valency-changing suffixes

The causative marker can combine with either the reflexive marker or the reciprocal marker (examples 36-37).

- (36) a. *mé-uácó-tsá-méf-i-yá áteréé-jú-yu*  
 I.PL-enter-CAUS-REFL-FUT-FRUS bad-word-PL  
 'We would let ourselves enter bad words' [iamehe\_prep\_1 127]

- b. *núcóphé-tsá-méf-fbye*  
 feel\_ashamed-CAUS-REFL-M.SG  
 'He made himself feel ashamed' [Ilijchu\_in\_II2 166]

- (37) a. *ditye dsíjivé-tsó-jcatsf-ñé*  
 they die-CAUS-RECP-INAN  
 'They killed each other' [apajyune\_naave 19]

- b. *mé-fhvé-jtsó-jcatsf-tyu-ki*  
 I.PL-be\_alone-CAUS-RECP-NEG-PURP  
 'So we do not abandon ourselves' [AmpRepPop 481]

- c. *ctíwá-tsó-jcatsf-múpt*  
 sleep-CAUS-RECP-F.DL  
 'They made each other sleep' [kuwatso\_1 030]

Causative, reflexive, and reciprocal markers can also combine with the verbal number and transitivity markers (see section 5.2). This results in a huge range of combinability of valency changing morphology for each verb. There are restrictions on which combines with which but these still needs to be determined.

### 5.4. Non-valency-changing instrument prefixes

A number of Bora verbs, especially those denoting physical actions, often destruction, take instrument prefixes (example 38).

This system is not very productive, i.e. only a limited number of verbs combine with them and some of these only combine with some without an apparent reason.

- (38) a. **á-** *váá-jcáro*  
 INST:TOOTH-break-SNG.TRANS  
 'break with teeth'

- b. **cá-** *váá-jcáro*  
 INST:POINTED-break-SNG.TRANS  
 'break with pointed object'

### Abbreviations and orthographic conventions

1 - first person; 2 - second person; 3 - third person; A - most agent-like argument of canonical transitive verb; ABL - ablative; ADV - adverb; ALL - allative; ANIM - animate; BEN - benefactive; CAUS - causative; COMP - comparative; DIM - diminutive; DIR - directional; DL - dual nominal number; EXCL - exclusive; F - feminine; HAB - habitual; IMP - imperative; INAN - inanimate; INST - instrument; INTR - intransitive; LOC - locative; M - masculine; MULT - plural verbal number; NEG - negative; NOM - nominative; P - most patient-like argument of canonical transitive verb; PL - plural nominal number; PRED - predicative; PRF - perfect; R - recipient-like argument; RECP - reciprocal; REFL - reflexive; S - only argument of canonical intransitive verb; SG - singular; SNG - singular verbal number; SOC - sociative; SP - Spanish loan; STAT - stative; T - theme role; TRANS - transitive; V - verb; VBLZ - verbalizer.

The Bora data are represented orthographically in this paper. The unusual (although common in Spanish-dominated areas) correspondences of this orthography with IPA symbols are: ⟨c, k⟩ - [k], ⟨ch⟩ - [tʃ], ⟨j⟩ - [j], ⟨ll⟩ - [dʒ], ⟨y⟩ - [β], ⟨w⟩ - [w], ⟨y⟩ - [j], and ⟨u⟩ - [u]. Long vowels are represented by two identical vowel symbols, e.g. ⟨aa⟩.

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- c. **dó**-*váa-jcáro*  
INST:HAND-break-SNG.TRANS  
'break with hand'
- d. **kí**-*váa-jcáro*  
INST:KNIFE-break-SNG.TRANS  
'cut'
- e. **pá**-*váa-jcáro*  
INST:SAW-break-SNG.TRANS  
'open by sawing'
- f. **wá**-*váa-jcáro*  
INST:HIT-break-SNG.TRANS  
'break by hitting'

Verbs that take these prefixes must usually include one. These forms can be used with and without an overt instrument noun phrase, i.e. these prefixes do not change the valency of a verb (example 39).

- (39) a. **kí**-*ba-hjýúcu-úbe*  
INST:KNIFE-pull\_out-SNG.TRANS-M.SG  
'He pulled out (something) (with a knife-like instrument)'
- b. **kí**-*ba-hjýúcu-úbe*  
INST:KNIFE-pull\_out-SNG.TRANS-M.SG  
'He pulled out (something) with a machete'

### 6. Conclusions

Transitive and intransitive verbs are distinguished by case frames and other criteria (reciprocals)

The realization of participants is often optional and case marking is mostly semantically determined, but:

Case frames distinguish three types of ditransitives, one of them highly unusual

Uncoded alternations hardly help to set up further valency classes

Complex verbal morphology sets up multiple formal classes of Bora verbs, with hardly any discernable semantic basis

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#### Appendix: Two verb stem classes defined by verbal number allomorphs

(forms from Thiesen & Thiesen's (1998) Bora dictionary9)

verb stem class I:

*wáñaháaco* 'cover, thatch, close'; *cánoáaco* 'dig'; *capáyoáaco* 'change, put sth. in sth.'; *wápraáaco* 'hang'; *miviyáaco* 'tie, bind'; *cáwayáaco* 'stretch'; *cháviyáaco* 'coil'; *dósóáaco* 'shell, peel off'; *cáwúdoáaco* 'meet, take shortcut'; *dódiáaco* 'delouse'; *dólliyáaco* 'roll with hand'; *tálluriáaco* 'spread out'; *wáwaraáaco* 'spill'; *cácutruáaco* 'put'; *dócháchaáaco* 'shred, crumble'; *dósúriáaco* 'strip with hand'; *piviyóáaco* 'roll sth. with hands'; *tálliyáaco* 'turn'; *támuriáaco* 'immerse'; *wámoáaco* 'thin, dissolve'; *wátsátsaáaco* 'crush'; *wátsúriáaco* 'crack'; *wádiáaco* 'crack, chop'; *bobóáaco* 'hit with sth. pointed'; *bojóriáaco* 'scrape'; *boniáaco* 'stir, whip'; *botoáaco* 'harrow'; *cabiáaco* 'put a stick in the fire'; *chijyoáaco* 'blacken, mark carelessly'; *chijyuáaco* 'to blow one's nose'; *chíyoáaco* 'play flute'; *dénoáaco* 'mibble'; *diáaco* 'open guaba fruit'; *dóbóriáaco* 'mibble'; *djóriáaco* 'mibble'; *dhsátsaáaco* 'crumble'; *dhsúriáaco* 'cut sth. up with teeth'; *dáwúdoáaco* 'cut into pieces with teeth'; *dóbóriáaco* 'scratch'; *dóchéreáaco* 'tear'; *donoáaco* 'dig'; *dópáyoáaco* 'clean the face with hand'; *dópoáaco* 'shell'; *dósátsaáaco* 'tear to pieces'; *dówáriáaco* 'tear sth. violently'; *dówúdoáaco* 'break sth. in two pieces'; *dówúruáaco* 'pull off the petals'; *dówayóáaco* 'scrape'; *dsiáaco* 'sew'; *iáaco* 'string'; *ifloáaco* 'wash face with hands'; *iripiáaco* 'spit'; *kíchéreáaco* 'cut sth. into pieces'; *kídyoáaco* 'cut the surface of sth. with a knife'; *kijiyáaco* 'wash, rub'; *kítsúriáaco* 'cut sth. in strings'; *kivúdoáaco* 'cut sth. soft into pieces'; *núbiáaco* 'kick'; *píchóuáaco* 'clean sth. by rubbing it with hands'; *píliyáaco* 'plait'; *pílyúruáaco* 'push and pull with finger; play strings'; *píwáwaraáaco* 'feel with hand'; *péfiáaco* 'slice'; *pédoáaco* 'quarter'; *pítsúriáaco* 'scratch, making superficial cuts'; *tábuniáaco* 'shoot'; *tábúruáaco* 'stamp, kick'; *táchéreáaco* 'cut sth. with the foot'; *tállóáaco* 'get dirty'; *tátsaáaco* 'knead, mix'; *tátsuáaco* 'thresh'; *távulloáaco* 'kick, stamp'; *tavúdoáaco* 'break sth. in two pieces'; *távúruáaco* 'stamp loudly'; *tsipoáaco* 'open a fruit by wringing it'; *tsósoáaco* 'pour'; *uáaco* 'insert'; *vivúáaco* 'shake sth. to take sth. out'; *wáberéáaco* 'make sb./sth. vibrate; electrify'; *wábuniáaco* 'knock down'; *wábúruáaco* 'sieve'; *wácháchaáaco* 'cut sth. in little pieces'; *wáchéreáaco* 'crack, chop'; *wáchíyoáaco* 'shake one's hand violently'; *wáchobuáaco* 'shake sth. liquid'; *wácóroáaco* 'shake the content of sth. violently'; *wádóriáaco* 'splinter'; *wááaco* 'mow'; *wálláriáaco* 'pull strongly'; *wállúriáaco* 'hang the clothes up/out'; *wamááaco* 'dig a hole for the stake'; *wánoáaco* 'dig the earth with sth. pointed'; *wánoáaco* 'bore, make holes'; *wápiáaco* 'dirty with mud'; *wáraáaco* 'sift, sieve; polish'; *watéreáaco* 'pat on the back to make him/her sleep'; *wátsóáaco* 'shake off'; *wátúnuáaco* 'play the signal drum'; *wávaiáaco* 'cut quickly'; *wáváriáaco* 'uproot'; *wávúriáaco* 'chop'; *wávúdoáaco* 'chop, cut'; *wávúruáaco* 'shake sth. hanging off'; *tíntíboáaco* 'tap with fingers'; *mibyáaco* 'wrap, to wind sth. into a ball'; *capatyúáaco* 'go through with sth. pointed'; *wávyáaco* 'put across'; *wábyéáaco* 'get tangled'; *boiáaco* 'discourage'; *núbiáaco* 'peel manioc'; *díguáaco* 'mibble'; *dípaatyúáaco* 'eat fruit, spitting

out the seeds'; *dóbiáaco* 'peel, pluck'; *dópátyúáaco* 'take the pulp out'; *íbmúniáaco* 'scrub'; *tácyáyoáaco* 'kick, moving the feet backwards'; *wábeáaco* 'bend the ends of manioc and press'; *wályoáaco* 'put things next to others'; *wájiáaco* 'put sth./sb. next to others'; *páchichaáaco* / *páchihcháaco* 'cross'; *cácoroáaco* 'loosen'; *cáchíyoáaco* 'injure with sth. pointed'; *bjiáaco* 'wrap'; *tádiáaco* 'crack sth. with axe'; *támótoáaco* 'tear out'; *tsóáaco* 'spill'.

verb stem class V:

*tsúniáayo* 'unite, undo'; *pajtsíro* 'roll up'; *dóhdaháro* 'divide, break sth. with the hand'; *cádiáaro* 'take down'; *cátsocoáaro* 'put away'; *cállaajáaro* 'pile, bath'; *cátsíjijáaro* 'even up'; *bijijáaro* 'wrap'; *pítyaaháaro* 'move up against'; *baahyáaro* 'pile up'; *wáipolláaro* 'turn sth. over'; *ináaro* 'hang'; *wáchajáaro* 'knock down'; *cápaatsíro* 'form a bowl'; *díahajáaro* 'press sth.'; *tárohjáaro* 'bend'; *cájihiáaro* 'peel'; *díhdaháaro* 'cut sth. up with teeth'; *kídyvaháaro* 'cut sth. into pieces'; *píhdaháaro* 'quarter'; *tácajyáaro* 'rub'; *wabéro* 'fold'; *wáhdaháaro* 'cut, chop'; *wáhejúro* 'drive sth. into sth.'; *wárihyóro* 'separate'; *bohejúro* 'make holes in'; *cáhejúro* 'gouge'; *cárihyóro* 'distance'; *cáviáaro* 'perforate'; *díhejúro* 'drill with teeth'; *dóhejúro* 'drill with hand'; *dóllujáaro* 'crumble with hand'; *dóviáaro* 'make holes with hand'; *tájihiáaro* 'open sth., by separating edge'; *tárihyóro* 'push sth. to move it'; *wátsujáaro* 'open up'; *ávyaháaro* 'warm up'; *dórihyáaro* 'separate the ends of sth.'; 'divide, find'; *díheecóro* 'pull off'; *dóviáaro* 'drill'; *dóchaajáaro* 'destroy'; *dódsaaaháaro* 'pull sb's hair'; *dóheecóro* 'pull off, out'; *dórihyáaro* 'separate the ends of sth.'; *dórihyóro* 'separate sth. from sth. with hand'; *dósecejáaro* 'deflate'; *dótsujáaro* 'disperse'; *guhináro* 'draw a line in zigzag'; *kijyuwáaro* 'sharpen'; *kíjhiháaro* 'peel, skin'; *páchihcháaro* 'cross'; *táccójiúro* 'baby kicking its mother'; *táhdaháaro* 'break sth. long with the foot'; *wábaháaro* 'put sth. away'; *wácajyáaro* 'make sth. slip'; *wácyóccojáaro* 'rock/push sb. In a hammock violently'; *wáhyeecóro* 'cut deeper than wanted'; *wávyuháaro* 'twist'; *táiháyo* 'break'; *dóvihyáaro* 'roll up'; *wájiyuháyo* 'tie'; *ijcháyo* 'assemble trap or weapon'; *piumiyo* 'bend'; *babyáaro* 'wrap, dress'; *cáhiháyo* 'peel off'; *dóiháyo* 'break with hand'; *wáñaaaháyo* 'dent, crush'; *wáruháyo* 'hurt foot or arm by hitting it'; *dóuháyo* 'break'; *wáumiyo* 'bend sth.'; *wáiháyo* 'break sth. by banging it'; *dóñaaaháyo* 'bend and close the mouth of sth.'; *támootáaro* 'step on sb.'s foot'; *táuháyo* 'break'; *wámooháyo* 'get into line'; *wáuháyo* 'break sth. hard and plane'; *cúthváyo* 'design curved pattern'; *dóñáháyo* 'pinch'; *dóruháyo* 'bend sth. metallic'; *óonáyo* 'roll up'; *táñaaaháyo* 'dent, bend'; *dócajyáaro* 'let sth. fall'; *wáiyaháaro* 'applaud'; *cátsiháaro* 'get together'; *eeníyo* 'submerge'; *dóh#wáaro* 'push sth. with hand'

# BALINESE VALENCY CLASSES

Masayoshi Shibatani  
 Rice University  
 &  
 Ketut Artawa  
 Udayana University

## Austronesian focus system

### PAn focus morphology:

<\*um> Actor, \*-ən Patient, \*-an Location, \*Sf Circumstantial

Pattern of attrition of morphology and structural contrast

#### 4-way contrast 3-way

Formosan  
 Philippine

Thao, Kavalan  
 (Formosan)

Lun Dayeh  
 (Sawarak)

#### 2-way

Malay/Indonesian  
**Balinese**, Javanese

Sasak\*

Sumbawa \*

#### Tagalog

AF: <um>, m-  
 PF: -in  
 LF: -an  
 CF: i-

#### Thao

AF: <m>  
 PF: -in  
 LF: -an

#### Balinese

AF (N-)  
 PF (Ø-)

#### Sasak

AF (Ø)  
 PF (Ø)

(AF=Actor focus, PF=Patient focus, LF=Location focus, CF=Circumstantial focus)

\*Dialectal and lexical: some dialects /some verbs preserve the 2-way contrast, some have lost.

## Balinese (Basa Bali)

One of the eastern-most Western Malayo-Polynesian languages

Adelaar (2005)



(Adelaar, Alexander. 2005. Malayo-Sumbawan. *Oceanic Linguistics* 22. 357-388.)

#### Tagalog

- a. H<um>i-hiwa ang=lalaki ng=karne.  
 RED<AF>-cut TOP=man GEN=meat  
 'The man is cutting meat.'  
 b. Hi-hiwa-in ng=lalaki ang=karne.  
 RED-cut-PF GEN=man TOP=meat  
 'The man is cutting the meat.'

(AF construction: <um>)

(PF construction: -in)

#### Bahasa Melayu/Indonesia (Malay/Indonesian)

(AF construction: N-)

(PF construction: Ø-)

- a. Saya mem-beli rumah baru  
 I AF-buy house new  
 'I bought a new house.'  
 b. Rumah baru itu saya beli.  
 house new that I PF.buy  
 'I bought the new house.'

#### Basa Bali (Balinese)

(AF construction: N-)

(PF construction: Ø-)

- a. Tiang meli umah anyar  
 I AF.buy house new  
 'I bought a new house.'  
 b'. Umah anyar=e ento tiang beli  
 house new=DEF that I PF.buy  
 'I bought the new house.'

## Problem of the Balinese Lexicon\*

"precategorical" verbs:

A large number of verb/noun roots that cannot be used as verbs without a derivational affix; inflectional focus marking alone is not sufficient.

### LEARN/TEACH (*uruk*)

- (1) Underived root form (cannot function as a verb; **no basic valency**)
- a. \*Tiang ng-uruk basa inggris (ka anak=e cenik ento). (AF)  
I AF-learn language English (to person=DEF small that)  
Intended for: 'I am studying/teaching the English language (to the child).'
- b. \*Basa inggris uruk tiang (ka anak=e cenik ento). (PF)  
language English PF.learn I (to person=DEF small that)  
Intended for: 'I am studying/teaching the English language (to the child).'
- (2) *m(a)*-derived form (corresponding to Bahasa Indonesia *ber-*; **monovalent**)
- Tiang **m**-uruk (basa inggris).  
I MID-learn (language English)  
'I am studying (the English language).'

(\*Also true of other Indonesian languages, including Bahasa Indonesia.)<sub>5</sub>

## Problem with non-precategorials

- (1) TIE (*tegul*) **underived basic verb** form (basic valency: **bivalent**)
- a. Tiang negul jaran=ne (ka punyan kayu=ne). (AF)  
I AF.tie horse=DEF to trunk tree=DEF  
'I tied the horse (to the tree trunk).'
- b. Jaran=ne tegul tiang (ka punyan kayu=ne). (PF)  
horse=DEF PF.tie I to trunk tree=DEF  
'I tied the horse (to the tree trunk).'
- (2) *-in* derived form (**trivalent**)
- a. Tiang negul-**in** punyan kayu=ne jaran=ne. (AF)  
I AF.tie-IN trunk tree=DEF horse=DEF  
Lit. 'I tied the tree trunk (with) the horse.'
- b. Punyan kayu=ne tegul-**in** tiang jaran=ne. (PF)  
trunk tree=DEF PF.tie-IN I horse=DEF  
Lit. 'I tied the tree trunk (with) the horse.'

Here *-in* derivation increases valency.

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### (3) *-in* derived form (Bahasa Indonesia *-i*; **bivalent**)

- a. Tiang ng-uruk-**in** anak=e cenik ento (basa inggris). (AF)  
I AF-learn-IN person small that (language English)  
'I am teaching the child (the English language).'
- b. Anak=e cenik ento uruk-**in** tiang (basa inggris). (PF)  
person small that PF.learn-IN I (language English)  
'I am teaching the child (the English language).'

### (4) *-ang* derived form (Bahasa Indonesia *-kan*; **bivalent**)

- a. Tiang ng-uruk-**ang** basa inggris (ka anak=e cenik ento). (AF)  
I AF-learn-ANG language English (to person=DEF small that)  
'I am teaching the English language (to the child).'
- b. Basa inggris uruk-**ang** tiang (ka anak=e cenik ento). (PF)  
language English PF.learn-ANG I (to person=DEF small that)  
'I am teaching the English language (to the child).'

**Problem:** We cannot speak of valency decrease/increase of *ma-*, *-in*, *-ang* derivations here since the precategorials (e.g. *uruk* 'learn/teach') do not have a basic valence value.

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## Another non-precategorial verb

- (1) PUT (*ejang*) **underived basic verb** form (basic valency: **trivalent**)
- Anak=e ento ng-ejang buku=ne di meja=ne.\*  
person=DEF that AF-put book=DEF on table=DEF  
'The man put the book on the table.'
- (2) *-in* derived form (**trivalent**)
- Anak=e ento ng-ejang-**in** meja=ne (aji) buku=ne.  
person=DEF that AF-put-IN table=DEF (with) book=DEF  
Lit. 'The man put the table (with) the book.'

Here *-in* derivation does not increase valency; a case of argument realignment (w/o valency increase).

(\*Only AF forms will generally be given hereafter.)

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## Essence of *-in* (applicative) suffixation

- (1) PUT (*ejang*) **undervived basic verb** form (trivalent)
- a. Anak=e onto ng-ejang buku=ne di meja=ne.  
 person=DEF that AF-put book=DEF on table=DEF  
 'The man put the book on the table.'
- in* derived form** (trivalent)
- b. Anak=e onto ng-ejang-in meja=ne (ajji) buku=ne.  
 person=DEF that AF-put-IN table=DEF (with) book=DEF  
 Lit. 'The man put **the table** (with) the book.'
1. Argument realignment
- (2) TIE (*tegul*) **undervived basic verb** form (bivalent)
- a. Tiang negul jaran=ne.  
 I AF-tie horse=DEF  
 'I tied the horse.'
- in* derived form** (trivalent)
- b. Tiang negul-in punyan kayu=ne jaran=ne.  
 I AF-tie-IN trunk tree=DEF horse=DEF  
 Lit. 'I tied **the tree trunk** (with) the horse.'

2. Valency increase

- Align a locative argument with the Object
- 1. Realign if there is one
  - 2. Introduce one if there isn't

## Functions of *-in/-ang* suffixation

- in* suffixation:** Align a **Ground** expression with the Object (see above)
- ang* suffixation:** Align a **Figure** expression with the Object

### Fig=Causee-Theme

- a. Anak=e cenik ento menek (ka) gedebeg=e.  
 person=DEF small that AF.climb to cart=DEF  
 'The child climbed onto the cart.'
- b. Ia menek-ang anak=e cenik ento ka gedebeg=e.  
 s/he AF-CAUS person=DEF small that to cart=DEF  
 'He loaded **the child** onto the cart/ Lit. He made the child climb onto the cart.'

### Fig=Instrument

- a. Ia ng-lempag cicing=e (aji sampat).  
 s/he AF-hit dog=DEF (with bloom)  
 'S/he hit the dog (with a bloom).'
- b. Ia ng-lempag-ang sampat ka cicing=e.  
 s/he AF-hit-CAUS bloom to dog=DEF  
 'S/he hit **a bloom** against a dog.'

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## Figure and Ground in Argument Structure

Balinese valency alternations and valency classes are largely defined in terms of the alignment patterns of the Figure and Ground expressions

### GR=Object construction

- a. John loaded **the wagon** with hay.  
 b. John hit **the fence** with the stick.

### FIG=Object construction

- a. John loaded **the hay** onto the wagon.  
 b. John hit **the stick** against the fence.

**Ground:** Stationary location, Goal location (incl. human recipient), Source location (incl. human), Patient

**Figure:** Theme, Instrument, "Causee -Theme"

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## *-in/-ang* contrasted

Precategorial LEARN/TEACH (*uruk*)

- a. **GR=OBJ** alignment pattern (**bivalent**)  
 Tiang ng-uruk-in anak cenik (basa inggres).  
 I AF-learn-LOC person small (language English)  
 'I teach **children** (the English language).'
- b. **FIG=OBJ** alignment (**bivalent**)  
 Taing ng-uruk-ang basa inggres (ka anak cenik).  
 I AF-learn-CAUS language English to person small  
 'I teach **the English language** (to children).'

## -in/-ang contrasted

### Non-precategorial WRITE (*tulis*)

- a. Basic transitive valency pattern (**bivalent**)  
 Ia nullis aksara (di tembok=e) (aji pulpen).  
 s/he AF.write characters (on wall=DEF) (with pen)  
 'S/he wrote characters (on the wall with a pen).'
- b. **GR=OBJ** alignment pattern (**trivalent**)  
 Ia nullis-in tembok=e aksara (aji pulpen)  
 s/he AF.write-LOC wall=DEF characters (with pen)  
 Lit. 'S/he wrote **the wall** (with) characters (with a pen).'
- c. **FIG=OBJ** alignment pattern (**quadrivalent**)  
 Ia nullis-**ang** pulen=e aksara ka tembok=e  
 s/he AF.write-CAUS pen=DEF characters to wall=DEF  
 Lit. 'S/he caused **the pen** to write characters on the wall.'

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- Basic verb class (A)** Basic locative pattern: GR=OBJ > FIG=OBJ  
 Basic causative pattern: FIG=OBJ > GR=OBJ/OBL

### GIVE (*baang*), FILL (*isinin*)

Alternation without derivation/morphology

#### GIVE (*baang*)

- a. Basic locative pattern: **GR=OBJ** > FIG=OBJ  
 Guru=ne maang anak=e cenik ento buku=ne.  
 teacher=DEF AF.give person=DEF small that book=DEF  
 'The teacher gave **the child** the book.'

- a. Basic causative pattern: **FIG=OBJ** > GR=OBL

Guru=ne maang buku=ne ka anak=e cenik ento.  
 teacher=DEF AF.give book=DEF to person=DEF small that  
 'The teacher gave **the book** to the child.'

## Bi-trivalent verb classes

Table 1 Verb Classes and Alignment Patterns

Alignment:	<b>GR=OBJ</b> >FIG=OBL/OBJ (Locative pattern)	<b>FIG=OBJ</b> >GR=OBL (Causative pattern)
Basic verb class (A):	basic forms	basic forms
Basic verb class (B):	basic forms	- <i>ang</i> forms
Basic verb class (C):	- <i>in</i> forms	basic forms
Basic verb class (C'):	*- <i>in</i> forms	basic forms
Basic verb class (D):	basic forms - <i>in</i> forms	- <i>ang</i> forms basic forms
Precategorial class 1:	- <i>in</i> forms	- <i>ang</i> forms
Precategorial class 2:	- <i>in</i> forms	*- <i>ang</i> forms

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### Basic verb class (B)

Basic locative pattern: GR=OBJ (> FIG=OBL/OBJ)  
 -*ang* derived causative pattern: FIG=OBJ > GR=OBJ  
 (-*in* derived locative pattern: GR=OBJ>FIG=OBL/OBJ)

COVER (*kerurub*), CUT (*godoh*), TOUCH (*tunduk*), HIT/BEAT (*lempag*)

#### COVER (*kerurub*)

- a. Basic locative pattern: GR=OBJ (> FIG=OBL/OBJ)  
 Anak=e ngerurub anak=e cenik ento (aji saput).  
 person=DEF AF.cover person=DEF small that (with blanket)  
 'The man covered **the child** (with a blanket).'

- b. -*in* locative pattern: GR=OBJ > FIG=OBL/OBJ

Anak=e ento ngerurub-in anak=e cenik ento (aji) saput.  
 person=DEF that AF.cover-LOC person=DEF small that (with) blanket  
 'The man covered **the child** with a blanket.'

- c. -*ang* causative pattern: FIG=OBJ > GR=OBJ

Anak=e ento ngerurub-ang saput ka/ring anak=e cenik ento  
 person=DEF that AF.cover-CAUS blanket to/over person=DEF small that  
 Lit. 'The man covered **the blanket** to/over the child.'

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### Basic verb class (C)

Basic causative pattern: FIG=OBJ > GR=OBL/OBJ  
-in derived locative pattern: GR=OBJ > FIG=OBL/OBJ

PUT (*ejang*), SEND (*kirim*), STEAL (*maling*), ASK (*idih*), (GIVE (*baang*))

#### STEAL (*maling*)

a. Basic causative pattern: FIG=OBJ(>GR=OBL)

Tiang nge-maling buku=ne (uli guru=ne).

I AF-steal book=DEF from teacher=DEF  
'I stole **the book** from the teacher.'

b. -in derived locative pattern: GR=OBJ>FIG=OBJ

Tiang nge-maling-in guru=ne buku.

I AF-steal-LOC teacher=DEF nook  
Lit. 'I stole **the teacher** a book.'

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### Basic verb class (C')

Basic causative pattern: FIG=OBJ (> GR=OBL/OBJ)  
\*-in derived locative pattern: GR=OBJ > FIG=OBL

BRING (*aba*), CARRY (*tenteng*), GET (*baan*), TEAR (*uek*), WIPE (*sapuh*)

#### BRING (*aba*)

a. Basic causative pattern: FIG=OBJ(>GR=OBJ/OBL)

Tiang ng-aba buku=ne (ka kantor pos)

I AF-bring book=the to office post  
'I brought **the book** (to the post office).'

b. -in derived locative pattern: GR=OBJ>FIG=OBJ

\*Tiang ng-aba-in kantor pos buku=ne.

I AF-bring-LOC office post book=DEF  
Intended for: Lit. 'I brought **the post office** the book.'

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Basic verb class D (1) Basic locative pattern: GR=OBJ(>FIG=OBL)  
-ang derived causative pattern: FIG=OBJ>GR=OBJ

(2) Basic causative pattern: FIG=OBJ(>GR=OBL)  
-ang derived causative pattern: FIG=OBJ>GR=OBJ  
-in derived locative pattern: GR=OBJ>FIG=OBJ

TIE (*tegu*), GLUE (*elim*), NAIL (*pacek*), HANG (*gantung*)  
ATTACH (*temper*), SMEAR (*uap*), MOUNT (*pasan*)

#### TIE (*tegu*)

a. Basic locative pattern: GR=OBJ(>FIG=OBL)

Tiang negul jaran=e (aji tali).

I AF.tie horse=DEF with rope

'I tied **the horse** (with a rope).'

b. -ang derived causative pattern: FIG=OBJ>GR=OBL

Tiang negul-ang tali=ne ka jaran=e.

I AF.tie-CAUS rope=DEF to horse=DEF

'I tied **the rope** to the horse.'

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#### TIE (*tegu*)

a. Basic causative pattern: FIG=OBJ(>GR=OBL)

Tiang negul jaran=e (di/ka punyan kayu=ne).

I AF.tie horse=DEF in/to trunk tree=DEF

'I tied **the horse** (to the tree trunk).'

b. -ang derived causative pattern: FIG=OBJ>GR=OBL

Tiang negul-ang jaran=e ka punyan kayu=ne.

I AF.tie-CAUS horse=DEF to trunk tree=DE

'I tied **the horse** to the tree trunk.'

c. -in derived locative pattern: GR=OBJ>FIG=OBJ

Tiang negul-in punyan kayu=ne jaran=e.

I AF.tie-LOC trunk tree=DEF horse=DEF

Lit. 'I tied **the tree trunk** with the horse.'

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### Precategorial Class 1

*-in* derived locative pattern: GR=OBJ>FIG=OBJ  
*-ang* derived causative pattern: FIG=OBJ>GR=OBL

POUR (*turuŋ*), THROW (*entung*), GIVE (*enjuŋ*), SHOW (*edeng*)  
HIDE (*engkeb*), SAY/TELL (*orah*), DRESS SOMEONE (*payas*), ENTER (*celep*)

POUR (*turuŋ*)

a. *-in* derived locative pattern: GR=OBJ>FIG=OBJ  
Anak=e ento nuruh-in lumur=e yeh.  
person=DEF that AF.pour-LOC glass=DEF water  
Lit. 'The man poured the glass (with) water.'

b. *-ang* derived causative pattern: FIG=OBJ>GR=OBL  
Anak=e ento nuruh-ang yeh=e ento ka lumur=e ento  
person=DEF that AF.pour-CAUS water=DEF that to glass=DEF that  
'The man poured the water to the glass.'

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### Object symmetry

Some basic/derived doubles Objects are symmetrical while others are not.

Symmetrical double objects: GIVE (*baang*), SEND (*kirim-in*), SHOW (*edeng-in*)

Either Primary or Secondary Object can be a PF Topic

GIVE (*baang*) GR=OBJ>FIG=OBJ

a. Tiang maang anak=e cenik ento buku=ne. (AF)

I AF.give person=DEF small that book=DEF  
'I gave the child the book.'

b. Anak=e cenik ento baang tiang buku=ne. (PF w/ Primary OBJ Topic)  
child=DEF small that PF.give I book=DEF  
'I gave the child the book.'

c. Buku=ne baang tiang anak=e cenik ento. (PF w/ Secondary OBJ Topic)  
book=DEF PF.give I person=DEF small that  
'I gave the book to the child.'

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### Precategorial class 2

*-in* derived locative pattern: GR=OBJ  
*\*-ang* derived causative pattern: FIG=OBJ

HELP (*tulung*), SEE/MEET (*tepuŋ*), CALL X Y (*kauk*)

HELP (*tulung*)

*-in* derived locative pattern: GR=OBJ

a. Anak=e ento nulang-in anak=e luh ento.  
person=DEF that AF.help-LOC person=DEF female that  
'The man helped the girl.'

b. Tiang nulang-in guru=ne ngae umah  
I AF.help-LOC teacher=DEF build house  
'I help the teacher to build a house.'

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Asymmetrical Double Objects: POUR (*turuŋ-in*), HIDE (*engkeb-in*)

Only Primary Object can be a PF Topic

POUR (*turuŋ*) GR=OBJ>FIG=OBJ

a. Tiang nuruh-in lumur=e yeh.

I that AF.pour-LOC glass=DEF water  
Lit. 'I poured the glass (with) water.'

b. Lumur=e ento turuh-in tiang yeh (PF w/ Primary OBJ Topic)  
glass=DEF that PF.pour-LOC I water  
Lit. 'I poured the glass (with) water.'

c. \*Yeh=ne turuh-in-a tiang lumur=e. (PF w/ Secondary OBJ Topic)  
water=DEF pour-LOC I glass=DEF  
Intended for: Lit. 'I poured the glass (with) water.'

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## Intransitive/Transitive Alternation Patterns

### Five classes of intransitive verbs

- (1) a. **Basic bivalent intransitive**; LIKE (*demen*), etc.  
Anak=e    cenik ento    **teken**    anak=e    ento.  
person=DEF small that like    with    person=DEF that  
'The boy likes the man.'  
b. **-in** derived **bivalent transitive** (Transitivizing **w/o valency increase**)  
Anake    cenik ento    nemen-**in**    anak=e    ento.  
person=DEF small that AF.like-LOC person=DEF that  
'The boy likes the man.'
- (2) a. **Basic monovalent intransitive** w/ optional OBL; ANGRY (*pedih*), etc.  
Nadi pedih (teken Ketut).  
Nadi angry (with Ketut)  
'Nadi is angry (at Ketut).'
- b. **-in** derived **bivalent transitive** (Transitivizing **w/ valency increase**)  
Nadi medih-**in**    Ketut.  
Nadi AF.angry-LOC Ketut  
'Nadi is angry at Ketut/Nadi scolded Ketut.'

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### Precategorials: *ma*-forms fill the gap for basic intransitive forms

- (4) a. **Precategorial**: no basic valency pattern; DRESS (*payas*), etc.  
\*Anak=e    cenik ento mayas.  
person=DEF small that AF.dress  
Intended for: 'The child dressed.'
- b. ***ma*-derived monovalent intransitive**  
Anak=e    cenik ento **ma**-payas.  
person=DEF small that MID-dress  
'The child dressed.'
- c. **-in** derived **bivalent transitive**  
Tiang mayas-**in**    anak=e    cenik ento (aji baju adat).  
I    AF.dress-LOC person=DEF small that (with) traditional shirt  
'I dressed the child (with the traditional shirt).'
- d. **-ang** derived **trivalent transitive**  
Tiang mayas-**ang**    baju adapt    ka anak=e    cenik ento.  
I    AF.dress-CAUS traditional shirt to person=DEF small that  
'I put the traditional shirt on the child.' (Less common expression)

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- (3) a. **Basic monovalent intransitives** that do not take OBL; CRY (*eling*), etc.  
Tiang ng-eling (\*teken Ketut).  
I    AF-cry    with Ketut  
'I cried.'
- b. **-in** derived **bivalent transitive** (transitivizing **w/ valency increase**)  
Tiang ng-eling-**in**    Ketut. (AF)  
I    AF-cry-LOC Ketut  
'I cry over/about ketut.'

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- (5) a. **Precategorial**: no basic valency pattern; THINK ABOUT (*keneh*)

- \*Ia    ngeneh    taken tiang.  
s/he AF.think    with I  
Intended for: 's/he has love feeling for me.'
- b. ***ma*-derived bivalent intransitive**  
Ia    **ma**-keneh    taken tiang.  
s/he MID-think    with I  
'S/he has love feeling for me.'
- c. **-ang** derived **bivalent transitive**  
Ia    geneh-**ang**    tiang  
s/he AF.think-CAUS I  
'He is thinking about me.'

Again, we cannot categorically speak of the valency increasing property of *-in/-ang* derivation.

1. When there are basic intransitive verbs, they both transitivize **but with or without valency increase**—there are bivalent intransitives, e.g. LIKE (*demen*).
2. There are precategorials that do not have a basic valency value to speak of its increase or decrease (see (5) above).

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## Increasing valency of *-mal/-in/-ang* derived forms

Valency-increasing property of *-in/-ang* derivation is limited; derived forms cannot undergo further *-in/-ang* derivation

- (1) a. CUT (*godot*) undervived basic GR=OBJ(> FIG=OBL)  
 Anake ento ngodot poh (aji tiuk).  
 person that AF.cut mango (with knife)  
 'The man cut/sliced the mango (with a knife).'
- b. Derived (*godot-ang*) FIG=OBJ>GR=OBL  
 Anake ento ngodot-ang tiup=ne ka poh=e.  
 person that AF.cut-CAUS knife=DEF to mango=DEF  
 Lit. The man caused the knife to cut/slice the mango.'
- (2) a. KILL (*mati-ang*) derived causative FIG=OBJ(> FIG=OBL)  
 Anak=e ento nge-mati-ang lalipi=ne (aji tungked=e).  
 person=DEF that AF-dead-CAUS snake=DEF (with stick=DEF)  
 'The man killed the snake (with a stick).'
- b. \*Anak=e ento nge-mati-ang-ang tungked=de ka lalipi=ne.  
 person=DEF that AF-dead-CAUS-CAUS stick=DEF to snake=DEF  
 Intended for: Lit. 'The man caused the stick to kill the snake.'

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## Decreasing valency

Decreasing valency by *ma*-resultative middles is limited

- a. Undervived active  
 Tiang negul jaran=e (di punyan kayu=ne).  
 I AF.tie horse=DEF (to trunk tree=DEF)  
 'I tied the horse (to the tree trunk).'
- b. Resultative middle (decreases valency)  
 Jaran=e ma-tegul (di punyan kayu=ne).  
 horse=DEF MID-tie (to trunk tree=DEF)  
 'The horse is tied (to the tree trunk).'

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## (1) Lexical middle: WASH (*pandus*)

- a. Basic: Anak=e luh ento mandus (di telaga=ne).  
 person=DEF female that AF.wash in pool=DEF  
 'The girl washed (herself in the pool).'
- b. *-in* derived: Anak=e luh ento mandus-in telaga=ne  
 person=DEF female that AF.wash-LOC pool=DEF  
 'The girl washed (herself) in the pool.'
- c. *-ang* derived: Anak=e luh ento mandus-ang anak cenik ento.  
 person=DEF female that AF.wash-CAUS person small that  
 'The girl washed the child.'
- (2) *ma*-derived middle: WASH/CLEAN (*ma-berisih*)
- a. *ma*-derived: Anak=e luh ento ma-berisih di telaga=ne.  
 person=DEF female that MID-wash in pool=DEF  
 'The girl washed (herself) in the pool.'
- b. *-in* derived: \*Anak=e luh ento ma-berisih-in telaga=ne  
 person=DEF female that MID-wash-LOC pool=DEF  
 'The girl washed (herself) in the pool.'
- c. *-ang* derived: \*Anak=e luh ento ma-berisih-ang anak cenik ento.  
 person=DEF female that MID-wash-CAUS person small that  
 'The girl washed the child.'

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When *-in* and *-ang* derived forms are part of the bi-/trivalent alternation paradigm of Table 1, resultative middles reduce valency successfully

- (1) a. Active with *-in* derived verb with GR=OBJ  
 Anak=e ento nge-rurub-in anak=e cenik ento saput.  
 person=DEF that AF-cover-LOC person=DEF small that blanket  
 'The man covered the child with a blanket.'
- b. Resultative middle  
 Anak=e cenik ento ma-rurub saput.  
 person=DEF small that MID-cover blanket  
 'The child is covered with a blanket.'
- (2) a. Active with *-ang* derived verb with FIG=OBJ  
 Anak=e ento nge-rurub-ang saput ring anak=e cenik ento.  
 person=DEF that AF-cover-CAUS blanket over person=DEF small that  
 'The man covered the blanket over the child.'
- b. Resultative middle  
 Saput=ne ma-rurub-an ring anak-e cenik ento.  
 blanket=DEF MID-cover over person=DEF small that  
 'The blanket is covered over the child.'

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*-in/ -ang* derived verbs outside the alternation paradigm of Table 1 do not reduce valency via middle resultative *ma*-marking

- (1) a. Intransitive: Ia mules (di umah=ne anyar).  
 s/he AF.sleep in house=3POSS new  
 'He slept (in his new house).'
- b. *-in* locative transitive: Ia mules-**in** umah=ne anyar.  
 s/he AF.sleep-LOC house=3POSS new  
 'S/he slept in his new house.'
- c. Resultative middle: \*Umah=ne anyar suba **ma**-pules.  
 house=DEF new already MID-sleep  
 Intended for: 'His new house has already been slept in.'

- (2) a. Stative intransitive: Lalipi=ne mati.  
 snake=DEF dead  
 'The snake is dead.'
- b. *-ang* causative transitive: Wayan mati-**ang** lalipi=ne.  
 Wayan dead-CAUS snake=DEF  
 'Wayan killed the snake.'
- c. Resultative middle: \*Lalipi=ne suba **ma**-mati(-ang).  
 snake=DEF already MID-dead-CAUS  
 'The snake is already killed.'
- (Cf. Lalipi=ne suba **ma**-tampah 'The snake is already slaughtered'.)

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## Conclusion

1. *-in/ -ang* derivations are tightly integrated into the alternation paradigm of bi-/trivalent verbs as set out in Table 1.
2. Limits in the valency increasing/reducing property of *ma/ -in/ -ang* derivations are perhaps due to their lexical derivational nature, as opposed to  
 There are verbs derived via these processes whose meanings are non-componential; e.g. *medih-in* (angry-LOC) 'scold'.
3. The syntactic passive conversion, which reduces valency across the board.

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## Compare ungrammatical resultative middles with passives

- (1) a. *-in* locative active: Ia mules-**in** umah=ne anyar.  
 s/he AF.sleep-LOC house=3POSS new  
 'S/he slept in his new house.'
- b. Resultative middle: \*Umah=ne anyar suba **ma**-pules.  
 house=3POSS new already MID-sleep  
 Intended for: 'His/her new house has already been slept in.'
- c. Passive: Umah=ne anyar suba pules-**in-a** (teken ia)  
 house=DEF new already sleep-LOC-PASS (by s/he)  
 'His/her new house has already been slept in (by him/her).'
- (2) a. *-ang* causative active: Wayan mati-**ang** lalipi=ne.  
 Wayan dead-CAUS snake=DEF  
 'Wayan killed the snake.'
- b. Resultative middle: \*Lalipi=ne suba **ma**-mati(-ang).  
 snake=DEF already MID-dead-CAUS  
 'The snake is already killed.'
- c. Passive : Lalipi=ne suba mati-**ang-a** (teken Wayan).  
 snake=DEF already dead-CAUS-PAS (by Wayan)  
 'The snake has already been killed (by Wayan).'

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## Valency classes in Yaqui\*

Mercedes Tubino, Jesús Villalpando, & Zarina Estrada Fernández  
[mtubino@gmail.com](mailto:mtubino@gmail.com), [jesusvillalpando@gmail.com](mailto:jesusvillalpando@gmail.com), [zarinaef@gmail.com](mailto:zarinaef@gmail.com)

### 1. Introduction

#### 1.1. General characteristics of Yaqui

Family: Uto-Aztecan, Taracahitan branch

Location: Sonora (northwestern Mexico); Arizona (USA)

Agglutinating Order: SOV

Alignment: Nominative-Accusative (only obvious in pronominal system);

#### 1.1.1. Case marking

plural nouns are case-neutral

singular nouns exhibit a two-way case distinction: subject/non-subject

(1) Basic Yaqui sentences exhibiting plural and singular subjects and objects

a. *Ume* uusi-*m*(S) muuni-*m*(O) bwa'e(V) *Plural subject, plural object*

DET:PL child-PL bean- PL eat

'The children are eating beans.'<sup>1</sup>

\* We are indebted to our Yaqui consultants, Melquiades Bejipone Cruz and Crescencio Buitimea. Thank you also to our colleagues in the Max Planck Institute for their assistance in developing this work. Of course, all errors are ours.

1 Abbreviations: S = subject; O = object; V = verb; DEM = demonstrative; DET = determiner; SG = singular; PL = plural; NEG = negation; DES = desiderative; PROSP = prospective; DIR = directive; ACC = accusative; GEN = genitive; POSS = possessive; DAT = dative; REFL = reflexive; TR = transitive; INTR = intransitive; RED = reduplication; CAUS = causative; PASS = passive; APPL = applicative; INCH = inchoative suffix; NMZR = nominalizing suffix; RES = resultative; PERF = perfective aspect; PPL = past participle; COM = commitative postposition; GOAL = goal postposition; INST = instrumental postposition; LOC = locative postposition;

*Singular subject, plural object*

b. Maria- $\emptyset$ (S) uusi-*m*(O) ji'i-bwa-tua(V)

Maria-NOM child-PL thing-eat-CAUS

'Maria is feeding the children'

c. Maria- $\emptyset$ (S) uusi-*ta*(O) ji'i-bwa-tua(V) *Singular subject, singular object*

Maria-NOM child-ACC thing-eat-CAUS

'Maria is feeding the child'

A subject/non-subject contrast:

subjects are marked zero, non-subjects are all marked with the suffix *-ta*:

(2) Maria-*ta* kuuna *Compare genitive in (2) with accusative in (3c)*

Maria-GEN husband

'Maria's husband' Dedrick & Casad (1999: 130[11])

Postpositions mark obliques or other peripheral participants:

(3) Juan muuni-*m* paskola-*u* nu'upa-*k*

Juan bean-PL party-GOAL bring-PERF

'Juan brought beans to the party'

1.1.2. Pronominals

(4) Yaqui pronominal system (based on Estrada et al. 2004: 397)

	singular			plural		
	1	2	3	1	2	3
subject	inepo	empō	aapo	itepo	eme'e	bempo
object	=ne	=e	--	=te	=em	--
obliques	ne=	e=	a=	ite=	'em=	am=
possessives	neu	eu	au	itrou	emou	ameu
Reflexives/reciprocal	ino	emo	au/emo	itrom	enchim	berm
				ito	emo	emo

(5) The position of Yaqui subject and object clitics

	a. Subject clitic	b. Object clitic
Ino= <b>ne</b>	aman	esso-k
1 <sub>SG,PL</sub> =1 <sub>SG</sub> there	hide- <sub>PERF</sub>	aman <b>ne</b> =esso-k
'I hid myself'		little child there 1 <sub>SG</sub> =hide- <sub>PERF</sub>
= <b>ne</b> is Second position clitic		'The little child hid me'
		<b>ne</b> = is a verbal proclitic

1.1.3. Verbal agreement

(6) Suppletive number agreement

	a. Uu uusi (S)	aman <b>buite</b>	b. Ume uusi-m(S)	aman <b>terme</b>
DET	child	there run:SG.S	DET:PL	child-PL
		there run:PL.S		there run:PL.S
		'The child is running (over there)'		'The children are running (over there)'

1.2. Case frames and postpositions

(7) Case markers and postpositions (according to Estrada et al. (2004))

- Nominative: zero
- Accusative: *-ta*
- Genitive: *-ta*
- Dative: *-ta, -ta-u*
- Goal: *-(ta)-u, -wi*
- Commitative: *-(ta)-mak, -nuk, -mea*
- Instrumental: *-ta-mak, -ta-e, -mea*
- Locative (in, at): *-po*
- Locative (on, over): *-(e)l, -chi*

2. Coding properties in alternations

2.1. Verbal suffixes

(8) Non valency changing suffixes

- a. Desiderative suffix *-pea*  
 Maria muunim bw-as-a'a-**pea**  
 Maria beans cook-<sub>TR-DES</sub>  
 'Maria feels like cooking beans'
- b. Prospective suffix *-bae*  
 Maria muunim bw-as-a'a-**bae**  
 Maria beans cook-<sub>TR-PROSP</sub>  
 'Maria is going to cook beans'

(9) Valency changing suffixes

- a. Desiderative suffix *-i'iaa (+1)*  
**Juan** Maria-ta muunim bw-as-a'a-**i'iaa**  
 Juan Maria-<sub>ACC</sub> beans cook-<sub>TR-DES</sub>  
 'Juan wants Maria to cook beans'
- b. Directive suffix *-sae (+1)*  
**Juan** Maria-ta muunim bw-as-a'a-**sae**  
 Juan Maria-<sub>ACC</sub> beans cook-<sub>TR-DIR</sub>  
 'Juan asked Maria to cook beans'

Other valency changing suffixes:

(10) Valency changing suffixes

- a. Direct causative *-tua* (+1)  
*Juan* Maria-ta mumim bwaa-a'a-tua Adds new agent, *Juan*  
*Juan* Maria-ACC beans cook-TR-CAUS(d)  
 'Juan made Maria cook beans'
- b. Indirect causative *-tebo* (+1, -1)  
*Juan* mumim bwaa-a'a-tebo Adds new agent, *Juan*  
*Juan* beans cook-TR-CAUS(i) Suppresses embedded agent  
 'Juan had beans cooked'
- c. Passive *-wa* (-1)  
 Nee ringo-nok-ta majja-wa Suppresses agent  
 1SG American-language-ACC teach-PASS  
 'I am being taught English'
- d. Applicative *-ria* (+1)  
 Ne librom nim mala-ta esso-ria-k Adds benefactive  
 1SG book 1SG:POSS mother-ACC hide-APPL-PERF or malefactive  
 'I hid the book from my mother'
- e. Resultative *-ri* (-1)  
 Kubaji po-pon-ri Suppresses agent  
 Drum RED-POUND-RES  
 'The drum is pounded'

2.2. Transitivity markers

	TRANSITIVE	TRANSITIVE
	jam-te	jam-ta
	om-te	om-ta
		crack (e.g. a glass)
		be angry (at somebody, if transitive)

(11) Valency change after object incorporation

a. TRANSITIVE	b. INTRANSITIVE
kota-m chuk-ta!	kota-chuk-te!
wood-PL cut-TR	wood-cut-INTR
'Cut wood!'	'Cut wood! (lit. 'do some wood-cutting!')

Other ways to mark transitivity: Stem-internal changes and suppletion

- (12) a. INTRANSITIVE      b. TRANSITIVE  
*uba* 'have a bath'      *ubba* 'give a bath'  
 U ili uusi *uba*-k      Aurelia uka ili uusi-ta *ubba*-k  
 DET little child bathe:INTR-PERF      Aurelia DET:ACC little child-ACC bathe:TR-PERF  
 'The child took a bath'      'Aurelia gave the child a bath'

Guerrero 2004: 24[22a,b]

2.3. Uncoded alternations

(13) Labile alternation

a. CAUSATIVE-INCHOATIVE ALTERNATION

(Inepo) ume yaave-m mesa-po yeu machia-k

1SG DET:PL key-PL table-LOC out appear-PERF

'I made the keys appear on the table, cf. the keys appeared on the table'

b. ADDING AN OBLIQUE

- i. Ne ta-tase-k      ii. Juan ne-t      ta-tase-k  
 1SG RED-COUGH-PERF      Juan 1SG-LOC RED-COUGH-PERF  
 'I coughed'      'Juan coughed on me'

2.3. Syntactic mechanisms: reflexivization

(14) REFLEXIVES AND RECIPROCALLS

- a. *a'ana* 'dress'  
 u jamut uusi-ta      a'ana  
 DET woman child-ACC dress      3SG REFL dress  
 'The woman is dressing the child'
- b. *ibakta* 'hug'  
 Juan Maria-ta      ibakta-k  
 Juan Maria-ACC hug-PERF  
 'Juan is hugging Maria'

Note that the verb is invariably coded transitive (e.g., -*ta*)

3. Argument alternations<sup>2</sup>

3.1. The causative-inchoative alternation

- (15) EQUIPOLENT ALTERNATION: *beeta* / *beete* 'burn'<sup>3</sup>  
 a. CAUSATIVE -(*l*)*a*  
 Juan kari-ta      bee-*ta*  
 Juan house-ACC burn-TR  
 'Juan is burning the house'
- b. INCHOATIVE -(*l*)*e*  
 U kari      bee-*te*  
 DET house burn-INTR  
 'The house is burning'

(16) SUPPLETIVE ALTERNATION: *me'a* 'kill' / *muuke* 'die'

- a. CAUSATIVE *me'a* 'kill(SG.O)'  
 Juan chu'u-ta      *me'a*-k  
 Juan dog-ACC kill-PERF  
 'Juan killed the dog'
- b. INCHOATIVE *muuke* 'die(SG.S)'  
 U chu'u      *muuke*-k  
 DET dog die-PERF  
 'The dog died'

(17) LABILE ALTERNATION: *biika* 'spoil'<sup>4</sup>

- a. CAUSATIVE *biika* 'spoil'  
 U tataria ume      kauwa-m biika-k  
 DET heat DET:PL milk-PL spoil-PERF  
 'The heat spoiled the milk'
- b. INCHOATIVE *biika* 'spoil'  
 Ume      kauwa-m biika-k  
 DET:PL milk-PL spoil-PERF  
 'The milk got spoiled'

Alvarez González (2007:11[6])

<sup>2</sup> Based on Levin (1993).

<sup>3</sup> Other verbs participating in the equipotent causative-inchoative alternation in Yaku are *ro'akka-ro'akke* 'roll', *gomita-gomite* 'frighten', *kotta-kotte* 'break', *jamta-jamte* 'shutter', *chukka-chukke* 'cut', *siuta-siute* 'tear', *ropta-ropte* 'sink', and many more. The coding categories included here are based on Haspelmath's (1993) classification.

<sup>4</sup> Other verbs participating in this alternation are *machia* 'appear', *choowe* 'wilt', and *yoore* 'heal' (see Alvarez González (2007) for relevant examples).

(18) ANTICAUSATIVIZATION: *eta* 'close'

- a. hoán puéta-ta éta-k  
 Juan door-ACC close-PERF  
 'Juan closed the door'
- b. hu'u puéta **emó** éta-k  
 DET door REFL close-PERF  
 'The door closed' (lit. closed itself)

Estrada Fernández (2009: 118[390,391])

(19) CAUSATIVIZATION: *soso* 'get pricked with thorns (INTR)' / *soso-tua* 'prick (TR.)'

- a. INTRANSITIVE  
 Maria *soso*-k  
 Maria prick-PERF  
 'Maria got pricked with thorns'
- b. CAUSATIVIZED  
 Juan Maria-ta *soso-tua*-k  
 Juan Maria-ACC prick-CAUS-PERF  
 'Juan pricked Maria'

Álvarez González (2007:10)

(20) INTERESTING CROSSLINGUISTIC CONTRASTS

a. Inchoative variant of *chukra-chukte* 'cut'

- U taji **chuk-te**-k  
 DET light cut-INTR-PERF  
 'The electricity went off'
- b. See (20) above.

3.2. *The middle transformation*

(21) THE MIDDLE TRANSFORMATION

- via -tu*
- a. TRANSITIVE  
 ne pelikulam bit-bae  
 1SG movie see-PROSP  
 'I'm going to see a movie'
- b. MIDDLE  
 u kawi kaa tuisi bit-**tu**  
 DET mountain NEG well see-INCH  
 'The mountain isn't easy to see (lit. doesn't see easily)'

(22) ALTERNATIVE WAYS TO EXPRESS THE MIDDLE TRANSFORMATION

- a. EQUIPOLENT  
 ime kaba-m kaa tuisi jam-jam-**le**  
 DEM/PL egg-PL NEG well RED-CTACK-INTR  
 'These eggs don't crack well'

b. REFLEXIVIZATION/ANTICAUSATIVIZATION

- i pueta kaa tuisi **au** etapo  
 DEM door NEG well 3SG:REFL open  
 'This door doesn't open easily'

3.3. *The reflexive deletion*

Reflexive pronouns are typically obligatory:

(23) *a'ana* 'dress'

- a. TRANSITIVE  
 u jamut uusi-ta a'ana  
 DET woman child-ACC dress  
 'The woman is dressing the child'
- b. INTRANSITIVE  
 aapo **emo** a'ana  
 3SG REFL dress  
 'He is getting dressed (lit. dressing himself)'

A few inherently reflexive verb forms express their transitive form either *via* causativization or *via* a suppletive form:

(24) SUPPLETION: *euse* / *esso* 'hide'

- a. TRANSITIVE: *esso*  
 Maria librom **esso**-k  
 Maria book hide(TR)-PERF  
 'Maria hid the book'
- b. INTRANSITIVE: *euse*  
 Maria **euse**-k  
 Maria hide(INTR)-PERF  
 'Maria hid (e.g., herself)'

(25) CAUSATIVIZATION: *jinte* 'cover self'

- a. INTRANSITIVE
- u jamut jin-te-k  
 DET woman COVER-INTR-PERF  
 'The woman covered herself'
- b. CAUSATIVIZED
- ili uusi-ta jin-tua  
 little child-ACC COVER-CAUS  
 'Cover the child!'

3.4. *The reciprocal transformation*

All reciprocals involve a reflexive pronoun, even 'natural' reciprocals such as 'kiss', 'hug', or 'meet'.

(26) *ibakta* 'hug'

- Juan into Maria **emo** ibakta  
 Juan and Maria REFL hug  
 'Juan and Maria are hugging (each other)'

3.5. *The dative alternation*

Verbs lexically subcategorize either double-accusative frames or accusative-goal frames:

(27) DOUBLE ACCUSATIVE SUBCATEGORIZATION FRAME VERBS: *maka*, *miika* 'give'

- a. *libro-m=ne Maria-ta* maka-k  
 book-PL=1SG Maria-ACC give-PERF  
 'I gave the book to Maria'
- b. \*ne libro-m *Maria-ta-u* miika-k  
 1SG book-PL Maria-ACC-GOAL give(as present)-PERF  
 'I gave the book to Maria'

(28) ACCUSATIVE-GOAL SUBCATEGORIZATION FRAME VERBS: *etejo* 'tell'

- u ili uusi jamut *etejo-ta* ne-u etejo-k  
 DET little child woman story-ACC 1SG-GOAL tell-PERF  
 'The little child told me a story (lit. told a story to me)'

(29) *bit-tua* 'see-cause': switch in subcategorization frame, change in meaning

a. 'show': DOUBLE-ACCUSATIVE SUBCATEGORIZATION FRAME

- Maria *dibujo-m* *Juan-ta* bit-tua-k  
 Maria drawing-PL Juan-ACC see-CAUS-PERF  
 'Maria showed drawings to Juan'

b. 'send': ACCUSATIVE-GOAL SUBCATEGORIZATION FRAME

- Maria-ta-u=ne* libro-m bit-tua-k  
 Maria-ACC-GOAL=1SG book-PL see-CAUS-PERF  
 'I sent Maria a book'

3.6. *The benefactive alternation*

(30) BENEFACTIVE INTRODUCED BY APPLICATIVE *-ria*

- Juan kari-ta **ne=ya-ria-k**  
 Juan house-ACC 1SG=make-APPL-PERF  
 'Juan made me a house'

(31) MALEFACTIVE INTRODUCED BY APPLICATIVE *-ria*

- Juan **Maria-ta** tomi-ta **etbwa-ria-k**  
 Juan Maria-ACC money-ACC steal-APPL-PERF  
 'Juan stole money from Maria'

(32) BENEFACTIVE INTRODUCED BY GOAL ARGUMENT

- Maria bwika-m **ne-u** bwika  
 Maria sing-NMZR 1SG-GOAL sing  
 'Maria is singing a song for me'

(33) BENEFACTIVE ALTERNATION: *-ria* vs. *betchi'ibo*

- a. POSTPOSITION *betchi'ibo* 'for'  
 Juan **Maria-ta-betchi'ibo** kikte-k stop-PERF  
 Juan Maria-ACC stop-APPL-PERF  
 'Juan stopped for Maria'
- b. APPLICATIVE *-ria*  
 Juan **Maria-ta** kikte-**ria-k**  
 Juan Maria-ACC stop-APPL-PERF  
 'Juan stopped for Maria'

3.7. *The locative alternation*

In Yaqui the alternation involved by 'load'-type verbs is conveyed lexically, that is, by the use of different verbs that encode different meanings.

- (34) a. *tapunia* 'fill'  
 karo-ta=ne maleeta-m-mea tapunia  
 car-ACC=1SG suitcase-PL-COM fill  
 'I am loading the car with suitcases'  
 b. *puakta* 'load'  
 karo-po maleeta-m puakta  
 car-LOC suitcase-PL load  
 'I am loading suitcases in the car'

3.8. *The comitative alternation*

- (35) *chona* 'knock'  
 a. Juan mesa-ta cho-chona-k  
 Juan table-ACC RED-knock-PERF  
 'Juan knocked the table'  
 b. Juan mesa-po *jita* cho-chona-k  
 Juan table-LOC thing RED-knock-PERF  
 'Juan knocked on the table'

(36) *tasta*/taste 'hit'

- a. Juan *mesa-ta* tas-ta-k  
 Juan table-ACC hit-TR-PERF  
 'Juan hit the table'  
 b. Juan *mesa-ta-t* tas-te-k  
 Juan table-ACC-AT hit-INTR-PERF  
 'Juan hit the table'

3.9. *The 'search' alternation*

- 1) *Via* oblique + indefinite object pronoun

- (37) *jaiwa* 'look for'  
 a. Ume yoemem *ili uusi-ta* jaiwa  
 DET:PL men little child-ACC search  
 'The men are looking for the child'  
 b. Ume yoeme-m siime *kari-po jita* jaiwa-k  
 DET:PL man-PL all house-LOC thing search-PERF  
 'The men searched the entire house'

- 2) *Via* suppletive verb

- (38) *mojakte* 'search'  
 ume yoeme-m kari-po *mojakte*-k  
 DET:PL man-PL house-LOC search-PERF  
 'The men searched the house'

3.10. *The object deletion alternation*

- 1) Object deletion proper

- (39) Juan kaa bicha  
 Juan NEG see  
 'Juan can't see'

- 2) Semantic object deletion, syntactic indefinite object

- (40) u chu'u yee juk-jukta  
 DET dog people RED-smell  
 'The dog is sniffing around'

- 3) Indefinite object incorporation

- (41) a. Juan mansana-ta bwa'e  
 Juan apple-ACC eat  
 'Juan is eating an apple'  
 b. Juan *jii-bwa*  
 Juan thing-eat  
 'Juan is eating'  
 c. \*Juan bwa'e  
 Juan eat  
 'Intended: Juan is eating'

3.11. *The cognate object alternation*

- (42) a. Maria *bwika-m* bwika Compare:  
 Maria sing-NNZR sing  
 'Maria is singing a song'  
 b. Maria bwika  
 Maria sing  
 'Maria is singing'

3.12. *The preposition dropping alternation*

- (43) a. Ba'am ne pichel-po *kom* to'a  
 water 1SG pitchel-LOC down pour  
 'I'm pouring water in the jar'  
 b. ba'am soto'i-po to'a  
 water pot-LOC pour  
 'Pour the water in the pot!'

Not always possible:

- (44) a. i pichel kaa tuisi jita *yeu* to-to'a  
 DEM pitchel NEG well thing out RED-pour  
 'This jar doesn't pour well'  
 b. \*i pichel kaa tuisi jita to-to'a  
 DEM pitchel NEG well thing RED-pour  
 'This jar doesn't pour well'

3.13. The instrumental subject transformation

- (45) a. uka mesa-ta=ne **tajo'ori**-mea patta  
 DET:ACC table-ACC=1SG sheet-COM cover  
 'I'm covering the table with a sheet'  
 b. u **tajo'ori** mesa-ta patta-la  
 DET sheet table-ACC cover-RES  
 'The sheet is covering the table'

4. Other alternations in Yaqui

4.1. Possessor raising/adversative interpretation

- (46) a. U chu'u **muuk-e-k**  
 DET dog die(SG.S)-INTR-PERF  
 'The dog died'  
 b. Mercedes chu'u-ta muuch-a-k  
 Mercedes dog-ACC die-TR-PERF  
 'Mercedes's dog died'

4.2. Psychological stimulus object

- (47) a. Peo **Juan-ta-mak** o'-om-te  
 Peo Juan-ACC-COM RED-angry-INTR  
 'Peo is angry at Juan'  
 b. Peo **Juan-ta** o'-om-ta  
 Peo Juan-ACC RED-angry-TR  
 'Peo is angry at Juan'

Other verbs like this are *majae* 'fear', *aache/atbwa* 'laugh'.

4.3. The 'yeeve' alternation

- (48) a. Juan yeew-e  
 Juan play-INTR  
 'Juan is playing'  
 b. Juan **pelootam-po** yeew-e  
 Juan ball-L-LOC play-INTR  
 'Juan is playing soccer'  
 c. Juan **karta-m** yeew-a  
 Juan card-PL play-TR  
 'Juan is playing cards'

4.4. Object incorporation

- (49) a. TRANSITIVE VERB FORM  
 kota-m **chuk-ta**  
 wood-PL cut-TR  
 'chop wood!'  
 b. INTRANSITIVE VERB FORM  
 kota-**chuk-te**  
 wood-cut-INTR  
 'chop wood!'

Not fully productive:

- (50) a. TRANSITIVE FORM  
 kuchu-ta beak-ta  
 fish-ACC slice-TR  
 'Slice the fish'  
 b. INTRANSITIVE FORM  
 \*kuchu-beak-te  
 fish-slice-INTR  
 'Slice the fish'

4.5. Resultative -ri

Quite productive.

- (51) a. Maria mansana-ta bwa'a-ka  
 Maria apple-ACC eat-PPL  
 'Maria has eaten the apple'  
 b. U mansana bwa'a-**ri**  
 DET apple eat-RES  
 'The apple is gone (eaten)'

4.6. Passive suffix -wa

Fully productive:

- (52) a. TRANSITIVE VERB ROOT  
 U mansana bwa'a-wa-k  
 DET apple eat-PASS-PERF  
 'The apple has been eaten'  
 b. INTRANSITIVE VERB ROOT  
 in kantina-po kia si ji-ji-bwa-wa  
 here cantina-L-LOC good very RED-thing-eat-PASS  
 'This cantina serves very good food  
 (e.g., one eats very well in this cantina)'

5. Conclusions

Valency alternations in Yaqui:

- a) fully productive: verbal suffixes (e.g., -wa, -tua)  
 b) quite productive: verbal suffixes (e.g., -ria, -ri)  
 c) semi-productive: verbal suffixes (e.g., middle -tu, noun incorporation, reflexivization, caus-inch, etc.)  
 d) rather idiosyncratic: preposition dropping, 'search' alternation  
 Morphological alternations  
 Equipolent (adding -te/-ta) is very common. However, all morphological alternations appear to be lexically determined (they depend on the verb).

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## Valency Classes in Sliammon Salish

Honoré Watanabe

(Research Institute for Languages and Cultures of Asia and Africa  
Tokyo University of Foreign Studies)

Conference on Valency Classes in the World's Languages

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### 1. Introduction<sup>1</sup>

This paper examines the valency alternation patterns and the verb classes that emerge through the patterns in Sliammon Salish (hereafter Sliammon).

Sliammon is a Coast Salishan language, which is spoken in the province of British Columbia, Canada, and on the Northwest Coast of North America. It is now spoken only by a handful of people as their first language, and hence severely endangered.

Previous works on the language is fairly limited. The most extensive descriptive grammar is Watanabe (2003). There is no dictionary and no published collection of texts (aside from a couple contained in Watanabe *ibid.*). The data for the present paper have been all collected by the author.

There are some characteristics of Sliammon morphosyntax that sets it apart from languages that use overt case markers (on NPs) to indicate valency alternations. Sliammon is a so-called head-marking and polysynthetic language, in which a root can undergo reduplicative processes and affixations to comprise a rather complex verb. The grammatical processes thus applied indicate different grammatical functions including valency. Noun Phrases, on the other hand, are not obligatory constituents in a clause. Consequently, valency and valency alternation are basically all coded on the verb, and there is no “uncoded” alternation. In the case of Sliammon, “valency alternation” of a verb is mostly synonymous with “permissible valency marking suffixes with a (verb) root”.

This paper is organized as follows. In Section 2, I provide the reader with background information on Sliammon morphosyntax, focusing on the aspects that are relevant to valency. Section 3 clarifies what is meant by “valency alternation” in Sliammon. Section 4 describes the valency alternations and the verb classes that that emerge through the possible alternations of each verb. Section 5 gives final remarks.

<sup>1</sup> All the Sliammon data in the present paper are from my own research. My deepest gratitude goes to the Sliammon community and to my language consultants: the late Mrs. Mary George, the late Mrs. Agnes McGee, the late Mrs. Annie Dominick, Mrs. Elsie Paul, and Mrs. Marion Harry. Needless to say, I assume full responsibility of my analyses and any errors in the data. My research on Sliammon has been funded by various agencies, most recently by the Japanese Ministry of Education, Culture, Sports, Science and Technology (2007-2010; grant number 19320062; 2010-2011 grant number 22520414, the latter awarded to Fumiko Sasana) and also by funding awarded to ILCOA, Tokyo University of Foreign Studies (2008-2011; “Linguistic Dynamics Science Project”).

Honoré Watanabe

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## 2. Basics of morphosyntax of Sliammon Salish

### 2.1. The Internal Structure of Verbs

The following is a simplified schema of a verbal predicate:

- (1)  $4[CLT=3]_2[RDPL-1][\sqrt{ROOT}]_1-[\text{RDPL-LS-APPL-TR/INTR}]_2-\text{OBL-SBJ}_3=\text{SBJ}=\text{CLT}]_4$

First, all core participants are coded on the predicate. Overt NPs are not obligatory constituents in a clause. This means that the valency of the predicate and valency alternations can be reflected on how the NPs appear, but they are not manifested through NPs.

The participants coded on the verb is at most two. That is, there is no verb form that can be morphologically coded for three or more arguments. Semantically trivalent verbs like ‘give’ (‘A gives X to Y’) are treated morphologically as bivalent verbs.

### 2.2. Noun Phrases

Third person arguments can be overtly expressed by noun phrases. In their unmarked position, they follow the predicate. The Noun Phrases occur in two cases: Direct and Oblique. Oblique NPs can be further classified into two different types.

#### 2.2.1. Direct vs. Oblique cases

There are only two cases in which the NPs appear: **Direct** and **Oblique**. Formally, Direct arguments are unmarked, whereas Oblique arguments are preceded by the clitic *ʔə* ‘Oblique (OBL)’. Direct NPs are coreferential with the subject of intransitive predicates (S) and the object of transitive predicates (O). Oblique arguments express all others.

Direct NPs

- (2)  $q^{\prime}aq^{\prime}a = \emptyset$                        $tə = \check{c}uy^{\prime}$   
hungry =3INDC.SBJ                      DET= child  
‘The child is hungry.’

- (3)  $tuy^{\prime}ap-t-\emptyset-as$                        $tə = saftx^w$   
follow-CTR-3OBL-3ERG                      DET= woman  
‘He followed the woman.’

Oblique NPs

- (4)  $ya^{\prime}p^{\prime}-ax^w-\emptyset-as$                        $ʔə = tə = \check{x}aj^{\prime}ays$   
break-NTR-3OBL-3ERG                      OBL= DET= rock  
‘He broke the window with the stone.’

- (5)  $hu-h-ut = \check{c}$                                $ʔə = k^w = tisk^wat$   
go-EPEN-PAST=ISG.INDC.SBJ                      OBL= DET= place.name                      yesterday  
‘I went to Powell River yesterday.’

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- (6) q<sup>w</sup>əl = Ø = k<sup>w</sup>a = ssm tās reach      ?ə = k<sup>w</sup> = čalas k<sup>w</sup>əyayitən  
 come = 3INDC.SBJ = QUIT = FUT reach      OBL = DET = three afternoon  
 'It will get here at three o'clock today.'

### 2.2.2. "Oblique Objects"

Oblique arguments can be further divided into "Oblique Objects" and "Oblique Adjuncts". Oblique Objects are the logical patient of "Active-intransitive", applicative constructions (derived ditransitive), and lexically ditransitive verbs (like 'give'). Oblique Adjuncts are all others, mostly adverbial phrases. Their formal differences are manifested when they are targeted for relativization.

- (7) həy-ʔəm = č      ?ə = k<sup>w</sup> = k<sup>w</sup>ax<sup>w</sup>a  
 make-A.INTR = ISG.INDC.SBJ      OBL = DET = box  
 'I will make a box.'
- (8) həy-ʔəm-θi = ʃəm      ?ə = k<sup>w</sup> = k<sup>w</sup>ax<sup>w</sup>a  
 make-IND-CTR+2SG.OBJ = ISG.INDC.SBJ+ FUT      OBL = DET = box  
 'I will make a box for you.'
- (9) xəna-θi = ʃəm      ?ə = k<sup>w</sup> = janx<sup>w</sup>  
 give-CTR+2SG.OBJ = ISG.INDC.SBJ+ FUT      OBL = DET = fish  
 'I will give you a fish.'

### Relativization of Oblique Objects

- (10) ?əy-sx<sup>w</sup>-mut = č      [tə = pəčū      [həy-ʔəm-θ-ʔu-s]RC]NP  
 good-CAU-very = ISG.INDC.SBJ      DET = basket      make-IND-CTR + ISG.OBJ-PAST-3POSS  
 'I like the basket she made for me.'
- (11) ?əy-sx<sup>w</sup>-mut = č      [šə = [xəna-θ-ʔuw-ap]RC]NP  
 good-CAU-very = ISG.INDC.SBJ      DET = give-CTR + ISG.OBJ-PAST-2PL.POSS  
 'I really like the one you (pl.) gave me.'
- Relativization of Oblique Adjuncts
- (12) ?əy-sx<sup>w</sup>-mut-as      [šə = ʔayaʔ      [ʔəx<sup>w</sup> = θu-ʔu-s]RC]NP  
 good-CAU-very-3ERG      DET = house      NOM = go-PAST-3POSS  
 'He likes the house to which he went.'
- (13) təx<sup>w</sup>-n[i]x<sup>w</sup> = č      [k<sup>w</sup>ə = [x<sup>w</sup> = θu-ʔuw-ap]RC]NP  
 find.out-NTR[STV] = ISG.INDC.SBJ      DET = NOM = go-PAST-2PL.POSS  
 'I know where you (pl.) went.'

### 2.3. Valency markers

Valency is coded on verb by various valency marking suffixes or by combinations of such suffixes, or by the explicit lack of such suffixes.

### 2.3.1. Unsuffixd (Bare root)

"Unsuffixd" refers to forms that are not suffixd with any one of the valency markers. It is equivalent to "bare root". Only about a half of the roots thus far identified can appear without any morphological operations, i.e. they are free, not bound, forms. Unsuffixd verbs are of two types: agentive and non-agentive. Only about twenty Unsuffixd forms are agentive.

#### Agentive Unsuffixd verbs:

- ?iʔəy 'barbecue deer', k<sup>w</sup>um 'go [in the direction away from beach]' ?iʔən 'eat', k<sup>w</sup>ət  
 'go upstream', ?utq<sup>w</sup>u 'dig clams', tuk<sup>w</sup> 'fly', ?utftx<sup>w</sup> 'enter', λəq 'go outside', ?uwut 'embark',  
 niʃi 'go thither' han 'cheer', qət<sup>w</sup> 'gather' hu / θu<sup>2</sup> 'go', q<sup>w</sup>ay 'talk', huʃa 'pack up [to go,  
 leave]', q<sup>w</sup>ət / 'come', ʃəλ 'run', q<sup>w</sup>it<sup>2</sup> 'get water' k<sup>w</sup>utma 'borrow (s.t.)', tuʃap, 'follow (s.o.,  
 s.t.)'

The subject of Agentive Unsuffixd verbs are the agent of the act denoted by the root.

- (14) ?iʔən = ʃəm  
 eat = ISG.INDC.SBJ+ FUT  
 'I will eat.'
- (15) k<sup>w</sup>utma = šim      ?ə = šə = θ = siksik  
 borrow = 1PL.INDC.SBJ+ FUT      OBL = DET = 2SG.POSS = wheelbarrow  
 'We will borrow your wheelbarrow.'
- (16) səp<sup>2</sup> = čən  
 club = ISG.INDC.SBJ  
 'I got clubbed.'
- (17) səp<sup>2</sup> = Ø      ?ə = tə = xəpəy<sup>2</sup>  
 club = 3INDC.SBJ      OBL = DET = stick  
 'He got hit by a stick.'

### 2.3.2. Intransitive markers

The Active-intransitive suffix forms agentive intransitive verbs; it forms monovalent verbs whose subject is the agent of the act denoted by the root.

<sup>2</sup> The roots /tu and θu appear to be basically interchangeable with no discernible difference in the meaning.

- (18)  $\theta\alpha\chi^w\text{-}\dot{\gamma}\alpha m = \emptyset$      $t\alpha = \text{tumiš}$   
 stab-A.INTR=3INDC.SBJ    DET= man  
 ‘The man stabbed (s.t.).’ (\*S.o. stabbed the man.’ / \*\*‘The man got stabbed.’)

The logical patient can be expressed by an Oblique NP.

- (19)  $t^{\theta}\alpha\chi^w\text{-}\dot{\gamma}\alpha m = \dot{\epsilon}\chi^w$      $\dot{\gamma}\alpha = t\alpha = \dot{\gamma}\alpha n\chi^w$   
 wash-A.INTR=2SG.INDC.SBJ    OBL= DET= fish  
 ‘Wash (Clean) the fish!’

The **Middle** suffix *-l/m* forms verbs that express events and states in which no energy or immediate effect is exerted on another entity: if there is an entity that is affected in some manner, that would be the subject itself.

- (20)  $\dot{\chi}^w\dot{\gamma}i\text{-}\alpha m = \beta^{\theta}\alpha m$   
 dive-MDL=1SG.INDC.SBJ+FUT  
 ‘I will dive.’

- (21)  $k^w\text{it}^{\theta}\text{-im}$      $t\alpha = \text{mimaw}^w$   
 jump-MDL    DET= cat  
 ‘The cat jumped.’

The Middle suffix attaches to roots which refer to relative positions, such as ‘outside’, ‘behind’, and ‘top’, and forms stems which refer to that location (or stems whose subject is at the location). Such stems can be referred to as “Locational Middleles” (indicated in the Appendix as ‘loc’ in the Middle column). Note that the final *m* of the Middle suffix is always glottalized in Locational Middle stems.

	related forms
<u>Locational Middle</u>	
$niš\text{-}\alpha m$	‘(be on) this side’
$\dot{s}\alpha t\text{-}\alpha m$	‘up above; the top shelf; the upper bed of a bunk bed’
$\theta a h\text{-}\alpha m$	‘(be on) the other side’
$\dot{\gamma}\alpha s\dot{\lambda}^w\text{-}\alpha q\text{-}\alpha m$	‘be outside’
$g\alpha\dot{s}i\text{-}\alpha m$	‘(be) far behind, (be) behind’
$hiw\text{-}\alpha m$	‘before, (be) in front (?)’
	$niš$ $\dot{s}\alpha t\dot{\gamma}^{\beta}$ $\theta u$ $\dot{\gamma}\alpha s\dot{\lambda}^w q$ $g\alpha\dot{s}i\text{-}i\dot{\epsilon}m$ $hiw\text{-}\alpha t$
	‘be here, exist’    ‘high, up; sky’    ‘go’    ‘outside’    ‘be right behind’ (- <i>i\dot{\epsilon}m</i> ‘back’)    ‘first child’ (- <i>\alpha t</i> ‘child’)

With some Non-agentive Unaffixed verbs, the Middle suffix attains the meaning ‘susceptible to ... easy to ...’ (indicated as ‘easy to’ in the Appendix):

<sup>3</sup> The loss of *?* in the related forms regularly occurs, but it needs further investigation as regards its precise conditions.

Middle stems with susceptible meanings

Middle	Unaffixed form
$q\alpha\chi^w\text{-}um$	$q\alpha\chi^w$ ‘bum’
$\dot{\chi}a\dot{\gamma}^w\text{-}p\text{-}\alpha m$ <sup>4</sup>	$\dot{\chi}\alpha\dot{\gamma}p$ ‘get scared’
$\dot{\epsilon}^w\text{-}\alpha p\chi\text{-}\alpha m$	$\dot{\epsilon}^w\text{-}\alpha p\chi$ ‘be dirty’
$k^w\text{-}\alpha\chi^w\text{-}um$	$k^w\text{-}\alpha\chi^w$ ‘catch fire’
$\lambda\alpha p\chi^w\text{-}um$	$\lambda\alpha p\chi^w$ ‘break’
$p^w\text{-}\alpha s\chi^w\text{-}um$	$p^w\text{-}\alpha s\chi^w$ ‘burst’
$t\alpha q^w\text{-}um$	$t\alpha q^w$ ‘bounce’

### 2.3.3. Transitive markers

There are four suffixes that mark the verb form as bivalent transitive: *-l* ‘Control transitive’ (CTR), *-rig* ‘Noncontrol transitive’ (NTR), *-sfg* ‘Causative’ (CAU), and *-l/š*. (The last one, *-l/š*, attaches to a limited number of roots, mostly in complementary distribution with the CTR *-l*.) Here, I briefly describe the contrast between ‘Control’ and ‘Noncontrol’ transitives, and then the ‘Causative’.

#### 2.3.3.1. ‘Control’ vs. ‘Noncontrol’ transitives

- (22a)  $t^{\theta}\text{ut}^{\theta}\text{-}\eta\text{-}\emptyset\text{-}\alpha s$   
 shoot-LV-CTR-3OBJ-3ERG  
 ‘He shot at it.’

- (22b)  $t^{\theta}\text{ut}^{\theta}\text{-}\alpha\chi^w\text{-}\emptyset\text{-}\alpha s$   
 shoot-NTR-3OBJ-3ERG  
 ‘He accidentally shot it. / He finally managed to shoot it.’

It is important to point out that this opposition cannot be explained as a contrast between intentional and unintentional acts. In fact, the two possible readings of (22b) encompass the two opposite sides of ‘intentionality’: ‘accidentally...’ suggests that the act was carried out unintentionally whereas ‘finally managed to...’ suggests that it was quite strongly intentional (see Thompson 1985). It is also important to note that (22b) implies that the end result was actualized, that is, whatever was shot at was actually shot, while there is no such implication in (22a) (and in fact may imply failed attempts). In Watanabe (2003: 204-213), I argued that the primary contrast between these two transitives are aspectual, rather than the notion of ‘control’; the Noncontrol transitive denotes the action actualized and that (usually) there is a result of the action, whereas the Control transitive depicts the attempt at the action without implying whether or not the action had a result.

<sup>4</sup> I do not have an explanation for the glottalization on the root resonant and the change of the vowel from the unaffixed form.

### 2.3.3.2. Causative

The Causative *-sg* transitivizes the stem and adds a new agent argument. Causativized stems generally have the meaning ‘cause to act / cause to be’ or ‘let someone act / let someone (something) be’; that is, the function of the Causative transitivizer covers both causation and permission.

Causative	Unsuffixed form
<i>ʔiħən-sx<sup>w</sup></i>	<i>ʔiħən</i> ‘eat’ (Intr.)
<i>ʔiħtu-sx<sup>w</sup></i>	<i>ʔiħtu<sup>w</sup></i> ‘enter’
<i>ʔiowit-sx<sup>w</sup></i>	<i>ʔiowit</i> ‘embark’

### 2.3.4. Extended transitive (applicatives)

There are two productive applicative suffixes in Sliammon: the Indirective *-ʔəm* (*-aʔəm*) and the Relational *-mi*.

The Indirective suffix (IND) *-ʔəm* followed immediately by the Control or the Noncontrol transitivizer creates stems that imply an actor and two goals. Since the maximum number of participants that can be encoded in a predicate is two, only the actor and one of the two goals can be marked overtly; the second goal must be expressed, if expressed at all, in an oblique NP. The participant encoded in this stem as its (direct) object is the one who is affected by the act.

<i>θap-ʔəm-t</i>	‘bathe (s.o.) for him’	<i>θap-a-t</i>	‘bathe him’
<i>q’ətx<sup>w</sup>-aʔəm-t</i>	‘burn (s.t.) for him’	<i>q’ətx<sup>w</sup>-a-t</i>	‘burn it’
<i>yač’-ʔəm-t</i>	‘fill (s.t., e.g. bucket) for him’	<i>yaʔč’-aš</i>	‘fill it’
<i>θəy-ʔəm-t</i>	‘sink (s.t.) for him’	<i>θəy’-aš</i>	‘sink it’
<i>ʔəʔ-ʔəm-t</i>	‘run for him’	<i>ʔəʔ</i>	‘run’
<i>čil-im-ʔəm-t</i>	‘dance for him’	<i>čil-im</i>	‘dance’
<i>č’ah-am-ʔəm-t</i>	‘pray for him’	<i>č’ah-am</i>	‘pray’

The Relational suffix (REL) *-mi* is found mostly following intransitive stems. Such intransitive stems include Unaffixed intransitives and the Middle stems. The suffix is in turn followed by the Control transitivizer. The transitive stems thus formed with this suffix express that the act denoted by the root is performed in some sort of relation to the (direct) object of the stem.

<i>ʔəʔ-<i>mi</i>-t</i>	‘run towards him’	<i>ʔəʔ</i>	‘run’
<i>k<sup>w</sup>i<sup>o</sup>-im-(m)i-t</i>	‘jump for / towards it’	<i>k<sup>w</sup>i<sup>o</sup>-im</i>	‘jump’
<i>k<sup>w</sup>anač-əm-(m)i-t</i>	‘sit on it’	<i>k<sup>w</sup>anač-əm</i>	‘sit down’
<i>qas-mi-t</i>	‘laugh at him’	<i>qas-əm</i>	‘laugh’
<i>yəč’-mi-t</i>	‘fill (s.t.) which bears a relation to him’	<i>yəč’</i>	‘be full, be filled up’

### 3. Valency Alternations in Sliammon

This section is to clarify what is meant by “valency alternation” in Sliammon.

As I already pointed out, valency is coded on the verb in Sliammon; there is no “uncoded alternations” (or “case alternation”).<sup>5</sup> Second, the presence or non-presence of NPs does not alter the valency of the verb. For example, the verb in (23a) and (23b) have the same valency, even though there is an NP in (23b).

(23a) mak<sup>w</sup>-t-Ø = čan = səm  
eat-CTR-3OBJ = 1SG.INDC.SBJ = FUT  
‘I will eat it.’

(23b) mak<sup>w</sup>-t-Ø = čan = səm      tə = ʔanx<sup>w</sup>  
eat-CTR-3OBJ = 1SG.INDC.SBJ = FUT      DET = fish  
‘I will eat the fish.’

Then, what we are dealing with in Sliammon (and with other similar head-marking language) is which verbs can occur with which valency marking suffixes. This turns out to be basically equivalent to saying which *root* can or cannot occur with which suffix.

For the purpose of the present project, however, some deviations were taken. For example, the root for ‘die/kill’ is the same, *qəy’*. I placed the alternant forms that have the meaning ‘die’ under the label ‘DIE’ and those with the meaning ‘kill’ under ‘KILL’ (and indicated that they are related in the Appendix). Another similar case is ‘sit’ vs. ‘sit down’.

### 4. Valency Classes

Although there are gaps and deviations, different alternation possibilities yield four primary classes of verbs (Class I to IV) and subclasses within them. For the purpose of a primary classification, it is convenient to lump together the Unaffixed and the Middle, and Control and Noncontrol Transitive together. The four classes each have the following characteristics as shown in Table 1.

Table 1: The Four Primary Valency Classes

	Unaffixed/Middle	Transitive	Causative
Class I	✓	*	✓
Class II	✓	✓	✓
Class III	✓	✓	*
Class IV	*	✓	*

<sup>5</sup> It should be pointed out that the sole case marker, the Oblique *ʔə*, often gets omitted in natural discourse, and even in slow speech for some speakers. This is not an alternation in the cases of NPs, since (i) it does not change the coding of arguments on the verb, and (ii) speakers are able to place the Oblique marker back when prompted.

#### 4.1. Class I

Alternation: **Unaffixed/Middle - \*Transitive - Causative**

Class I is characterised by the alternation between Unaffixed/Middle and Causative, but not allowing Transitive.

##### 4.1.1. Subclass Ia

The verbs in Subclass Ia are avalent verbs. Verbs of weather belong to this subclass: *č'ət* 'rain', *ʔax<sup>w</sup>* 'snow'. Some weather verbs in this subclass show regular alternation; for example, *niʔayitan-əm* 'cloudy', *niʔayitan-əm* 'it becomes cloudy' (with the Middle suffix).

##### 4.1.2. Subclass Ib

Subclass Ib shows Non-agentive Unaffixed forms and Causative forms.

##### 4.1.3. Subclass Ic

Subclass Ic shows Agentive Unaffixed forms and Causative forms. Finer classification may be possible in this subclass. Verbs depicting motion ('GO', 'RUN') and location ('exist', 'CLIMB (up)') render associative meaning with the Causative ('run with X') or location ('be on top').

##### 4.1.4. Subclass Id

Subclass Id shows the Middle and the Causative built on the Middle stems.

#### 4.2. Class II

Alternation: **Unaffixed/Middle - Transitive - Causative**

Class II is characterised by the alternation between Unaffixed/Middle, Transitive, and Causative.

##### 4.2.1. Subclass Ia

This subclass is problematical and may be further divided. However, the characteristic shown by 'BURN' warrants a (sub)class; it clearly shows Non-agentive Unaffixed - Transitive - Causative alternation. (See also under Subclass IIIb.)

##### 4.2.2. Subclass Ib

This subclass shows Agentive Unaffixed - Transitive alternation. This alternation has the agent rather than the patient as its constant factor. The number of verbs that belong here is small; less than ten are attested. For example, *ʔilq ay* 'barbecue deer', *k<sup>w</sup>idima* 'borrow', *q<sup>w</sup>uʔ* 'get water/drink(?)', *han* 'cheer, praise, applaud', *čəw<sup>w</sup> tɪt* 'steal', *tuyʔap* 'follow', *ʔinat* 'say what'.

#### 4.3. Class III

Alternation: **Unaffixed/Middle - Transitive - \*Causative**

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Class III is characterised by the alternation between Unaffixed/Middle, Transitive, but not allowing Causative.

##### 4.3.1. Subclass IIIa

The verbs in Subclass IIIa show Non-agentive Unaffixed - Middle - Transitive alternation. This alternation shows that Non-agentive Unaffixed - Transitive alternation, which is equivalent to "inchoative-causative" alternation, and the "middle" alternation is possible with the same verb in Siammon.<sup>6</sup>

(24a) *χəyp* = č  
startle = 1SG.INDC.SBJ  
'I got startled.'

(24b) *χay<sup>w</sup> p-əm* = č  
startle-MDL = 3INDC.SBJ     kitlin     PER.NAME  
'Catherine gets scared easily.'

(24c) *χəyp-a-θi* = č  
startle-LV-CTR+2SG.OBJ = 1SG.INDC.SBJ  
'I scared you.'

##### 4.3.2. Subclass IIIb

The verbs in Subclass IIIb show Non-agentive Unaffixed - Transitive alternation. Interestingly, verbs like 'WASH', 'CUT', and 'HIT/BEAT', which usually imply an external agent (e.g., s.o. needs to do the 'washing'), belong here. The fact that they cannot occur in the Causative form, unlike those in Subclass IIIa ('BURN'), may be revealing. An act like 'washing' still implies an agent, so that the Causative form 'let it get washed (by itself)' may be semantically odd (in contrast to 'let it burn, let it get burnt').

##### 4.3.3. Subclass IIIc

The verbs in Subclass IIIc show Middle - Transitive alternation.

#### 4.4. Class IV

Alternation: **\*Unaffixed/Middle - Transitive - \*Causative**

Class IV is characterized by allowing Transitive but not Unaffixed/Middle or Causative. This class must be considered as semantically transitive. Characteristically, the meanings are those that imply an external agent, in contrast to verbs in Class III (at least those with Non-agentive Unaffixed forms).

<sup>6</sup> See Levin (1993: 26) for discussion on the middle alternation and the causative/inchoative alternation.

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#### 4.4.1. Subclass IVa

This subclass shows Transitive forms and also the Causative forms; however, it is included under Class IV, because verbs in this class do not have Unaffixed or Middle forms.

#### 4.4.2. Subclass IVb

The verbs in this subclass show the Transitive forms but not the Unaffixed or the Middle forms. They do not have Causative forms, either.

#### 4.4.3. Subclass IVc

The verbs in this subclass take the Oblique Object. That is, although they are morphologically coded with two arguments (because that is the upper limit in Siammon), they are trivalent verbs. (Only 'GIVE' and 'TELL' clearly belong to this subclass; however, this is likely due to the lack of sufficient data on relativization. I suspect that some verbs in Subclass IVb will turn out to belong to this subclass.)

### 5. Final Remarks

- Valency is coded on the verb in Siammon by means of suffixes.
- There is no uncoded valency alternation.
- By investigating possible combinations of roots and valency marking suffixes, verbs can be roughly classified into four primary classes, with finer subclasses within them.
- There is a major dichotomy between intransitive verbs (Class I, II, III) and transitive verbs (Class IV). There is a controversy whether roots in Salish are all basically intransitive (cf. Davis 1997) or there are intransitive and transitive ones (cf. Gerdts 2006). The present study shows that evidence from Siammon is in line with the latter analysis.

### Abbreviations

A.INTR	Active-intransitive	EPEN	Epenthetic
APPL	Applicative	ERG	Ergative
AUX	Auxiliary	FUT	Future
CAU	Causative	IMPF	Imperfective
CJR	Conjunctural	IND	Indirective (applicative)
CLF	Cleft	INDC	Indicative
CLT	Clitic	INDP	Independent pronoun
CNJ	Conjunctive	INTR	Intransitive
CTR	Control Transitive	LS	Lexical suffix
DEM	Demonstrative	LV	Link vowel
DET	Determiner	MDL	Middle
DIM	Diminutive	NEG	Negator

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NOM	Nominalizer
N.PRED	Nominal predicate
NTR	Noncontrol transitive
OBJ	Object
OBL	Oblique
PASS	Passive
PAST	Past
PERF	Perfective
PL	Plural
POSS	Possessive
QN	Question marker
QUOT	Quotative
RCP	Reciprocal
RDPL	Reduplication
RFL	Reflexive
RLT	Relational (applicative)
SBJ	Subject
SG	Singular
STV	Stative

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**Appendix: Valency alternations in Stlaxmon Salish**

Abbreviations and symbols used in the table

- ✓ indicates that the form (the Unaffixed root form or in other columns, the form with the root and the suffix) is attested.
- (→) indicates that the form in question is under another "meaning label"; e.g., the form qyɔ- (dit-CTR) is found at the label 'KILL'.
- (wMDL) and (wSTV) indicate that the forms are built on the Middle form and the Stative form, respectively.
- \*no indicates that the form was rejected by the language consultants.
- indicates that the form has not been attested.
- red boxes indicate to where the forms under "Verb form" correspond.
- RED boxes indicate that the form is without the suffix of that column but a reduplicated form of the root fits in that column; (wRDPL) indicates that the suffix in question attaches to the reduplicated form.

	Meaning label	Refer frame	Verb form	Coding frames	Unaff.	MDL	AINTR	CTR	NTR	CAU	IND. APPL	REL. APPL.	None, Root shape and gloss
Ia	1	RAIN	(to rain)	ʔəp	✓	---	*no	(ʔ <sup>1</sup> )	*no	(ʔ <sup>1</sup> )	*no	*no	
	2	DIE	S dies	qyɔ	✓(P)	---	(→)	(→)	(→)	✓	(→)	---	
	3	BE HUNGRY	E is hungry	qəŋə	✓(E)	---	*no	---	---	✓(wMDL)	---	---	
	4	FEEL PAIN	E feels pain in M	ʔəh	✓(E)	---	*no	*no	✓(wMDL)	✓	---	---	'some hurt'
Ib	5	SIT	S sits somewhere (L)	kʔanaʔ	✓(A)	(→)	*no	(→)	---	---	---	---	
	6	SCREAM	S screams	ʔəŋ ʔ	✓(A)	---	---	---	---	---	---	---	
	7	EAT	A eats P	ʔəhan	✓(A)	---	*no	---	---	---	---	---	'eat often; food (n)'
	8	GO	S goes somewhere (L)	hɔ / ʔə	✓(A)	---	*no	---	---	✓(insec)	---	---	'to and from used interchangeably'
Ic	9	RUN	A runs	ʔək	✓(A)	---	*no	*no	✓	✓(insec) <sup>19</sup>	---	---	'want to here'; substitute for LIVE
	10	exist	S is here	niʔ	✓(A)	(✓) (sc)	*no	---	---	✓(insec)	---	---	'want to here'; substitute for LIVE
	11	CLIMB	A climbs (up L)	ʔəʔ	✓(A)	(✓) (sc <sup>1</sup> )	*no	*no	---	✓(insec)	---	---	'climb'
	12	LOAD	A loads T (onto L)	ʔəwəʔ-ʔə	✓(A)	---	*no	---	---	✓	---	---	'load/unload'
Ic	13	COUGH	S coughs	ʔəŋ ʔ	✓(A?)	---	no*	---	---	---	---	---	'cough'
	14	BLINK	S blinks	ʔəŋ ʔ	✓(A?)	---	---	---	---	---	---	---	'blink'
	15	TALK	A talks (to X) (about Y)	qʔəŋ	✓(A)	*no	*no	*no	*no	✓ <sup>13</sup>	---	---	'talk; want (n)'

Valency Classes in Slimmion; Honoré Watanabe

	Meaning label	Root frame	Verb form	Coding frames	Unaff.	MDL	AJNTR	CTR	NTR	CAU	IND. APPL.	REL. APPL.	Notes, Root shape and gloss
37	SHAVE	A shaves (his beard/hair)	shə-ə-t	VobjP subj A	*no	(/w/LS)	✓	✓	---	---	---	---	'scrape, shave'
38	WASH	A washes P	ʔap-ə-t	VobjP subj A	*no	(/ʔ/)	✓	✓	*no	*no	✓	---	'bathe'
39	SINK	S sinks	ʔay-əm	VsubjS	*no	---	---	---	---	---	---	---	'sink'
40	COVER	A covers P (with X)	ʔəp-ə-t	VobjP subj A	(N)	---	no*	✓	---	---	---	---	'put sth. over'
41	SHEUT AT	A shouts at X	qʔə-t	VobjNS subj A	*no	---	---	✓	---	---	---	---	'scream, yell, shout'
42	TELL	A tells (X) Y	qʔə-ʔəp-ə-t	VobjNS subj A	*no	✓ <sup>14</sup>	---	✓ <sup>15</sup>	---	---	---	---	'inform, tell, report'
43	THINK	A thinks about X	no-ʔəp-ʔəp-ə-t	VobjNS subj A	*no	✓(w/LS)	---	✓(w/REDPL)	✓(ʔ)	---	---	---	'suppose, think, believe'
44	SEE	E sees M	ʔ-ə-nt	VobjM subj E	*no	---	✓	✓	✓	---	---	---	'see, observe'
45	KNOW	A knows P	ʔəp-ə-nt	VobjP subj A	*no	---	*no	✓	---	---	---	---	'know, understand'
46	ASK FOR	A asks (X) for Y	ʔəp-ə-t	VobjNS subj A	*no	---	*no	✓	---	---	---	---	'request, ask for'
47	SAY	A says ... (to X)	no-ə-t	VobjNS subj A	*no	---	*no	✓	---	---	---	---	'speak, tell, say'
48	PEEL	A peels (X) off P	ʔəp-ə-t	VobjP subj A	*no	---	✓(w/LS)	✓	---	---	---	---	'strip, remove, peel'
49	SEARCH FOR	A searches for X	ʔəp-ə-t	VobjP subj A	*no	(ʔʔʔ)	✓	✓	*no	*no	---	---	'look for, search'
50	HIDE	A hides T (from X)	ʔəp-ə-t	VobjP subj A	*no	---	---	✓	---	---	---	---	'take sth. away, hide'
51	TOUCH	A touches P (with I)	ʔəp-ə-t	VobjP subj A	*no	---	---	✓	---	---	---	---	'touch, feel, contact'
52	TAKE	A takes P (from X)	miʔ-ə-t	VobjP subj A	*no	---	---	✓	---	---	---	---	'remove, take, get'
53	KILL	A kills P (with I)	ʔəp-ə-t	VobjP subj A	(-ʔ)	---	---	✓	---	---	---	---	'kill, destroy'
54	BUILD	A builds P (with X)	ʔəp-ə-t	VobjP subj A	*no	---	---	✓	---	---	---	---	'construct, build'
55	SMELL	E smells M	ʔəp-ə-t	VobjM subj E	*no	---	---	✓	---	---	---	---	'detect, smell'
56	DRESS	A dresses P	niʔ-ə-t	VobjP subj A	*no	---	---	✓	---	---	---	---	'put clothes on one's self, dress, attire'
57	EAT	A eats P	maʔ-ə-t	VobjP subj A	*no	---	✓ <sup>16</sup>	✓	---	---	---	---	'consume, eat'

Valency Classes in Slimmion; Honoré Watanabe

	Meaning label	Root frame	Verb form	Coding frames	Unaff.	MDL	AJNTR	CTR	NTR	CAU	IND. APPL.	REL. APPL.	Notes, Root shape and gloss
16	JUMP	A jumps	kʔə-ʔ-ʔm	Vsubj A	*no	✓	*no	✓	---	✓(w/MDL)	---	---	'leap, spring, jump, leap'
17	SING	S sings	qəpə-ʔm	VsubjS	*no	✓	---	---	---	---	---	---	'sing, vocalize, perform'
18	SING	S sings	no-ʔm	VsubjS	*no	✓	---	---	---	✓(w/MDL)	---	---	'sing, hum'
19	LAUGH	S laughs	qəp-ʔm	VsubjS	*no	✓	---	---	---	✓(w/MDL)	---	---	'laugh, grin, smile'
20	PLAY	S plays	qəp-ʔm	VsubjS	*no	✓	---	---	---	✓(w/MDL)	---	---	'play, amuse, entertain'
21	FEAR	E fears M	səp-ʔm	VobjM subj E	(REDPL <sup>17</sup> )	---	---	---	✓(w/REDPL)	✓(w/STV)	---	---	'fear, be afraid of'
22	FEEL	S is cold	ʔə-ʔm	VsubjS	*no	(REDPL)	---	✓	---	✓(w/REDPL)	---	---	'feel, sense, experience'
23	SIT DOWN	S sits down (on/under sth.)	kʔə-ʔm	VsubjS	(-ʔ)	✓	*no	✓	---	---	---	---	'sit, descend, descend'
24	BURN	S burns	qʔə-ʔm	VsubjS	✓(P)	✓(P, easy)	---	✓	---	---	---	---	'ignite, burn, scorch'
25	FELL	A falls P (with X)	ʔə-ʔm	VobjP subj A	✓(P)	---	---	✓	---	---	---	---	'fall, drop, descend'
26	FOLLOW	A follows X	ʔə-ʔm	VobjNS subj A	✓(A)	---	*no	✓	---	---	---	---	'follow, accompany'
27	FRUGHTEN	A frightens P	ʔə-ʔm	VobjP subj A	✓(P)	✓(P, easy)	---	✓	---	*no	---	---	'startle, frighten'
28	BREAK	A breaks P (with I)	ʔə-ʔm	VobjP subj A	✓(P)	✓(P, easy)	---	✓	---	*no	---	---	'break, shatter, fracture'
29	TEAR	A tears P (from X)	ʔə-ʔm	VobjP subj A	✓(P)	✓(P, easy)	---	✓	---	*no	---	---	'rip, pull apart, tear'
30	WASH	A washes P	ʔə-ʔm	VobjP subj A	✓(P)	✓(w/LS)	---	✓	---	---	---	---	'cleanse, wash, launder'
31	BE DRY	S is dry	ʔə-ʔm	VsubjS	✓(P)	(REDPL)	---	✓	---	---	---	---	'be without liquid, dry'
32	ROLL	A rolls	ʔə-ʔm	VobjP subj A	✓(P)	---	---	✓	---	---	---	---	'turn, rotate, revolve'
33	HIT/BEAT	A beats P (with I)	ʔə-ʔm	VobjP subj A	✓(P)	---	---	✓	---	*no	---	---	'strike, hit, beat'
34	CUT	A cuts P (with I)	ʔə-ʔm	VobjP subj A	✓(P)	---	---	✓	---	*no	---	---	'divide, separate, cut'
35	POUR	A pours T (from/where IL)	kʔə-ʔm	VobjP subj A	✓(P)	---	---	✓	---	*no	---	---	'pour, discharge, empty'
36	NAME	A names X (to Y)	ni-ʔm	VobjNS subj A	(N)	---	✓ <sup>18</sup>	✓	---	*no	---	---	'name, label, call'

Meaning	Root frame	Verb form	Coding frames	Unaff.	MDL	AJNTR	CTR	NTR	CAU	IND. APPL.	REL. APPL.	Notes, Root shape and gloss
58 LOOK AT	A looks at P	pa'k-a-t	V.əb j P.əb j A	*no	---	✓	✓	---	---	---	---	'look, see, stare, sense(?)'
59 HUG	A hugs P	x'mj-ut-t	V.əb j P.əb j A	*no	---	✓	✓	---	---	---	---	'put arms around'
60 CARRY	A carries T (to S)	k'mi-t-t	V.əb j T.əb j A	*no	---	✓	✓	*no	*no	---	---	'take, take, carry, pick (on back)'
61 THROW	A throws T	səp't-a-t	V.əb j T.əb j A	*no	---	✓	✓	*no	*no	---	---	
62 TIE	A ties P (to L) (with D)	q'is-t-t	V.əb j P.əb j A	*no	---	✓	✓	---	*no	---	---	
63 PUT	A puts T somewhere (L)	k-a'Q-t	V.əb j T.əb j A	*no	---	✓	✓	*no	*no	---	---	'place, put down'
64 LEAVE	A left L	kaw-ʒ	V.əb j L.əb j A	*no	---	✓	✓	---	---	---	---	'take, -V, Trans.'
65 HELP	A helps X	ʒ-ag-a-t	V.əb j X.əb j A	*no	---	✓	✓	*no	*no	---	---	
66 COVER	A covers P (with X)	qak'-a-t	V.əb j X.əb j A	*no	✓(wLS)	✓	✓	---	---	---	---	
67 GIVE	A gives T to R	ʒ-an-t-t	V.əb j S.əb j A	*no	---	✓	✓	*no	*no	---	---	
68 TELL	A tells OXY	ta-w-ʒ	V.əb j S.əb j A	*no	✓(A)	✓	✓	*no	*no	---	---	'share'

<sup>1</sup> Among the possible forms involving the Control transitive *-t*, only the Passive form which is built on the Control transitive stem is attested, *ʒ-a'k-a-t-om*: 'it rained on him, he got rained on'.  
<sup>2</sup> Special context is necessary; it is believed among the Slimmion people that certain birds can call for rain, i.e. '(birds) cause it to rain'.  
<sup>3</sup> The Active-intransitive form *əpɔː-ʒom* means 'to kill, to do killing'.  
<sup>4</sup> The Control transitive form *əpɔː-t* means '(A) to kill P'.  
<sup>5</sup> The Noncontrol transitive form *əpɔː-ʒ* means '(A) to have killed P'.  
<sup>6</sup> For example, *ʒab-sx*, *ʒ-as* *ʒ-as* *ʒ-as* 'his feet are hurting' (some CAU-3OBJ-3ERG DEF=foot-3POSS), lit. 'he causes his foot to hurt'.  
<sup>7</sup> The Middle form *k'əməc-ə-m* means '(S) to sit down'. See 'SIT DOWN'.  
<sup>8</sup> The Noncontrol transitive form *k'əməc-t* means '(A) to sit P down, to make P sit down'. See 'SIT DOWN'.  
<sup>9</sup> The Noncontrol reflexive form *ʒək'-at* means '(A) to make P run'. The Noncontrol Reflexive form *ʒək'-im-om* is attested with the meaning '(S) managed to run'.  
<sup>10</sup> The Causative form *ʒək'-sx* means '(A) to run (away) with P'.  
<sup>11</sup> The form of the root is *ʒəʒ*; however, *t* attaches in some forms derived from this root. For example, *ʒəʒ* 'high'. The Locational Middle form is *ʒət-om*.  
<sup>12</sup> The Causative forms *taq'-sx* and *taq'-im-sx* have both been attested with the meaning '(A) make P cough'; the latter is formed on the Middle form *taq'-im*.  
<sup>13</sup> The (simple) Causative forms *q'əp-sx* and *taq'-im-sx* means '(A) to talk to P'; the meaning '(A) to talk to P' is expressed by the Causative form but with an idiosyncratic CV reduplication, *q'əp-q'əp-sx* (also recorded as *q'əp-q'əp-sx*).

<sup>14</sup> The Relational Applicative form *q'əp-m-t* has a lexicalized meaning '(A) to scold P'.  
<sup>15</sup> The Causative form means 'to play with O' (O = person, in all attested examples).  
<sup>16</sup> Two different types of reduplication applies to this root: *əpɔː-səp* 'get scared' and *əpɔː-səp* 'be scared'.  
<sup>17</sup> The Unaffixed form *k'əməc* means '(S) to sit, be sitting'. See 'SIT'.  
<sup>18</sup> Does not take the -*Vm* Middle suffix but *əgom* 'Susceptible'; *əp-əgom* 'it breaks easily, fragile'.  
<sup>19</sup> Does not take the -*Vm* Middle suffix but *ʒim* 'Susceptible'; *q'əp-ʒim* 'it is easy to eat, it fits easily'.  
<sup>20</sup> The Active-intransitive form *əm-ʒom* means '(A) to call out names of people, e.g. at a gathering or meeting'.  
<sup>21</sup> Takes the Intransitive suffix *-ʒ*, rather than the Middle *-Vm*; *əp-ʒ* '(S) to bathe, take a bath'.  
<sup>22</sup> The Active-intransitive form *əp-ʒom* may be possible for some speakers.  
<sup>23</sup> Both *-t* and *-ʒ* transitive forms have been attested, differences, if any, between the two are unclear.  
<sup>24</sup> The *Y* can be overtly expressed in an Oblique NP. However, evidence is lacking whether or not this Oblique NP is treated as Oblique Object in relativization.  
<sup>25</sup> The root *q'əp* 's' is expanded by *-as* before taking the Control transitive *-t*. Cf. *q'əp* 's-om' '(S) tell stories', with the *-Vm* Middle. The element *-as* functions like an applicative suffix with a few roots. See Gerdts and Hinkson (2004) for discussions on the lexical suffix *-as* 'face' that grammaticalized into a dative applicative suffix in a sister language Halkomelem. The Slimmion lexical suffix for 'face' is apparently a cognate form, *-as*, and the situation seems to be comparable.  
<sup>26</sup> 'to find out about it'; however, this form is not well attested.  
<sup>27</sup> The Causative form *əpɔː-sx* has the lexicalized meaning 'to get jealous of s.o.'.  
<sup>28</sup> The Middle form *t'əp-om* is recorded, but it could be a fast speech variant of the Active-intransitive *t'əp-ʒom*.  
<sup>29</sup> The Unaffixed form *əpɔː* means '(S) die'. See 'DIE'.  
<sup>30</sup> The Causative form *əpɔː-sx* means '(A) to let P die'. See 'DIE'.  
<sup>31</sup> The Active-intransitive form *mək'-ʒom* has the lexicalized meaning 'to gossip (about s.o.)', and it is usually interpreted as such. It can be used in the expected meaning 'to eat (s.l.)' also.  
<sup>32</sup> The Indirective Applicative form is possible only with the Stative *-i*; *k'mat-ʒom-t* 'A carry for P'.  
<sup>33</sup> The Active-intransitive form *q'əp-ʒom* 'to tie (s.l.)' may be restricted to a special context. The only possible use that my consultant could think of was a "medicine man" tying a bundle of tobacco together.  
<sup>34</sup> The Active-intransitive form *k'əp-q'əp-ʒom* was rejected by one of the consultants.

# Semantic patterns underlying syntactic alternations cross-linguistically

Søren Wichmann  
MPI-EVA / LeidenUniversity

Possibilities for investigation:  
cluster phenomenon A by phenomenon B

	Languages	Verbal concepts	Coding frames	Micro-roles	Alternations
Languages	X				
Verbal concepts		X			✓
Coding frames			X		
Micro-roles				X	
Alternations		✓			X

Possibilities for investigation:  
cluster phenomenon A by phenomenon B

	Languages	Verbal concepts	Coding frames	Micro-roles	Alternations
Languages	X				
Verbal concepts		X			
Coding frames			X		
Micro-roles				X	
Alternations					X

No meaningful results for classifying alternations through  
the verbal concepts that they apply to

	Languages	Verbal concepts	Coding frames	Micro-roles	Alternations
Languages	X				
Verbal concepts		X			(✓)
Coding frames			X		
Micro-roles				X	
Alternations		✓			X

Meaningful results for classifying verbal concepts according to alternations that they occur in

	Languages	Verbal concepts	Coding frames	Micro-roles	Alternations
Languages	X				
Verbal concepts		X			(✓)
Coding frames			X		
Micro-roles				X	
Alternations					X

Distance-based clustering

	be ill	break	eat
Ainu Subject-Oriented Reciprocal	1	1	3
Chintang Benefactive	1	3	3
Italian Reciprocal Reflexive	1	3	1

Data

Distance-based clustering

SUFFICIENT ATTESTATIONS:

- 87 verbal concepts
- 143 alternations
- 12 languages: Ainu, Arabic, Bezhta, Bora, Chintang, Hocank, Icelandic, Italian, Jakarta Indonesian, Mandinka, Nju, Zenzontepec Chatino

	be ill	break	eat
DISTANCES			
be ill			
break	66%		
eat	66%	66%	





## Examples of possible semantic features

- (potentially) uncontrolled movement
- temperature involved
- (potentially) controlled movement whole
- internally induced emotion
- suffering
- controlled non-movement
- animate R
- mildly impacted animate P/R, no contact
- apprehension
- cause inanimate to move
- cause inanimate to change state
- involves sound
- surface-manipulation
- manipulation by instrument
- highly impacted animate undergoer
- physical contact with animate undergoer
- act of constraint
- externally induced emotion
- animate undergoer no physical contact
- two inanimate undergoers
- .....

```

appear          00100000..
ask_for        00000011..
beat           00000000..
be_a_hunter    00000000..
be_dry         01001000..
be_hungry      00001000..
be_ill         00001000..
be_sad         00011000..
blink         10000000..
.....

```

Columns:

1. (potentially) uncontrolled movement
  2. temperature involved
  3. (potentially) controlled movement whole
  4. internally induced emotion
  5. suffering
  6. controlled non-movement
  7. animate R
  8. mildly impacted animate P/R, no contact
- .....

## Now replicate the main features of the observed classification

- The claim can then be made that the semantic features identified have some cross-linguistic validity and that such features underlie syntactic alternations cross-linguistically

## Conclusions

- No meaningful patterns are observed when alternations are classified according to the types of verbs that apply to them
- Meaningful semantic patterns are observed in the opposite situation, where verb types (concepts) are classified according to the alternations (constructions) that they appear in
- The semantic patterns are most clearly discerned through a character-based than a distance-based method
- The procedure confirms Levin's assumption that verbal semantic classes underlie syntactic alternations
- But note that Levin's verb classes don't follow in a systematic way from the alternations that she studied (they form two unconnected chapters in her book)
- Making a claim that highly specific semantic classes underlie alternation types probably only possible using cross-linguistic data
- Hope that we can discern some maximally salient semantic features

## Valency classes in Mapudungun

Fernando Zúñiga  
 University of Zurich  
 fernando.zuniga@spw.uzh.ch

### 1. Introduction

Mapudungun is an isolate currently spoken by approximately 250,000 people in southern Chile and south-central Argentina. A number of dialects can be distinguished, mainly on lexical and phonetic/phonological grounds; the present paper focuses on the Chilean variety called Central Mapudungun. Unless otherwise specified, the data presented here come from my own field notes taken during work sessions with several Chilean speakers in and around Villarrica (Cautín Province, Araucanía Region) and Cañete (Arauco Province, Biobío Region). I checked most data with different speakers—including some of the neighboring Lafquenche dialect—, but my year-long collaborator Leonel Lienlaf deserves special mention because we went through the Valency Classes questionnaire (cf. Section 3.1) in great detail.<sup>1</sup>

The paper is organized as follows. Section 2 summarizes the basic aspects of Mapudungun morphosyntax. Section 3 gives in tabular format a sample of Mapudungun verbs with their valency patterns based on the updated version of the questionnaire submitted to the contributors of the Valency Classes Project, with some additional comments. Section 4 deals with the morphologically unmarked valency alternations, whose importance in the language is rather modest. Section 5 describes coded valency alternations, which are not only frequently found but also of paramount importance for the description of lexical and grammatical patterns of Mapudungun. Section 6 summarizes the results.

### 2. Basics of Mapudungun morphosyntax

This language has a fairly simple phonology and shows a rather simple nominal morphology on the one hand and a rich polysynthetic concatenative (predominantly suffixing) verbal morphology on the other.<sup>2</sup> Nonverbal equational clauses consist of two juxtaposed NPs (frequently supplemented by one out of a series of discourse particles whose exact pragmatic yield is still not fully understood). Verbal clauses, by contrast, minimally consist of a finite verb form and often

include NPs corresponding to core syntactic arguments and adpositional phrases corresponding to different kinds of peripheral arguments or adjuncts. Complex clauses can include several verb forms, either coordinated or subordinated, some of which may be nonfinite. As to clause relations, Mapudungun can be classified as consistently head-marking.

The verb found in simple matrix clauses minimally consists of a root, a mood marker (indicative *-i*, subjunctive *-l* or imperative *-Ø*), a person marker (*-i* '1', *-m* '2' or *-Ø* '3'), and a number marker (*-i* 'SG', *-u* 'DU' or *-n* 'PL'). (There are few portmanteau markers encoding both person and number, and sometimes also mood, e.g. *-n* '1SG.IND' instead of expected *\*-i-i-i*.) The participant thus cross-referenced will be termed PRIMARY ARGUMENT (PA) here and can be thought of as a kind of subject. On the inflectional side, it is also possible to mark a second participant on the verb (labeled SECONDARY ARGUMENT (SA) here; this is possibly a kind of primary object), albeit in a less detailed fashion: sometimes the second participant is understood as 2SG by default, and on occasion only its person, but not its number, is explicitly marked via suffixation.<sup>3</sup> There is one suffix that encodes transitivity inversion (*-e*) and another that cross-references a differentially marked object (*-fi*), and other formatives express future tense (*-a*), habitual aspect (*-ke*), ruptured implicature (*-fi*), and hear-say evidentiality (*-rke*), among other categories. On the derivational side, a number of morphological processes correspond to valency-changing operations (passive *-nge*, causative *-l* or *-n*, applicative suffixation of *-l* or *-nima*, applicative serialization with *tu-* 'take' or *ye-* 'carry', reflexive *-w*, and nominal incorporation), whereas others express space-related values (cislocative *-pa*, translocative *-pu*, andative *-me*, serialization with *pu-* 'ascend' or *nag-* 'descend', etc.).<sup>4</sup>

Clauses with bivalent and trivalent verbs come in two guises, viz. direct and inverse. Roughly, interactions with S[peech] A[ct] P[articipant] A (agentive) arguments and 3rd person P/R (patientive/recipient-like) arguments are invariably direct while those with SAP P/R arguments and 3rd person A arguments are obligatorily inverse. Direct verb forms are morphologically unmarked, have A PAs and P/R SAs, and show D[ifferential] O[bject] M[arking] under complex conditions related to the animacy, definiteness and discourse prominence of the SA (Zúñiga 2010b). Inverse verb forms take the inverse suffix *-e*, have A SAs and P/R PAs, and never take the DOMr-*fi*. In addition, 3↔3 interactions can be expressed by either direct or inverse verb forms, depending on the animacy and discourse prominence of the P/R argument; the "higher" argument will be called PROXIMATE and the "lower" OBLIVIOUS here. Lastly, SAP↔SAP interactions are expressed by morphologically complex verb forms, most of which are inverse or inverse-like (see Golluscio 2010 for a brief summary of the system, Zúñiga 2006a, 2006b for a detailed account, and Arnold 1996 for an earlier version of the inverse analysis and some remarks as to its possible evolution).

Core syntactic argument NPs (i.e. subjects or PAs, as well as primary and secondary objects or indexed and nonindexed SAs) are typically unmarked. In addition to a number of adpositions expressing mainly spatial notions (preposed *pu* 'in', *ina* 'near', *miti* 'beneath', *wente* 'above', *furitu* 'behind', *puñima* 'in front of', *ngeno* 'without'; postposed *pitte* 'towards, by', *kitu* 'since'), there is a semantically unspecified postposition *mew*—it can also appear as suffixed/encliticized *mi* ~ *mo*—that licenses further participants, e.g. locations, sources, goals, instruments, and recipients. Its exact interpretation relies on the lexical content of predicate and arguments, but also on

<sup>3</sup> Number of PAs is invariably distinguished on the verb for 1st and 2nd persons; verbs with 3rd person PAs are typically unmarked if there is an overt coreferential NP in the clause but distinguish singular, dual, and plural if the argument is covert.

<sup>4</sup> Nonfinite verb forms invariably replace the morphology encoding mood and person/number of the PA by a specific ending (*-n*, *-el*, and *-lu*, among others); the PA is expressed via a verb-external possessive or personal pronoun. In addition, their aspecto-temporal inflectional potential is restricted when compared with matrix verbs.

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<sup>2</sup> Textual examples are given in their underlying form in the present article; surface forms differ from these representations in that elision, epenthesis, resyllabification and assimilation rules apply. The orthographic convention employed in here is the Chilean version of the Alfabeto Mapuche Unificado. (In Argentina, the same convention is utilized, but *i* is used instead of *ü* to represent the vowel [i]–[ɨ].) The usual citation form of Mapudungun verbs is the so-called infinitive characterized by the suffix *-n*, and I have followed the widespread practice of giving its surface form when mentioning verbs; in most cases, the *ü* preceding this suffix is epenthetical (an exception being e.g. *lladki-n* 'be sad', where *i* is the stem-final vowel).

context. Examples follow (note that independent pronouns are usually only used for focusing/disambiguating purposes):

- (1) a. (*fīche*) *pe-fi-n* *chi machi*.  
 1SG see-3P-1SG.IND ART shaman  
 'I saw the shaman.'  
 b. (*fīche*) *pe-e-n-mew* *chi machi*.  
 1SG see-INV-1SG.IND-3A ART shaman  
 'The shaman saw me.'
- (2) a. *Elu-fi-i-Ø* *kīte manshun*.  
 give-3P-IND-3 one ox  
 'S/he (PROX) gave her/him (OBV) an ox.'  
 b. *Elu-e-i-Ø-mew* *kīte manshun*.  
 give-INV-IND-3-3A one ox  
 'S/he (OBV) gave her/him (PROX) an ox.'
- (3) a. *Amu-a-n* *Trolren mew*.  
 go-FUT-1SG.IND T. PPOS  
 'I will go to Tolten.' (Augusta 1903:128)  
 b. *Kūpa-n* *Trolren mew*.  
 come-1SG.IND T. PPOS  
 'I came from Tolten.' (Augusta 1903:128)  
 c. *Longko mew nū-e-i-Ø-mew*.  
 head PPOS take-INV-IND-3-3A  
 'S/he (OBV) took her/him (PROX) by the head.' (Augusta 1903:135)  
 d. *Mitrongka-pu-fi-i-Ø* *kīte karoti mew*.  
 hit-TRANS-3P-IND-3 one stick PPOS  
 'S/he (PROX) hit her/him (OBV) with a stick.' (Augusta 1903:128)

### 3. The valency patterns of Mapudungun

As noted in Golluscio (2010), most nonderived verbs are syntactically avalent (e.g. *mawīñin* 'rain'), monovalent (e.g. *akun* 'arrive here'), bivalent (e.g. *miten* 'have'), or trivalent (e.g. *elun* 'give'). There are few labile verbs, notably some ambitransitives (either agentive, like *kiḍawin* 'work (on)', or patientive, like *waron* 'break') and some ambiditransitives (e.g. *pin* 'say', which optionally expresses the R argument). Even though some avalent/monovalent verbs cannot be causativized or applicativized (e.g. *miñen* 'be, exist'), most of them can accommodate additional arguments via those valency-increasing operations.

#### 3.1 Valency classes: Summary

1	A covers P (with X)	A <i>tukun</i> P (X <i>mew</i> )	
2	A fills P (with X)	A <i>apolin</i> P (X <i>mew</i> )	<i>l</i> -causative of <i>apon</i>
3	A loads T (onto L)	A <i>chechimiñin</i> L (T <i>mew</i> )	
4	A ties P (to L) (with I)	A <i>trarin</i> P (L <i>mew</i> )	
5	A pours T somewhere (L)	A <i>witran</i> T (L <i>mew</i> )	(also <i>witran</i> )

6	A puts T somewhere (L)	A <i>elin</i> T (L <i>mew</i> )	
7	A throws T somewhere (L)	A <i>itriñin</i> T (L <i>mew</i> )	
8	A brings T to R	A <i>kipalelin</i> T R	<i>l</i> -applicative of <i>l</i> -causative of <i>kipan</i>
9	A carries T (to X)	A <i>yen</i> T	<i>l</i> -applicativize to accommodate X
10	A sends T (to X)	A <i>amulin</i> T (X <i>mew</i> )	<i>l</i> -causative of <i>amun</i>
11	A gives T to R	A <i>elun</i> T R	cf. 5.4
12	A shows T (to R)	A <i>pengelin</i> T R	
14	A steals T (from X)	A <i>wenēn</i> T	<i>ñin</i> -applicativize to accommodate X
15	A hides T (from X)	A <i>lumiñin</i> T	<i>m</i> -causative of <i>lumiñin</i> ; <i>ma</i> -applicativize to accommodate X
16	A tears P (from X)	A <i>kacharnanun</i> P	<i>ma</i> -applicativize to accommodate X
17	A wipes T (off X)	A <i>nenun</i> T (X <i>mew</i> )	
18	A cuts P (with I)	A <i>katrin</i> P (I <i>mew</i> )	
19	A touches P (with I)	A <i>kachillima</i> P (I <i>mew</i> )	
20	A hits P (with I)	A <i>trawawin</i> P (I <i>mew</i> )	
21	A beats P (with I)	A <i>trawawrawawun</i> P (I <i>mew</i> )	iterative of <i>trawawin</i>
22	A kills P (with I)	A <i>langimiñin</i> P (I <i>mew</i> )	irregular <i>m</i> -causative of <i>lan</i>
23	A breaks P (with I)	A <i>waron</i> P (I <i>mew</i> )	cf. 3.3
25	A names X (a) Y	A <i>iytuntukun</i> X	<i>l</i> -applicativize to accommodate Y
26	A says "..."(to X)	"..." <i>pin</i> A X	
28	A tells (X) Y	A <i>ngitramin</i> Y	<i>l</i> -applicativize to accommodate X
29	A asks (X) for Y	A <i>ngillaun</i> X Y	<i>tu</i> -applicativized <i>ngillaun</i> 'buy'
30	A talks (to X) (about Y)	A <i>ngitramkan</i>	<i>l</i> -applicativize to accommodate X (Y <i>mew</i> ) <i>ye</i> -applicativize to accommodate Y (X <i>mew</i> )
31	A knows P	A <i>kimiñin</i> P	
33	E sees M	E <i>pen</i> M	
34	A looks at P	A <i>lelin</i> P	
35	A frightens P	A <i>trapufilin</i> P	<i>l</i> -causative of <i>trapufin</i>
36	E fears M	E <i>litkan</i> M	
37	E likes M	E <i>kimentun</i> M	
41	A meets X	A <i>trufin</i> X	
42	A follows X	A <i>inan</i> X	
43	A helps X	A <i>kellun</i> X	
44	A eats P	A <i>in</i> P	
46	A washes P	A <i>kichan</i> P	
47	S coughs	S <i>chufon</i>	
48	A climbs (up L)	A <i>wechun</i> (L <i>mew</i> )	
49	S sits down (somewhere (L))	S <i>anin</i> (L <i>mew</i> )	
51	A runs	A <i>lefin</i>	
52	A jumps	A <i>ringkitin</i> (L <i>mew</i> )	

55	S sings	S <i>itkamtun</i>	
56	S lives somewhere (L)	S <i>mīlan</i> (L <i>mew</i> )	
57	S appears	S <i>wēfin</i> (L <i>mew</i> )	
59	S dies	S <i>lan</i>	
60	S falls	S <i>ranin</i> (L <i>mew</i> )	
61	S is cold	S <i>wāran</i>	
62	E is hungry	E <i>ngūin</i>	
63	(It) rains	<i>mawūin</i>	
64	R gets T (from X)	R <i>llowin</i> T	<i>ma</i> -applicativize to accommodate X
65	S cries	S <i>ngīman</i>	
66	A makes P (out of X)	A <i>dewman</i> P (X <i>mew</i> )	
67	A thinks about X	A <i>rakidamūin</i> (X <i>mew</i> )	
68	A searches for X	A <i>kinun</i> X	
69	A hugs P	A <i>rojūin</i> P	
70	E feels pain in M	E <i>kauranin</i> POSS M / E <i>kauran-M-n</i>	
71	E is sad	E <i>lladkūin</i>	
72	S is sick	S <i>kauran-kūle-n</i>	resultative aspect
73	S is dry	S <i>angkū-le-n</i>	resultative aspect
74	S laughs	S <i>eyen</i>	
75	S burns	S <i>lūf-kūle-n</i>	resultative aspect
76	S blinks	S <i>llūpūin</i>	
77	S is a hunter	S <i>trakakūfengen</i>	NMLZ + COP
78	A takes P (from X)	A <i>nūn</i> P	<i>ñma</i> -applicativize to accommodate X
79	A digs (for X)	A <i>rīngan</i>	X requires a second V in nonfinite form
80	A peels (X off) P	A <i>chafūin</i> P	X requires a second V in nonfinite form
81	A grinds P (with I)	A <i>mīlan</i> P (I <i>mew</i> )	
82	A shaves (his beard/hair)	A <i>payunūn</i>	
83	A pushes P (somewhere (L))	A <i>pēlin</i> P	L <i>mew</i> possibly unidiomatic
84	S goes somewhere (L)	S <i>amun</i> (L <i>mew</i> )	
85	A rolls	A <i>imūlin</i>	
86	A teaches R T	A <i>kimēlin</i> R T	
87	S screams	S <i>wīrarūin</i>	
88	A cooks P	A <i>afūmūin</i> P	<i>m</i> -causative of <i>afūin</i>
89	E hears M	E <i>alkūin</i> M	
90	A wants X	A <i>ayūn</i> X	
91	S sinks	S <i>lanūin</i>	
92	S boils	S <i>afūin</i>	
93	E smells M	E <i>nūmūin</i> M	<i>tu</i> -applicative of <i>nūmun</i>
94	A dresses P	A <i>takun</i> P	
95	A shouts at X	A <i>wīrarūin</i> X	
96	A builds P (out of X)	A <i>dewman</i> P (X <i>yengu</i> )	
97	S sits somewhere (L)	S <i>anī-le-n</i> (L <i>mew</i> )	resultative aspect
98	A left L	A <i>pūnūn</i> (L <i>mew</i> )	
99	S plays	S <i>awkanūn</i>	

### 3.2 Avalent verbs

Verbs used to describe meteorological events appear marked for a 3rd person singular PA but do not appear with overt argument NPs in matrix clauses; they are *kūrūfūin* 'become windy', *mawūin* 'rain', *yūin* 'hail', and *pīren* 'snow'. (The participle of the latter predicate can appear in NPs, e.g. *pīren wīngkūl* 'snowy hill'.) The verbs *pūūin* 'get dark, become night' and *wūūin* 'get light, dawn' behave like the ones mentioned above. All these predicates can take a maleficiary argument when applicativized (cf. Section 5.4 below); in such cases, 3rd person indexing disappears and the PA of a formally monovalent verb is the maleficiary. Examples follow:

- (4) a. *Mawūit-i-∅*.  
rain-IND-3  
'It rained.' (p.k.)
- b. *Mawūit-ma-r-pa-i-m-i?*  
rain-APPL-2-INTER-CIS-IND-2-SG  
'Did you (SG) get rained on while coming here?' (Augusta 1916: 133)
- c. *Kūrūf-tukū-mawūin-i-∅*.  
wind-put-rain-IND-3  
'It stormed (lit. rained with wind).' (Augusta 1916: 107)

### 3.3 Monovalent verbs

The arguments of underived monovalent predicates can be animate or inanimate, volitional or nonvolitional, etc. They index the PA, which can be covert or overt. Examples follow:

- (5) a. *Kude-i-∅* *ti pu pichi wenru*.  
play-IND-3 ART PL little man  
'The boys played.'
- b. *L̄a-i-∅* *ti domo*.  
die-IND-3 the woman  
'The woman died.'

A handful of verbs can be used with either a monovalent or a bivalent coding frame; these include verbs like *trafon* / *warron* 'break' and others like *wīrarūin* 'scream, shout (at)'.<sup>5</sup>

- (6) a. *Trafo-i-∅* *ti kura*.  
break-IND-3 ART stone  
'The stone broke / s/he broke the stone.'
- b. *Wīrar-i-∅* *ti kalku*.  
scream-IND-3 ART warlock  
'The warlock screamed.'

<sup>5</sup> There is some variation with *wīrarūin* 'scream, shout'. According to Golluscio (2010), this predicate is monovalent and needs to be applicativized in order to take a nonagentive argument, viz. *wīrar-ef-i-n* (shout-APPL-3P-1SG.IND) 'I shouted at him'. Such a usage was confirmed by some of my Chilean consultants in elicitation, but for most *wīrarūin* was labile. Although I have not conducted a systematic search in the written sources, I have found both ambitransitive and strictly intransitive examples in Augusta's (1910) and Salas's (2006) texts. Smeets (2008:577) explicitly notes that it is labile but mentions the applicativized form as meaning 'shout at (someone far away)'.

- c. *Ti wentru wirari-tu-fi-i-Ø ti pichi domo.*  
 ART man shout-TEL-3P-IND-3 ART little woman  
 'The man (PROX) shouted (angrily) at the girl (OBV).'

An overt NP coreferential with the P argument may be absent from the clause (e.g., *ti wentru wirari-tu-fi-i-Ø* 'the man shouted angrily at him/her', parallel to 6c above), in such cases, only the DOMr-*fi* or the inverse(-like) morphology signals a syntactic valency of two. Other ambitransitives are *pen* 'see, find', *witran* 'stand up, pull', *kidaw* 'work (on)', *katrin* 'be cut; cut, separate', *weychan* 'fight', *ilkantun* 'sing', *uman* 'lodge (with)', and *wenien* 'steal'. Augusta (1916: 31) also mentions *dingun* ~ *dungun* 'speak' as ambitransitive; the bivalent coding frame basically corresponds to the meaning 'speak to',<sup>6</sup> and my older informants tend to inconsistently accept it. I suspect that the Spanish structure [*hablar* 'speak' + indirect object] may influence its acceptability.

The addition of an adpositional phrase (e.g. [NP *mew*]) to a clause based upon a monovalent motion verb is in principle always possible if such a constituent expresses spatial/locative notions (typically, Grounds with respect to which the Figure-PA moves). (It is also possible to find verbalized nominals corresponding to place names, e.g. in *Temuko-tu-me-pe-n* [T.-VBLZ-AND-PFV-1SG.IND] 'I went to Temuco', roughly equivalent to *amun Temuko mew*, as well as unmarked well-known place name NPs, e.g. in *Temuko tuw-n* [T. come-from-1SG.IND] 'I come from Temuco'.) Nevertheless, due to the empty quality of *mew* in particular, most monovalent verbs take such adpositional phrases in order to express nonspatial notions only very rarely. Either causativization (cf. 5.3) or applicativization (cf. 5.4) is used to introduce other participants to the clause, or the speaker relies on context in order to make sure that some relevant detail characterizing the state of affairs is understood. Predicates that felicitously appear with a *mew*-phrase in the questionnaire are *rakidamun* 'think', *wechun* 'climb', *amun* 'sit down', *amun go*, *pinuntun* 'leave (lit. become separated)', *miilen* 'be, exist', and *tramiin* 'fall'. Example (7) shows both possibilities with *rakidamun*, and Example (8) shows two different yields of *mew*:

- (7) a. *Rakidam-i-Ø ñi ñuke mew.*  
 think-IND-3 3.PSR mother PPOS  
 'S/he thought about her/his mother.'  
 b. *Ti wentru rakidam-ye-i-Ø ti wechipantü.*  
 ART man think-APPL4-IND-3 ART New Year  
 'The man thought about (the celebration of) New Year.'
- (8) a. *Tiufa ruka mew mille-i-Ø che.*  
 this house PPOS be-IND-3 people  
 'This house is inhabited.' (lit. there are people in this house) (Augusta 1916: 136)  
 b. *Tuw-n Suiza mapu mew.*  
 come-from-1SG.IND S. land PPOS  
 'I come from Switzerland.'

Noncausative motion verbs like *konün* 'enter' and *naggiin* 'descend' are monovalent, and a goal participant can be expressed via a *mew*-phrase or via *tu*-applicativization (cf. 5.4):

<sup>6</sup> Augusta also mentions that *dingun* can mean 'denounce' in the variety spoken in Huapi (Ranco Province, Los Ríos Region, Chile). I have not found this meaning elsewhere, not have I been able to confirm or disprove Augusta's claim.

- (9) a. *Kont-n Pedro mew.*  
 enter-1SG.IND P. PPOS  
 b. *Kont-tu-fi-n Pedro.*  
 enter-APPL3-3P-1SG.IND P.  
 Both: 'I entered Pedro's house.'

### 3.4 Bivalent verbs

High-transitivity predicates like underived *nün* 'take, seize' and causative *langümiin* 'kill' typically occur in the bivalent coding frame:

- (10) a. *Nü-i-Ø ti pilata ti wentru.*  
 take-IND-3 ART money ART man  
 'The man took the money.'  
 b. *Langim-fi-i-Ø ti filu ti pichi wentru.*  
 kill-3P-IND-3 ART snake ART little man  
 'The boy (PROX) killed the snake (OBV).'

As noted in Section 2 above, bivalent clauses can be either direct or inverse; in the former, a comparatively agentive PA acts upon a comparatively patientive SA (the former is invariably indexed on the verb while the latter is subject to the conditions governing DOM). In inverse clauses, the PA is patientive while the SA is agentive. Animate→inanimate interactions are unproblematic for this coding frame. Even though there are examples of inanimate→inanimate interactions expressed by a single simple matrix clause (usually, matrix clauses with monovalent verbs are used instead), clauses with inanimate PAs and animate SAs seem to be ungrammatical. Clauses with two overt lexical NPs are easily obtainable in elicitation but comparatively less frequent than clauses with one overt lexical NP (usually the SA) in narrative texts. If both NPs are present, the constituent orders [V-SA-PA] and [PA-V-SA] seem to be the most frequent ones. The inverse equivalent of (10b) follows:

- (10b') *Ti filu langim-e-i-Ø-mew ti pichi wentru.*  
 ART snake kill-INV-IND-3-3A ART little man  
 'The snake (PROX) was killed by the boy (OBV).'

### 3.5 Trivalent verbs

Golluscio (2010) documented two underived trivalent verbs, viz. *elun* 'give' and *miintun* 'take away, snatch, deprive'. In addition, she mentions labile verbs like ambitransitives *ranitun* 'ask (for), request', *aretun* 'borrow (from)' and *arelin* 'lend', as well as predicates that can take one, two or three core syntactic arguments, e.g. *ngillatun* 'pray, beg, request'.<sup>7</sup> Although some bivalent verbs are not applicativizable (e.g. *wiitiin* 'give away, hand'), most of them are, and so most trivalent predicates of the language are derived.

In the results of the questionnaire, underived *elun* 'give', *ngillatun* 'ask for', and *pin* 'say' (usually with a clausal or reported speech complement) are used with unmarked A, T, and R arguments. The derived trivalent verbs in the questionnaire are *kippalelin* 'bring (sthg.) to (sbdy.)' (*kippa-*

<sup>7</sup> Golluscio (2010: 727) mentions *pin* 'say' as belonging to the same class as *ngillatun*, but I have not found any clear examples of that verb used with one core syntactic argument. According to my data, it always takes at least two arguments, of which the T participant can be, and most often is, clausal (or reported speech) instead of an NP; I classify it therefore as ambitransitive.

'come' + *-l* 'causative1' + *-el* 'applicative1'), *kimelin* 'teach (sthg.) to (sbdy.)' (*kim-* 'know' + *-el* 'causative1'), and *pengelim* 'show (sthg.) to (sbdy.)' (*pe-* 'see' + *-el* 'causative1'; the apparently empty *ng* element might be the same as the one present in *langūmin* 'kill' and *arengelimin* 'borrow', cf. 4. below).

### 3.6 Nominal incorporation

Mapudungun as used by fluent elderly speakers shows productive lexical-compounding / discourse-manipulating incorporation of nominal elements into the verbal word.<sup>8</sup> Potentially complex NPs can follow the verb root(s) and reduce the syntactic valency of a bivalent predicate (1.1a). It is less frequently applied to monovalent predicates, but when it occurs, the incorporated nominal element often corresponds to the notional subject of the verb root and the PA is an experiencer (sometimes perhaps a possessor) (1.1b); it can also occur with dummy 3rd person marking and a monovalent verb root (1.1c):

- (11) a. *Katri-kachu-me-a-n.*  
cut-grass-AND-FUT-1SG.IND  
'I will go to mow the grass / do some grass-mowing.' (Harmelink 1992: 129)
- b. *Waw-yuw-kile-i-m-i.*  
leak-nose-PROG-IND-2-SG  
'You (SG) have a bloody nose.' (Smeets 2008: 319)
- c. *Dewma puw-raqiya-le.*  
finished arrive.there-evening-3.SBJ go-back-FUT-1SG.IND  
'When the evening has fallen, I shall go back.' (Smeets 2008: 319)

Incorporation may also apply to trivalent verbs, in which case the T argument is the one customarily incorporated and the resulting verb complex is syntactically bivalent. Especially noteworthy is *elidingun* 'inform, tell (sbdy.)' (*el-* 'give' + *dīngun* 'matter, issue'):

- (12) *Elu-dīngtu-a-fi-n.*  
give-matter-FUT-3P-1SG.IND  
'I will inform him/her of it.' (Augusta 1916: 39)

### 4. Uncoded alternations

The ambitransitives *trafon* / *waron* 'break' and *wirarin* 'scream, shout (at)' were already mentioned in 3.3 above. The verb of melting strictly distinguishes valency following the default Mapudungun pattern (*liuwīn* is patientive monovalent and *m-causativized liuwīmin* is bivalent), and others do so following a pattern possibly calqued from Spanish, e.g. reflexivized *ngilawīn* is patientive monovalent 'open' while undervived *ngilan* is either bivalent or agentive monovalent 'open'. Since Mapudungun has a relatively small amount of labile verbs, it is perhaps not surprising that uncoded alternations are comparatively few as well.

Golluscio (2010: 727f) mentions some verbs that can be used either as bivalent or as trivalent predicates without coded alternations mediating between the two variants. *Kullin* 'pay' is

especially interesting in this context, because it can occur either with an unmarked R argument and a [T *mew*] constituent or with unmarked T and R arguments (in that order):

- (13) a. *Kulli-fi-n chi wentru tañi waka mew.*  
pay-3P-1SG.IND ART man 1SG.PSR COW PPOS  
b. *Kulli-fi-n tañi waka chi wentru.*  
pay-3P-1SG.IND 1SG.PSR COW ART man  
Both: 'I paid the man for my cow.' (Golluscio 2010: 728)

*Ramtun* 'ask' appears to be different from *kullin*, since it can occur with or without an overt T argument, but not with a [T *mew*] constituent. *Ngillatun* 'pray, beg, request' also differs from these two cases. First, it is derived (cf. *ngillan* 'buy'; *ramtun* might be historically derived, but there is no undervived \**ramin* in the present-day language). Second, Golluscio (2010: 729) provides data showing that it can be monovalent (e.g. *ngillatu-n ñiche* 'I prayed'), bivalent (*ngillatu-a-fi-m-i* chaw 'you (SG) shall pray to your father'), or trivalent (1.4b). Nevertheless, there seems to be variation here as well; Golluscio cites sentence (1.4b) (from Augusta 1916) with unmarked T and R arguments, but the same source also mentions a version with [T *mew*] and the same constituent order alternation we saw for *kullin* 'pay' in (1.3) above:

- (14) a. *Ngillatu-a-n kiñe rosario padre mew.*  
ask-FUT-1SG.IND one rosary priest PPOS  
'I will ask a rosary from the priest.' (Augusta 1916: 62)
- b. *Ngillatu-fi-n pichi kachilla tañi piñeñ.*  
ask-3P-1SG.IND little wheat 1SG.PSR child.of.woman  
'I (F) asked my son for some wheat.' (Golluscio 2010: 729)
- c. *Ngillatu-ñma-a-n-mew ñi rosario.*  
ask.for-APPL2-INV-1SG-IND-3A 1SG.PSR rosary  
'S/he asked me for my rosary.' (Augusta 1916: 62)

Golluscio's last example, viz. the pair *aretun* 'borrow, rent' and *arelin* 'lend', is more complicated. The undervived predicate *aren* 'get/be hot' exists but is an unlikely root for the verbs just mentioned. Augusta (1916) also mentions *aretun*, which appears to be ambiditransitive, as Golluscio says—but note (1.5c), where the R participant is integrated into the clause via applicativization instead:

- (15) a. *Aretu-a-n kiñe kareta.*  
borrow-FUT-1SG.IND one wagon  
'I'll borrow a wagon.' (Augusta 1916: 11)
- b. *Aretu-fi-n kareta tañi chaw.*  
borrow-3P-1SG.IND wagon 1SG.PSR father  
'I borrowed a wagon from my father.' (Golluscio 2010: 729)
- c. *Aretu-ñma-a-fi-n ñi kawel.*  
borrow-APPL2-FUT-3P-1SG.IND 1SG.PSR horse  
'I will ask him/her for his/her horse.' (Augusta 1916: 300)

In addition, Augusta mentions two related verbs meaning 'lend', viz. *arelin* and *arengelimin*, but he notes that the former means 'lend (sthg.) to (sbdy.)' while the latter means 'lend (sthg.):'

<sup>8</sup> The reader is referred to Harmelink (1992), the first in-depth study on the topic, as well as to Smeets (2008: 318f) and Zúñiga (2006a: 181f).

- (16) a. *Arelʔi-n*                      *piilata*  
 lend1-3P-1SG.IND            money  
 'I lent him/her money.' (Augusta 1916: 11)
- b. *Arengellim-ke-la-n*            *piilata*    *mapunche*            *mew*.  
 lend2-HAB-NEG-1SG.IND    money    M.                      PPOS  
 'I do not lend money to the Mapuche.' (Augusta 1916: 11)

*Arelʔin* can appear either without the DOMr-*fi* and only with an overt T argument in the clause, in which case it is syntactically monovalent, or with *-fi*, as in (16a) above, in which case it is trivalent. With respect to *arengellimʔin*, my consultants rejected attempts to accommodate an unmarked R argument with this verb without applicativization. If all these predicates are built on a root *\*are-* that no longer exists in the language, it is not evident what the meaning of such a root might have been. Assuming *arengellimʔin* is not anomalous with respect to the linear order of its elements, *\*are-* should have been monovalent for it to be passivizable via *-nge*, and then a causative/applicative *-l* and a causative *-m* would have been added, but such a derivational process is clearly unattractive on semantic grounds if the compositionality principle is supposed to hold. Alternatively, one could hypothesize that the transitivizers are suffixed to the stem *\*areng-* instead of *\*are-* (analogously to the opposition between underived *la-* 'die' and causative *lang-m-* 'kill', cf. 5.3 below), in which case (i) the underived root *\*are-* possibly meant 'go as a loan', (ii) the *l*-causativized stem *are-l-* originally meant 'lend' (lit. 'cause to go as a loan'), and (iii) the *m*-causativized stem *areng-l-m-* originally meant 'borrow' (lit. 'cause to lend'), with the root extension from *are-* to *areng-* perhaps triggered by *-ni*.

## 5. Coded alternations

### 5.1 Reflexives and reciprocals

There is a morphological reflexive/reciprocal suffix *-w* (*-iw* after nonvowels) that occurs (i) only marginally with monovalent predicates (possibly a calque of telicizing *se* in Spanish), (ii) regularly with bivalent verbs of relevant semantics (where the A argument is interpreted as coreferential with the P argument), and (iii) somewhat restrictedly with trivalent verbs (where the A argument is interpreted as coreferential with the R argument). Thus, both *leliwʔin* 'look at oneself, look at each other' (< *lelin* 'look at') and *eluwʔin* 'give (sthg.) to oneself, give (sthg.) to each other' (< *elun* 'give') are felicitous, but *miintuwʔin* (< *miintun* 'take away') and *areluwʔin* (< *arelin* 'lend') only admit the reciprocal interpretations 'take away from each other' and 'lend to each other' respectively. See Golluscio (2010: 742f) for more details.

### 5.2 Passives

Mapudungun passives are obligatorily agentless. The verb takes the suffix *-nge* and indexes via person-number morphology the P argument of bivalent verbs and the R argument of trivalent predicates. Whether the passivized stem is derived or nonderived, neither DOM nor inverse morphology can appear on the verb form. Examples follow:

- (17) a. *Elu-nge-n*                      *epu*            *waka*.  
 give-PASS-1SG.IND            two            cow  
 'I was given two cows.'

- b. *Pedro*            *ngilla-l-nge-i-θ*                      *kine*            *kawell*.  
 P.            buy-APPLI-PASS-IND-3            one            horse  
 'Pedro was bought a horse.'

Augusta (1903: 60) mentions infrequent instances of *-nge* applied to monovalent predicates—which would favor Salas's (2006: 116) characterization of this suffix in terms of 'indeterminate agentive 3rd person' instead of passive marker—, as in *kom angʔi ulkantu-nge-ke-i-θ tuchi nuka mew* (all day sing-PASS-HAB-IND-3 that house PPOS) 'people sing all day long in that house'. Some of my consultants were indecisive as to the acceptability of such forms while others simply rejected them; more research is needed here.

### 5.3 Causatives

I follow Golluscio (2007, 2010) here in distinguishing low-control causative *-m* from high-control causative *-l*. Both apply to monovalent verbs, the former usually deriving bivalent change-of-state predicates (e.g. *afimʔin* 'cook (sthg.)' < *afin* 'cook') and the latter typically deriving bivalent activities performed by human/animate participants (e.g. *kiidawelin* 'make (sbdy.) work' < *kiidawʔin* 'work', *ayelen* 'make (sbdy.) laugh' < *ayen* 'laugh').

The morphology of these two causative is quite diverse. The suffix *-m* (which expectedly appears with epenthetical *i* after nonvowels) triggers fortition in stem-final *f* and *g*, e.g. *leptimʔin* 'make run' < *lefin* 'run', *nakiimʔin* 'lower' < *nagin* 'descend', possibly suggesting old age. By contrast, *-l* habitually appears as *-el* after non-vowels, does not trigger any morphophonemic changes in its environment, and is apparently the same suffix *-l* as one of the applicatives (cf. 5.4). Nevertheless, the expected *-il* does appear with some determined predicates.)

Golluscio (2010: 717-718) mentions that *l*-transitivization may have a contextually determined reading—i.e., it is interpreted as either causative or applicative—with monovalent bases, e.g. *kiidaw-l* 'make (sbdy.) work / work for (sbdy.)' and *aye-l* 'laugh at / make (sbdy.) laugh'. To judge from Augusta's (1903) presentation and my consultants' responses, I tend to believe that this dual nature of *-l* is a relatively recent phenomenon and not merely a recently discovered one: fluent elderly speakers apparently tend to reject the applicative reading of *l*-transitivized monovalent verbs significantly more often than younger (typically more educated) ones.

A few verbs of the questionnaire are *m*-causatives, viz. *llumimʔin* 'hide (sthg.)' < *llumin* 'hide', *langimʔin* 'kill' < *lan* 'die' (with an unexpected, and unexplained, *ng* segment), and *afimʔin* 'cook (sthg.)' < *afin* 'cook'. The other derived bivalent predicates in the sample are *l*-causatives: *apolin* 'fill (sthg.)' < *apon* 'fill', *kiipalin* 'bring' < *kipan* 'come', *amulin* 'send' < *amun* 'go', and *trupeʔilin* 'frighten' < *trupeʔin* 'become frightened'.

### 5.4 Applicatives

Four major operations in the language allow a nonagentive participant that is not a base core argument of the predicate to appear as an applied core argument. Two of them are instances of suffixation: *-l* (and its allomorphs) and *-nina* (and its allomorphs). The other two are instances of root serialization: the functional root following the main root is either *tu-* 'take, get' or *ye-* 'carry, bring'.

What I will label applicative<sup>1</sup> here is usually interpreted as having a benefactive yield, or at least as implying that the (base) T argument will approach the (applied) R argument. In (18), however, the applied argument *karipotro* is the name given to the base argument *keskesheshi inim*

'k. bird', which is the primary object in the applicativized clause (i.e., it is coreferential with the verbal DOMr -*fi*).<sup>9</sup>

- (18) *Pu mapache iyuntuku-lel-fi-i-Ø keshkeshēñ iñitīm kariipotro.*  
 PL M. name-APPL1-3P-IND-3 k. k. iñitīm kariipotro.  
 'The Mapuche call the *keshkeshēñ* bird *kariipotro*.' (Augusta 1916:273)

As mentioned in 5.3 above, the use of *-l* to applicativize monovalent bases has been reported in the literature; it is customarily found with bivalent bases, and it is not difficult to find cases of underived trivalent bases applicativized with *-l* (19). *L*-applicativization of derived trivalent bases seems to be relatively marked, but it is found as well.

- (19) *Elu-l-fi-n sañchu tarñi wenñiy tarñi foñitīm.*  
 give-APPL1-3P-1SG-IND pig 1SG.PSR friend 1SG.PSR son.of.man  
 'I (M) gave my son's friend a pig.' (Golluscio 2010: 737)

The allomorphy of applicative *-l* is intricate; the suffix can appear as *-el*, *il*, and even as *-lel*, under specific phonological and lexical conditions. Golluscio (2010) prefers to treat *-lel* as a different applicative altogether. There is indeed some evidence supporting such an analysis, e.g. *tuku- ~ tuku-l* 'put, cover (sthg.)' (where *-l* is valency-neutral) vs. *tuku-lel* 'put, cover (sthg.) for (sbdy.)' (where *-lel* is a clear applicative) and *kuidaw-l* 'work for (sbdy.) / make work' (where *-l* is arguably an underspecified transitivizer) vs. *kuidaw-lel* 'work for (sbdy.)' (where *-lel* is a clear applicative). The facts are more complicated, however; despite Golluscio's claim that *-lel* never functions as a causative marker' (2010: 719), both Augusta (1916: 65) and my consultants agree that with some verbs it can be, e.g. *l-lel* 'feed' (< *l* 'eat'). See Zúñiga (2009, 2010a, forthc., i.p.) for more details.

Applicative2, by contrast, is widely used to applicativize avalent and monovalent bases; its use with bivalent bases is frequent, and both underived and derived trivalent verbs take it as well. When applied to bivalent verbs, its yield can usually be interpreted as malefactive, or at least as separative, especially when it contrasts with applicative1:

- (20) a. *Ngilla-lel-fi-n Juan ñi kawellu.*  
 buy-APPL1-3P-1SG-IND J. 3.PSR horse  
 'I bought a/the horse for / in order to give it to Juan.'  
 b. *Ngilla-ñma-fi-n Juan ñi kawellu.*  
 buy-APPL2-3P-1SG-IND J. 3.PSR horse  
 'I bought a/the horse from / on Juan.'

With derived trivalent verbs, *-ñma* seems to be the preferred applicativizing option and does not seem to have a clearly benefactive or malefactive interpretation:

- (21) a. *Wēñe-ñma-ñma-nge-i-m-i waka tami foñitīm.*  
 steal-APPL2-APPL2-PASS-IND-2-SG cow 2SG.PSR son.of.man  
 'They stole your (M.SG) son's cow.' (Salas 2006: 124)  
 b. *Kiipa-l-el-ma-nge-i-m-i kiram tami ñukē.*  
 come-CAUS-APPL1-APPL2-PASS-IND-2-SG egg 2SG.PSR mother  
 'They brought eggs to your (SG) mother.' (Salas 2006: 124)

<sup>9</sup> The bivalent verb *iyuntukun* 'name (sthg.)' is morphologically complex and consists of *iy* 'name' plus the infinitive *tun* 'take' and the root *tiku* 'put, cover', but this is irrelevant for the suffixation of applicative *-lel*.

With avalent and monovalent verbs, it has received separate treatment by other authors (e.g. Salas's 2006 "participative" and Smeets's 2008 "experience"). Even though the allomorphy conditions are admittedly more complex than with *-l*, there is enough evidence to regard the formative *-ma* (~ *-(i)ñma*) found with avalent and monovalent verbs as allomorphy of the formative *-(i)ñma* (~ *-ma*) found with bivalent and trivalent verbs (cf. Zúñiga 2009, 2010b, forthc.). The most important difference between them is that, in many cases, verb valency is not increased in a straightforward fashion but redirected instead; the applied PA is the new participant, and the original (3rd person) participant can appear as overt and unmarked NP in the clause, but without indexing on the verb:

- (22) a. *ñiche aku-ñma-n kiñe kiñme dungu.*  
 1SG arrive.here-APPL2-1SG-IND one good matter  
 'I received a nice message.' (Smeets 2008: 302)  
 b. *ñiche af-ma-n kofke.*  
 1SG end-APPL2-1SG-IND bread  
 'I ran out of bread.' (Smeets 2008: 302)  
 c. *ñiche kon-ma-n triñfir ñi nge mew.*  
 1SG enter-APPL2-1SG-IND dust 1SG.PSR eye PPOS  
 'I got dust in my eye.' (Smeets 2008: 302)  
 d. *Femngen kon-ma-a-i-i-u ale.*  
 thus enter-APPL2-FUT-IND-1-DU moonlight  
 'Thus the moon will start shining (before our (DU) work is finished).'  
 (Augusta 1916: 94)

With other monovalent verbs, the resulting predicate is a run-of-the-mill derived bivalent verb:

- (23) a. *Chadi-ñma-fi-n ti karñi-n ilo.*  
 salt-APPL2-3P-1SG-IND ART cut-NFIN meat  
 'I put salt on the piece of meat.' (Smeets 2008: 303)  
 b. *Ani-ñma-e-i-Ø-mew wekufil.*  
 sit.down-APPL2-INV-IND-3-3A demon  
 'S/he (PROX) was possessed by a demon (OBV).' (Smeets 2008: 303)

The other two applicativizing strategies, viz. those built on *tu*- 'take' and *ye*- 'carry', differ from *-l* and *-ñma* on both formal and functional grounds. First, the base verb root forms a complex verb stem together with one of these roots, which show no allomorphy whatsoever. Second, they have a much more varied syntactic yield. With some verbs, *tu*- and *ye*- are arguably both valency-neutral and meaning-neutral (e.g. *kakimū(-tu)-n* 'change (sthg.)'; *dewma(-ye)-n* 'make'); sometimes they might show some semantic yield (e.g. *ñidifun* 'mend', *pen* 'see' vs. *peyen* 'picture'); *tu*- is reported by Augusta (1916) to detransitivize some verbs, but present-day speakers do not seem to consistently interpret such alternations the way he predicts. Third, when they do increase verb valency they have fairly specific (and restricted) semantic effects. *Tu*- basically adds goal SAs to monovalent verbs of motion (e.g. *kontun* 'go to (sbdy.)'s place', from *kontün* 'enter') and stimulus SAs to monovalent psych verbs (e.g. *ilkutun* 'get angry at', from *iltun* 'get angry'). In turn, *ye*- typically adds topics of speech/thought to monovalent verbs (e.g. *dinguyen* 'speak about', from *dingun* 'speak').

## 6. Conclusions

Like in many other languages, the number of Mapudungun valent verbs and underived trivalent verbs is relatively small. The language is basically transitivity (Nichols et al. 2004), with several valency-increasing operations applying to underived verbs in order to accommodate causers, as well as to both underived and derived verbs to accommodate different nonagentive participants. While it is apparent that the causatives partition the Mapudungun lexicon in a systematic way, it is not yet clear to which extent the applicatives do so as well. Productive alternations between coding frames are typically coded on the verb; applicatives derived via suffixation are more productive—although not necessarily always more semantically regular—than those derived via root serialization and causatives. On the inflectional side, the semantic and pragmatic principles governing the inverse system and differential object marking regulate the way matrix clauses function, without any clear tendencies with respect to skewings related to predicate class, or even to individual predicates.

Spanish—with which it has been in contact for the last four centuries—is markedly different: transitive-ditransitive alignment is indirective/neutral in Spanish, whereas it is secundative in Mapudungun. Moreover, Spanish is basically detransitivizing and has an anticausativizing derivation, as well as pervasive use of constructions with datively coded nonbase participants instead of the causative and applicative strategies of Mapudungun. Even though Spanish prepositions like *a*, *de*, and *en* cover a wide range of spatial and nonspatial meanings and can be used to accommodate nonbase participants in three-participant clauses, there is no direct equivalent of the highly unspecified Mapudungun postposition *mew*—which is used rather rarely to introduce nonspatial participants—in that language. The anticausative use of reflexive morphology is not only limited in Mapudungun but also possibly a comparatively recent calque from Spanish. Interestingly enough, Mapudungun is like Spanish, and unlike English, in that labile verbs (especially change-of-state ones like those corresponding to *break* and *melt*) are relatively few. Uncoded alternations of the type *load hay onto the wagon* vs. *load the wagon with hay* are present in Spanish if one regards the dative participants as comparable, but they are infrequent in Mapudungun.

## Abbreviations

AND andative, APPL applicative, ART article, CAUS causative, CIS clisocative, DOMr differential object marker, DU dual, F future, FUT future, HAB habitual, IND indicative, INV inverse, INTER interruptive, M masculine, NEG negative, PA primary argument, PASS passive, PVV perfective, PL plural, PPOS postposition, PROG progressive, PSR possessor, SA secondary argument, SAP speech act participant, SBV ssubjunctive, SG singular, TEL telic, TRANS translocative, VBLZ verbalizer

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