Conference on Valency Classes in the World's Languages

Date: April 14-17th, 2011

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

Registration closed.

Our conference will be open to the public, so if you wish to attend if 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 (ILCAA) and by the National Institute for Japanese Language and Linguistics (NIJAL).

Organised by:

- Andrej Malchukov
- Ireen Hartmann

Local organizer:

- Claudia Schmidt
# Conference program

**Thursday, April 14th**

**Early Bird Meeting:**

19:00 DINNER downtown @ Alte Nikolaischule

**Friday, April 15th**

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<th>Time</th>
<th>Session</th>
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<tr>
<td>09:00-09:30</td>
<td>Coffee &amp; Registration</td>
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<td>09:30-09:45</td>
<td>Welcoming words and important announcements (Andrej Malchukov &amp; Iren Hartmann)</td>
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<td>Chair</td>
<td>Martin Haspelmath</td>
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<td>09:45-10:15</td>
<td>Andrej Malchukov: &quot;Leipzig Valency Classes Project: Goals and Research Questions&quot;</td>
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<td>10:15-10:30</td>
<td>Martin Haspelmath: &quot;The challenge of tabulating language structure&quot;</td>
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<td>10:30-10:45</td>
<td>Iren Hartmann: &quot;Micro-role landscapes - preliminary results from a cross-linguistic comparison&quot;</td>
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<td>10:45-11:05</td>
<td>Søren Wichmann: &quot;Semantic patterns underlying syntactic alternations cross-linguistically&quot;</td>
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<td>11:05-11:30</td>
<td>Discussion</td>
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<td>11:30-12:00</td>
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<td>12:00-13:00</td>
<td>Plenary I – Beth Levin: &quot;Verb classes within and across languages&quot;</td>
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<td>13:00-14:30</td>
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<td>Iren Hartmann</td>
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<td>14:30-15:00</td>
<td>Anna Bugaeva: &quot;Valency Classes in Ainu&quot;</td>
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<td>15:00-15:30</td>
<td>Hideki Kishimoto &amp; Taro Kageyama: &quot;Valency Classes in Japanese I: Standard Language&quot;</td>
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<td>15:30-16:00</td>
<td>Kan Sasaki: &quot;Valency Classes in Japanese II: Dialects&quot;</td>
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<td>16:00-16:30</td>
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<td>16:30-17:00</td>
<td>Bingfu Lu et al.: &quot;Valency Classes in Mandarin Chinese&quot;</td>
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<td>Martina Ernszt, Alena Witzlack-Makarevich &amp; Tom Güldemann: &quot;Valency Classes in N</td>
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19:00 DINNER downtown @ Indian Garden

Saturday, April 16th

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<th>(SE) ASIA &amp; AUSTRALIA (2nd floor lecture hall)</th>
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<tr>
<td>09:00-10:00 Plenary II – Christian Lehmann:</td>
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<td>&quot;Situation types, valency frames and operations&quot;</td>
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<td>Chair</td>
<td>Sören Wichmann</td>
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<td>10:00-10:30 Robert Schikowski et al.:</td>
<td>Osahito Miyaoka:</td>
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<td>&quot;Valency Classes in Chintang&quot;</td>
<td>&quot;Valency Classes in Central Alaskan Yupic Eskimo&quot;</td>
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<td>10:30-11:00 Coffee break</td>
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<td>11:00-11:30 Sebastian Nordhoff:</td>
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<td>&quot;Coding frames in Sri Lanka Malay&quot;</td>
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<td>11:30-12:00 David Gil:</td>
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<td>12:00-12:30 Ketut Artawa &amp; Masayoshi Shibatani</td>
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<td>(presented by David Gil):</td>
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<td>&quot;Valency Classes in Balinese&quot;</td>
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<td>12:30-13:00 Eva Schultze-Berndt:</td>
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<td>&quot;Complex verbs, simple alternations: valency classes and alternations in Jaminjung&quot;</td>
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<td>13:00-14:00 Lunch break (MPI cafeteria)</td>
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<td>14:00-15:00 Plenary III – Tasaku Tsunoda (presented by Yo Matsumoto):</td>
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<td>&quot;The hierarchy of two-place predicates: its limitations and uses&quot;</td>
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<td>Chair</td>
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<td>15:00-15:30 Nicholas Evans:</td>
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<td>15:30-16:00 Coffee break</td>
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<td>16:00-16:30 Claire Moyse-Faurie:</td>
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<td>&quot;Valency classes in Xarakcùù (New Caledonia)&quot;</td>
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<td>16:30-17:00 Zarina Molochieva &amp; Alena Witzlack-Makarevich</td>
<td>&quot;Valency Classes in Chechen&quot;</td>
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<td>Fernando Zúñiga:</td>
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<td>&quot;Valency Classes in Mapudungun&quot;</td>
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Sunday, April 17th

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<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Title</th>
<th>Handouts/Presentation</th>
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<tbody>
<tr>
<td>09:00-09:30</td>
<td>Bernard Comrie &amp; Zaira Khalilova</td>
<td>&quot;Valency Classes in Bezhta&quot;</td>
<td>[handout]</td>
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<td></td>
<td>Jóhanna Barðdal</td>
<td>&quot;Icelandic Valency Classes: Oblique Subjects, Oblique Ambitransitives and the Impersonal Passive&quot;</td>
<td>[presentation]</td>
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<td>09:30-10:00</td>
<td>Michael Daniel &amp; Victoria Khurshudyan</td>
<td>&quot;Transitive Prototype and Deviations in Armenian Verb System&quot;</td>
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<td>Michela Cennamo</td>
<td>&quot;Intransitive alternations in Italian and the semantics of predicates&quot;</td>
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<td>10:00-11:00</td>
<td>Plenary IV – Cliff Goddard</td>
<td>&quot;Semantic templates, verb classes, and alternations&quot;</td>
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<td>Discussion &amp; Announcements</td>
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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 (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

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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
  - Heni líkuðu mennirnir.
    - 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

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Basic Coding of In/Transitives

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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

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(from Barödalen, Kristofferson & Sveen 2011)
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Uncoded Alternations/Case Alternations (1)

- **Dative Substitution** (Dative Sickness)
  - Accusative as a subject case is replaced by dative (Barðdal 2011)
    - Mér langer vs. Mér langar
      - me.DAT longs vs. me.ACC 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)
    - Mér hefur allúfðu þetta vel vs. Bæta hefur allúfðu þetta vel
      - me.DAT has always fallen this.NOM well vs. this.NOM has always fallen me.DAT well
      - ‘I have always liked this.’ vs. ‘This has always pleased me.’

Uncoded Alternations/Case Alternations (2)

- **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:
    - Ég fók það horðnir vs. Ég fók það lerðlabð
      - I washed baby-the.DAT vs. I washed towel-the.ACC

- **Caused-Motion from Intransitive:**
  - Several intransitive predicates can occur in the Caused-Motion Construction with a dative object:
    - Ég kem til þessi vs. Ég kem
      - I come to this vs. I come
      - ‘I’ll get this over to you’
    - Hann hósta upp milljónum vs. Hann hósta
      - He coughed up three millions vs. He coughed
      - ‘He managed to raise three millions’

Uncoded Alternations/Case Alternations (3)

- **It – He Alternation:**
  - First and foremost found with weather verbs:
    - Hringir vs. hann hringir
      - It rains vs. he rains
      - ‘It rains’ vs. ‘He rains’

- **The Uncoded Middle:**
  - Málningin ekur vel vs. Málningin
    - paint-the covers well vs. paint-the

- **The Oblique Anticausative Alternation**
  - Is coded, not on the verb, but on the subject argument
Coded Alternations

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

Passive

- Nominative Passive
  - With verbs that select for accusative objects in the active:
    Sagan var sigð aftur og aftur.
    story-the.NOM was told again and again
- Dative Passive
  - With verbs that select for dative objects in the active:
    Ömmu voru send blóm.
    grandma.DAT were send flowers.NOM
- Genitive Passive
  - With verbs that select for genitive objects in the active:
    Hans var leita lens.
    he.GEN was looked-for long

Refl exive Alternation

Impersonal Mediopassive

Reflexive (Mediopassive) Alternation


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

Impersonal Mediopassive (modal passive)

Impersonal Passives (with Transitives)

- Impersonal Passives
  - Traditionally formed by intransitive predicates, allegedly only with unergatives, although I find examples with unaccusatives fully grammatical:

Impersonal Passives

- Traditionally formed by intransitive predicates, allegedly only with unergatives, although I find examples with unaccusatives fully grammatical:

Á föstudaginn var haldi á Snorrastaði ásamt fríðu fornøyeti: Fríðu (hahahah), Helmu, Björney og Rósu. Við tokum þá skynðiskviðun að skella okkur bara í skreytó-ferðina og verður ekki séð eftir því ...
and becomes not seen after it

‘Last Friday we took off to Snorrastaðir, by comely escorts: Fríðu, Helma, Björney and Rósa. We made a spontaneous decision to just wade into the school trip and this will not be regretted.’
Impersonal Passives (with Transitives)

- Impersonal Passives with Transitive Predicates
  - The “NEW PASSIVE” or the “NEW CONSTRUCTION”
    - *Púk var lani mig*
      it was hit me.ACC
      ‘I was hit’ or ‘Somebody hit me’
    - *Púk var lani mör*
      it was pushed me.DAT
      ‘I was pushed’ or ‘Somebody pushed me’
    - *Púk var sagt nör ah …*
      it was told me that

Active or Passive?

- An Active Construction (Maling & Sigurjónsson 1998, 2002)
  - Controls Subject-Oriented Adjuncts
    - *Púk var kóði miðin grátandi.*
      it was read obituary-the.ACC crying
    - *Stúð var dálkin, standandi.*
      bowl-the.NOM was drunk standing
    - English: The weather was lovely and *lunch was eaten: sitting on the grass near the park*
Oblique “Anticausatives” with Ditransitives

**Dat-Acc**

\[
\text{Ég } \text{gaf } \text{byr.} \quad \text{vs.} \quad \text{byr.} \text{gaf } \text{Ég.}
\]

\[\text{I NOM gave them.} \text{DAT wind.} \text{ACC}
\]

'I gave them wind.'

\[\text{them.} \text{DAT gave wind.} \text{ACC}
\]

'They were given wind.' or

'They received wind'

**Acc-Gen**

\[\text{að/fiðr } \text{einhvern } \text{einhvers.} \quad \text{vs.} \quad \text{Einhvern } \text{fiðr } \text{einhvers.}\]

'urge someone.} \text{ACC something.} \text{GEN}

'to urge someone.} \text{ACC something.} \text{GEN'

'urge someone to do something'

ind-Gen

\[\text{að/fiðr } \text{einhvern } \text{einhvers.} \quad \text{vs.} \quad \text{Einhvern } \text{fiðr } \text{einhvers.}\]

'someone.} \text{ACC desires something.} \text{GEN}

'someone desires something'

Indo-European Oblique Anticausatives

(Cennamo, Eythórsson & Barðdal, to appear)

**Old Saxon**

\[\text{fæhit } \text{im } \text{an sælþig thing.} \quad \text{vs.} \quad \text{brings.3PSG him.} \text{DAT to holy thing.} \]

'he is brought to holy things' (Heiland)

**Ancient Greek**

\[\text{με } \text{δε } \text{σκοτόδιναν } \text{ἄλγον } \text{η} \text{γείμιν } \text{εμπρός.} \quad \text{vs.} \quad \text{not already dizziness.} \text{ACC faintness.} \text{ACC and you.} \text{DAT cause.} \text{SUBJ}
\]

'Let you be brought faintness and dizziness'  (Plat. Leg 892.e.7-a.1)

**Old Russian**

\[\text{Jako } \text{g’nasti } \text{pout’ } \text{m’neg’; } \text{tako } \text{pridig’ } \text{ta.} \quad \text{vs.} \quad \text{so chasèd paths many } \text{thee.} \text{DAT such overtook}
\]

'You have followed many paths, so you have been overwhelmed'

(Nest. Zhit. Theod.3)
Valency classes in Ainu

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1

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/rememberers 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)

<table>
<thead>
<tr>
<th>person-number</th>
<th>A/P</th>
<th>A markers</th>
<th>S markers</th>
<th>P markers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>kani 'I'</td>
<td>ku=</td>
<td>ku=</td>
<td>en=</td>
</tr>
<tr>
<td>1PL.EXC</td>
<td>cōka 'we' (I and he/she/them)</td>
<td>e=</td>
<td>s=</td>
<td>un=</td>
</tr>
<tr>
<td>2SG</td>
<td>eani 'you, SG'</td>
<td>e=</td>
<td>e=</td>
<td>e=</td>
</tr>
<tr>
<td>2PL</td>
<td>eotoka 'you PL'</td>
<td>eci=</td>
<td>eci=</td>
<td>eci=</td>
</tr>
<tr>
<td>3SG</td>
<td>sinuma 'he/she'</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>3PL</td>
<td>oka 'they'</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Indefinite (IND)
also has the functions of:
1. 1PL INC 'we (I and you)'
2. 2SG/PL honorific
3. topophasic

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) (kani)  ku=mina
   I  1SG, S=laugh
   'I laughed.'

(2) eci=en-kotyekar  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**

- 3SG/PL is zero-marked (3a,b) and
- 1SG/PL+2SG/PL P (3c) triggers a fusional marker eci= (same as 2PL, see Table 1).

(3) a. (kando) cikap kə=O=nukar
   I bird 1SG.A=3.P=see
   ‘I saw a bird.’ (Tamura 1983: 15)

b. toan hekaci O=ε=nukar
   that boy 3.A=2SG.P=see
   ‘That boy saw you.’

c. eci=nukar rusuy kusu te ta eci=huwara
   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) (*kə=ε=)

---

**Introducing adjuncts: case postpositions**

- Adjuncts are marked by the following postpositions:
  - locative ta,
  - allative un,
  - dative e-un (< head.PF-ALL) (for animate Goal; 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 vi (S):

(4) a. (cōka) aynu or un inkar=as
   1PL.EXC(is and he/she/they) human place ALL look=1PL.EXC.S
   ‘We (I and he/she/they) looked to the place of humans.’ (OI).

For vi (A):

b. (cōka) aynu koton ek=O=nukar rusuy
   1PL.EXC human village 1PL.EXC.A=3.O=see DESID
   ‘We (I and he/she/they) wanted to see an Ainu village.’ (OI).

c. unarpe (cōka) un=nukar=
   aunt we (me and him/her/them) 1PL.EXC.O=see
   ‘The aunt saw us (me and him/her).’ (OI).

---

**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 O= will be omitted in glosses).**

(5) itanki huraye hine (itanki) ani i=ko-i-pun=ı
   bowl wash and (bowl) INST IND.O=to.AGPL-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>
   2.1 Extended mono-valent:
      - <S L+loc/all/abl subj[S].V>,
      - <S adv+subj[S].V> (won’t be discussed here).
   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>
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>

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

- A heterogeneous group of 20 verbs with agentive and patientive semantics:
  - Motion: hayupu RUN, tetterke JUMP, karkarse ROLL.
  - Human emotion and communication: sinotca-ki SING, mina LAUGH, kirirse SCREAM, sinor PLAY, mismu BE SAD.
  - Sensation: mé-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, omke COUGH, (apto) as RAIN (lit. ‘rain stands’).

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 stri!
   this-day appearance-be.good VIS.EV
   ‘It is a fine weather today.’ (NN 38)

(7) nisatto mé-an wa upas as nankor.
   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 mé-ray-ke <cold-die-CAUS> ‘feel cold’ (with A-incorporation; lexicalized) which has been included in the database.

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, hayupu RUN, tetterke JUMP, karkarse ROLL.
  - Existence: an (SG)/oka (PL) LIVE, a (SG)/rok (PL) SIT.
  - Location: a (SG)/rok (PL) SIT.
  - Perception: inkar 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.’ (K780323UP.035)
12
• 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.

13
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.

14
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[O].V> - 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.

15
Bivalent equative copula (vt-c): <A  CC  subj[A].V>

14

15

14

15
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:
    - double applicative of vi: e-ko-iso [from APPL-to APPL-tell], e-ko-itak [from APPL-to APPL-tell], TALK, ko-e-ikka [from APPL-steal] STEAL.
  - causative-applicative of vi (beyond the database).


Uncoded alternations

- Only two labile verbs (zero-derived causatives):
  - S=P: roska ‘stand.PL’ (vi) – roska ‘stand sth(PL)’ (vt);
  - o ‘be at some place, get on sth’ (vt) – o ‘put/place sth (PL) on sth’ PUT (vd).

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Applicative (Bugaeva 2010)

- Valency-increasing: vi → vt, vt → vd.
- Generally defined as instrumental e-, dative ko-, and locative o-.
- Polymorphically: 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.
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):

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/APPPEAR, a (SG) irok (PL) SIT/ LIVE (Location)
  - motion: arpa (SG) / paye (PL) GO, hoyupu (SG) / hoyuppa (PL) RUN (Location); communication and emotion: mismu BE SAD, mina LAUGH, cис CRY (Content), sinot PLAY (Instrument).
- from vt
  - contact: kik HIT (Location), kik-(kik) BEAT, kar BUILD (Instrument);
  - interaction: kasuy HELP (Content), haw-e-koyki SHOUT AT (Cause);
  - ditransitive: rura CARRY (Instrument).

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):

In the database, 15 verbs allowed the applicative derivation in ko-:
- from vi
  - motion: tetterke JUMP, hemesu CLIMB (Goal), karkarse ROLL (Comitative: co-patient).
- from vt
  - caused motion: rura CARRY, nuwe WIPE (GOAL), uk (SG) / uyna (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, omak LOVE.

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: rura CARRY.

Antipassive
- The prefix A 'thing/person', also referred to as "generalized object".
- 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: rura CARRY, nuwe WIPE (GOAL); pursuit: hunara SEARCH;
  - affected subject: e EAT, huraye WASH, koni FEEL PAIN, memke SHAVE;
  - perception: nu HEAR, nukar SEE (Æ inkar LOOK);
  - interaction: kasuy HELP, ye SAY.
- from vd
  - ditransitive: e-pakasnu TEACH, nu-re TELL.

(21) a. otantar or i umi-huraye
  tub place ALL APASS-wash
  ‘She did laundry in a tub.’ (T 218); cf. base construction:

(22) b. orano nani us iye 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)
Conclusions

Figures 1 & 2 show lexical sensitivity with respect to coding and alternations.

Figure 1. One-dimensional verb-type hierarchy in Ainu (in line with Tsunoda 1985)

\[ \text{Effect} \rightarrow \text{Act} \rightarrow \text{Contact} \rightarrow \text{Pursuit} \rightarrow \text{Affected Subj.} \rightarrow \text{Perception} \rightarrow \text{Interaction} \rightarrow \text{(Cognition)} \rightarrow \text{Emotion} \rightarrow \text{Motion} \rightarrow \text{Loc/Exist.} \rightarrow \text{Sensation} \rightarrow \text{Meteo.} \]

CAUS \rightarrow APPL \rightarrow APASS \rightarrow APPL \rightarrow APPL \rightarrow CAUS \rightarrow None

CAUS \rightarrow APPL \rightarrow APPL \rightarrow APPL \rightarrow APPL \rightarrow APPL

Figure 2. Two-dimensional verb-type hierarchy in Ainu (in line with Malchukov 2005)

(a) decrease in Patiendness

\[ \text{Effective action} \rightarrow \text{Contact} \rightarrow \text{Pursuit} \rightarrow \text{Interaction} \rightarrow \text{Motion} \]

CAUS \rightarrow APPL \rightarrow APASS \rightarrow APPL \rightarrow APPL \rightarrow APPL \rightarrow APPL

CAUS \rightarrow APPL \rightarrow APPL \rightarrow APPL

(b) decrease in Agenthood

\[ \text{Effective action} \rightarrow \text{Affected Subj.} \rightarrow \text{Perception} \rightarrow \text{(Cognition)} \rightarrow \text{Emotion} \rightarrow \text{Sensation} \rightarrow \text{Meteo.} \]

CAUS \rightarrow APASS \rightarrow APPL \rightarrow APPL \rightarrow APPL \rightarrow APPL \rightarrow APPL \rightarrow CAUS \rightarrow None

CAUS \rightarrow APPL \rightarrow APPL

Semantic transitivity in Ainu: valency classes

I. Highly transitive (vt): Effective Action (CAUS - V \rightarrow CAUS - ke)

II. Transitive (vt): Contact (APPL - e-)

III. Middle (vt & vi):

a. Upper Middle (vt): Pursuit, Affected Subject, Perception (APASS - l- \rightarrow APPL - ko-)

b. Middle middle (vt): Interaction (APASS - l- \rightarrow APPL - e-, ko-), is most prone to coded alternations.

c. Low middle (vt): Emotion (APPL - e-, ko-)

IV. Intransitive (vi): Motion, Location/Existence (APPL - e-, ko-, o-)

V. Highly intransitive (vi): Sensation (CAUS - ka)

VI. No transitivity (vt): Meteorological (None).

Some verbs of Pursuit, Affected Subject, Perception, and Interaction are dependent as they contain a fossilized antipassive prefix l- (e.g., ikka ‘steal’). Synchronously, these verbs are intransitive but diachronically they may easily be traced back to transitives, hence are subsumed here under vt.

Some verbs of Emotion are dependent as they contain a fossilized applicative prefix e- with the function of Content (eramasu/ri) LIKE/WANT sb/sth). Synchronously, these verbs are transitive but diachronically they may easily be traced back to intransitives, hence are subsumed here under vi.

Cognition verbs show a lexical split (vt & vi). Some of them align themselves with Interaction verbs, as APASS - l- \rightarrow APPL - e-, ko-, as Emotion verbs. They should not be regarded as a distinct valency class in Ainu.

Sitama (vt) FEAR and ruska (vi) ‘be angry’ should be classified as Interaction verbs.

Ditransitive verbs do not align themselves as a separate class because all of them are derived verbs, so they should be entered into the respective classes of their base verbs.

The hierarchy proposed for Ainu more/less complies with the general hierarchy proposed in Tsunoda (1985) and two-dimensional hierarchy proposed in Malchukov (2005).

Abbreviations

1/2/3 = 1st/2nd/3rd person, Ø = zero-marked 3rd person, = inflectional boundary in the morphemic line, A = agent/transitive subject, abl/ABL = ablative, adv/ADV = adverbial, all/ALL = allative, APPL = applicative, AUX = auxiliary verb, CAUS = causative, CL = classifier, COHR = cohortative, COMP = complementizer, COP = copula, DES = desinential, DIM = diminutive, EMF = emphatic particle, EP = epenthetic consonant, EXC = exclusive, FIN = final, FRA = final particle, G = Goal, IMP = imperative polite, INC = inclusive, IND = indeterminate, INF = infinitival evidential, INST = instrumental evidential, IT = iterative, L = location, loc LOC = locative, NEG = negative particle, NONVIS = nonvisual evidential, NOM = nominative, P = patient subject, PERF = perfect, PL = plural, POSS = possessive, PROP = protative, RECP = recipient, REP = reflexive, REP.EV = reportative evidential, S = transitive subject, sb = somebody, SG = singular, SOC = sociative, SRC = source, ssth = something, T = theme, TOP = topic, V = vowel, v0 = valent verb, vt = transitive verb, VIS = visual evidential, vi = intransitive verb.

References


Sitama (vt) FEAR and ruska (vi) ‘be angry’ should be classified as Interaction verbs.

Ditransitive verbs do not align themselves as a separate class because all of them are derived verbs, so they should be entered into the respective classes of their base verbs.

The hierarchy proposed for Ainu more/less complies with the general hierarchy proposed in Tsunoda (1985) and two-dimensional hierarchy proposed in Malchukov (2005).
1. Introduction. This work outlines the general valency patterns of Zenzontepec Chatino (ZEN).

- Chatino: a language area in the Sierra Madre mountains of southern Oaxaca State, Mexico.
- Three principal Chatino varieties (Boas 1913):
  - Zenzontepec - the most divergent of the three (Campbell 2010)
  - Tataltepec
  - Eastern Chatino: 20 or so communities

Chatino is coordinate with Zapotec in the Zapotecan language family of the Otomanguean stock (Kaufman 1987).

No previous work on Chatino has systematically explored semantically based valency classes, but see Rasch (2002) and Pride (2004) for descriptions of morphosyntax.

Verbs are classed based on the aspect prefix allomorphs that they select - determined in part by valency but also by phonological factors (Campbell 2011a, see also Villard 2010 and Sullivan 2011).

How do valency alternations relate to aspect prefix verb classes?

Section 2: the basic morphosyntax of ZEN, flagging, and valency coding
Section 3: major valency patterns (coding frames)
Section 4: valency alternations
Section 5: summary and conclusions.

Table 1 lists the 70 verbs along with the main coding patterns and alternations.

### Table 1
Summary of counterpart verbs and alternations

<table>
<thead>
<tr>
<th>Verb</th>
<th>Aspect</th>
<th>Subject</th>
<th>Equipoiplex</th>
<th>A2-</th>
<th>A1-</th>
<th>A2+</th>
<th>A1+</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAIN</td>
<td>e-ye (choo)</td>
<td>A2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>BE DRY</td>
<td>wìt</td>
<td>Bc</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
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<td>+</td>
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<td>+</td>
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<td>RUN</td>
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<td>BLINK</td>
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<td>By</td>
<td>-</td>
<td>-</td>
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1 Thanks to Tranquilino Cavero Ramirez and Flor Cruz Ortiz, native speakers of Zenzontepec Chatino, and the members of the Leipzig Valency Classes Project. This work was supported in part by grants MDPI0153 and IGS0080 from the Hans Rausing Endangered Language Programme (ELDP) to the University of Texas at Austin.

2 The causative of “to feel cold” means “to threaten him/her”.

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University of Texas at Austin
ecampbell@mail.utexas.edu
### Valency classes in Zenzontepec Chatino

#### 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).

<table>
<thead>
<tr>
<th>Verb</th>
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<td>+</td>
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<td>+</td>
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<td>-</td>
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<tr>
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<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>HIT</td>
<td>-w</td>
<td>Ac</td>
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<tr>
<td>CUT</td>
<td>-u-tó</td>
<td>Aa</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
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<tr>
<td>TAKE</td>
<td>-u-tó</td>
<td>Aa</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
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<td>+</td>
<td>(+)</td>
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<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>THROW</td>
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<td>Aa</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>TIE</td>
<td>-u-tó</td>
<td>Aa</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>PUT</td>
<td>-u-tó</td>
<td>Aa</td>
<td>-</td>
<td>+</td>
<td>(+)</td>
<td>-</td>
</tr>
<tr>
<td>POUR</td>
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<td>Aa</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
</tbody>
</table>

#### 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 nák’wa ‘he said’ in (3b).

<table>
<thead>
<tr>
<th>a</th>
<th>ta y-a-call</th>
<th>b</th>
<th>na y-á-call</th>
<th>nák’wa</th>
</tr>
</thead>
<tbody>
<tr>
<td>already</td>
<td>already</td>
<td>**CPL-go=3SG</td>
<td>**CPL-go=3SG</td>
<td>**CPL-go=3SG</td>
</tr>
<tr>
<td>‘you went already?’</td>
<td>‘they have cut (down)’</td>
<td>(down)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **O arguments are flagged by the relational noun jíjú if**
- **pronoun (4) or specific (5).**

<table>
<thead>
<tr>
<th>k-u-ñ-í-jíjú=ëyi</th>
<th>POS-CMPL-FUT=3SG RN=2PL CONJ NEG POT-get=lost=2PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘I am going to guide you (pl.) so that you (pl.) don’t get lost’ [offered].</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5</th>
<th>ta níkí-ì-xukú=ëyi</th>
<th><em>jíjú</em> [na ya níkí=V] tì níì</th>
</tr>
</thead>
<tbody>
<tr>
<td>already</td>
<td>already</td>
<td><strong>CPL-(3)CAM-KU=3PL RN ART CLE.wood Enterozobium.sp.</strong> DEM EMPH now</td>
</tr>
<tr>
<td>‘they have cut (down) the elephant’s ear tree now’ [text: kela ke kwintum 7 1:14]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **If an O argument is not**
- **pronoun 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.**

---

1 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).

1) **nka-ta=ëyi chu kí=ëyi=V’**
- **CPL-cough NMLZ HUM male=DEM**
- ‘the man coughed’ [elicited]

2) **nkí=ëyi=ëyi na nkwi=tó=V’ na=ëyi=ëyi=atë=ëyi kusò**
- **CPL-gather ART child=DEM all of POSS-cloth old**
- ‘the child gathered all of his old clothes’ [text: nkwi=ëyi=ëyi=ti7i 5:25]

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

- 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 nák’wa ‘he said’ in (3b).

- **O arguments are flagged by the relational noun jíjú if**
  - pronoun (4) or specific (5).

- **k-u-ñ-í-jíjú=ëyi | POS-CMPL-FUT=3SG RN=2PL CONJ NEG POT-get=lost=2PL |
  - ‘I am going to guide you (pl.) so that you (pl.) don’t get lost’ [offered].**

- **If an O argument is not**
  - pronoun 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.**

---

3 The causative means “to blame him/her.”
2.2.2. The relational noun lóʔò is a coordinator between clauses or constituents. It also flags instrument (11) and comitative NPs (12).

6) k(i)-u-kíteʔ
POT-CAUS-break
's/he broke it'

2.3. Devices that encode or change valency

• ZEN is a transitivizing language in the terms of Nichols et al. (2004).

• The basic verbal template, adapted from Campbell (2011b), is given in (13).

13) ZEN verbal template

<table>
<thead>
<tr>
<th>Class A</th>
<th>Class B</th>
<th>Class C</th>
</tr>
</thead>
<tbody>
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<td>A2</td>
<td>Be</td>
</tr>
<tr>
<td>POT</td>
<td>ki-</td>
<td>ki-</td>
</tr>
<tr>
<td>HAB</td>
<td>nì-</td>
<td>nì-</td>
</tr>
<tr>
<td>PRG</td>
<td>nte-</td>
<td>nte-</td>
</tr>
<tr>
<td>CMP</td>
<td>nkà-</td>
<td>nkwi-</td>
</tr>
</tbody>
</table>


5 Flagging in ZEN ditransitive constructions differs from that in Eastern Chatino, where inanimate P and T arguments are never flagged by cognates of jìʔì, and R arguments are always flagged (Cruz et al. 2010).
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) Underived verbs

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

Derived verbs

| Sub-class By | y-initial verbs, mostly derived unaccusative | u-caus only |
| Sub-class Au | derived u-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 tī? ‘living core of’ or rikē ‘chest, heart, stomach of’.
  - tā is a reduced form of latā ‘living core of’; cf. proto-Zapotec *suñu ‘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) nā y-a-tōy=tī? ti nā=tī? ni tā? xāyā=mi
NEG CPL-go.be.standing=living.core EMPH 1SG not.even word small=only
‘I did not like it, not even a little bit’ [text: historia2 28:25]

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

16) ‘to care about it’ -a-jnyá=ti? (lit. -become-work=living.core)
‘to believe it’ -yá=ti? (lit. -X=living.core)
‘to know it’ -xu=ti? (lit. -X=living.core)
‘to regret it’ -ise-toq=ti? (lit. -turn-be.standing=living.core)
‘to be sad’ -une=ti? (lit. -get.ground=living.core)
‘to miss, long for it’ -ulā=rīkē (lit. -sing=heart)

3.3. Coding frames of derived verbs

3.3.1. Position 1 intransitive prefix y-.

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

17) tsoʔo nakve lē? nk-y-axʔ=ʔiʔ nanēʔe
good say then CPL-INTR-enter=3PL inside ‘“good”, he said, and they went inside’ [text: nkwi7tan tiʔi 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 transitivizer 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) nte-(u)-ākōʔ? koo jįʔ koʔ
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 transitivizer prefixes s- and t-, many of aspect prefix subclasses Bc, Bt, and Ca are causativized with the u-causative prefix.

3.3.4. Verbs with the e- causative auxiliary.

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

20) n(t)-e-k-utq=yu jįʔ na huu-kōʔ=V
HAB-CAUS-POT-fear=3SG.M RN ART X-excrement=DEM
‘he was scaring the flies’ [text: kwi7iyu 12:31]

- 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) nkwi7t(ē)-k-k-lyeʔ jwá=V jįʔ nā keʔnā=V jįʔ nuʔa=V
CPL-CAUS-POT-CAUS-lick Juan=DEM RN ART plate=DEM RN Pedro=DEM
‘Juan made Pedro lick the plate’ [offered]
Valency classes in Zenzontepec Chatino

4. Valency alternations
4.1. Uncoded alternations

4.1. 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) ŋ-útc na nkwitza kiŋyá=V jīʔ nū kiyá=V
CPL-fear ART child male=DEM RN 3SG.RSP male=DEM
‘the boy feared the man’ [elicited]

23) kwi-na=tzo=w nakwē nā k(i)-utze=wq nakwē
IMP-see=well=2PL say.3 NEG POT-fear=2PL say.3
‘look here’, he said. “do not be afraid”, he said [text: ke kwa 7 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).

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) nyáji na nee nkà mu kaspō nk-y-akè na livrè=V?
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: historia 31 03]

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

26) nite-åkè na kii?
PGR-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) -u-u/u-u ‘to be put inside’ -u-u/u-u ‘to be inside’, (crop) to be yielded
-u-u/u-u ‘to flash’ -u-u/u-u ‘to shine’, ‘to make oneself up’

4.2.3. The equipollent causative/transitive alternation.
- All verbs that undergo the equipollent causative/transitive alternation are given in (30).

30) -at’é ‘to get peeled’ -s-åt’é ‘to peel it’
-åkè ‘to enter, to get put in’ -s-såkè ‘to put it in’
-åkè ‘to come up’ -s-såkè ‘to agitate it’
-Yílu ‘to get spilled’ -s-síllu ‘to spill it out’
-åt’é ‘to get tanned’ -s-såt’é ‘to unite it’
-åt’é ‘to be crushed’ -s-såt’é ‘to crush it’
-åt’é ‘seeds, dust) to be spread’ -s-såt’é ‘to spread (seeds/dust)’
-åkè ‘to be split’ -s-såkè ‘to split it’
-åkè ‘to get sprayed’ -s-såkè ‘to spray it’
-åkè ‘to get shelled’ -s-såkè ‘to shell it’

-åkè ‘to eat (it)’ -s-una ‘to hear (it)’
-åkè ‘to cover close’: less transitive (28) and causative (29).

28) nk-y-åkù? na nkwitza=V lò=kò na tákítza=V
CPL-INTR-cover ART child=DEM RN with ART  cloth=DEM
‘the child was covered with the blanket’ [elicited: 4/19 valence exx]

29) nkà(u-w-y-åkù) nìʔ kiyá=V jíʔ nkà(u-w-y-åkù)
CPL-CAUS-TRN-cover 3SG.RSP male=DEM RN with ART blanket=DEM
‘the man covered the child with the blanket’ [elicited: 4/19 valence exx]
Valency classes in Zenzontepec Chatino

- uweʔ - uweʔ ‘to get scraped, leveled’
- u-s-uweʔ ‘to scrape it, level it’
- u-sueʔ ‘to scrape it, level it’
- V-káʔ ‘to get tied up’
- u-s-ikáʔ ‘to tie it up’
- u-s-ikáʔ ‘to tie it up’
- aké ‘to get burned’
- u-s-aké ‘to burn it’
- alá ‘to be woven’
- u-s-alá ‘to weave it’
- inó ‘to be left, to stay’
- u-s-inó ‘to leave it’
- urú ‘to be put inside’
- u-s-ulú ‘to put it in’
- akí ‘to be folded’
- u-s-akí ‘to fold it’
- óví ‘to go out, get turned’
- u-s-óví ‘to put it out, turn it off, get erased’
- alú ‘to melt’
- u-s-alú ‘to melt it’
- ádú ‘to get torn’
- u-s-ádú ‘to tear it’
- ti ‘to dry’
- u-s-ti ‘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) nkú-xúhi na chajlyá=V lóðò na kuchiluyú=V
CPL-get.eat ART bread=DEM RN with ART knife=DEM
‘the bread was cut with the knife’ [elicited]

32) nkú-xúhi na nkúntz=h V jiñá na chajlyá=V lóðò kuchiluyú
CPL-CAUS-get.eat 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 the u- causative are in (33).

33) jlyá ‘to be spread, to slip’
jlyá ‘to spread, smear it’
- jlyá ‘to spread, smear it’
- jná ‘to grow’
- jná ‘to make (molded)’
- kélá ‘to get extended’
- kélá ‘to extend it’
- kí ‘to open up’
- kí ‘to open it’
- kí ‘to get toasted’
- kí ‘to toast it’
- kíná ‘to get thrown out’
- kíná ‘to throw it out’
- lú ‘to get dug’
- lú ‘to dig it’
- lú ‘to get set free, to get taken’
- lú ‘to free it, take it’
- lákwa ‘to get counted’
- lákwa ‘to count it’
- lítí ‘to sink’
- lítí ‘to sink it’
- la ‘to break’
- lálá ‘to break it’
- lálá ‘to break it’
- lálá ‘to break it’
- lalá ‘to sweep it out’
- lálá ‘to sweep it out’
- nakwá ‘to get blessed’
- nakwá ‘to bless it’
- su ‘to come off’
- su ‘to pick it, remove it’
- su ‘to get cut’
- su ‘to cut it’

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

34) ájì ‘to die’
ájì ‘to kill him/her/it’
- aké ‘to get cooked’
- aké ‘to cook it’
- aké ‘to get cooked’
- aké ‘to cook it’
- atú ‘to pop, to burst’
atú ‘to pop, burst it’
- atú ‘to get wet’
atú ‘to make it wet’

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

35) -tái ‘to walk, to go around’
- tái ‘to move it (in it)’
- tejé ‘to pass’
tejé ‘to pass it, send it (to him/her)’
- tejé ‘to be located’
tejé ‘to take it, place it’
- tákwa ‘to be sitting firmly, to be put in’
tákwa ‘to put, pour it’
- t-úh ‘to be inside’, (crop or fruit)
t-úh ‘to put, pour it’
t-úh ‘to be yielded’
t-téj ‘to get peed, whiddled’
t-téj ‘to peel it’, ‘to whiddle it, shave oneself’

4.2.4. The è- causative alternation.

- The auxiliary è- causative 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) nà y-akaʔ=ʔ suve=V láká
NEG CPL-eat=1SG egg=DEM yesterday
‘I did not eat the eggs yesterday’ [elicited]

37) na nkúntz=h V nte-k-è-k-aka
chajá jiñá na jná=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).

38) jná ‘to shake, to quake, to move’
jná ‘to shake it, shake it up’, ‘shake it (a tree so fruit falls)’
lákwa ‘to boil’
lákwa ‘to boil if’
l-újí ‘to get lost’
l-újí ‘to lose it’
littí ‘to sink’
littí ‘to drown him/her’
le-lís ‘to roll’
le-lís ‘to roll it’
lá ‘to be carried off by the current’
lá ‘to send it in the current’
lá ‘to get angry’
lá ‘to anger him/her’
lá ‘to cause a landslide’
lá ‘to send it in the current’
lá ‘to make it rot’

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

39) -akí ‘(wood) to rot’
-akí ‘to make it rot’
Valency classes in Zenzontepec Chatino

-ású 'to age'
-àtzú 'to spoil'
-è-k-àtzú 'to make it spoil'
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Valency classes in Zenzontepec Chatino

-è-k-utèk ‘to sway (tree in wind)’

-è-k-u-tejè ‘to sway (tree in wind)’

-nte-k-è-k-utz ‘my dreams about people hitting me with a stick are frightening me’

[offered]’Pedro smacked Juan upside the head’

[offered] ’let’s go’, they said”

Figure 1

Less transitive More transitive

Be Ca Be Ac, A2 C2

u- causative e- causative

The verb ‘deceive’ must be from a lexicalized applicative. The basic verb is unidentified and likely lost.

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 u- 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’, ‘untie’, ‘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 tì ‘living core’ or rìkè ‘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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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:


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)


(6) a. manner \(\rightarrow [X \text{ ACT}_{\text{MANNER}}]\)
(Engl.. jog, run, creak, whistle; it. correre, fischiare, scricchiolare, cigolare …)
b. instrument \(\rightarrow [X \text{ ACT}_{\text{INSTRUMENT}}]\)
(Engl.. brush, hammer, saw, shovel; It. spazzolare, scodellare, martellare …)
c. thing/stuff (placeable object RHL 1998) \(\rightarrow [X \text{ CAUSE}_{\text{BECOME}}[y \text{ WITH } < \text{THING}>]]\) (Engl.. butter, oil, paper, tile, wax; It. imburrare, oliare, incartare,
• Some examples:

(7) change of state verbs: [[X ACT] 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):

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: 112, int.al.).

• 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. At. 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).
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/affectiveness) (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\textsubscript{x} verbs and unaccusatives/class S\textsubscript{y} verbs, signalled by a number of morphosyntactic properties, among which indexing (i.e., auxiliary selection and past participle agreement) Unergatives/ class S\textsubscript{x} verbs select the auxiliary HAVE ‘ave’ and lack past participle agreement with the subject (13a); unaccusatives/class S\textsubscript{y} verbs select the auxiliary BE ‘essere’ and show past participle agreement with the subject (13b):

(13) a. I ragazzi \textit{hanno camminato} lungo il viale (Class S\textsubscript{x}/unergatives)

the boys have.PRES.3PL walk.PP.PL.F along the avenue

‘The boys have walked along the avenue’

b. \textit{sono partiti} i ragazzi (Class S\textsubscript{y}/unaccusatives)

be.PRES.3PL leave.PP.PL.M the boy.PL.M

‘The boys have left’ (It. Are left)

(14) a I ragazzi \textit{hanno mangiato} molte mele (transitive)

the boys have.PRES.3PL eat.PP.PL.M many apples

‘The boys have eaten many apples’

b. \textit{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\textsubscript{A}/S\textsubscript{O} 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\textsubscript{1} and L\textsubscript{2} as well as the degree of variation found in some Western European languages (Sorace 1995; 2000; 2004; Cennamo & Sorace 2007):

- \textbf{Change of location} (It. \textit{arrivare} ‘arrive’)
  - Unaccusatives (select BE)

- \textbf{Change of Condition} (It. \textit{nascere} ‘be born’(def.), \textit{crescere} ‘grow’ (indef.))

- \textbf{Continuation of a Pre-existing Condition} (It. \textit{rimanere} ‘remain’, \textit{durare} ‘last’)

- \textbf{Existence of a Condition} (It. \textit{esistere} ‘exist’)

- \textbf{Uncontrolled Process}
  - Bodily function (It. \textit{tossire} ‘cough’)
  - Weather verbs (It. \textit{piovere} ‘rain’, \textit{nevicare} ‘snow’)

- \textbf{Controlled Process (motional)} (It. \textit{camminare} ‘walk’, \textit{nuotare} ‘swim’)

- \textbf{Controlled Process (non-motional)}
  - Controlled, affecting (It. \textit{abdicare} ‘abdicate’, \textit{cedere} ‘yield’)
  - Unergatives
  - Controlled, unafflicting Itt. \textit{lavorare} ‘work’, \textit{giocare} ‘play’ (select HAVE)

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

The \textit{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. partì, ‘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.
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 optional), 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]: 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)’

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’):

(27) a. il bosco è bruciato/ha bruciato per giorni/completamente (processual interpretation)

‘The wood is burnt/has burnt for days/completely’

b. il bosco si è bruciato (*per giorni)

‘The wood RFL is burnt for days’

c. il bosco è bruciato (stative interpretation)

‘The wood is burnt’

‘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:

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 aleticity.

- Virtually all aspactal 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’, *spirare* ‘inspire’) (31) and statives (*basare* ‘be based’) (32) (Cennamo 1995; Jezek 2001; Jezek 2003 168-170):

- **Gradual completion verbs:**

  (29) b. Mario ha (s)vuotato il servizio 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 vuotato di parecchio, ma non è 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) a. 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 *sì* and which alternate HAVE/BE in the form without the reflexive. Class 3 comprises accomplishments, achievements and gradual completion verbs (several alternating verbs (*sì*) are de-adjectival). Although in the variant without *sì* 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 burnt for days’ (eventive/processual interpretation)

   b. Il bosco *sì è bruciato */ per giorni
   *The wood *RFL be.PRS.3SG burn.PP.M.SG* for days
   ‘The wood burnt for days’

   c. Il bosco *sì 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 *sì* (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 *sì* 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 minute’

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 *sì 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’
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
    - 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 (si)vuotar(si) ‘empty’ and gonfilar(si) ‘swell/inflate’ — or in some of them, as with (accomplishment) verbs such as bruciarsi ‘burn’, cuocersi ‘cook’, gelarsi ‘freeze’, fonder(si) ‘melt’), which appear
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):

> Marco mangiò e poi uscì
> Mark eat.PST.3SG and then go.PST.3SG

- 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):

> Giovanni affascina (*ha affascinato*)
> Jane enchant.PRS.3SG (have.PRS.3SG enchant.PP.M.SG)

- 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 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 paints/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'

- 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 licenced 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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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 verb-final 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)
biλa y-ek-e순 house(iv) iv-burn-prs
'The house burns.'

ii. Unergative (small group of onomatopoetic verbs; S, in Ergative, no agreement)

(2)
öži lalaλo-ye boy.erg shout-prs
'The boy shouts.'

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

(3)
öži bąba m-ųq-iyo 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-iyo 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/PPs. 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)
öži c'oy-qa hič-e순 boy(i) fire-poss fear-prs
'The boy fears the fire.'

(6)
öži xox-λä λo-vo Ø-eλ-e-yo boy(i) tree-sup up
'The boy climbed up the tree.'

(7)
öži dii-λä lalaλo-ye boy.erg lsg.obl-sup shout-prs
'The boy shouted at me.'

(8)
öži c'it-ał xabar m-ee-yo boy.erg girl-lat story(iii) iii-let.out-pst
'The boy told the girl a story.'

(9)
öži c'it-ał bąba b-ųć-iyo 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)
wodo guu-s rain come-prs
'The rain is raining.'

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

(11)
öži bab kusuʔ-iyo 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)
öži aš-aʔ ömrö h-o-s boy.erg village-in life(iii) iii-do-prs
'The boy lives in the village.'
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 English.

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

(14) a. öddi kibba-s t'ek y-u'co-yo
boy.erg girl-gen1 book(iv) iv-steal-pst
'The boy stole the book from the girl.'

b. öddi kibba-qa-s t'ek y-u'co-yo
boy.erg girl-poss-abl book(iv) iv-steal-pst
'The boy stole the book from the girl.'

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

(15) öddi hudo m-oso-yo maš
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).

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.

(16) kibba tii-s wedra b-oč'i-lo
boy.erg water-gen1 bucket(iii) iii-fill-caus-pst
The girl filled the bucket with the water.

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) a. öddi kibba-l diʔi niX-yo
boy.erg girl-lat flower give-pst
'The boy gave flowers to the girl.' [permanently]

b. öddi kibba-qa diʔi niX-yo
boy.erg girl-poss book give-pst
'The boy gave the book to the girl.' [temporarily]

c. öddi kibba-qa-l diʔi niX-yo
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) a. öddi kibba-l diʔi y-e'xe-yo
boy.erg girl-lat flower(iv) iv-send-pst
'The boy sent flowers to the girl.' [permanently]

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

(21) öddi kibba-qu bit'änb ṭo niso-yo
boy.erg girl-pos right thing say-pst
'The boy said the right thing to the girl.'

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

(23) öddi kibba-l t'ek y-e'x-e-yo
boy.erg girl-lat flower(iv) iv-send-pst
'The boy showed the book to the girl.'

(24) öddi ?änib mic kibba-l matci<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 Possessive 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
    vase(iii) ill-break-pst
    ‘The vase broke.’

b. di-qa vaza b-iše-yo
    1sg-poss vase(iii) ill-break-pst
    ‘I broke the vase accidentally.’
    ‘I could break the vase.

(26) a. öždi hini-s zoł’o b-üč’-yo
    boy.erg self-gen1 finger(iii) iii-cut-pst
    ‘The boy cut his finger.’

b. öždi hini-s zoł’o b-üč’-iy-o
    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 a small group of verbs, ‘bring’, ‘take’, ‘send’, ‘throw’ and ‘give’.

The Apudessive-Lative Alternation

This alternation is found with the two verbs, ‘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. öždi kibba-l żamyo b-aq’o-yo
    boy.erg girl.obl-lat dock(iii) iii-bring-pst
    ‘The boy brought dock leaves to the girl.’

b. öždi kibba-doy żamyo b-aq’o-yo
    boy.erg girl.obl-apud dock(iii) iii-bring-pst
    ‘The boy brought dock leaves to the girl.’

(28) a. öždi kibba-l diži y-e’e-yo
    boy.erg girl.obl-lat flower(iv) lv-send-pst
    ‘The boy sent flowers to the girl.’

b. öždi kibba-doy diži y-e’e-yo
    boy.erg girl.obl-apud flower(iv) lv-send-pst
    ‘The boy sent flowers to the girl.’

The Apudessive-Lative-Possessive Alternation

This alternation is only found with the 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. öždi kibba-doy burti b-iš-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. öždi kibba-l burti b-D’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)’

b. öždi kibba-qa burti b-D’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. öždi istoliya-l aq’alam b-iš-e-yo
    boy.erg table-sup pencil(iii) iii-throw-pst
    ‘The boy threw the pencil onto the table.’

‘to throw into the bucket’

b. öždi wedra-la-ʔ q’alam b-D’e-yo
    boy.erg bucketobl-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. öždi kibba-l diži nDIX-iyo
    boy.erg girl.obl-lat flower give-pst
    ‘The boy gave flowers to the girl.’ (permanent)

b. öždi kibba-qa t’ek nDIX-iyo
    boy.erg girl.obl-poss book give-pst
The boy gave the book to the girl. (temporal)

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 helal 'to cook'.

\[
\begin{align*}
\text{a. } & \text{ k'atu hele-yo} \\
& \text{`The potato has cooked.'} \\
\text{b. } & \text{kibba k’atu hele-yo} \\
& \text{`The girl cooked the potato.'}
\end{align*}
\]

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.

\[
\begin{align*}
\text{a. } & \text{ öždī kibba-l k’obala b-áel-ca} \\
& \text{`The boy hits the girl with the stick.'} \\
\text{b. } & \text{öždī kid k’obala-li-d y-áel-ca} \\
& \text{`The boy hits the girl with the stick.'}
\end{align*}
\]

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 Possessive case, the P in the Absolutive; agreement, if any, is with the P. The basic verbs are mostly intransitives, rarely transitives.

\[
\begin{align*}
\text{Intransitive verb} \\
\text{(34) } & \text{`die'} \\
\text{a. } & \text{ kid y-uγo-yo} \\
& \text{`The girl died.'} \\
\text{b. } & \text{öždīg̊a kid y-uγo-yo} \\
& \text{`The boy could kill the girl. / The boy accidentally killed the girl.'}
\end{align*}
\]

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.

\[
\begin{align*}
\text{a. } & \text{öždī Ø-ogic i-yo} \\
& \text{`The boy jumped once.'} \\
\text{b. } & \text{öždī Ø-ogiyac-ca} \\
& \text{`The boy jumps many times.'}
\end{align*}
\]

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

\[
\begin{align*}
\text{a. } & \text{öždī oḥa y-o-yo} \\
& \text{`The boy coughed.'} \\
\text{b. } & \text{öždīg̊a oḥa y-o-yo} \\
& \text{`The boy could cough.'}
\end{align*}
\]
'The boy coughed (once).'

b. ööö öhdaa-yo
   boy cough_antip-pst

'The boy was coughing.'

(39) 'shout'

a. ööö lalalæo-s
   boy.erg shout-prs

'The boy shouts.'

b. ööö lalada-s
   boy shout_antip-prs

'The boy shouts.'

When antipassive 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. ööö bàbä m-üq-ëi
   boy.erg bread(iii) iii-eat-prs

'The boy eats the bread.'

b. ööö bàbä-la-d ðøüq-dë
   boy(i).abs bread-obl-instr i-eat-antip-prs

'The boy is busy eating the bread.'

Just as in the transitive construction the P argument in the antipassive construction from the ditransitive verb shifts to the Instrumental.

(41) 'peel'

a. ööö t'ek kibbal nìlæ-iyo
   boy.erg book girl.lat take-pst

'The boy gave book to the girl.'

b. ööö kibbal tek-la-d nìlæ-da-s
   boy.abs book-pl.obl-instr bread(iv) iv-take-pst

'The boy is giving books to the girl.'

5.1.2. The Antipassive 2

The antipassive 2 has reflexive, but not iterative meaning. This is only found in the one verb 'to wash'.

(42) 'wash'

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

'The girl washed the clothes.'

b. kid niza-la-yo
   girl.abs wash_antip-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. ööö katuwas be sh y-ayo-yo
   boy.erg potato.gen1 skin(iv) iv-take-pst

'The boy peeled the skin off the potato.'

b. ööö katuwas be sh y-ayoy-c'-yo
   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 'c'). 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) 'boil'

a. fi yawò-s
   water boil-prs

'The water boils.'

b. kibbaqa fi yawò-4-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) 'take out'

hínìla yak'tìs unĩt'-ur yelay holocaq gisa b-ayoy-4-ä'ë-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]

The sister saw a cat.

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 tranzitivization and the causative derivation which are valency increasing mechanisms. The tranzitivizing 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 verbs derived from adjectives and adverbs, expressing a change of state. The inchoative verbs are derived with the suffix -ɬ- 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).

The causative suffix -l-/ll- derives transitive verbs from intransitive or affective verbs, and ditransitive verbs from transitive verbs; in the latter, the causee 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.

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’ 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’.

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**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 ra ɬ b-ega-yo
   he.lat sea(iii) iii-see-pst
   ‘He saw the sea.’

b. hogco kibbal ra ɬ 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. öži kibbaلاء’a lalaә-o-yo
   boy.erg girl.sup shout-pst
   ‘The boy shouted at the girl.’

b. öži ist’d kibbaلاء’a lalaәо-II-lyo
   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. öži’d’ k’atu hele-II-lyo
   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. öži yiX’a čän y-äy-os
   boy.erg fast run(iv) iv-take-prs
   ‘The boy runs fast.’

b. öži yiX’a čänäy-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, RAIND, DR, BE HUNGRY, JUMP

A[Erg] P[Abs]

EAT, WASH, HELP, FRIGHTEN, MAKE, LOOK AFTER, BLINK, SHAVE, PUSH, COOK, GRIND, DRESS, SEARCH FOR


GIVE, SHOW, CARRY, BRING, SEND

A[Erg] P[Abs] Loc[Sup]

LOAD, PUT


TEAR, STEAL


KILL, HIT, BREAK

Exp[Lat] Stim[Abs]

HEAR, SEE
## Appendix: Valency classes summary

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<tr>
<td>CONVR</td>
<td>-oqol-</td>
<td>A[erg] cover P[sup] with X[Abs]</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>FREIGHT</td>
<td>-iñol-</td>
<td>A[erg] freight P[Abs]</td>
<td>+</td>
<td>+</td>
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<tr>
<td>FEAR</td>
<td>-iñol-</td>
<td>Exp[Abs] fear smth[Poss]</td>
<td>+</td>
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<tr>
<td>DIES WANT</td>
<td>-iñol-</td>
<td>Exp[Lati] like Smth[Abs]</td>
<td>+</td>
<td>+</td>
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<tr>
<td>WASH</td>
<td>-ûol-</td>
<td>A[erg] wash P[Abs]</td>
<td>+</td>
<td>+</td>
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<tr>
<td>COUGH</td>
<td>-ûol-</td>
<td>S[Abs] cough</td>
<td>+</td>
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<td>CLimb</td>
<td>-ûol-</td>
<td>S[Abs] climb up Loc[Sup]</td>
<td>+</td>
<td>+</td>
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<tr>
<td>JUMP</td>
<td>-ûol-</td>
<td>S[Abs] jump</td>
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<td>LIVE</td>
<td>-ûol-</td>
<td>A[erg] live in Loc[In] (a life[Abs])</td>
<td>(lit. do life)</td>
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<td>+</td>
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<td>DIE</td>
<td>-ûol-</td>
<td>S[Abs] die</td>
<td>+</td>
<td>+</td>
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<tr>
<td>BE HUNGRY</td>
<td>-ûol-</td>
<td>S[Abs] be hungry</td>
<td>+</td>
<td>+</td>
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<td>RAIN</td>
<td>-ûol-</td>
<td>S[Abs] rain</td>
<td>+</td>
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<td>GET</td>
<td>-ûol-</td>
<td>R[Lat] get T[Abs] from X[Pos.abs]</td>
<td>+</td>
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<td>CRY</td>
<td>-ûol-</td>
<td>S[Abs] cry</td>
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<tr>
<td>LOOK AFTER</td>
<td>-ûol-</td>
<td>A[erg] look after P[Abs]</td>
<td>+</td>
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<td>-ûol-</td>
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<td>-ûol-</td>
<td>S[Abs] be sick</td>
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<td>-ûol-</td>
<td>S[Abs] be dry</td>
<td>+</td>
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<td>GO</td>
<td>-ûol-</td>
<td>S[Abs] go</td>
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<td>LAUGH</td>
<td>-ûol-</td>
<td>S[Abs] laugh at X[Sup]</td>
<td>+</td>
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<tr>
<td>BURN</td>
<td>-ûol-</td>
<td>S[Abs] burn</td>
<td>+</td>
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<td>MEANING</td>
<td>(Erg)</td>
<td>(Abs)</td>
<td>(Lat)</td>
<td>(Sup)</td>
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<td>Rush</td>
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<td>Exp</td>
<td>Stim</td>
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<td>S</td>
<td></td>
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<td>A</td>
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<td></td>
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<td>Grind</td>
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<td>A</td>
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<td>Peel</td>
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<tr>
<td>Be hunted</td>
<td>be hunted</td>
<td>S</td>
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<tr>
<td>Remember</td>
<td>remember Stim on one's heart</td>
<td>Exp</td>
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</table>

**Explanation:**
- **Erg:** Ergative
- **Abs:** Absolutive
- **Lat:** Locative
- **Sup:** Supine
- **Gen:** Genitive
- **Abl:** Ablative
- **Poss:** Possessive
Valency properties of Mandinka verbs

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1 Introduction

Mandinka, spoken by approximately 1.5 million speakers in The Gambia, Senegal, and Guinea-Bissau, 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 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
obliges most of the time encoded as postposition phrases

(1) a. Kambaan-ôo ye saá baáa fâl-ôo la.
    boy-def pf.pos snake.def hit stick-def obl.1
    ‘The boy hit/beat the snake (with a stick).’

    boy-def pf.neg stone-def-pl throw window-def.on
    ‘The boy did not throw the stone into the window.’

2.2 Intransitive predication

S pm V (X) with the variant S V-pm (X) if pm = ‘perfective positive’

(2) a. Denâl-ôo jaa-ta til-ôo la.
    shift-def be/become_dry-pf.pos sub-def obl
    ‘The shirt dried up in the sun.’

    man-def pf.neg talk woman-def ben
    ‘The man did not talk to the woman.’

c. Dîndî-ô kâ tootoo jamdaamâa.
    child-def hab.poss 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) 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-verb position, and its behavior properties do not distinguish it from oblique representing adjuncts.

(3) a. Kew-ô ye kôd-ôo dìi mus-ôo la.
    man-def pf.pos money-def give woman-def obl
    ‘The man gave money to the woman.’

b. Kew-ô ye mus-ôo so kôd-ôo la.
    man-def pf.pos woman-def give money-def obl
    ‘The man gave money to the woman.’

1 In the examples below, postposition 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.
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 ɗū | ɗū | INT-DEF constitutes the productive way of expressing reflexivity, but Mandinka also has a reflexive pronoun (ɗū in the 1st person, ḫ 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. Mus-ɗō ye dindig-ɗō kau.
   woman-DEF PF.POS child-DEF wash
   'The woman washed the child.'

b. Mus-ɗō ye ḫ kau.
   woman-DEF PF.POS refl wash
   'The woman washed (herself).'</n

   man-DEF PF.POS boy-DEF see
   'The man saw the boy.'

c. Fiŋkintew-ɗu lu būka ḫ je.
   blind-DEF-PL HAB.POS refl see
   '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 esseve, 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), kaj 'on', kō 'under', kōo (ma) 'behind' (cognate with the noun kōo 'back'), bā (cognate with the noun bā 'body', productively used to encode contact), bā (cognate with the noun bā 'hand', productively used to encode possession), and nōmā 'after' (cognate with nō 'track').

3. Coding frames

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 fiŋ = x boils
x jaa = x is dry
x jaŋkāri = x falls ill
x kōŋko = x is hungry
x sāa = x dies
x tooo = 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 sūmūnaa = 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:

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 bíyindí = x follows y
x y dááa = x makes y, x repairs y
x y domo = x eats y
x y féle = x looks at y
x y kánu = x likes y, x loves y
x y kuu = x washes y
x y láá = x sings y − y a song
x y líi = x shaves y
x y máakkóyí = x helps y
x y moji = x hears y
x y muta, = x catches y
x y níqi = x learns y
x y nííft(y) = x searches for y
x y sii = x grinds y
x y sli-s-ndi = x frightens y (< sli-s ‘fear’)
x y síñ = x digs y, x digs for y
x y sëmbu = x smells y, x kisses y
x y tábí = 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 lā = x likes y, x wants y
x sìñ y lā = 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 lā = 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 dìi z lā = x gives z to y
x y níí z lā = x offers y to z
x y nííŋkaá z lā = x asks y about z
x y só z lā = x gives z to y
x y yita(n)di z lā = 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, z Postp

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 properties 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.

   mango-def fall-drop-pf.poss ground-def loc
   ‘The mango fell on the ground.’

   man-def pf.poss knife-drop fall-drop ground-def loc
   ‘The man dropped the knife on the ground.’

Dugu ‘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. Wàl-dó dun-ta bâj-o kóno.
   dog-def enter-pf.poss house-def inside
   ‘The dog went into the house.’

b. Baá ye mënj-o dun a dëñ-o këlê.
   mother-def pf.poss bowl-enter sg child-def poss
   ‘The mother put the bowl into the hands of her child.’

   woman-def pf.poss 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.

\(\text{MAN-DEF \ F:\POS wò-ò \ \text{REPRAIN}}\)  
‘The man has repaired the car.’

b. Wò-ò ðàddà-ta.  
\(\text{CAP-DEF \ REPRAIN-\text{FF:POS}}\)  
‘The car has been repaired.’

(9) a. Kambaan-ô ye nás-oo feereeto-huy kolóy-o kóno.  
\(\text{boy-DEF \ PF:POS \ \text{magic\_water-DEF \ cleverly-pour \ well-DEF \ inside}}\)  
‘The boy cleverly poured the magic water into the well.’

\(\text{magic\_water-DEF \ cleverly-pour-\text{PF:POS \ well-DEF \ inside}}\)  
‘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.

\(\text{MAN-DEF \ \text{walk-\text{PF:POS}}\)  
‘The man walked.’

\(\text{MAN-DEF \ \text{PF:POS \ bush\_DEF \ all \ \text{walk}}\)  
‘The man walked through the whole bush.’

c. Kewó ye dìlë lûû-ù tâma, a mìy futa saâtëw-ò to.  
\(\text{MAN-DEF \ \text{FF:POS \ day \ five \ wander \ \text{BG:DEF \ arrive \ village-DEF \ OBL}}\)  
‘The man walked five days without arriving at the village.’

(11) a. Kùnum i yëdy-ë ta bëake.  
\(\text{yesterday \ \text{2SG \ \text{wander-\text{PF:POS \ A\_LOT}}}\)  
‘You wandered a lot yesterday.’

\(\text{woman-old\_DEF\_PL \ with \ baby-DEF \ \text{PF:POS \ village-DEF \ all \ \text{wander}}\)  
‘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.

\(\text{monkey-DEF \ \text{climb-\text{PF:POS \ tree-DEF \ on\_top}}}\)  
‘The monkey climbed up the tree.’

b. I bëka yir-ôo sele a jamb-ôo la.  
\(\text{3PL \ HAB\_ING \ tree-DEF \ \text{climb \ \text{BG:DEF \ leaf-DEF \ OBL}}\)  
‘One does not climb a tree by the leaves.’

(13) a. Mus-ôo wålë-ë (sùpëkùt-ôo la).  
\(\text{woman-DEF \ \text{give\_birth-\text{PF:POS \ girl-DEF \ OBL}}}\)  
‘The woman gave birth (to a girl).’

b. Mus-ôo ye sùpëkùt-ôo le wålëku.  
\(\text{woman-DEF \ \text{PF:POS \ girl-DEF \ OBL \ \text{give\_birth}}}\)  
‘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. Êjy-ô dàsë-ta le.  
\(\text{water-DEF \ \text{lack-\text{PF:POS \ OBL}}}\)  
‘Water is lacking.’
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.

    man-def pfpos letter-def write 3sg son-def ben
    'The man wrote a letter to his son.'

b. Kew-ó ye a díg-ó sëfey batday-oo la.
    man-def pfpos son-def write letter-def obl
    'The man wrote a letter to his son (lit. wrote his son with a letter).'

    man-def pfpos peanut-def cram-caus, bag-def inside
    'The man crammed the peanuts into the bag.'

b. Kew-ó ye boot-óó sëoli tiy-ó la.
    man-def pfpos bag-def stuff-caus, peanut-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 bëlu 'live', have no possibility of a transitive use, others, for example nuku 'hide', also have a transitive use related to their intransitive use via the Causative / Anticausative Alternation.

(18) a. Baramat-óó te bëlu-la.
    injured_person-def cop.neg 1v+def
    'The injured person will not survive.'

b. Moo-kíšaan ka l bëluu sen-óó le la jáap.
    person-many har.pos refl live farming-def pos obl here
    'Many people live on farming here.'

    child-def hide pfpos tree-def behind
    'The child hid behind the tree.'

b. Dëndëty-ó ye í nukuñ yir-óó koomá.
    child-def pfpos refl hide tree-def behind
    'The child hid (himself) behind the tree.'

c. Mus-óó ye kôd-óó nukuñ.
    woman-def pfpos 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 mìg '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 jé 'see', the participant encoded as the object of the transitive construction cannot be expressed in the middle construction.

(20) a. Kew-ó ye jìy-ó mìg.
    man-def pfpos water-def drink
    'The man drank water.'

    man-def pfpos refl drink water-def obl
    same meaning as (a)

    man-def pfpos boy-def see
    'The man saw the boy.'

b. Fëyintëw-olu bëka í jë.
    blind-def-pl har.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 tù 'remain / leave'. Tù 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-óó ye díñdí-g-o-lu tu sów-o kóño.
    woman-DEF PP.POS child-DEF-PPL leave house-DEF inside
    ‘The woman left the children in the house.’

b. Musu-kéebaa fula tú-ta saatéw-o to.
    woman-old two remain-PP.POS village-DEF LOC
    ‘Two old women remained in the village.’

c. A tú-ta jee musu-kéebaa fula (ka).
    3Sg remain-PP.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 genitive 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-óó ye sub-óó tábi.
    woman-DEF PP.POS meat-DEF cook
    ‘The woman cooked the meat.’

b. Mus-óó ye tábi-r-oos ke.
    woman-DEF PP.POS cook-ANTIP-DEF do
    ‘The woman did the cooking.’

Dóó ‘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. Díndí-g-o ye mbuaar-óó dóó.
    child-DEF PP.POS bread-DEF eat
    ‘The child ate the bread.’

b. Díndí-g-o ye dómó-r-oo ke.
    child-DEF PP.POS eat-ANTIP-DEF do
    ‘The child ate.’

c. Díndí-g-o dómó-ri-ta.
    child-DEF eat-ANTIP-PP.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 -ndí probably cognate with these problematic Manding suffixes is found in Sooineke (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.

    child-DEF GEN shirt-DEF get_dirty-PP.POS
    ‘The child’s shirt got dirty.’

b. Díndí-g-o jé a ló dendaák-óó nó-ndí.
    child-DEF PP.POS 3SG GEN shirt-DEF get_dirty-CAUS,
    ‘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.
7.4. 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.

band-DEF-pl fall-PPS merchant-DEF-PL on
'The bandits attacked the merchants (lit. fell on the merchants).'

b. Bándýl-o-lu ye jú-dó-lu boyi-kap.
band-DEF-pl PP-POS merchant-DEF-pl fall-on
'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, 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:

\[ x \text{nín y beŋ} = x \text{meets y (nín = with)} \]
\[ x \text{díyaa} = x \text{is pleasant, x is easy, x díyaa y ye = y likes x} \]
\[ x \text{fúnti} = x \text{appears, x fúnti L = x goes out from somewhere} \]
\[ x \text{kúma} = x \text{speaks / sounds (produces a sound), x kúma y ye = x talks to y} \]
\[ x \text{savúŋ} (L) = x \text{jumps (somewhere)} \]
\[ x \text{síi (y kan) = x sits down (on y), x síi (L) = x lives somewhere} \]
\[ x \text{súmáyaa} = x \text{is cold} \]
\[ x \text{túuneg} = x \text{sinks} \]

6.2. Class 1a

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

\[ x \text{saa} = x \text{dies} \]
\[ x \text{náa L = x comes somewhere, x náa y ti z ye = x brings y to z, x náa y ti L = x brings y somewhere} \]
\[ x \text{táa L = x goes somewhere, x táa y ti z ye = x carries y to z, x táa y ti L = x carries y somewhere} \]

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

---

3 The epenthetic segment -ŋ 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 bály L = x chases y from somewhere
- x y bǒq L = x pours y somewhere
- x y bůq = x stings y, x y bůq z la = x aims at y with z, x throws z on y
- x y bůsə2 = x leaves y, x abandons y
- x y bůsə3 = x beats y, x hits y
- x y deema = x hunts y
- x y dům=D = y feels pain in x, x causes y to feel pain
- x y fárə3 z bála = x tears y from z
- x y fáyi L = x throws y somewhere
- x y fím = x wipes y
- x y fútə3 = x marries y, x a man, y a woman
- x y karaŋə2 = x reads y
- x y kê3 L = x puts y somewhere
- x y kê4 z ti = x spends y doing z y a time span
- x y kîf z ye = x sends y to z, x y kîf L = x sends y somewhere
- x y kóŋkoŋ L = x wipes y from somewhere
- x y kûmándə = x calls y, x y kûmándə z la = x calls y a z
- x y kuntu (z la) = x cuts y (with z)
- x y láə2 (z ye) = x tells y (to z) y a story
- x y maα z (z la) = x touches y (with z)
- x y múra z = 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 sītə3 (z bála) = x ties y (to z)
- x y so2 z kόno = x pours y into z
- x y taa (z bůu) = x takes y (from z)
- x y teyi1 (z la) = x cuts y (with z)
- x y tóó láá z = 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 bůu ~ 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 sáfə3 z ye ~ x z sáfə3 y la = x writes y to z
- x y sólə3 z kόno ~ x z sólə3 y la = x crams y into z, x stuffs z with y
- x y suňañə2 z bůu ~ x z suňañə2 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, used to causativize intransitive constructions, but their transitive construction may be causativized by means of the CAUS suffix (faa miejscowości ‘make kill’, jani-triby ‘make burn’, etc.).

- x faa = x dies ~ x y faa = x kills y
- x jani = x burns ~ x y jani = x bums y
- x káti = x breaks ~ x y káti = x breaks y
- x kêi = x happens, x occurs ~ x y kêi = x does y
- x tara L = x is found somewhere, x y tara y la = x is affected by y ~ x y tara L = x finds y somewhere
- x teyi1 = x breaks ~ x y teyi1 = x breaks y
- x tů L = x remains somewhere; x y tů L = x leaves y somewhere

The last verb of this list (tů ‘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 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 / Intransitive alternation:

- x báləŋ y ma z la ~ x z báləŋ y ma = x refuses y z, x denies y z
- x bůsə2 y kən ~ x y bůsə2 = x falls violently on y
- x diyaamu = x speaks, x diyaamu y la ~ x y diyaamu = x discusses y
- x jèle ~ x laughs, x jèle y la ~ x y jèle = x laughs at y
- x kumboo = x cries, x y kumboo = x laments the loss of y
- x sári = x screams, x sári y kən = 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 teyi1 y la ~ x y teyi1 = x crosses y
- x tůluŋ = x plays, x tůluŋ y la ~ x y tůluŋ = x does not take y seriously, x behaves frivolously towards y
- x wćuləŋ y la ~ x y wćuləŋ = x gives birth to y
- x y karaŋə = x learns y, x karaŋə z = x learns a lot
- x y lón = x knows y, x lón = x knows a lot
- x y mutə = x acts on y, x mutə z = 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).  

_Minin_ 'wind' is the only verb I have found in this class.

\[ x \text{ mîni}n \ y \ la = x \text{ Refl mîni}n \ y \ la = x \text{ hugs y, x winds around y, x y mîni}n = x \text{ surrounds / encircle y, x y mîni}n \ z \ la = x \text{ winds y around z} \]

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.

\[ x \text{ bo}_L = x \text{ leaves a place, x y bo}_L = x \text{ x takes off / removes y from somewhere} \]
\[ x \text{ bo}_L = x \text{ falls, x y bo}_L = x \text{ makes y fall} \]
\[ x \text{ bula}_L = x \text{ settles oneself / boards somewhere, x y bula}_L = x \text{ y bula}_L = x \text{ puts y somewhere} \]
\[ x \text{ du}_L = x \text{ enters somewhere, x y du}_L = x \text{ y du}_L = x \text{ slips y somewhere, x makes/lets y enter somewhere} \]
\[ x \text{ fà}_L = x \text{ is full of y, x y fà}_L = x \text{ fills y with z} \]
\[ x \text{ ké}_L = x \text{ becomes y, x is y, x y ké}_L = x \text{ makes z out of x, x transforms y into z} \]
\[ x \text{ nori}_L = x \text{ moves, x y nori}_L = x \text{ pushes y, x y nori}_L = x \text{ causes y to move} \]
\[ x \text{ sawu}_L = x \text{ la = y is infected by x – x an illness, x y sawu}_L = x \text{ la = x y sawu}_L = x \text{ la = x infects z with y – y an illness} \]
\[ x \text{ soto}_L = x \text{ is available somewhere, x y soto}_L = x \text{ gets y, x y soto}_L = x \text{ puts y on z} – x \text{ x a piece of clothing} \]
\[ x \text{ sunu}_L = x \text{ is sad, x y sunu}_L = x \text{ y sunu}_L = x \text{ makes y sad} \]

6.9. Class 8 (media tantum)

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

\[ x \text{ Refl fo}_L = x \text{ rests, x Refl fo}_L y \ la = x \text{ stops dealing with y} \]
\[ x \text{ Refl lákúra}_L y \ la = x \text{ finishes y} \]
\[ x \text{ Refl súmúnaa}_L = x \text{ urinates} \]

6.10. Class 9

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

\[ x \text{ bálu} = x \text{ lives / survives, x Refl bálu y la = x lives on y} \]

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.

\[ x \text{ bori} = x \text{ runs / moves quickly; = x runs; x y bori} = x \text{ rides/drives y; x y bori}_L = x \text{ rides/drives y, x makes y run} \]
\[ x \text{ lá} = x \text{ (y kan) = x Refl lá}_L = x \text{ (y kan) = x lies down (onto y); x y lá} = x \text{ lays / loads / puts y (onto z); x y lá}_L = x \text{ lays y (onto z)} \]
\[ x \text{ lo}_L = x \text{ (Refl) loo = x stands, x stops; x y loo}_L = x \text{ loo}_L = x \text{ builds, x erects y, x puts y in standing position} \]
\[ x \text{ maabo y ma} = x \text{ Refl maabo y ma = x hides from y; x y maabo}_L = x \text{ maabo}_L = x \text{ hides y from z} \]

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.

\[ x \text{ y du}_L = x \text{ la = y dresses z in y, x puts y on z – x a piece of clothing; x y du}_L = x \text{ dresses in y; x Refl du}_L = x \text{ dresses} \]
\[ x \text{ jé = x sees y; x Refl jé = x sees} \]
\[ x \text{ x míra}_L = x \text{ Refl míra}_L = x \text{ thinks about y} \]
\[ x \text{ y mîn} = x \text{ Refl mîn y la = x drinks y} \]

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 transitively, 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’, karap ‘read’/karap ‘learn’, hia ‘fall violently’/hia ‘fall violently on’ provide particularly clear evidence of the relevance of prototypical transitivity as discussed by Naess 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 Alteration 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 döma ‘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: tui ‘remain’.

References


Creissels, Denis. 1983. Eléments de grammaire de la langue mandinka. Grenoble: ELLUG.


Abbreviations


Transitivity and valency classes in Eastern Armenian

Conference on Valency Classes in the World’s Languages, Max Planck Institute for Evolutionary Anthropology, Leipzig, April 14-17, 2011

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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

<table>
<thead>
<tr>
<th>Infinitive</th>
<th>CONSTRUAL 1</th>
<th>CONSTRUAL 2</th>
</tr>
</thead>
</table>

Causative formation:
CA aorist base (most often in -c’)-u(j)c’
EA unmarked base-c’-
WA aorist base(−)(u)c’

Table 2

<table>
<thead>
<tr>
<th>Infinitive</th>
<th>CAUS.AOR.1SG</th>
<th>CAUS.AOR.2SG</th>
<th>CAUS.AOR.3SG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern</td>
<td>∈ųŋŋl-g-u-l-1 molore-c’-n-e-l base-CAUS-VBLZ-T-INF</td>
<td>∈ųŋŋl-g-u-luuf molore-c’-n-em base-CAUS-VBLZ-1SG</td>
<td>∈ųŋŋl-g-p-h molore-c’-r-i base-CAUS-2SG</td>
</tr>
<tr>
<td>Western</td>
<td>∈ųŋŋl-g-u-l-1 molore-c’-n-e-l base-AOR-CAUS-VBLZ-INF</td>
<td>∈ųŋŋl-g-u-luuf molore-c’-n-em base-AOR-CAUS-VBLZ-1SG</td>
<td>∈ųŋŋl-g-nįg-h molore-c’-uć’-i base-AOR-CAUS-2SG</td>
</tr>
</tbody>
</table>
Rubi was only fond of folk songs.

You loved a girl, she loved someone else.

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

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

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

Jev aha ajdkb an tarber ajd bnavorutbjun-ner-ə and here thus different so character-PL-DEF
At home Shushanik was feeding little Gegham with yoghourt.

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

The small house was completely destroyed by fire.

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

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

want-SBJV:PRS:3SG one day-LOC thousand sheep kill-INF COND-give:PRS:3SG

And thus characters so different became linked to each other.

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

At home Shushanik was feeding little Gegham with yoghourt.

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

The small house was completely destroyed by fire.

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

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

want-SBJV:PRS:3SG one day-LOC thousand sheep kill-INF COND-give:PRS:3SG

And thus characters so different became linked to each other.

This day Nelson Stepanian and the crew under his command sank two enemy patrol ships.
(13)

Who would feel happy about drowning his own daughter?

(14) ‘sink’: derived intransitive

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

Morphological causatives: indirect causation

(15) ‘die’

He died without coming to his senses.

(16) ‘die’: causative

… 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’

The next day I killed a crow with a catapult and threw it in front of Boghar.
Valency classes 1: zero-predicates

(18) ‘weather’

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

Valency classes 2: non-transitivisable intransitive verbs

(19)

The child jumped on the floor.

Valency classes 3: transitivisable intransitive verbs

(20)

The princes started to laugh.

(21)

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

Valency classes 4: dative verbs

(22) ‘help’: indirect affectedness

But as I am not ill and want to leave, there is no doctor who can help me.
Valency classes 5: ‘half-transitives’

(23)
And he sang about love, and he sang about life.

Valency classes 6: true transitives

(25)
(You) burnt me to ashes with your kisses, with your eyes.

(26)
The small house got completely burnt.

(27)
The small river was carelessly rolling its water.

(28)
From under the embankment the water was quickly running (=rolling), roaring, running forth.
Valency classes 7: transitives with no mediopassive

(29)
– ճի պոնի հու մուրան, – ապա հաս:
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)
բարձր հետ փոխ պատկեր տեղական համարում:
bajchʰ im kin-اقل ajs carik-اقل tv-ecʰ 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)
Անալոգ ջերմ հնարավոր մարագ ապակուն:
aram-اقل siro չոսկ-اقل as-acʰ aɾqka-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)
Աս հս փուր տ. — տա արակերպություն պատկեր ջայ ձայնում:
sa inchʰ ban e na barkutʰjanb kaše-eʰ latʰ-i cajr-icʰ
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)
Վարտան-ապ անցել սոտա-չ չուլու տանի և ձեռքի տարում ձայնատեյակ զառիկություն:
vardan-n angor nste-ch calovi ator-i vra
Vartan-DEF(NOM) weak sit.down-AOR(3SG) pliable chair-GEN on
jev ջերկʰ.ով makʰre-ch čavat-i kʰrtinkʰ-ը
and hand-INST 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)
Արագախառը «մակրեց-եր» հավաքել եւ համոզել հեռուստատեսություն. տարածքում տրոհեց քամ ձինտեր:
Aragašarž «makʰricʰ-ներ-ը» haziv en hascʰn-um
quick wiper-PL-DAT hardly AUX.3PL be.on.time-CVB.IPFW
hosmapak-u vraj-icʰ makʰr-el tʰacʰ ջուն-ը
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

- Zero
  - Weather
- Intransitives
  - Internal Object
    - Internal genitive
      - +source: removal and detachment
    - Med
      - Med~caus
        - Extended by dative
    - Med~caus
      - True transitives
        - Prototyped, caused motion, speech, creation and aligned
    - Med~caus
      - Ditransitives
        - +goal (Recipient, Addressee, Goal)
      - Extended by ablative
- Intransitives 2
  - (non-causativisable)
    - Contact and redirect affectedness
- Datives
  - +source (transfer, removal, point of contact and material)
  - Internal genitive

References:

1. EANC – Eastern Armenian National Corpus (www.eanc.net)
Transitivity and valency classes in Eastern Armenian

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1. Preliminaries

Data: Eastern Armenian National Corpus (www.eanc.net)

- about 110 million tokens
- lexical morphological annotation
- covers EA from the mid-19th century to the present
- both written and spoken language
- open internet access
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]

*Calculation according to Tumanyan, E. 1971. Древнеармянский язык (Old Armenian). Moscow

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After Classical Armenian

intransitive -e- (→ -i-) labile -u-, -o-, -a- tr -e- intr -a-

introduction of mediopassive -v-

Lost

WA

decausative -i-

mediopassive -v-i-

Thus, mediopassive introduced by both, intransitivity marker -i- preserved by WA only

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+ć') + ujc'-an*-el
Eastern Arm.: contracted to T-ć'-n-el
Western Arm.: contracted to T-ć'-(a)n-el

A verbalizing suffix, also used in inchoatives.

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 cannot 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):

*In terms of Nichols et al. 2004*
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 transitivizing

*In terms of Nichols et al. 2004

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

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)

Transitivizing or detransitivizing?

Valency database: non-derived verbs

Intransitive:


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:

Transitivization and detransitivization

Non-transitivizable:
‘jump’, ‘fall’, ‘come’, ‘go’

Transitivizable:

Detransitivizable:

Non-detransitivizable:
‘like’, ‘hide’, ‘want’, ‘hunt’

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.

Transitivity increase: semantics

If we accept that Eastern Armenian is a detransitivating language, this is expectable. Manipulative causatives tend to be non-derived transitive verbs and manipulative causativization is unnecessary:

Detransitivizing lgs

Typical intransitive meanings
primary
incl. manipulative causatives
primary

manipulative causatives are derived
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

1. Valency classes: zero-predicates

Zero-argument verbs:
‘rain’, ‘snow’, ‘get dark’ etc.

2. Valency classes: non-transitivisable intr. verbs

Motion verbs: ‘jump’, ‘fall’, ‘come’, ‘go’
3. Valency classes: transitisable 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’

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’

5. Valency classes: ‘half transitives’

Verbs with internal object (‘half transitives’):
‘blink [one’s eye]’, ‘sing [a song]’

DO optional, mediopassive available

6. Valency classes: true transitives

Both DO and mediopassive is available:

Transitive protot. (intentional change of state etc.):

Creation verbs: ‘do’, ‘make’, ‘build’
7. Valency classes: true transitives


**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’

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)
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

- zero
- weather

- intransitives
- half transitives
- true transitives
- quasitransitives
- ditransitives

- intransitives 2 (non-causativisable)
- datives
- internal genitive
- ablative

- +source: removal and detachment
- +goal (Recipient, Addressee, Goal)
- +source (transfer, removal, point of contact and material)
Valency in Nluu

Introduction

- Valency in Nluu: project + "A text documentation of Nluu." (ELDP)
- Project members: Tom Güldemann, Martina Ernszt, Sven Stegmüller, 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

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 SVO order
- Pro-drop in any grammatical function of the clause, although object-pro-drop is more common
- Less than 10 speakers

Tuul / Southern Khoisan (Güldemann 2006)

- Tuul: Lui, Nluu, Xam, IXam, IX am, Ungkue, IXegwit
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)
  - similative (SIM)
  - multi-purpose oblique (OBL)

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-ke
1SG give dog.PL-DAT bone.PL-PL
'I give the bones to the dogs.'

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.'

Participant marking: prepositional arguments and adjuncts

- Prepositional arguments/adjuncts:
  - follow all other grammatical relations
  - marked by one of only three prepositions
    - COM/INS (‘with’): nia
    - SIM (‘like’): llaa
    - OBL: ng
Comitative-instrumental

Comitative:
(3) si lqoqon, lqoqon nla llhailaa
1PL.EXCL dance dance with girl
'We dance, (we) dance with the girl.'

Instrumental:
(4) t°o laa pree nla mtons
man cut bread with knife
'The man cuts the bread with the knife.' (elicited)

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 l°o°-a ng Glui
1SG PST grow?-PFV OBL place.name
'I grew up at Glui.'
(6) t°o saa ng glila
man come OBL night
'The man comes at night.'

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 0’ui’i ng haqa’-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)

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.'
Major valency patterns: transitive

- SBJ V OBJ = “transitive” frame

(12) glain ke xa lhaa a gnaru-si
brown hyena ? PST kill 2SG sheep-SG
‘Hyena has killed your sheep.’

(13) a si gloe gaae lhaik
then 1PL.EXCL also steal milk
‘Then we also steal milk.’

Major valency patterns: transitive+dative

- SBJ V DAT OBJ = “transitive+dative” frame

(14) ku aa l’huunisi-a xani-si
3H.SG give Boer-DAT letter-SG
‘He gives the letter to the Boer.’

(15) kua kadyama na lluruqe
3H.SG show 1SG.DAT road
‘He shows me the way.’ (elicited)

Major valency patterns: transitive+oblique

- SBJ V OBL = “transitive+oblique” frame

(16) ki lhoo 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) l’o o nlao l’au ng kuni-si
man load tsamma OBL cart-SG
‘The man loads tsamma melons onto the cart.’ (elicited)

(18) l’o o ke l’hoe’in mari ng l’o o a ko
man ? ask for money OBL man this other
‘The man asks the other man for money.’ (elicited)

Major valency patterns: clause-taking

- SBJ V CLAUSE = “clause-taking” frame

(19) ng 4’ain
1SG think
u si xxu ki-ke nlaa kinn nlaa l’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 l’huuni-si
1SG IRR say OBL white person-SG
a xa ll’a sai fka’abe-si
2SG PST go to cream-SG
‘I will say to the Boer (that) you went to the cream.’
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

Some minor valency patterns: dative

- SBJ V DAT = “dative” frame
- occurs only as an alternating pattern

(23) ku lko’ve 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!’

Some minor valency patterns: oblique

- SBJ V OBL = “oblique” frame

(21) t’oo ke lauk-a ng t’oo a ko man? get.frightened?-PFV OBL man this other
‘The man is afraid of the other man.’ (elicted)

(22) ng hooke ng nling laeki
1SG come.from OBL 1SG woman
‘I come from my wife.’

Some minor valency patterns: comitative/instrumental

- SBJ V COM/INS = “comitative/instrumental” frame
- occurs only as an alternating pattern

(25) maar llaa’a llaq’la a nla luu but PROH speak with person
‘But don’t speak with anybody.’
Some minor valency patterns:
transitive+comitative/instrumental

- SBJ V OBJ COM/INS = "transitive+comitative/instrumental" frame
- occurs only as an alternating pattern

(26) țoo ke nłao kuni-si nla hhee
man ? load cart-SG with grass
'The man loads the cart with grass.' (elicited)

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.'

Coded alternations

- causative
- benefactive
- serial verb

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 nllañ
3PL make-BEN Boer.PL-DAT blanket.PL
'They make blankets for the Boers.'
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 $V_{minor} \ OBJ$
  - SBJ V OBJ => SBJ V $V_{minor} \ OBJ \ OBJ$.

Serial verb alternation:
SBJ V OBJ => SBJ V $V_{minor} \ OBJ \ OBJ$

- SBJ V OBJ => SBJ V $V_{minor} \ OBJ \ OBJ$

(33) a $\text{tae} \ l\text{khaa}$
2SG pull water
'You pull water (e.g. out of a borehole).'

(34) $\text{tae} \ l\text{ee} \ t\text{ya kuni-si ng wani}$
pull put.in that cart-SG OBL cart.shed
'(They) pull the cart into the cart shed.'

Serial verb alternation:
SBJ V => SBJ V $V_{minor} \ OBJ$

- SBJ V => SBJ V $V_{minor} \ OBJ$

(31) ku $\text{lae}$
3H.SG run
'He runs.'

(32) a $\text{kinn} \ l\text{lae} \ l\text{huun}$
then 3PL run go.to Boer.PL
'Then they run to the Boers.'

Uncoded alternations

Most common uncoded alternations:

- S=A ambitransitivity
- S=O ambitransitivity
- intransitive $\Leftrightarrow$ oblique
- transitive $\Leftrightarrow$ oblique
- transitive $\Leftrightarrow$ transitive+oblique
- transitive+oblique $\Leftrightarrow$ transitive+COM/INS
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'aín'a* 'laugh (at)'

(36) a ng ain then 1SG eat 'Then I eat.'
(35) i x a ain *taulaa* 1PL.INCL PST eat seeds 'We ate seeds.'

intransitive ⇔ oblique alternation

- SBJ V ⇔ SBJ V OBL
  (45) *tqoa* ke *t'unn-a* pot ? get.full-?PFV 'The pot is full.' (elicited)
  (46) *soe* ke *t'unn-a* ng sunn meat ? get.full-?PFV OBL fat 'The meat is full of fat.'

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', *t'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.'

transitive ⇔ oblique alternation

- SBJ V OBJ ⇔ SBJ V OBL
  - locational arguments of some verbs, e.g. *nliia* 'stay', *li'hoa* 'settle, live', *soo* 'sit', or *suin* 'sit down' can be either OBJ or OBL

(39) si *li'hoa* Ariemagom 1PL.EXCL settle place.name 'We live at Ariemagom.'
(40) ki a ke si xng ng *li'hoa* ng Klapin 3NH.SG this TF 1PL.EXCL PST so settle OBL place.name 'This is how we lived at Klapin.'
transitive $\leftrightarrow$ transitive+oblique alternation

- SBJ V OBJ $\leftrightarrow$ SBJ V OBJ OBL

(41) ng l’ama lxo-o-si
1SG buy pipe-SG
‘I buy a pipe.’ (elicited)

(42) na l’ama loaxu ng ku
1SG buy sheep OBL 3H.SG
‘I buy sheep from him.’ (elicited)

transitive+oblique $\leftrightarrow$
transitive+comitative/instrumental alternation

- SBJ V OBJ OBL $\leftrightarrow$ SBJ V OBJ INS/COM

(43) #ia kx’uu lqam ‘nilingke
IMP make porridge 3PL.OBL
‘One makes porridge out of them (the seeds).’

(44) t¥o ke xng kx’uu-a niling nla lao-ke
man ? PST make-?PFV house COM stone-PL
‘The man built the house with stones.’ (elicited)

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: l’aa ‘die’ (20/0)
- transitive: laa ‘cut’ (0/22)
- S=A ambitransitive: soo ‘sit’ (45/24), l’aa ‘go away, go to’ (34/57)

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?
Mainly transitive verbs: verbs with restricted set of possible objects

- mainly transitive verbs, e.g.: 
  - /a‘a ‘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

Mainly intransitive verbs

- mainly intransitive verbs, e.g.: 
  - /a‘a ‘run’ (53/2) 
  - #eeke ‘sing’ (21/2) 
  - #kx‘ora ‘play’ (31/3) 

- but transitive use possible, e.g. in 
  - /a‘a raisies ‘run a race’ 
  - #eeke lai ‘sing a traditional song’ 
  - #kx‘ora haansi ‘play (to be a) horse’

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  1xaea
     2SG.Q know
     ‘you know?!’

(48) xuu-a  
     leave.2SG.IMP
     ‘leave (me) alone!’; ‘leave it!’; ‘don’t do that!’
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

Abbreviations

Valency Classes in Jakarta Indonesian

David Gil

with: Tom Conners, 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

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

Valency in Jakarta Indonesian

(1) satpam
security.guard

THING

(2) gede
big

PROPERTY

(3) tidur
sleep

ACTIVITY
  (monovalent semantic frame)

(4) beli
buy

ACTIVITY
  (multivalent semantic frame)

Valency in Jakarta Indonesian

(1) satpam
security.guard

'He's a security guard'

(2) gede
big

'He's big'

(3) tidur
sleep

'He's sleeping'

(4) beli
buy

'He's buying it'

Part 1

The basic IMA structure of Jakarta Indonesian

Part 2

The non-IMA accoutrements of Jakarta Indonesian
Valency in Jakarta Indonesian

(5) satpam rumah
security guard house
'Security guard of a house'

(6) gede rumah
big house
'Big house'

(7) tidur rumah
sleep house
'Sleeping at a house'

(8) beli rumah
buy house
'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

make Jakarta Indonesian look like a fairly typical SVO language
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'

ke 'to'

(11) Ali balik (ke) rumah
    Ali return to house
    'Ali returned to the house'

deri 'from'

(12) Ali balik (dari) rumah
    Ali return from house
    'Ali returned from the house'

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'

di= GENERALIZED PASSIVE
N-= GENERALIZED ACTIVE
-in GENERALIZED APPLICATIVE

government of arguments by a verb
"semantic case"
not "structural case"

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

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

\( \text{di=} \, \text{GENERALIZED PASSIVE} \quad ? = \quad \text{di} \, \text{‘in’} \)

(16) (Ali) liat (Amat)
Ali look Amat
‘Ali is looking at Amat’ [PREFERRED]
‘Amat is looking at Ali’ [STRONGLY PREFERRED]

(17) (Ali) diliat (Amat)
Ali GEN.PASS-look Amat
‘Ali is looking at Amat’
‘Amat is looking at Ali’

Generalized Voice in Jakarta Indonesian

\( \text{N- GENERALIZED ACTIVE} \)

(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’

Generalized Voice in Jakarta Indonesian

\( \text{-in GENERALIZED APPLICATIVE} \)

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 BENEFECTIVE
talk bicara bicarain talk about
teach ajar ajarin teach Ø

Generalized Voice in Jakarta Indonesian

\( \text{N- GENERALIZED ACTIVE} \)

(20) (Ali) kopi
Ali coffee
‘Ali is drinking coffee’

(21) (Ali) ngopi
Ali GEN.ACT-coffee
‘Ali is drinking coffee’

Generalized Voice in Jakarta Indonesian

\( \text{-in GENERALIZED APPLICATIVE} \)

(22) (Ali) ajar (Amat)
Ali teach Amat
‘Ali taught Amat’

(23) (Ali) ajarin (Amat)
Ali teach GEN.APPL Amat
‘Ali taught Amat’
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

Valency Classes in Jakarta Indonesian

Summary

- single valency class for (almost) all words:
$$W = \{x\}$$

- 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

Substitutability of Peripheral for Core Participants

---

An Incremental Approach to Grammatical Description

not decremental

complex

English

Indonesian

IMA

simple
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

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.

- 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:

  \[
  \text{LEXICO-SYNTACTIC FRAME} \\
  \text{PROTOTYPICAL MOTIVATIONAL SCENARIO} \\
  \{
  \text{MANNER} \\
  \text{INSTRUMENT (incl. incremental effect on the object)}
  \}
  \]

  - 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  

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  

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

_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  

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”  

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
**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, something Y (e.g. bread, paper).**

<table>
<thead>
<tr>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td>at many times when someone does this to something, this someone does it because it is like this:</td>
</tr>
<tr>
<td>- a short time before, this someone thought like this about this something:</td>
</tr>
<tr>
<td>&quot;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&quot;</td>
</tr>
<tr>
<td>when someone does this to something, it happens like this:</td>
</tr>
<tr>
<td>- 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</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LEXICO-SYNTACTIC FRAME</th>
<th>PROTOTYPICAL MOTIVATIONAL SCENARIO</th>
<th>INSTRUMENT</th>
</tr>
</thead>
</table>

**IV. From Progressive to Simple Past: template-to-template mapping**

**Someone X climbed, something Y (tree, ladder, tower).**

<table>
<thead>
<tr>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td>it happened like this:</td>
</tr>
<tr>
<td>- 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, this someone was climbing [d] this something for some time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LEXICO-SYNTACTIC FRAME</th>
<th>HOW IT HAPPENED</th>
</tr>
</thead>
</table>

**Someone X carried, something Y (the boxes, the baby) downstairs.**

<table>
<thead>
<tr>
<th>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)</th>
</tr>
</thead>
<tbody>
<tr>
<td>it happened like this:</td>
</tr>
<tr>
<td>- 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, this someone was carrying [d] it for some time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LEXICO-SYNTACTIC FRAME</th>
<th>HOW IT HAPPENED</th>
</tr>
</thead>
</table>

**Someone X cut, the apple (into four pieces).**

<table>
<thead>
<tr>
<th>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)</th>
</tr>
</thead>
<tbody>
<tr>
<td>it happened like this:</td>
</tr>
<tr>
<td>- 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, this someone was cutting [d] it for some time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LEXICO-SYNTACTIC FRAME</th>
<th>HOW IT HAPPENED</th>
</tr>
</thead>
</table>
V. Polysemy and “covert alternations” for English \textit{climb}

\textit{He climbed, down} the tree (ladder, tower).

\begin{tabular}{|l|}
\hline
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 \\
\hline
\end{tabular}

\begin{tabular}{|l|}
\hline
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, he did something for some time like someone does when this someone is climbing [d] something \\
\hline
\end{tabular}

“Object” noun phrases such as \textit{mountain} and \textit{hill} are not compatible with the basic frame meaning \textit{climb} because they are semantically ‘big places (of one kind)’, rather than things. As well, the physical aspects of \textit{climbing a mountain}, etc. are significantly different, e.g. it takes much longer. Hence:

\textit{He climbed the mountain (hill, cliff)}.

\begin{tabular}{|l|}
\hline
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 \\
\hline
\end{tabular}

\begin{tabular}{|l|}
\hline
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, he did something in this place for some time like someone does when this someone is climbing [d] something \\
\hline
\end{tabular}

In some uses, the object is not a location but an “obstacle” to be crossed. These have near-paraphrases with preposition \textit{over}.

(7) \textit{He climbed the fence} \approx \textit{He climbed over the fence}.
(8) \textit{He climbed the ladder/mountain} \neq \textit{He climbed over the ladder/mountain}.
(9) \textit{*He climbed up/down the fence/wall/gate}.

\textit{He climbed, the fence (wall, gate)}.

\begin{tabular}{|l|}
\hline
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 \\
\hline
\end{tabular}

\begin{tabular}{|l|}
\hline
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 like someone does when this someone is climbing [d] something \\
\hline
\end{tabular}

Though superficially the same, this construction represents a distinct valency pattern for \textit{climb}—found also with other English verbs of motion that imply significant bodily effort.

(10) \textit{He swam the river} \approx \textit{He swam across the river}.
(11) \textit{She jumped the puddle} \approx \textit{She jumped over the puddle}.

This has been a partial coverage. An additional meaning is needed for \textit{climb into, onto} or through something, e.g. \textit{into bed, onto the roof of his car, through the window}. Plus, there are additional meanings involved in usages such as \textit{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* doesn’t have a past perfective; e.g. *He carried a weapon* must have a past habitual interpretation.

<table>
<thead>
<tr>
<th>Someone X was <em>carrying</em>, something Y (with him/her).</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
</tr>
<tr>
<td>at many times when someone does this to something, this someone does it because it is like this:</td>
</tr>
<tr>
<td>– a short time before this, this someone thought about this something like this:</td>
</tr>
<tr>
<td>“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”</td>
</tr>
<tr>
<td>when this someone does this to this something, something happens to it like something happens to something when someone is carrying [d] this something</td>
</tr>
</tbody>
</table>

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*, the string (thread, ribbon).

<table>
<thead>
<tr>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td>it happened like this:</td>
</tr>
<tr>
<td>– 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”</td>
</tr>
<tr>
<td>– because of this, after this, he did something to this string like someone does something to something when this someone is cutting [d] it</td>
</tr>
<tr>
<td>– he did it in one moment</td>
</tr>
</tbody>
</table>

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 his face while shaving:

<table>
<thead>
<tr>
<th>Lexico-Syntactic Frame</th>
<th>How It Happened</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>it happened like this:</td>
</tr>
<tr>
<td>– he was doing something for some time with something sharp [m]</td>
<td>– he was doing something for some time with something sharp [m]</td>
</tr>
<tr>
<td>– at some time during this time, this sharp [m] thing touched part of his face not as he wanted</td>
<td>– at some time during that time, his foot touched this sharp [m] thing not as he wanted</td>
</tr>
<tr>
<td>– because of this, something happened to this part of his face at this time</td>
<td>– because of this, something happened to his foot like something happens to something when someone is cutting [d] this something</td>
</tr>
<tr>
<td>– it happened to it like something happens to something when someone is cutting [d] this something</td>
<td>– it happened in one moment</td>
</tr>
</tbody>
</table>

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                                                         | intensity, 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.

Acknowledgements

The research presented in this paper was undertaken collaboratively with Anna Wierzbicka.

Select references


Valency Classes in Hoocąk (Siouan)
Iren Hartmann, MPI-EVA
iren_hartmann@eva.mpg.de

1. About Hoocąk

Hoocąk (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 Lakhota which is probably the best documented one of the Siouan languages.

1.1 Some (valency related) features of Hoocąk

- 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, 1st & 2nd person):

- v.intr.
- v.tr.
- v.ditr. (1)

v.act. (S/A) v.stat. (S/P inflections)

1.2 Indexing of arguments

<table>
<thead>
<tr>
<th>S/A</th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 excl</td>
<td>ha-</td>
<td>ha-...-wi</td>
</tr>
<tr>
<td>1 du/incl</td>
<td>hj-</td>
<td>hj-...-wi</td>
</tr>
<tr>
<td>2</td>
<td>ra-</td>
<td>ra-...-wi</td>
</tr>
<tr>
<td>3</td>
<td>ø</td>
<td>-ire</td>
</tr>
</tbody>
</table>

e.g. ha-naqą 'I slept'

<table>
<thead>
<tr>
<th>S/P</th>
<th>SG</th>
<th>PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 excl</td>
<td>hj-</td>
<td>hj-...-wi</td>
</tr>
<tr>
<td>1 du/incl</td>
<td>waąga-</td>
<td>waąga-...-wi</td>
</tr>
<tr>
<td>2</td>
<td>hj-</td>
<td>hj-...-wi</td>
</tr>
<tr>
<td>3</td>
<td>ø</td>
<td>-ire</td>
</tr>
</tbody>
</table>

e.g. hj-šjwe '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

   'Do you know me?'

2. -ire marks 3PL for both Actors and Undergoers on intransitive verbs
   - nąq-ire 'they slept' (v.act.)
   - šjwe-ire 'they were sleepy' (v.stat.)

3. PL.U on (di)transitive verbs is marked by wa-

2. Valency changing devices in Hoocąk

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:

1. waągaxnaqą waątugąšąŋą
2. waągax = nąqąka
3. waą-tugąšąŋą
   paper = POS.NTL.PL:DIST 3PL.U-tear1E.A-DECL
   'I tore those papers'

4. waągaxnaqąkre wajragiššurugąšąŋą
2. waągax = nąqąkre
3. waą-hj-ra-ši-rugąšąŋą
   'Can you tear these papers for me?'

1 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 = 1st person, 2 = 2nd person, 3 = 3rd person
This applicative can also be used to introduce a malefactive:

\[ (7) \]  
\[ kŠee-rahan \]  
The instrumental applicative seems to be no longer productive. Constructions as in

\[ (16) \]  
\[ jaagug\'u waiperec hirajšarukawi \]  
why canvas APPL.INST.-<1E.U-2.A>cover-PL  
'why did you (PL) cover me with canvas?'

\[ (17) \]  
\[ jaagug\'u waiperec hirajšarukawi \]  
'why did (PL) you cover me with canvas?'

\[ (18) \]  
\[ kutei, majračišqan \]  
INTJ(male) <1E.A-2.A>cut-DECL  
'hey, you cut me'
2.2 The reciprocal kiki- (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.

\[(A) \ (P) \ obj[P].sbj[A].V \rightarrow (A) \ sbj[A].V'\]

The same holds true for the reflexive:

\[(A) \ (P) \ obj[P].sbj[A].V \rightarrow (A) \ sbj[A].V'\]

2.3. A special class of verbs: INST + Vroot

<table>
<thead>
<tr>
<th>short instrumentals</th>
<th>long instrumentals</th>
</tr>
</thead>
<tbody>
<tr>
<td>gi-</td>
<td>Boo-</td>
</tr>
<tr>
<td>ra-</td>
<td>Maa-</td>
</tr>
<tr>
<td>ro-</td>
<td>Naα-</td>
</tr>
<tr>
<td>wa-</td>
<td>Naα2-</td>
</tr>
<tr>
<td>laa-</td>
<td></td>
</tr>
</tbody>
</table>

These prefixes can have a transitivizing function when used with v.stat.s (except taa- & nāα-):  
\[\text{seerec 'be long'} \rightarrow \text{ra-seerec 'stretch with mouth'}\]
\[\text{sccep 'be black'} \rightarrow \text{boo-sccep 'blow out a light'}\]
\[\text{sara 'be bare'} \rightarrow \text{nūsa 'pluck bare'}\]

They are most often used with a distinct set of verb roots which cannot be used by themselves:

<table>
<thead>
<tr>
<th>Vroot waax 'break string'</th>
</tr>
</thead>
<tbody>
<tr>
<td>gïïwax 'break string in two by striking'</td>
</tr>
<tr>
<td>booïïwax 'shoot string in two'</td>
</tr>
<tr>
<td>mïïwax 'cut string in two'</td>
</tr>
<tr>
<td>nºïïwax 'break string in two by pulling'</td>
</tr>
<tr>
<td>nïïwax 'break string in two by foot'</td>
</tr>
<tr>
<td>wïïwax 'break string downward pressure'</td>
</tr>
<tr>
<td>nïïwax 'string breaks of own accord'</td>
</tr>
<tr>
<td>taaïïwax 'string is burned in two'</td>
</tr>
</tbody>
</table>

Figure 1. Instrumental prefixes in Hoocîk


e 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) wakerat’ee
wake = ra t’ee
die = DEF
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’

(26) wakerawaišgapirera,t’eewahiire
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) šEE kxeterat’eegigi
šEE kxete=ra t’ee gigi
horse=DEF die let/cause
‘they let the horse die’

2.4.2. Causatives with v.act.


(28) †'’
'’ kisikirera,neen
EE w
EE w
EE kisik-ire=ra neen
EE k h
EE -gigi-ire
hunt-3PL.S=DEF 1EMPH run 1E.U-let/cause-3PL.S
‘in the race they let me run’

(29) †'’
’’ woošgacejaneen
EE w
EE w
EE woošgac-eeja neen
EE kn
EE -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.


(30) wikirihujopxete wanjaruuc wjīre
wikirihujopxete wani=ra ruuc wjī-ire
eat=DEF make/CAUS.1E.U-3PL.S
‘they made me eat alligator meat’

(31) wažaširera waruža higigiitre
wažašire=ra wa-ruža hj-gigi-ire
wash=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

(32) ziikra naqagura haruce naq’gaṣaja, t’ee kij
ziik= ra naqgu = ra haruce naq’-gaṣaja t’ee kij
squirrel = DEF road = DEF die make/CAUS.3SG.A
‘the squirrel tried to cross the road and killed himself’

(33) hokawas rhaera, wanaqṣekwekewewa waa’ṣajera, cesge nuy’wak hakj
hokawas rha= ra wanaqṣekwekewe we<ha> = ra be-dark become = DEF scaredy.cat <1E.A> do/be-1E.A-POS.VERT = DEF
cese nuy’wak 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) hajniṣi j hakiwaṣa’uṣa wažaširera waruža hakj
hajiṣi j hakiwaṣa’uṣa= anaga wažašire = ra wa-ruža ha-kij
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) kšeeqnake raacikjene
kšee=n raac-i-kjene
apple=POS.NTL:PROX eat.2.A-0-FUT
‘are you going to eat this apple?’

(37) kšeenąqka hanąc wacikjene
kšee=nąqka hanąc wa-raac-i-kjene
apple=POS.NTL.PL:DIST all 3PL.U-eat-0-FUT
‘are you going to eat all those apples?’

(38) Waḥacgini
wa-haac=g
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, 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-ceja 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:
haruk v.tr. cover sth.
(2b: hatuk, hašuruk)
A COVERS U
Waaruercé banagc waasurukaginja? 'Have you covered all the tables already?'
Niži jirecara waaruercawaruk. 'It started to rain, so I covered up the food.'

-ku- (-kara-) (one's own)

hakuruk A COVERS U WITH U
Wišgac waasjnąra waarakuruk? Did you cover your toys?

-gi- (for so. / so.'s)

hagiruk A COVERS U FOR U2 / A COVERS U2'S U1
Xaŋa wajiragšurukagšija? Can you cover the tables for me? / Can you cover my tables?

hi- (with sth.)

hiraruk A COVERS U WITH U
Wañuŋaka hjirasarukagšija? Can you cover me with that blanket?

-kii- (self)

hari(ki)ruka A COVERS HIM/HERSELF
Wa jhiša yaa ʔanaga haakiruka. I used a blanket and covered myself up.

Possible combinations:
hi- & -gi-: hiragiruk
hi- & -ku-: hirakuruk
hi- & -kii-: hakiruk
hi & -kiki-: hakikiruk
-kii- & -ku-: hakikuruk

What you cannot use with this verb:
ha- (do this on/over sth.)
ho- (do this in/into sth.): *hoaruk
“Micro-role landscapes”: preliminary results from a cross-linguistic comparison

Iren Hartmann

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

<table>
<thead>
<tr>
<th>MR</th>
<th>Icelandic</th>
<th>Hoocąk</th>
<th>Chintang</th>
</tr>
</thead>
<tbody>
<tr>
<td>hitter</td>
<td>NP-nom &amp; V.subj</td>
<td>sbj.V</td>
<td>NP-erg &amp; V.subj</td>
</tr>
<tr>
<td>hittee</td>
<td>NP-acc</td>
<td>obj.V</td>
<td>NP-als &amp; V.obj</td>
</tr>
<tr>
<td>liker</td>
<td>NP-dat</td>
<td>sbj.V</td>
<td>NP-erg &amp; V.subj</td>
</tr>
<tr>
<td>liked entity</td>
<td>NP-nom &amp; V.subj</td>
<td>obj.V</td>
<td>NP-als &amp; V.obj</td>
</tr>
<tr>
<td>throwing goal</td>
<td>inn um+NP-acc</td>
<td>NP+eeja</td>
<td>NP-als &amp; V.obj</td>
</tr>
<tr>
<td>helper</td>
<td>NP-nom &amp; V.subj</td>
<td>sbj.V</td>
<td>NP-erg &amp; V.subj</td>
</tr>
<tr>
<td>helpee</td>
<td>NP-dat</td>
<td>obj.V</td>
<td>NP-als &amp; V.obj</td>
</tr>
</tbody>
</table>
Data for this presentation

- 11 Languages
- 149 micro-roles (from 70 verb meanings)
- Coding devices derived from coding frames

You know these...

<table>
<thead>
<tr>
<th>Meaning</th>
<th>Role frame</th>
<th>Typical context</th>
</tr>
</thead>
<tbody>
<tr>
<td>eat</td>
<td>A eats P</td>
<td>The boy ate the fruit.</td>
</tr>
<tr>
<td>hug</td>
<td>A hugs P</td>
<td>The mother hugged her little boy.</td>
</tr>
<tr>
<td>look at</td>
<td>A looks at P</td>
<td>The boy looked at the girl.</td>
</tr>
<tr>
<td>see</td>
<td>E sees M</td>
<td>The man saw the bear.</td>
</tr>
<tr>
<td>smell</td>
<td>E smells M</td>
<td>The bear smelled the boy.</td>
</tr>
<tr>
<td>fear</td>
<td>E fears M</td>
<td>The man feared the bear.</td>
</tr>
<tr>
<td>frighten</td>
<td>A frightens P</td>
<td>The bear frightened the man.</td>
</tr>
<tr>
<td>know</td>
<td>A knows P</td>
<td>The girl knew the boy.</td>
</tr>
<tr>
<td>think</td>
<td>A thinks about X</td>
<td>The girl thought about her grandmother</td>
</tr>
<tr>
<td>search for</td>
<td>A searches for X</td>
<td>The man searched for the women.</td>
</tr>
<tr>
<td>wash</td>
<td>A washes P</td>
<td>The mother washed the baby.</td>
</tr>
<tr>
<td>dress</td>
<td>A dresses P</td>
<td>The mother dressed her daughter</td>
</tr>
<tr>
<td>shave</td>
<td>A shaves (his beard/hair)</td>
<td>The man shaved his beard/hair</td>
</tr>
<tr>
<td>help</td>
<td>A helps X</td>
<td>I helped the boys.</td>
</tr>
<tr>
<td>follow</td>
<td>A follows X</td>
<td>The boys followed the girls.</td>
</tr>
<tr>
<td>meet</td>
<td>A meets X</td>
<td>The men met the boys.</td>
</tr>
<tr>
<td>talk</td>
<td>A talks (to X) (about Y)</td>
<td>The girl talked to the boy about her dog.</td>
</tr>
<tr>
<td>ask for</td>
<td>A asks (X) for Y</td>
<td>The boy asked his parents for money.</td>
</tr>
<tr>
<td>shout at</td>
<td>A shouts at X</td>
<td>The woman shouted at the children</td>
</tr>
</tbody>
</table>

Micro-roles & Coding Devices

2 new layouts
MDS, split graphs and the like

- The purpose of statistical techniques such as multidimensional scaling (MDS) or split graphs is to provide a type of visual representation of the pattern of proximities (i.e., similarities or distances) among a set of objects.
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.

**Kriging**
What about Word Order as a Coding Device?

- Has not been taken into account yet.
- And this is what happens…
Comparing 2 languages

Hoocąk & Japanese

Or more...

Hoocąk subj.V & Chintang NP-erg&V.subj & Italian V.subj
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:
The challenge of tabulating language structure

Martin Haspelmath

two modes of language description
description

prose description: doing justice to the peculiarities of each individual language
languages
comparing large (>5) numbers of

• tabular description in a database:
  • prose description: doing justice to the peculiarities of each individual language

two modes of language description

Let us take a concrete example. The verb *hit* has the valence pattern:

- verbal verbs:
  - Infinitive: *hit* (root)
  - Past Participle: *hit* (past participle)
  - Present Participle: *hit* (present participle)
  - Past tense: *hit* (past tense)
  - Present tense: *hit* (present tense)
  - Passive voice: *hit* (passive)
  - Gerund: *hit* (gerund)

Verbal valence patterns are represented here in the following manner:

Chapter 15
<table>
<thead>
<tr>
<th>Language Comparison</th>
<th>English</th>
<th>Greek</th>
</tr>
</thead>
<tbody>
<tr>
<td>a standard definition of lexical categories?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a GOLD standard for grammatical passives?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>but what are the column headings?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>unavoidable tabular data arrangement is</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a standard definition of &quot;case&quot;, &quot;dative&quot;, &quot;accusative&quot;?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a list of all possible word meanings, courtesy of Plato?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Examples

1. (They) have a wedding ceremony.
2. (They) eat a wedding meal.
3. (They) exchange rings.
4. (They) kiss in front of the guests.
5. (They) go on a honeymoon.

Usage Notes

- Subject and object are the same.
- The verb expresses an action or possession of something.
- The subject is who or what the action is performed by or on.
- The object is what or whom the action is performed on.

Definition:

- Subject
- Verb
- Object

Data Case (Concept)

See definition, usage examples, properties, issues, how to contribute.
descriptive categories are created by descriptive linguists to do justice to particular language systems that cannot be the basis for comparison (unless they are nano-comparative concepts like NSM semantic primes).

comparative concepts need to be created separately by comparative linguists that can be the column headings of tabular data.

comparative concepts cannot be the basis for comparison.

are different for different languages that do justice to particular language systems that are created by descriptive linguists to descriptive categories.
comparative purpose in mind

•

when matching a language unit to a

problems or imperfections

mismatches are not an indication of

language perfectly

database questions cannot match a

Consequences (1)

Key concepts are comparative concepts:

•

Alternation (coded/uncoded)

•

Valency, argument

•

Verb

•

Verb meanings (rain, burn, sink, roll, etc.)

•

All are comparative concepts:

comparative of the database
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 very common in the language but not a perfect semantic match is better.
- A verb that is very rare in the language is not a good verb counterpart.

(2) The unity of language-particular phenomena will not always be preserved, cf. Balinese:

- Keep the comparative purpose in mind.
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 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)

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

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
- Flagging by case - nominative, accusative - and by prepositions
- Indexing of the subject - Constituent order identifies arguments in constructions with two NP

3. Morphosemantic patterns
- Basic valency classes are defined by morphosemantic patterns (stems I – XV) with word-and-pattern morphology.
- Stems are derived from the basic unaugmented pattern manifesting valency increasing (causatives, factitives – stem II, IV) or decreasing (reflexives – stem V, VI, VII, VIII, reciprocals – stem VI, passives – stem VII) functions that can be defined relatively clearly. Their semantic properties are complex.

4. Coding frames
- 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).

4.1 Mono-valent verbs <NOM>

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)
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- Flagging by case - nominative, accusative - and by prepositions
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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 decreasing (reflexives – stem V, VI, VII, VIII, reciprocals – stem VI, passives – stem VII) functions that can be defined relatively clearly. Their semantic properties are complex.

4 Coding Frames
4.1 Mono-valent verbs <NOM>

1. Basics of MSA morphosyntax
2. Argument marking strategies
3. Morphosemantic patterns
4. Coding frames
5. Uncoded alternations
6. Conclusion

4.2 Bivalent verbs

4.2.1 <NOM ACC>
- verbs of perception (ma’ā ‘see’ but samla ‘hear’ allows <NOM ACC – NOM PP> alternation) or of verbs dicendi (ba’dā ‘tell’, qāla ‘say’, whereat qāla often has sentential actant as direct object).

4.2.2 <NOM PP>
- verbs denoting ‘increasing’ (zāda ‘increase/highten sth.’, ḍāda (III) ‘duplicate sth.’) and ‘decreasing’ (ba’dā ‘limit sth.’, ḍaffa (II) ‘damp sth.’) take PPs with the preposition min ‘from’


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2. Argument marking strategies
3. Morphosemantic patterns
4. Coding frames
5. Uncoded alternations
6. Conclusion

4.2 Bivalent verbs

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4.3 Three-valent verbs

4.3.1 <NOM ACC ACC>

- Verbs denoting change, transformation (e.g. "change", "leave so. in a state of")

(24)

quant.PRF.3SG.M  ART-man-NOM  ART-name-ACC  ART-hair-GEN

"He changed the man's name to..."

4.3.2 <NOM ACC PP>

- Action verbs with an agent as subject and patient or theme as object (e.g. "induce sth. to so.", "suggest sth. to so.");

5.2 Alternation with bivalent verbs – coding frame <NOM ACC ~ NOM PP>

5.2.1 <NOM ACC ~ NOM

- Common with verbs of cognition and experience (e.g. "know", "comprehend");

(24)

drink.PRF.3SG.M  ART-man-NOM  ART-wine-ACC

"He drank wine..."

5.2.2 <NOM ACC ~ NOM

- Productive with verbs denoting movement towards a goal or arrival (e.g. "come to");

(25)

come.PRF.3SG.M  ART-state-NOM  ART-house-GEN

"He came to the state..."

5.2.3 <NOM ACC ~ NOM

- Choice of the preposition often not transparent > lexically conditioned

(26)

choose.PRF.3SG.M  ART-man-NOM  ART-city-GEN

"He chose the city..."

5.3 <NOM ACC ~ NOM min>

(27)

hit.PRF.3SG.M  ART-man-NOM  ART-stick-ACC

"He hit the stick..."

5.3.1 <NOM ACC - min

- Action verbs with an agent as subject and patient or theme as object (e.g. "hit";

(28)

hit.PRF.3SG.M  ART-chair-ACC  ART-man-GEN

"He hit the chair..."

5.3.2 <NOM ACC - min

- Choice of the preposition often not transparent > lexically conditioned

(29)

with.PRF.3SG.M  ART-man-NOM  ART-house-ACC

"He with..."
5.3 Alternations with three-valent verbs

5.3.1 Theme - recipient alternation: <NOM ACC > ACC ~ NOM ACC /T>

The verb *saraqa* 'steal' allows the following argument structures (El-Ayoubi et al. 2010: 384):

- Available with *mana* 'bestow', *wahaba*, 'give, present' *ahd* (IV) 'give, bring'.

5.3.2 Locative alternations

5.3.2.1 Alternations <L-ACC bi+T ~ T-ACC 'āli+L> and <L-ACC bi+T ~ T-ACC fi+L> 'substance adding verbs' (Mahmoud 1999: 531)

5.3.3 Alternation <NOM ACC PP ~ NOM PP PP>

- verbs *qašqa*, *ramā*, *ālāq* (IV) 'throw', *daqāq* 'punch' allow three coding alternations:

5.4 Other unmarked alternations

The verb *saraqa* 'steal' allows the following argument structures (El-Ayoubi et al. 2010: 384):

<table>
<thead>
<tr>
<th>Structure</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>(30) saraqa <em>ṣaffa</em> -ālāq</td>
<td>min <em>ṣaffa</em> -ālāq steal.PRF.3SG.M from-friend-ACC-ACC-3SG.M 'He stole from his friend.'</td>
</tr>
<tr>
<td>(31) saraqa <em>kītā-b-an</em></td>
<td>steal.PRF.3SG.M book-ACC.IDEF 'He stole a book.'</td>
</tr>
<tr>
<td>(32) saraqa <em>min <em>ṣaffa</em> -ālāq kītā-b-an</em></td>
<td>steal.PRF.3SG.M from-friend-GEN-3SG.M book-ACC.IDEF 'He stole a book from his friend.'</td>
</tr>
</tbody>
</table>

6 Conclusion

- In Modern Standard Arabic, flagging, indexing and constituent order also 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


References


Table 1 Valency patterns of the sample verbs

<table>
<thead>
<tr>
<th>Meaning</th>
<th>MSA verb (stem)</th>
<th>MSA coding frame</th>
<th>II</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>rain</td>
<td>tanqayat (IV)</td>
<td>S-nom</td>
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<td>die</td>
<td>mita (I)</td>
<td>S-nom</td>
<td>caus/</td>
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<td>blank</td>
<td>rumayla (I)</td>
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<td>go</td>
<td>ghabatula</td>
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<td>boil</td>
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<td>cough</td>
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<td>sit down</td>
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<td>S-nom</td>
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<td>gannî (III)</td>
<td>S-nom</td>
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<td>nabala (I)</td>
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### Notes

1. Roman Numerals II, IV, V, VI, VII, VIII and X refer to derivational patterns.
2. Subject is indexed by the verb and is always omissible.
3. VIII is mediopassive to I haraqa 'burn sth.'
4. + indicates that i/lâ is a preposition.
5. Roman Numerals between braces refer to the morphosemantic pattern of the verb.
6. Braces indicate omissible argument.
7. Stem I with the same meaning uncommon
8. IV causative to 'fear'
9. IV causative to 'dress'
10. quta' I'll and sa'ala 'ask for' form stem III with the function 'repeated action'.
11. Stem with the same meaning uncommon
### Table 2. Function and semantics of the then common morphosemantic patterns in MSA

<table>
<thead>
<tr>
<th>Stem</th>
<th>Pattern</th>
<th>Function</th>
<th>R.</th>
<th>T.</th>
<th>d.l.</th>
<th>q (f) ('cut')</th>
<th>b r d (Cold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>CₐCₐC₂₀ₐ₁ₑₐ₀₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁₀ₐ₁₁ₐ₁₂ₐ₁₃ₐ₁₄ₐ₁₅ₐ₁₆ₐ₁₇ₐ₁₈ₐ₁₉ₐ₁0₈</td>
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(No counterpart in MSA for: be cold, be sad, be hungry, be dry, be a hunter, be sick)

60 of the 84 sample verbs have the basic (I) unaugmented form.

---

\(\text{I}^{15}\) IV causative to I ḥazara 'attend'

\(\text{I}^{16}\) IV causative to ḥāla 'be hidden'

\(\text{I}^{17}\) IV causative to ḥa'd 'see'

\(\text{I}^{18}\) stem I non existent

\(\text{I}^{19}\) II causative to ḥumala 'carry'

\(\text{I}^{20}\) only with inanimate L

\(\text{I}^{21}\) Factitive of the noun 'inn 'name'

\(\text{I}^{22}\) II causative to I ḥala 'name'
Valency Classes in Japanese I: Standard Language

Hideki Kishimoto and Taro Kageyama
Kobe University and National Institute for Japanese Language and Linguistics

1. Overview
Uncoded alternations:
  e.g. locative alternation
  source-argument alternation, instrumental-subject alternation
  etc.

2. Uncoded Alternation
  a. Use of ablative marker replacing nominative, dative, accusative case.
  b. Alternation is possible when an argument is identified as ‘a source’.

Verbs of departing
  (3) Otoko-ga ie-[a/kara] de-ta.
       man-NOM house-[ACC/ABL] depart-PAST
       ‘The man left (from) the house’
     [\complement]

Verbs of arrival
  (4) Ken-ga inaka-[kara/*o] ki-ta.
       Ken-NOM country-[ABL/*ACC] come-PAST
       ‘Ken came from the countryside’
     [*complement]

Verbs of receiving
  (5) Ken-ga Eri-[n/kara] hon-o mora-ta.
       Ken-NOM Eri-[DAT/ABL] book-ACC get-PAST
       ‘Ken got the book from Eri’
     [\Indirect object]

Verbs of giving
       ‘Ken gave the book to Eri’
     [\Subject]

The frames of teaching verb
     Y-teacher-NOM student-DAT English-ACC teach-PRES
     ‘Mr. Y teaches English to the students’
     Y-teacher-NOM student-DAT teach-PRES
     ‘Mr. Y teaches students’
Difference in ablative marking

(8) a. Y-sensei-kara seito-ni eigo-o
    Y-teacherABL student-DAT English-ACC
    teach-PRES
    'Mr. Y teaches English to the students'
b. Y-sensei-kara seito-o osie-ru
    Y-teacherABL student-ACC teach-PRES
    'Mr. Y teaches the students'

Subjecthood

(9) a. Y-sensei-kara seito-ni sono-koto-o sono-koto-ni osie-ru
    Y-teacherABL student-DAT that-fact-ACC teach-PAST
    HON-become-PAST
    'Mr. Y taught the students that fact.'
b. Ken-i-kara-mo zibun-i-no koto-o osie-ta
    Ken-ABL-also self-GEN fact-ACC teach-PAST
    'Ken also taught the fact about himself.'

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-o kak-e-ru
    Ken-{-DAT/NOM} answer-ACC write-POT-PRES
    'Ken can write down the answer [DAT-NOM, NOM-ACC]'

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?

Morphological Derivations of Transitivity Alternation

(12) a. transitivization
    b. intransitivization
    c. equipollent alternation

Intransitivization

(13) a. Intransitivizer:
    -ar (-are, -sare, -or, -ur), -e
    b. Transitivizer:
    -ar (-dar, -tar, -r, -re), -e

Patterns

(14) Intransitive
    a. V-stem SUFFIX Tns
    b. V-stem Tns
    c. V-stem SUFFIX Tns
    d. V-stem Tns

Intransitive

(15) Transitive
    yabar-u 'tear'
    yabar-e-ru 'tear'
    hasam-u 'pinch'
    hasam-ar-u 'be pinched'

Transitivization From Transitive to Intransitive

Transitives are complex

(16) Intransitive
    ak-u 'open'
    hasam-u 'pinch'
    wak-u 'boil'

Transitivization From Intransitive to Transitive

Transitives are complex

(17) Intransitive
    ak-e-ru 'open'
    hasam-e-ru 'be pinched'
    wak-e-ru 'boil'
Transitivization II

From transitive to ditransitive

Ditransitives are complex

(17) Transitive
ki-ru 'get dressed'
miru 'see'

Ditransitive
ki-se-ru 'dress'
miru-ru 'show'

Equipollent Alternation

Directionality cannot be determined
Suffixation on both or no suffixation at all

(18) Intransitive
Transitive
nao-ru 'heal'
ahara-re-ru 'emerge'
hirak-u 'open'

-AR suffixation I

(19) a. Ken-ga iro-o kaw-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]

-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]

-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’
goods-NOM discount-AR-NEG-PAST
‘The goods were not discounted’
[AGENCY IMPLIED]

Passive

Passive verb

(23) Syoohin-ga make-rare-nakat-ta.
goods-NOM discount-PASS-NEG-PAST
‘The goods were not discounted’

-AR suffixation III-a

Ken-NOM child-ACC find-PAST
‘Ken found the child’
child-NOM Ken-DAT find-AR-PAST
‘The child was found by Ken’
[DEMOITED AGENT]

Passive

child-NOM Ken-DAT find-PASS-PAST
‘The child was found by Ken’
-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’

Agentive activity verbs

Transitive verbs that do not intransitivize

(27) a. tataku ‘beat’
b. keru ‘kick’
c. hakobu ‘carry’, etc.

Other agentive verbs

Transitive verbs that do not intransitivize in Standard Japanese—Subject to dialectal variations

(28) a. kosuru ‘scrub’
b. nuru ‘paint’
c. haku ‘write, draw’, etc.

4. Concluding remarks

- Coded alternation
  - Source-argument alternation

- Coded alternation
  - Transitivity alternation

References

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

<table>
<thead>
<tr>
<th>position</th>
<th>property</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>speech-act participant</td>
</tr>
<tr>
<td>2</td>
<td>other human being</td>
</tr>
<tr>
<td>3</td>
<td>animal</td>
</tr>
<tr>
<td>4</td>
<td>individual object</td>
</tr>
<tr>
<td>5</td>
<td>non-individual object</td>
</tr>
<tr>
<td>6</td>
<td>place</td>
</tr>
<tr>
<td>7</td>
<td>proposition</td>
</tr>
</tbody>
</table>

T2  Properties and functions of semantic roles

<table>
<thead>
<tr>
<th>role</th>
<th>empathy</th>
<th>involvement</th>
<th>control</th>
</tr>
</thead>
<tbody>
<tr>
<td>agent</td>
<td>1 2 3 4 5 6 7</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>force</td>
<td></td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>comitative</td>
<td></td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>instrument</td>
<td></td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>experience</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>emitter</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>source</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>recipient/ addressee</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>goal</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>sympatheticus</td>
<td></td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>patient</td>
<td></td>
<td>1</td>
<td>-1</td>
</tr>
<tr>
<td>beneficiary</td>
<td></td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>place</td>
<td></td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>theme</td>
<td>1 2 3 4 5 6 7</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
**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)

<table>
<thead>
<tr>
<th>type</th>
<th>constellation</th>
<th>example concepts (prototype bold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>situation</td>
<td>s comprises a situation core and arguments</td>
<td></td>
</tr>
<tr>
<td>existence</td>
<td>s is stative, O exists</td>
<td>there is</td>
</tr>
<tr>
<td>possession</td>
<td>s is stative, O has relation to Pr Pr typically controls s/O</td>
<td>have, belong</td>
</tr>
<tr>
<td>phase</td>
<td>T is dynamic, T is in phase</td>
<td>start, end, happen</td>
</tr>
<tr>
<td>position (posture)</td>
<td>s is stative, O has (bodily) position in P, O may control s</td>
<td>stand, lie, sit</td>
</tr>
<tr>
<td>motion</td>
<td>s is dynamic, O moves w.r.t. S/G O may control s</td>
<td>go, come, leave, pass, arrive, return, go out, enter</td>
</tr>
<tr>
<td>action / act</td>
<td>s is durative / punctual A controls s</td>
<td>work, run / jump</td>
</tr>
<tr>
<td>process / event</td>
<td>s is durative / punctual U undergoes s</td>
<td>burn, break, melt (itr.) / fall, die</td>
</tr>
<tr>
<td>action-process / act-event</td>
<td>s is durative, A affects U</td>
<td>beat, sew, make, eat / do, make</td>
</tr>
<tr>
<td>experience</td>
<td>s is dynamic, E perceives O</td>
<td>see, hear, feel, smell, taste</td>
</tr>
<tr>
<td>mental action</td>
<td>s is durative, A takes mental attitude to U [-empathic], U is unaffected</td>
<td>read, count</td>
</tr>
<tr>
<td>social action</td>
<td>s is dynamic A communicates with Ad</td>
<td>talk</td>
</tr>
<tr>
<td>cognition</td>
<td>s is stative, A takes mental attitude to T</td>
<td>think, know, want</td>
</tr>
<tr>
<td>volition</td>
<td>s is stative, A controls s</td>
<td>will, want, intend</td>
</tr>
</tbody>
</table>
**Legend:**
- A: actor
- Ad: addressee
- E: experiencer
- Em: emitter
- G: goal
- O: non-specific central role
- U: undergoer
- P: place
- Pr: possessor
- R: recipient
- T: theme

**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

<table>
<thead>
<tr>
<th>macrorole</th>
<th>actor</th>
<th>undergoer</th>
</tr>
</thead>
<tbody>
<tr>
<td>installation</td>
<td>agentivization</td>
<td>extraversion</td>
</tr>
<tr>
<td>suppression</td>
<td>deagentivization</td>
<td>introversion</td>
</tr>
</tbody>
</table>

**T5**  
Types of agentive situation (s’)

<table>
<thead>
<tr>
<th>type</th>
<th>base (T3)</th>
<th>constellation</th>
<th>example concepts (prototype bold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>agentive situation</td>
<td>s = T</td>
<td>s’ is dynamic, s’ is an act, A causes T</td>
<td>cause</td>
</tr>
<tr>
<td>causative action-process</td>
<td>process</td>
<td>A causes (U undergoes process)</td>
<td>burn, break, melt (tr.)</td>
</tr>
<tr>
<td>transport</td>
<td>motion</td>
<td>A causes (O moves w.r.t. S/G)</td>
<td>bring, carry, throw</td>
</tr>
<tr>
<td>collocation</td>
<td>position</td>
<td>A causes (O takes (bodily) position in P)</td>
<td>put, seat, lay</td>
</tr>
</tbody>
</table>
manipulation position A causes (O takes (bodily) position in P) fill, load, smear, sprinkle, stuff, hit (sth against sth)
transfer possession A causes (O has relation to Pr) give, take

E7 a. Linda moans (about her fate).
b. Linda bemoans her fate.

T6 Types of extraversive situation

<table>
<thead>
<tr>
<th>type</th>
<th>base</th>
<th>constellation</th>
<th>example concepts (prototype bold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>extraversive action-process</td>
<td>action</td>
<td>A acts U is affected by s</td>
<td>sweep</td>
</tr>
<tr>
<td>communication</td>
<td>social action</td>
<td>s is dynamic, A conveys T to Ad</td>
<td>say, ask</td>
</tr>
</tbody>
</table>

S1. Causative and applicative operations

<table>
<thead>
<tr>
<th>base</th>
<th>s</th>
</tr>
</thead>
<tbody>
<tr>
<td>derived</td>
<td>CAUSE(A, s) \ AFFECT(s, U)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>base</th>
<th>derived</th>
</tr>
</thead>
<tbody>
<tr>
<td>E8</td>
<td>make matin-do (nana ipa-yave)</td>
</tr>
<tr>
<td></td>
<td>Warem boy wash-IND OBL river-DEF</td>
</tr>
<tr>
<td></td>
<td>‘(the) boy is washing (in a/the river)’</td>
</tr>
<tr>
<td></td>
<td>b. make matin-na ipa-yave</td>
</tr>
<tr>
<td></td>
<td>Warem boy wash-APPL river-DEF</td>
</tr>
<tr>
<td></td>
<td>‘(the) boy is washing in the river’ (Donohue 1999:9)</td>
</tr>
<tr>
<td>E9</td>
<td>a. ti he-v</td>
</tr>
<tr>
<td></td>
<td>Waris tree chop-PRS</td>
</tr>
<tr>
<td></td>
<td>‘chop down a tree’</td>
</tr>
<tr>
<td></td>
<td>b. ti-m he-the-v</td>
</tr>
<tr>
<td></td>
<td>Waris tree-DAT chop-INTR-PRS</td>
</tr>
<tr>
<td></td>
<td>‘chop on a tree’ (Foley 1986:109)</td>
</tr>
</tbody>
</table>
### Hierarchy of adverbal syntactic functions

<table>
<thead>
<tr>
<th>subject</th>
<th>absolutive</th>
</tr>
</thead>
<tbody>
<tr>
<td>direct object</td>
<td>primary object</td>
</tr>
<tr>
<td>indirect object</td>
<td>secondary object</td>
</tr>
<tr>
<td>other complement</td>
<td></td>
</tr>
<tr>
<td>adjunct</td>
<td></td>
</tr>
</tbody>
</table>

### 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

**Italian**

‘dump on / wade into / pick at somebody’

**E13**

x is y’s uncle: y is child of z₁

and z₁ is child of z₂

and x is child of z₂

and x is male

**E14**

a. Linda is inside the capsule.

b. Linda is inside.

**E15**

a. Erna packte den Dieb

**German**

‘Erna seized the thief’

b. Erna packte zu

‘Erna seized [anaphoric object] / sailed in’

**E16**

a. h kún le baach-o’ (CL)

**Yucatec**

PRFV die(CMPL) DEF quail-D2

‘the quail died’

b. in wíts’n-e’ t-u kún-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’

**Yucatec**

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  anagnôsomai men humîn ... pánta tà hupomnêmata (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     Milésion ... 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    proîskhómenon      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  alêthós tokéa
 A.Gr not natural:ACC.SG.N be:INF DEF:M.ACC.SG even truly  parent:ACC.SG
 hupò toû     heôutoû    paidòs    apothnêskein (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 dê     prôta puthésth ên    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 konîesi   pesónotos
 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.ACT:ACC.SG.M he:ACC.SG.M
 toûs    ophthalmoûs    tuphlôthênai (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  egÔ  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.
    b. Paul pense le problème.
    'Paul considers the problem.'

E29  a. L’enfant touche au tableau.
    b. L’enfant touche le tableau. (François 2006:4f)
    'The child touches the blackboard.'

E30  a. Paul denkt an das Problem.
    b. Paul bedenkt das Problem.

E31  a. Das Kind rührt an die Tafel.
    b. Das Kind berührt die Tafel.

E32  a. Erna folgte dem Einbrecher.
    b. Erna verfolgte den Einbrecher.
    'Erna followed the burglar.'

References
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Kittilä, Seppo 2011, "Transitivity typology." *Song, Jae Jung* (ed.), *The Oxford handbook of linguistic
typology*. Oxford etc.: Oxford University Press; 346-367.
Oxford etc.: Oxford University Press; 368-398.
*Partizipation*. Das sprachliche Erfassen von Sachverhalten. Tübingen: G. Narr (LUS, 6); 183-239.
Kageyama, Taro* (eds.), Voice and grammatical relations. In honor of Masayoshi Shibatani. Amsterdam &


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–(16)), whose members share elements of meaning and patterns of behavior.

<table>
<thead>
<tr>
<th>verb class</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>break verbs</td>
<td>bend, break, crack, fold, shatter, split, snap, . . .</td>
</tr>
<tr>
<td>hit verbs</td>
<td>bash, bump, hit, kick, pound, slap, strike, stroke, tap, whack, . . .</td>
</tr>
</tbody>
</table>

The break verbs and hit verbs show considerable divergences in their argument realization options.

(2) Availability of transitive use and instrumental with phrase:
<table>
<thead>
<tr>
<th>transitive use</th>
<th>instrumental use</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The boy broke the window (with a ball).</td>
<td>a. The boy hit the window (with a ball).</td>
</tr>
</tbody>
</table>

(3) Availability of the causative alternation (V-transitive = ‘cause to V-intransitive’):
<table>
<thead>
<tr>
<th>causative</th>
<th>non-causative</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The boy broke the window.</td>
<td>a. The boy hit the window.</td>
</tr>
<tr>
<td>b. The window broke.</td>
<td>b. The window hit.</td>
</tr>
</tbody>
</table>

(4) Availability of the with/against alternation (Fillmore 1977: 74–78):
<table>
<thead>
<tr>
<th>with/against</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Perry broke the fence with the stick. ≠ Perry broke the stick against the fence.</td>
<td></td>
</tr>
<tr>
<td>b. Perry hit the fence with the stick. = Perry hit the stick against the fence.</td>
<td></td>
</tr>
</tbody>
</table>

(5) Availability of body-part possessor ascension, i.e. “external possession” (Fillmore 1970: 126, (23)–(26)):
<table>
<thead>
<tr>
<th>external possession</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I broke his leg. ≠ I broke him on the leg.</td>
<td></td>
</tr>
<tr>
<td>b. I hit his leg. = I hit him on the leg.</td>
<td></td>
</tr>
</tbody>
</table>

(6) Availability of the conative alternation:
<table>
<thead>
<tr>
<th>conative alternation</th>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Janet broke the vase. ≠ Janet broke at the vase.</td>
<td></td>
</tr>
<tr>
<td>b. Carla hit the door. = Carla hit at the door.</td>
<td></td>
</tr>
</tbody>
</table>

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.
<table>
<thead>
<tr>
<th>examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The rocks broke the windshield, but luckily it wasn’t damaged.</td>
</tr>
<tr>
<td>b. The rocks hit the windshield, but luckily it wasn’t damaged.</td>
</tr>
</tbody>
</table>

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.

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.

— 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.
The English dative alternation: Pat gave Sam a pear./Pat gave a pear to Sam.

a. give VERBS: give, pass, hand, sell, pay, trade, lend, loan
b. VERBS OF FUTURE HAVING: advance, allocate, allot, allow, assign, award, bestow, forward, grant, guarantee, leave, offer, promise
c. send VERBS: mail, send, ship
d. throw VERBS: fling, flip, kick, lob, shoot, slap, throw, toss
e. VERBS OF CONTINUOUS CAUSATION OF ACCOMPANIED MOTION IN A DEICTICALLY SPECIFIED DIRECTION: bring, take

(based on Groenen 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., Gerdt 1993).

EXAMPLES: The conative 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.

a. kick something shut/open
b. 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
a. J heeft een uur lang gebloosd
’J has one hour long blushed’
b. + J heek in een uur geblous
’J has in one hour blushed’ (McClure 1990: 314, Table 4)

(14) arrossire (= a + rosso + ire ‘become red’): change of state
a. + G e arrossisio per 10 minuti
’G blushed for 10 minutes’
b. G e arrossis 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)

<table>
<thead>
<tr>
<th>Root</th>
<th>Gloss</th>
<th>Intransitive</th>
<th>Transitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>babak</td>
<td>‘shatter’</td>
<td>mabak</td>
<td>mangabak</td>
</tr>
<tr>
<td>kinis</td>
<td>‘tear (e.g., cloth)’</td>
<td>kuminis</td>
<td>mongunis</td>
</tr>
<tr>
<td>lapak</td>
<td>‘split’</td>
<td>lumapak</td>
<td>mangalapak</td>
</tr>
<tr>
<td>lapi</td>
<td>‘fold (e.g., cloth)’</td>
<td>lumapi</td>
<td>mongolapi</td>
</tr>
<tr>
<td>potat</td>
<td>‘break (rope etc.)’</td>
<td>mutat</td>
<td>momutat</td>
</tr>
<tr>
<td>lipu</td>
<td>‘break (stick etc.)’</td>
<td>tumupu</td>
<td>monupu</td>
</tr>
<tr>
<td>uyas</td>
<td>‘pull apart’</td>
<td>muyas</td>
<td>monguyas</td>
</tr>
</tbody>
</table>

Hit verbs (excerpted from Kroeger 2010: 4, Table 1)

<table>
<thead>
<tr>
<th>Root</th>
<th>Gloss</th>
<th>Intransitive</th>
<th>Transitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>bobog</td>
<td>‘beat (w. stick)’</td>
<td>momobog</td>
<td>momobog</td>
</tr>
<tr>
<td>duntuk</td>
<td>‘bump, knock’</td>
<td>*dumuntuk</td>
<td>mongoduntuk</td>
</tr>
<tr>
<td>duntung</td>
<td>‘punch (w. fist)’</td>
<td>*dumuntung</td>
<td>mongodunung</td>
</tr>
<tr>
<td>lapus</td>
<td>‘slap’</td>
<td>*lumapis</td>
<td>mangalapis</td>
</tr>
<tr>
<td>pusut</td>
<td>‘eats’</td>
<td>*masut</td>
<td>mamasut</td>
</tr>
<tr>
<td>sudar</td>
<td>‘poke’</td>
<td>*samudasar</td>
<td>monudasar</td>
</tr>
</tbody>
</table>

• 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.
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 break—verbs like 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.
• The non-volitive form of verb roots describes (and entails) a result, whereas the non-volitive form of verb roots only describes an action.

4.2 Beyond hitting and breaking: The pervasiveness of the dichotomy


Other apparently “semantically coherent” verb classes of English can be similarly subdivided:
• Verbs of putting: specify manner of carrying out an action
• Verbs of killing: specify result of an action

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.
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’

• A comparable dichotomy is found in the motion domain, as reflected in Talmý’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
  — 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, walk, . . .
    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 diversifications in their argument realization options.

(29) Availability of the causative alternation (V-transitive = ‘cause to V-intransitive’):
  a. Martha emptied the tub/The tub emptied.
    b. Sam mopped the floor/The floor mopped.
(30) Availability of the conative alternation:
  a. Martha emptied the tub/She emptied the tub.
    b. Kay rubbed/scraped the counter/Kay rubbed/scraped at the counter.
(31) Availability of unspecified objects:
  a. Martha emptied the tub/She emptied the tub.
    b. Kay swept/wiped the floor/Kay swept/wiped the floor.
(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, fluff, 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.
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.

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:

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.

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 and as a result they went 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.)

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).

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.
(47) Material/product alternation:
   a. Martha carved a toy out of the piece of wood.
   b. Martha carved the piece of wood into a toy.

(48) Image impression alternation:
   a. Taylor embroidered peonies on the jacket.
   b. Taylor embroidered the jacket with peonies.

(49) With/against alternation:
   a. Sam hit the fence with a stick.
   b. Sam hit a stick against the fence.


• 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.
   c. Shannon put/ filled the groceries into the bag.
   d. Alex obtained the rare metal from Transylvania.
   e. Alex obtained Transylvania of the rare metal.

   These verbs don’t allow unspecified and nonsubcategorized objects.

(51) a. 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.
   The stagehand dimmed the scene dark.
   The stagehand dimmed his way off the set.
   The waiter filled the table wet.
   The waiter filled his way to a maître d’ position.
   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:
   a. Cinderella swept and scrubbed her way to a new ball gown.
   b. Cinderella swept and scrubbed herself into catatonia.

(56) Locative alternation — putting subtype:
   a. 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 Newshub, October 26, 2001)
   b. 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:
   a. 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 . . .
   b. To quickly drill through glass, use the tip of the cutting bit to engrave your way through the glass. (http://www.truebite.com/drill-degrou/) (http://www.sfx.ac.uk/groups.html)

(58) Material/Product Alternation:
   a. Drew sewed her way to a job in the fashion industry.
   b. … 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:
   a. And kicked himself into contention for the league’s Most Valuable Player honor. (J. Duarte, “Goal-Oriented: Rested Dougherty Has Hotshots Ready for the Title Run”, Sports Section, The Houston Chronicle, August 8, 1997, p. 6)
   b. 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)
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 vacuous 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.

- **LINGUISTIC 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 (DeLancy 1995, 2000).

- **BASQUE FOR**-**NOUNS**: aguilla 'needle', hauto 'club', stall, hengala 'cane', chiabata 'stick, rod', foca 'knife', porra 'club', . . . (from Baptista 2004: 39–40)

- **BASQUE VERB-NOUN COMBINATIONS**: chicotear 'whips, . . . (cf. chicote 'whips'), martelo 'hammers, ' (cf. martelo 'hammers, ' (from Baptista 2004: 39–40)

The process of forming the nouns in -ado is productive, with nonce instances being encountered (e.g., sapatura 'shoe-ado', cadeirada 'chair-ado').

- **VIETNAMESE**: Surface contact verbs may express the surface as an object or take a cognate object with the surface expressed in a PP.
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).

- 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 Hooper & 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 Kimaragang Dusun, (62) in Tibetan.

**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.

---

(70) da 'kick', dom 'punch', dui 'punch', cas 'scratch', can 'pinch/nip', ren 'beat', quai 'beat', can 'hit', donh 'hit', sai 'slap', vuo 'stroke/fondle', fom 'kick', hoa 'kiss', ca 'tickles', phang 'strike with a stick', quai '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.' (Pham 1999: 233, (10c))

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, Wiemold 1995).

Specifically, verbs specifying major goals (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, stray), particularly in verb-framed languages (Malt et al. 2008; see also Slobin 2000, Wiemold 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 (Wiemold 1995: 320, Table 8).

<table>
<thead>
<tr>
<th>Ideophone</th>
<th>Verb</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>utawarutu</td>
<td>aruku</td>
<td>‘walk briskly’</td>
</tr>
<tr>
<td>burakura</td>
<td>aruku</td>
<td>‘stroll’</td>
</tr>
<tr>
<td>kototoban</td>
<td>aruku</td>
<td>‘trudge along, tread on’</td>
</tr>
<tr>
<td>shawarayanari</td>
<td>aruku</td>
<td>‘walk daintily’</td>
</tr>
</tbody>
</table>

— Wiemold (1995: 320, Table 7) also points out that while English has a number of verbs of crying, Japanese has one verb, making finer distinctions via ideophones.

- 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.
Valence Classes in Mandarin

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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 hànyūpīn (lit. Chinese phonetic spelling) or simply pīn, 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 an 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 bought a car.’

b. 他 卖了 一辆 车。
    ta mai-le yi-liang che
    ‘He sold a car.’
```

1 英 美 buy’ and 卖 sell’ differ in tones.
He sold a car.

(2)  a. 他把一辆车买了。
   ta ba yi-CL 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-CL 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.’

b. *对你要来我很希望。
   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 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 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 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.

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 shangge yue bing-le san tian/ci
    ‘He was ill for three days/times last month.’

b. *去年他病了一月。
    he last year bing-le yi-ge yue
    ‘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-CL shu san tian/ci
    ‘I read this book for three days/times.’

Fig. 1 Order of object, oblique and verb (Dryer & Gensle 2005)

<table>
<thead>
<tr>
<th>VO languages</th>
<th>OV languages</th>
<th>No dominant order</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOX</td>
<td>XVO</td>
<td>VXO</td>
</tr>
<tr>
<td>XOV</td>
<td>VXV</td>
<td>OVX</td>
</tr>
<tr>
<td>45</td>
<td>37</td>
<td>152</td>
</tr>
<tr>
<td>189</td>
<td>0</td>
<td>45</td>
</tr>
</tbody>
</table>

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(2)  a. 我看了这本书三天/次。
    wo kan-LE zhe-CL shu san tian/ci
    ‘I read this book for three days/times.’
When the object is generic, it follows the expression of indefinite event quantity. See examples:

(3)  a. 他看了三天书。

\( ta \)  read-PFV three day/time  Book

‘He has been reading for three days.’

b. *他看了书三天。

\( ta \)  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)  a. 他送了一本书给他。

\( ta \)  send-PFV one-CL book to He

‘He sent a book to him.’

(5)  a. 他放了一本书到桌子上。

\( ta \)  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。

\( ta \)  in Shanghai live

‘He lives in Shanghai.’

b. 他住在上海。

\( ta \)  live-in Shanghai

‘He lives in Shanghai.’

c. 他住上海。

\( ta \)  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  shang (‘top’, following a noun to indicate ‘on the surface of the entity expressed by the noun’) in the following example (2c):

(2)  a. 他走在这条路*(上)*。

\( ta \)  walk-in this-CL road (LOC)

‘He walks on this road.’

b. 他走在这条路*(上)*。

\( ta \)  walk-in this-CL road (LOC)

‘He walks on this road.’

c. 他走这条路*(上)*。

\( ta \)  walk this-CL road *(shang)*

‘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 使 (zoulu, 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 xie ‘write’ cannot take a recipient and be used in DOC, while 写给 xie-gei ‘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 zu ‘rent’ is ambiguous or neutral in directions of transferring. When 租 zu ‘rent’ makes a compound with a directional verb, the ambiguity disappears. 租进 jie-jin ‘lit. rent-enter’ and 租出 jie-chu ‘lit. rent-exit’ mean ‘rent (from)’ and ‘rent out’ respectively (3.3.1).

3). Aspect-tense-modality markers. For example, Duration Marker -de changes an action to a state, thus affecting the valency structure (3.1.2). In particular, -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 is that somewhere 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。

三本 红 的 书 很 有趣。

b. 三本 红 的 书 很 有趣。

c. 红 的 三本 书 很 有趣。

d. 红 的 这 三本 书 很 有趣。

(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 有趣的 书

他 昨天 买来的 那 有趣的 书

b. 那 书 他 昨天 买来的 有趣的

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ował.
yige haizi xiao-le
one-CL child laugh- PFV
'A child cried.'

b. *孩子一个笑了。
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 [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 contexts [2d].

(2) a. -
cunzi li si-le yige ren
(village-LOC) die-PFV one-CL person
'A person died (in the village).'  
b. 死了 一个村子。
si-le ren DE cunzi
die-PFV person 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 nanian si-le fuqin
Zhangsan five years 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.'

Mandarin does not have avalent verbs in strict sense. Instead, avalent verbs in other languages, like meteoverbs, 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) 今天外面天空下了雨。
jintian/waimian/tian xia  le
Today/outside/sky fall PFV 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.'

Zhangsan wusui nanian si-le fuqin
Zhangsan five years 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.'
b. *一部/少数学生来了。

A part/ minority students come-PFV

(6) a. 部/多数学生来了。

all/majority students come-PFV

‘The majority of the students came.’

Other common unaccusative mono-valent verbs include existential verbs like 拥有 ‘have/exist’, verbs of appearing and disappearing like 来 ‘come’, 出现 ‘appear’, 出发 ‘leave’, 发生 ‘happen’, and other verbs that focus on the state or state change of the single argument S.

The duration marker 的 can change many unurgative 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 zai indicating a locative object (7c).

(7) a. 我在墙上挂了一幅画。

Wo zai wall-LOC hang-PFV one-CL painting

‘I put a painting onto the wall.’

b. 挂在墙上一幅画。

hang-on wall-LOC one-CL painting

‘There is a painting on the wall.’

c. 一幅画挂在墙上。

one-CL painting hang-on wall-LOC

‘There is a painting on the wall.’

3.2 Bivalent verbs

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:

(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 use an earphone for listening.’

(3) 我喝小杯。 (agent > instrument)

wo he xiaoci

‘I drink with a little cup.’

(4) 磨子磨麦子。 (instrument > theme)

mouzi mo maizi

‘The mill is for grinding wheat.’

(5) 萝卜切丝。 (theme > patient)

luobo qie si

‘The radish should be cut into strips.’

(6) 米煮粥。 (theme > patient)

mi zhu-le zhou

‘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

‘The ginseng (is to be) steeped in spirits.’

b. 酒泡人参。

jiu pao renshen

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 人参酒 renshengju (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 打胜了 敌人。
   women dasheng-le Diren
   ‘We defeated the enemy.’

b. 我们 打胜了  (Object omitted)
   women dasheng-le
   ‘We won.’

c. *敌人 打胜了  (Subject omitted and Object raised)
   diren dasheng-le
   ‘The enemy was defeated.’

d. 我们 使 敌人 打败了
   diren shi diren dabai-le
   ‘We made the enemy defeated.’

Since the verb 打胜 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 defeated the enemy.’

b. *我们 打败了  (Object omitted)
   women dabai-le
   ‘We won.’

c. 敌人 打败了  (Subject omitted and Object raised)
   diren dabai-le
d. 我们 使 敌人 打败了
   diren shi diren dabai-le
   ‘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 won the game.’

b. 我们 赢了。
   women ying-le
   ‘We won.’

c. 比赛 赢了
   bisai ying-le
   ‘The game was won.’

3.2.5 <X V C> : Verbs with a predicative complement

Some bivalent verbs take a predicative complement like English feel in He felt cold:

(4) 他 感到 冷
   ta gandao leng
   ‘He feels cold.’
Almost all verbs can form this construction with the help of an applicative 得 (4.4.1 intransitive resultative alternation).

(5) 他 走 得 很 快
ta zou-de hen kuai
‘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 ‘from’ [1a]. If Sr is not a place term, it must take 将 ‘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。
Li Si cong Zhangsan nai jieshou-le yi-ben shu
‘Li Si received a book from Zhang San.’
b. 李四 接受了 张三 一本 书。
Li Si jieshou-le Zhangsan yi-ben shu
‘Li Si received a book from Zhang San.’

(2) a. 李四 买了 张三 一本 书。
Li Si mai-le Zhangsan yi-ben shu
‘Li Si bought a book from Zhang San.’
b. 李四 买给了 张三 一本 书。
Li Si maigei-le Zhangsan yi-ben shu
‘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 买了 张三 一套 房子。
Li Si mai-le Zhangsan yi-tao fangzi
‘Li Si bought Zhang San a house.’
b. 李四 买给了 张三 一套 房子。
Li Si maigei-le Zhangsan yi-tao fangzi
‘Li Si bought Zhang San a house.’
c. 李四 送出了 一套 房子。
Li Si zu-xu-le yi-tao fangzi
‘Li Si rented out a house to Zhang San.’
d. *李四 送出来 一套 房子。
Li Si zuchu-le yi-tao fangzi
‘Li Si rented out a house.’

e. *李四 送上了 一套 房子。
Li Si zugei-le yi-tao fangzi
‘Li Si bought Zhang San a house.’

(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 ‘to’ to 出 ‘out’. Like 租 zu ‘rent’, Mandarin 借 jie ‘borrow/lend’ is also ambiguous. It demonstrates the exactly same features of 租 zu ‘rent’:

(4) a. 李四 借了 张三 一套 房子。
Li Si jie-le Zhangsan yi-tao fangzi
‘Li Si borrowed a house from Zhang San.’
b. 李四 借给了 张三 一套 房子。
Li Si jiegei-le Zhangsan yi-tao fangzi
‘Li Si borrowed a house from Zhang San.’

3 The sentence is ambiguous. 张三 Zhangsan can be interpreted as Patient, in a proper context.
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 robbed Zhang San of 100 dollars.’
b. 李四 抢了 张三。
Li Si qiang-le Zhang San
‘Li Si robbed Zhang San.’
c. 李四 把 张三 抢了。
Li Si ba Zhang San qiang-le
‘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 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 stole 100 dollars from Zhang San.’
b. 李四 偷了 张三。
Li Si tou-le 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 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 stole 100 dollars from Zhang San.’

However, the two verbs have different alternations. Since the source of *抢* ‘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* ‘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。
he take-PFV me one-CL book
‘He took a book away from me.’

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 yi-ping Moutai jiu

‘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 suggestive in this aspect.

(9) a. A 偷了 B 100 元钱。
A tou-le B 100 yuan qian
A steal-PFV B 100 dollar money
‘S stole 100 dollars from B.’

b. A 偷了 B 100 元钱。
A tou-le B 100 yuan qian
A steal-PFV B 100 dollar money
‘A stole 100 dollars for B.’

c. A 从 B 那里偷了 100 元钱。
A cong B na-er tou-le 100 yuan qian
A from B there steal-PFV 100 dollar money
‘A stole 100 dollars from B.’

d. A 为 B 偷了 100 元钱。
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。
A tou-le 100 yuan qian gei B
A steal-PFV 100 dollar money give 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
1 I give him 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
1 buy one-CL book give him
‘I bought a book and gave him.’

c. 我 买给 他 一本 书。
wo mai gei-le ta yi-ben shu
1 buy-APPL one-CL book
‘I bought him a book.’

d. 我 买给了 他 一本 书。
wo mai gei-le ta yi-ben shu
1 buy-APPL one-CL book
give him
‘I bought him a book.’

e. 我 买给 他 一本 书。
wo mai gei-le ta yi-ben shu
1 buy-APPL 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 xié ‘write’, 教 jiao ‘teach’, and 留 liu ‘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 写了 一封 信 给 他。
wo xie-le yi-feng xin gei ta
1 write 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 yi-feng xin
1 write(give)-APPL one-CL letter
‘I wrote a letter to him.’
I wrote him a letter.

Whether the applicative mark 给 'to' is optional or necessary is closely related to the event structure knowledge of the verb involved. In DOC of 送 'send', the applicative mark 给 'to' is optional, while it is obligatory in DOC of 写 'write', since the latter does not directly implies a recipient by its own.

3.3.3 <A ba V PG>, 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-jiang) kache
'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 loaded the (whole) truck with (*all) the hay.' (alternation)

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-jiang (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) 住房和。
xuexiao tigong (suoyou) xuesheng (quanbu) zhufang
'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
he congming
'He is clever.'

b. 他 很 聪明
he hen congming
'He is rather 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。
he shanghainen
'She is a Shanghai native.'

b. 他 不是 上海人。
he NEG copular shanghainen
'She is not a Shanghainese.'

(18) a. 他 黄头发。
he huangtoufa
'She is yellow-haired.'

b. 他 不是 黄头发。
he NEG copular huangtoufa
'She isn't yellow-haired.'
4 Alternations

4.1 Mono-argument Alternations

4.1.1 Postverbal Subject Alternation

(1) a. (Basic Construction)
   yi-ge lao nüren zhu-zai senli-li
   one-CL old woman live-APPL woods-LOC
   'An old woman lives in the woods.'

b. (Alternation)
   Zai senli-li zhu-zhe yi-ge lao nüren
   In woods-LOC live-DUR one-CL old woman
   'In the woods lives an old woman.'

There are two differences of this alternation in Mandarin from Levin's Post-verbal Subject Alternation.
1. In the Mandarin basic construction, the preposition "zai" (lit. in) is incorporated into the verb, functioning as an applicative, which emphasizes the ratio relationship, thus the sentence meaning of the verb is greatly deemphasized, and it is therefore applicable to a variety of verbs.
2. In contrast with the basic construction, the presence of 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).

4.1.2 Ambitransitive Alternation

(2) a. xia yu le
   fall rain CRS
   'It's raining.'

b. yu xia le
   rain fall PFV CRS
   'The rain started.'

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 also be taken as the result of the sentence-initial locative expression or 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.

(3) bisai women ying-le
   game 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. **wo yu-jian-le Ta**
   I meet-see-PFV He
   'I met him.'

(1) b. **wo he ta yu-jian-le**
   I and he meet-see-PFV
   'He and I met.'

(1) c. **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. **ta shuijiao-le**
   he sleep-PFV
   'He slept.'

(1) b. **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 to raise an object of old information to the preverbal position, thus employing 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.

### 4.2.5 Object Omission Alternation

(1) a. **wo chi-le mianbao**
   I eat-PFV bread
   'I ate the bread.'

(1) b. **wo chi-le**
   I eat-PFV
   'I ate.'

In English, the omitted object must be unspecified. However, in Mandarin, the omitted object can either be 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. **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. Thus, the nature of the alternation is to raise an object of old information to the preverbal position, thus employing 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.

### 4.2.7 Double Accusative Alternation

This alternation is available to almost all transitive verbs.
As have been shown in 3.1.2, an unaccusative mono-valent verbs can have a two-argument alternation:

(1) a. 他 看了 眼睛。
    tade yanjing xia-le
    ‘He is blind.’

b. 他 看了 眼睛。
    Ta xia-le yanjing
    ‘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
    ‘The enemy stroke him blind.’

b. 敌人 把 他 打瞎了 眼睛。
    diren ba ta daxia-le yanjing
    ‘The enemy stroke him blind.’

c. 他 被 敌人 打瞎了 眼睛。
    ta bei diren daxia-le yanjing
    ‘The enemy stroke him blind.’

d. 他 被 敌人 把 眼睛 打瞎了。
    ta bei diren ba yanjing daxia-le
    ‘The enemy stroke him blind.’

(1b) is dubbed as double accusative construction in the literature (Chappell 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 bei ta
    ‘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 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 book was sent away by me.’

b. 这本书 被 [ ] 送掉了。
    zhe-ben shu bei [ ] song-gei-le
    ‘This book is sent away. (It is a pity.)’

c. 这本书 [ ] 送掉了。
    zhe-ben shu [ ] song-gei-le
    ‘This book is sent away.’

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, ‘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 opened the door with this key.'

b. 这 把 钥匙 开 了 门。
zhe-ba yaoshi kai-le men
'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/zaishitang chi fan
'He takes his meal with a big bowl / in the cafeteria.'

b. 他 吃 大 碗 食堂。
ta chi da-wan/shitang
'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 'write' and 考 '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 the bread.'

b. 这 块 面包 切 起 来 很 容易。
zhe-kuai mianbao qie-APPL hen rongyi
'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 him books/a book.'

b. 我 送 书 给 他。
wo song shu gei ta
'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 confictory. Exceptions are a few conventional ones like 购买 maigui (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 get 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 借 给 他.
   wo xie-le yi-feng xin gei ta
   I wrote-PFV one-CL letter give/to he
   ‘I wrote a letter to him.’

b. 我 ’写’ (给了) 他 一封 借.
   wo xie(gei)-le ta yi-feng 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 ‘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.’

direktive verbs frequently used in Mandarin double object construction with an indirect object of source include 拿 ná (‘take’), 用 yòng (‘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 or movement involved, ‘getting/cost’ type DOC generally has an alternation involving the use of a preposition denoting source of transfer, like 从 from’ or 来 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 租 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

b. 我 借给了我 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 借 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 fennu di jujue-le
   he angrily refuse-PFV
   ‘He angrily refused.’

b. 他 拒绝地 很愤怒。
   ta jujue-de hen fenru
   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 shi ‘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. 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 感情 都 红了。
   wo ba ta piping-de lian dou hong-le
   'I criticized him so much that his face even turned red.'

   他 被 我 批评 得 感情 都 红了。
   ta bei wo piping-de lian dou hong-le
   'He was criticized by me so much that his face even turned red.'

   He 被 敌人 把 眼睛 打瞎了。
   he BEI enemy BA eye strike-blind-PFV
   'The enemy stroke him blind.'

   b. 他 被 敌人 把 眼睛 打瞎了。
   ta bei diren ba yanjing dashi-le
   他 被 敌人 把 眼睛 打瞎了。
   he BEI enemy BA eye strike-blind-APPL
   'He was criticized by me so much that his face even turned red.'

   被 素食 提供给 学生。
   ba huoshì tinggeng-gei xuèshēng
   BA food Provide-APPL student
   'to provide the food for students'

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.

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 example, 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 饮食
   wei xuèshēng tīgōng huoshì
   for student provide food
   'to provide food for the students'

   b. 把 饮食 提供给 学生。
   ba huoshì tinggeng-gei xuèshēng
   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 the object. The construction thus does not fit the transitivity hierarchy very well, hence an 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 hěn cóngmíng le
   He became very smart.

   b. 他 变 得 非常聪明。
   ta bian-de hěn cháng cóngmíng
   He became very smart.

   He 如此 变 得 非常聪明。
   he rúcǐ bian-de hěn cháng cóngmíng
   He became very smart.

In fact, the functional foundation is also shown somewhat in English:

(2) a. He drives slow(ly).
   b. 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\(\_\text{ly}\) must be taken as an adverbial, hence the adverb form slowly.

(2) can be translated into Mandarin as follows.

\begin{enumerate}
\item He drives slow\(\_\text{ly}\).
\item He slow\(\_\text{ly}\) drives.
\item He drives his car slow\(\_\text{ly}\).
\item He drives his car slow\(\_\text{ly}\) into the garage.
\end{enumerate}

(3) a. He drives slow\(\_\text{ly}.
\quad ta \ kai-de \ hen man
\quad he \ drive-APPL \ very slow
\quad 'He drives slowly.'

b. He slowly opens
\quad ta \ manmandi \ kai
\quad he \ slowly \ drive
\quad 'He slowly drives.'

c. He drives his car slowly into the garage.
\quad ta \ manmandi \ ba \ che \ kai-jin \ cheku
\quad he \ slowly \ BA \ car \ drive-into \ garage
\quad '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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**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

**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)

**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

**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")

**Transitive domain in Even**

- Canonical Transitives
- Affected Agent
- Contact
- Perpetrator
- Motion
- Interaction
- Spontaneous
- Perception
- Reflection
- Selection
- Assimilation

Black line: extension of the transitivity domain; red line instrumental marking; green line dative marking; blue line P-resultative construction
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.

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

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 monoditransitive 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)

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)
  - Analog (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 of <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, Calmei 2010)
  - Polysynym/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

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 under/differentiation, yet different verbs apart from allowing a general underspecified construction allow for alternative constructions with prepositions (that is, partial disambiguation through case alternations)

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
Alternations: typology

- Are there cross-linguistic lexical preferences for certain alternations?
- First, one needs to generalize across language-particular alternations

Uncoded alternations

Coded alternations

Decreasing: anticausatives (agentless), reflexives (reflexives/agentless)

Increasing: passives, applicatives

Rearranging

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; Miyako, this workshop)
- Mandinka: unmarked ambitransitive (“passive”) alternation; (Creissels, this workshop)
- Japanese: basic ambitransitive alternation (suppletive, and detransitivizing; Nishimoto et al., this workshop)

Markedness effects: taking meaning into account

The general pattern emerges more clearly when one takes meaning of a polyvalent form into account.

Some 5 constructions from 5 languages, with the alternation effect indicated

## Alternations: lexical preferences

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- Eskimo: ambitransitive indexing alternation (choice of transitive/intransitive agreement; Miyako, this workshop)
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- Japanese: basic ambitransitive alternation (suppletive, and detransitivizing; Nishimoto et al., this workshop)

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 reflexives” (meet),
  - “natural reciprocals” (meet).
- So far, some proposals have been made only for unaccusatives

Lexical hierarchies: subhierarchies?

- Extensions along each of the dimensions might involve a separate hierarchy (tentative):
  - Anticausative Hierarchy (cf. Haspelmath 1993)
  - Antipassive Hierarchy
  - Reflexive Hierarchy
  - 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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6. Summaries

6.1. Argument hierarchy

This is a brief survey of valency classes and patterns shown by them in Central Alaskan Yupik (CAY), an Eskimoan language. CAY belongs to the Eskimo-Aleut family, with Eskimo consisting of the Yupik (or Western) and Inupiat (or Eastern) branches. There are about 10,000 speakers of CAY. There is no written CAY and 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.

2. Morphosyntactic preliminaries

Verb and nominal inflection

2.1. Arguments in primary verbs

2.2. Valency patterns of primary verbs

2.2.1. Arguments in primary verbs

2.2.2. Valency-increasing markers

2.2.3. Multi-valent verbs and multifarious patterns

3. Basic patterns

3.1. Intransitive verbs:

3.2. Patientive monotransitives

3.2.1. Agentive monotransitives

3.2.2. Patientive monotransitives

3.2.2.1. Relational verbs:

3.2.2.2. Comparative verbs:

3.2.3. Impersonal patientives

3.3. Ditransitive verbs

3.4. Transitive verbs

4. Uncoded alternations

4.1. Uncoded detransitivization (reflexive / reciprocal)

4.2. Uncoded transitivization

4.2.1. Locational alternation

4.2.2. Causative alternation

5. Coded alternations

5.1. Simplex verbs

5.1.1. Causative A:

5.1.2. Applicative E:

5.1.3. Adversative E:

5.1.4. Impersonal A:

5.1.5. Antipassive:

5.1.6. Pseudo-passive:

5.2. Complex verbs

5.2.1. Causative A':

5.2.2. Directive A':

5.2.3. Speculative A':

5.2.4. Reportative A':

5.2.5. Expectant A':

5.2.6. Genealogical alternations

5.3. Compounding

5.3.1. Compound verb

5.3.2. Compound nominal

5.4. Double-marking

5.4.1. Stem

5.4.2. Inflection

5.4.3. Stem + DERIVATIONAL SUFFIX + INFLECTION

5.4.4. INFLECTION + STEM

5.5. Syntactic alternations

5.5.1. Argument-internal

5.5.2. Argument-external

5.5.3. Phrase-internal

5.5.4. Phrase-external

5.5.5. Clause-internal

5.5.6. Clause-external

5.5.7. Non-linguistic

5.6. Transcategorial expansions

5.7. Phonological adjustments

The superscript 1 on stem implies no compounding or noun incorporation and 0 means zero or many. The letters e, ng, g, r, q, and v stand for high-central vowel /e/, front velar nasal /ng/, back velar fricative /g/, and back velar nasal /k/, respectively. 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). Congruence and non-congruence are marked via a modifier of one or more enclitics, i.e. -vke, -gau-.
Verbal inflection is used to mark i) mood and ii) person-number (subject or object 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 (possessive, 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 (coordinative) appositional, which are all marked for person-number. On the other hand, there are seven cases for nominals: (1) absolutive and relative 3 for core arguments, (2) ablative-modalis, ablative, locative— of oblique (deem) arguments and for adjuncts, and (3) periphrastic, equatifis—for adjuncts. An absolute-case (or a relative-case) NP is subject to relativization.

P/S in the absolute case, 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.

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 inflectionally impossible, 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

<table>
<thead>
<tr>
<th>Intransitive</th>
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<th>Ditransitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>S (may be impersonal) [Simpabs]</td>
<td>P → A (A may be impersonal) [A Simpabs]</td>
<td>T → A → R (A may be impersonal) [A Simpabs]</td>
</tr>
</tbody>
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As far as primary verbs are concerned, valency patterns are straightforward in terms of the coding and indexing frames, and show little subclassification:

Agentic 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.

The impersonal argument [Simpabs] and [A Simpabs] is some natural process/force and is subject to indexing (as 3rd 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

3.1. Intransitive

| A (causative) | < - | * occur only after intransitives or roots * cf. complex causative A’ |

3.2. Monotransitive

| A (directive) | < - | * ask, tell s.o. → - |
| A (predictive) | < - | * think that s.o. → - |
| A (reportative) | < - | * say that s.o. → - |

3.3. Ditransitive

| A (expectant) | < - | * want s.o. = A* |

Conjugation of intransitive verbs includes: (independent moods) indicative, participle, imperative, optative, participial, connective, and (coordinative) appositional, which are all marked for person-number. On the other hand, there are seven cases for nominals: (1) absolutive and relative for core arguments, (2) ablative-modalis, ablative, locative—for oblique (deem) arguments and for adjuncts, and (3) periphrastic, equatifis—for adjuncts. An absolute-case (or a relative-case) NP is subject to relativization.

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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.

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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’, ’close’, ’face down’, ’upright’, ’standing’, ’hanging’, ’dry’). 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 (26).

Representative lists of the two kinds and the more common expanders are available in Miyaoka (2010b; §36.2 and §36.3).

Primary—intrinsically, monotransitive, and ditransitive—verbs respectively show the unammonious vagueness pattern as given in (3), with little subgrouping.

Of the eighty meanings in the database, 9 are denomin (’think about’, ’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 (’frighten’, ’dress’, ’talk to’, ’ask for’, ’tell’, ’kill’, ’feel’, ’pour’, ’sit down’, ’bring’, ’teach’). Out of the sixty-nine primary verbs (including denominals and root-expanded), 22 are monotransitive, 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:

This is the invariable pattern for intransitive verbs with no alternative frames. Intransitives include, among all, animate / inanimate, inanimate / non-agentive verbs, adjectival verbs, but two other groups are represented below, (i) meteorological (season) verbs and (ii) denominal (copula-like) relation verbs (see §3.13 and §3.2.2.1).

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### §3.2. Monotransitive verbs:

CAY monotransitive verbs with P and A arguments are basically labile, being either transitively or intransitively

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’, ’close’, ’face down’, ’upright’, ’standing’, ’hanging’, ’dry’). 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 (26).

Representative lists of the two kinds and the more common expanders are available in Miyaoka (2010b; §36.2 and §36.3).

Primary—intrinsically, monotransitive, and ditransitive—verbs respectively show the unammonious vagueness pattern as given in (3), with little subgrouping.

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### §3.2. Monotransitive verbs:

CAY monotransitive verbs with P and A arguments are basically labile, being either transitively or intransitively

| (7) | [ng-aq anun] | alineariste-nga-uq | that-EX.ABS.SG | man.ABS.SG | teacher-be-IND.S3G |
|----|-------------|-------------------|---------------|-----------|
|     |    | ’That man (over there) is a teacher.’ |

In which the “teacher” is not a core argument or a “copula complement” (Disoon 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. amo- ’go out’ as in (9), 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 (un-coded transitivization; §4.2.1). They Nevertheless should not be taken as monomatraitively, given the diagnostic evidence by adjectival -gi- (§3.1.3).

inflected (uncoded alternation, §4.1).

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 presentations (some natural processes) 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).

(a) Angute-m neqa ner-aa. <Pabs Vsubj>[A][obj][P]>
man.REL.SG fish.ABS.SG eat-IND.3SG.SG

The man is eating the fish.

(b) Angun neqa-mek ner-1a.q
man.ABS.SG fish-ABM.SG eat-IND.3SG.SG

The man is eating a fish.

(c) Neqa ner-1a.q ak’a. <S/Pabs Vsubj>[S/P]>
fish.ABS.SG eat-IND.3SG already

The fish is / has been eaten.—TAM-sensitive passive (A deletion).

The passive alternation (c), which is lexically restricted, does not allow for the expression of agent. It is deleted.

There are two types of agentive monotransitive verbs in the 80-verb database: qpp-‘to wash’, tangvag-‘to look at’, tajzer-‘see’, taner-‘smell’, tasham-‘know’, jeyax-‘search for’, maliga-‘follow’, pair-‘meet’, qayqaymog-‘about at’, qay-‘say’, N-li-‘boy’ (denominal), kuyaq-‘hit’, qugog-‘touch’, tagaf-‘talk’, qug-‘carry’, atun-‘sing’, milt ‘grid’, eglage ‘stool’, nes ‘hear’, ken-ir ‘cook’ (denominal from ken ‘food’), besides the illustrated nere ‘eat’. No special valency pattern is shown by any semantic subclasses, say, the three verbs for perception, for instance.

§3.2.2. Patientive monotransitives

This type of monotransitive verbs is represented by alleg-‘to tear’, though many of this type are not intransitive-causative ‘destructive verbs’—(a) transitive and (b) intransitive (uncoded alternation), i.e. medio-passive. By contrast with agentive (8a), antipassivation (c) is a coded productive achievement by one of the three antipassivations (§5.1.5).

(a) Angute-m kary-m alleg-a.q. <Pabs Vsubj>[A][obj][P]>
man.REL.SG net-ABS3RS.GSG tear-IND.3SG.SSG

(b) Kary-m alleg-tuq. <Subs Vsubj>[S/P]>
net-ABS3RS.GSG tear-IND.3SG.SSG

The man tears/tore his (own) net.

(i) ‘His net was torn (by someone).—passivization (A deletion), less common than (i) above’

(ii) ‘His net was torn (by someone).—passivization (A deletion), less common than (i) above’

—hence ‘medio-passives’ for intransitives (like alleg-tuq) for patientive monotransitives

5 Many or perhaps all of the so-called ‘transitive-only’ verbs (Jacobson 1984: 19, 1995: 116; Mithun 2000: 87), including diminutives, will turn out to occur with intransitive inflection as well, within a special context.

6 Note the resultant ABS/AHM alternation yields contrast in definiteness of ‘fish’.

7 By means of a particle (like in c), a suffix (continuative) perceptive -va (cf. Jacobson 1995: 208, Mithun 2000: 91.93), or an oppositional clause (tong-bala use up-APP-3sg ‘finishing it’).
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.).

Available in Miyaoka (2010b; 45).

The comparative markers -nq(e)- / -nru- intransitive relational verb and -ke- (§3.2.2.1) or -ak- (§3.1). A parameter for CAY comparative verbs can be non-adectival intransitive (e.g. go, speak) or monotransitive (e.g. eat, freeze,.. more than). A time word can be the standard of comparison (e.g. ‘yesterday’).

Note above the compare (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. indicative one (‘the boat is / becomes bigger than mine’) as mentioned in §3.2.2.1.16

Paradigm of the atypical A argument as the possessor is also found in the pseudo-passive (§5.1.6-ii; 46 f). More details of CAY comparative constructions in Miyaoka (2009a).

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 as is the case with (8)b-ii for patientive monotransitives. But the indirective -tune- is used, the valency rearrangement is impossible with ditransitive verbs, but antipassivization occurs as a coded alternation.

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3.2.2.2) and pseudo-passive (§5.1-ii), as summarized in §6.2-ii, and (ii) are productive devices for synchronic trans-categorial or ‘cyclical’ expansions, though this last is beyond the scope of the present topic. Details are available in Miyaoka (2010b;20.4,§3.7,§4.5).

§3.2.2. Comparative verbs -nqe- vs. intransitive -ar-u. Only the stative comparative degree (out of twelve) is illustrated; (a) transitive and (b) intransitive:

(12) a. Anguaq angu-nq-ua (~ angu-nq-aq)15 pi-ma (~ angu-a-ma).

The boat is bigger than mine (~ my boat) (lit. mine has the boat as the bigger one).

b. Anguaq angua-ar-uq pi-mai (~ angua-a-mai).

The boat is bigger than mine (~ my boat).

The comparative markers -nq(e)- / -nru- and are derived from the abstract nominalizer and the monotransitive and intransitive relational verb and -ke- (§3.2.2.1) and -ak- (§3.1). A parameter for CAY comparative verbs can be non-adectival intransitive (e.g. ‘eat, freeze... more than’). A time word can be the standard of comparison (e.g. ‘yesterday’).

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§3.3. Impersonal patientives: <Pabs Anguaq(rl)> Vsub[Anguaq]obj[P]>

This type of verbs (with no external Aarg) concern a natural process or force like freezing/heating/burning and changes in condition/shape/position (`open', `get dry', `swell', `band') and in body parts (`head', `shed hair', `get head sores'). The intransitive alternation, with Aarg-deleted passivization, is nearly equivalent to quasi-equivalent (=) to the transitive:


The lake is frozen.

b. Nanvaq ciku-<. <Subs Anguaq> Vsub[S]>

The lake is frozen.

a=bb ‘The lake is frozen’ — literally, (a) ‘It (Anguaq) has frozen the lake’ (transitive) vs. (b) ‘the lake is frozen’ (intransitive), with a possible semantic difference (Miyaoka 2010b;§4.3.1).

Impersonal patientives cannot have medialization like (9)b-ii, this is for a good reason (see§5.1.5).

The database includes only one verb gurru-‘fed cold’, an impersonal causative from gurru-‘freeze to death’, but CAY impersonal patientives include not only verbs of freezing/heating/burning (jell, melt, cool, smoke, etc.) 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 nasty, shrink, swell, ooze, move, fly, etc.).

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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), monotonotransitive verbs show uncoded and (generally) productive detransitivization, that is, antipassive and (TAM-sensitive) passive alternations relevant to agentive verbs and (ii) medopassive alternative 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) coded ones, see §3.2.2.1 and §3.2.2.ii.

\[
\begin{align*}
\text{(16) } & \text{Qinmqa evang-taq elmi-nek.} \\
& \text{dog.ABS.SG shake-IND.3SG 3RSG-ABM} \\
& \text{The dog is shaking / brushing himself (off snow).}
\end{align*}
\]

\[
\begin{align*}
\text{(17) } & \text{Tun-aa wang-nek Agayut-mun.} \\
& \text{give-IND.3SG 1SG-ABM God-ALL.SG} \\
& \text{‘I am giving (voluntarily surrender) myself to God.’}
\end{align*}
\]

\[
\begin{align*}
\text{(18) } & \text{Nay-ak weng-mekt.} \\
& \text{help-IND.1DU 1DU-ABM} \\
& \text{‘We(DU) are helping each other.’}
\end{align*}
\]

§4.2. Uncoded transitivization

Two kinds of uncoded transitivization (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.

\[
\begin{align*}
\text{(19) } & \text{Angyar-pak huig-mek an-aq} \\
& \text{boat-big.ABS.SG river-ABM.SG go.out-IND.3SG} \\
& \text{‘The big boat went out of the river.’}
\end{align*}
\]

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- gi- (§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 verb.

In the following example with akk- ‘arrive (at place, time),’ the uncoded transitive alternation (b) is subject to uncoded antipassivization in (c), thus with ablative-modal is NP, like (8)b above since it is an agentive monotransitive verb:

\[
\begin{align*}
\text{(20) } & \text{a. Tekit-aq [u-u-mun ene-mun]} \\
& \text{arrive-IND.3SG this-EX-ALL.SG house-ALL.SG} \\
& \text{b. Tekit-aq [u-na ena]} \\
& \text{arrive-IND.3SG house-EX-ABM.SG} \\
& \text{c. Tekit-aq [u-u-mek ene-mek]} \\
& \text{arrive-IND.3SG house-ABM.SG} \\
& \text{a ~ b ~ c ‘He arrived at this house.’}
\end{align*}
\]

An antipassivization (c) is an antipassivization of (b).

The uncoded locational object may also be a time noun:

\[
\begin{align*}
\text{(21) } & \text{a. Up’nerkaq [qakm-u-m ella-m]} \\
& \text{spring.ABS.SG outside-REL.SG weather-REL.SG arrive-IND.3SG} \\
& \text{‘the weather outside became (arrived at) the spring’}
\end{align*}
\]

\[
\begin{align*}
\text{(22) } & \text{Aqononq tekik-ua wuk.} \\
& \text{Sunday.ABS.SG help-APP.3SG} \\
& \text{‘arriving at Sunday, i.e. until Sunday’}
\end{align*}
\]

The uncoded locational Pargament may be relativized:

\[
\begin{align*}
\text{(23) } & \text{a. Kuik kuik an-aa.} \\
& \text{river.ABS.SG swim-RLVZ-ABS.3SG.SG} \\
& \text{‘it/he swims’} \\
& \text{b. Kuik kuik usik an-aa.} \\
& \text{river.ABS.SG swim-out-APP.3SG.SG} \\
& \text{‘it/he is swimming it’}
\end{align*}
\]

An antipassivization (c) is an antipassivization of (b).

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; §3.3.4.1).

§4.2.2. Causative alternation

Both impersonal (a) vs. personal (b) causation are shown:

\[
\begin{align*}
\text{(24) } & \text{a. Up’tar’uq [qohim-u-m dika-m] tekik-aa.} \\
& \text{boat-big.ABS.SG river-ABM.SG go.out-IND.3SG} \\
& \text{‘The big boat made it out of the river (at full tide).’}
\end{align*}
\]

10 According to the adverbial adjuncts alqunaq ‘suddenly’ or ayainumini (CNN.3RSG) ‘while I was going on my way.’

11 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 causes.
Hey, the river is (has become) wide, lit. 'it (AIMP) has widened it [unnoticed by hearer]!' cf. intransive iqtu-uq (IND.3SG) 'the river is wide' [mere statement].

5. Coded alternations

5.1. Simplex verbs

5.1.1. Causative A: _-c_. 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(=S) 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. tupa-uq (IND.3SG) 'be died'
   b. tupa-t-aq (IND.3SG) 'he killed her/him, with the regular change of -c- to -t-
   c. tupa-t-t- (IND.3SG) i) 'he choked', ii) 'he killed himself' (with reflexive pronoun d lminek)
   d. tupa-t-c-uq (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) 'he stood her/him up, he helped her to stand up'
   b. nanger-t-q (IND.3SG) i) 'she/it stood up', ii) 'she/it was helped to stand (by s.o.)'.

5.1.2. Applicative E: _-ac/- ac-: and _-c/-c-:_

- _ac/-c-_ with roles of accomplishment, addressee, goal, beneficiary or maleficiary, and recipient. The Eac is possible not only with intransitives (33), monotransitives (30), (31), but also with ditransitives (32). See §§6-2-i for correspondence of trivalent applicative constructions (non-recipient vs. recipient) from monomorphemic verbs with two types of ditransitive verbs (§3.1) and of trivalent complex verbs (§5.2):.

(30) Nalaq-ut-aanga irnia-ma sass Na'saq.
   find-IND.3SG.3SG ear-big-be-IND.3SG.3SG 'My child found a watch for me.' 'beneficiary E'
   -cf. nalaq-aa (IND.3SG.3SG) 'he found it', nalaq-uq (IND.3SG) 'it has been found', with patientive monotransitive nalaq-aa- 'find'.

(31) Imi-t-ssa emaq qa-ha-mun.
   fill-IND.3SG.3SG water-ABS.SG pull-ALL.SG
   'She poured the water into the pull.' -recipient-like E on patientive imi- 'fill'.

(32) a. nasva-ut-aanga nasvag-.
   show-IND.3SG.3SG 'he showed (s.t.; ABM) (to s.o.; ALL)
   -indirective form much less common.

More details and examples of uncodable causative alternation are available in Miyake (2010b§§3.4.2,§3.4.3).

§5. Coded alternations

Given the variety of valency-increasing suffixes (simplex and complex) and their (limited) cumulativeness, verbs can be multivalent, sometimes with six or seven arguments at least. See §5.3 for the argument hierarchy in case assignment in view of accessibility to the absolutive status. Given the great variety of dynamic processes for reducing them to their core arguments, the valency patterns for extended verbs are too multifarious to be exclusively listed up, unlike those of primary verbs.

5.1.1. Causative A: _-c_. 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(=S) 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.

5.1. Simplex verbs

5.1.1. Causative A: _-c_. 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(=S) 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.
b. payug-ut-a "he brought (s.t.; ABM) to s.o.; ALL) for her"
   bring-E.ind.3sg.3sg- from secundative payug- "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)s > A(s) > V(s)obj[ E > ]

(33) a. Kic-i-aqa  qimugte-mek  irnia-qa
   give-means-ind.1sg.3sg. dog-ABM.SG  child-ABS.1SG .SG
   ‘I gave the black dog to my child (it is the black dog I gave away to my child).’ — indirective of ditransitive.

   Cf. also (15)b.

§5.1.3. Adversative E: — gi-
   Introduces an adversative E argument, exclusively with the role of sufferer, hence EADV, 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.23

With intransitive verbs like kic- ‘sink’ below, the adversative E (experiencer) becomes A, while the primary S becomes P > P(Stbls. A[End] V[sbj][obj[E]]) — this is in contrast with applicative E which becomes P (§5.1.2).

Compare (33b) with the following (a), showing the opposite person relationship (IND.1SG.3SG) vs. 1SG.3SG.

   a. Ner-i-anga    neqe-m   neqca-mnek.
      eat-E ADV-IND.1SG .1SG fish-REL.SG bait-ABM.1SG .SG
      ‘I had my bait eaten.’

By contrast, the following has the agentive monotransitive nere- ‘eat’. Note that the affected participant or reason for being thankful

   b. Ciki-teik-aqa  qimugte  irnia-mun.
      give-means-ind.1sg.3sg. dog-ABM.SG  child-ALL.1SG.3SG
      ‘I gave the black dog to my child (it is the black dog I gave away to my child).’ — indirective of ditransitive.

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23 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 in causative, cf. P > EADV > A vs. P > A > V (§6.1).

24 E.g. qani-aq naa-mnee-keggnarqe
   it is snowing on me — with obligatory demotion of P (due to trivalency).

25 I am not aware 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 in causative, cf. P > EADV > A vs. P > A > V (§6.1).

26 Less common — we ‘be time-wise necessitated to, betime to’, ‘dajangnaq ‘be a good time to’.
modality marker['should'] with no valency increase). As mentioned (§2.2), the extended argument A\textsubscript{eq} does not co-occur with E\textsubscript{eq}. It is illustrated below only with a monotransitive more-‘eat’ (40) and a secundative ditransitive ‘give’ (41), thus forming a quadrivalent impersonal verb. (40)'s 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 Miyaoka (2011, esp. 479-485). (40)

(40) a. N\textit{er-narq-aanga} n\textit{eq}-mek. <Pabm Aabs A\textsubscript{eq}A_ABS V\textsubscript{subj}[A\textsubscript{eq}]A|A> eat-NEC-IND.3SG.1SG fish-ABM.GSG

'y have to eat fish.' with P demoted.

cf. the contrastive person relation in the primary constructions: n\textit{er}-‘aqa (IND.3SG.1SG) 'I am eating it.' vs. n\textit{er-narq-a} (IND.3SG.1SG) 'he is eating me'.

b. N\textit{er-narq-ua} n\textit{eq}-mek. <Pabm S/A abs A\textsubscript{eq}A\textsubscript{abs} V\textsubscript{subj}[S/A]> eat-NEC-IND.1SG fish-ABM.GSG

'I should eat fish.'—with A\textsubscript{eq} deleted in detransitivization.

cf. n\textit{er}-‘ua (IND.1SG) 'I am eating (it.)' (uncoded antipassive).

(41) a. A\textit{ngun cikir-narq-aa} a\textit{kuta-mek}. man.ABS.SG give-NEC-IND.3SG.3SG ice.cream-ABM.SG

'the man to have given ice cream.' (less acceptable) <Tabm R abs A\textsubscript{eq}A\textsubscript{abs}> 'The man has to give ice cream to the man.'

b. A\textit{ngun cikir-narq-sq} a\textit{kuta-mek}. man.ABS.SG give-NEC-IND.3SG ice.cream-ABM.SG

'the man must be given ice cream.'—both with A\textsubscript{eq} and A deleted.

Next, the following two (§5.1.5.§5.1.6) are valency-decreasing markers:

§5.1.5. Antipassive: -\textit{gi}, -\textit{uc}, -\textit{kenge} for patientive verbs §3.2.2; as contrasted with uncoded antipassives for agentive verbs §3.2.1 and (6b). 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 -\textit{gi} and -\textit{uc} are illustrated: The following with -\textit{gi} is a repetition of (9c).

(42) A\textit{ngun k\textit{uyu-mi}nk} a\textit{llgi-i-qa}. <S/A\textsubscript{abs} Pabm V\textsubscript{aps}V\textsubscript{subj}[S/A]> man.ABS.GSG net-A\textsubscript{eq}BM.3SG.GSG tear-APAS-IND.3SG

'the man tore his (own) net.'—repeated again as (44)b-i.

(43) N\textit{alaq-ut-uq} pi-\textit{yu-li-anek}.

find-APAS-IND.3SG thing-wish-VM\textsubscript{n}BM.3SG.GSG

'he found what she wanted.'

It is noteworthy that the first and the second antipassive markers as in (42) and (43) are identical with the adversative -\textit{gi} and applicative -\textit{uc} (see (46)§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 an uncertain detransitivized form of patientive verbs like (9b), (28)c, and (29)b. The detransitivized (9b) a\textit{llg}-\textit{aq} (with patientive monotransitive a\textit{lq}-‘tare’), 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. K\textit{aaS-a-m allgi-i-\textit{a} an\textit{g}un k\textit{anyu-anek}. white.man-REL.SG tear-E-IND.3SG man.ABS.SG net-A\textsubscript{eq}BM.3SG.GSG

'the white man torn his (man's) net on the man; the white man tore the man's net.'

cf. (9) all\textit{g}-\textit{a} 'he tears/tore it'.

b. A\textit{ngun k\textit{anyu-mi}nk} a\textit{llgi-i-qa}. <S/A\textsubscript{abs} Pabm V\textsubscript{aps}V\textsubscript{subj}[S/A]>

man.ABS.SG net-A\textsubscript{eq}BM.3SG.GSG 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 reading of the detransitivized (9b) is exactly the antipassive (42) and the second is adversative. Just like the detransitivized (9b) a\textit{llg}-\textit{aq} (with allg-‘tare’) 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 detransitivized form of an adversative a\textit{llg}-‘tared’ verb, for instance, is subject to the same two processes, i.e. medialization (between E [mufleciency] 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 -\textit{uc}-coded verb which has the two readings, antipassive and intransitive applicative (incl. beneficary). It should be now clear that, as mentioned in§3.2.3, impersonal patientives cannot have medialization like (9b), though they can have passivization like (9b)-ii, thus (13) c\textit{ikx-a} ‘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 mufleciency or beneficary).

An antipassivizer may occur not only after patientive montransitives (§2.1.3.2.2), but also after an applicative or an adversative E (§5.1.2.3.3; though not A\textsubscript{eq}A\textsubscript{abs}). Importantly, it also occurs after an complex transitive A’ (§5.2), as in (50k) and (52), as a matter of fact, being the only valency-changing marker. Thus a single word may have two antipassivizers.26

§5.1.6. Pseudo-passive +\textit{sc}(-\textit{u})- and -\textit{au}- / -\textit{aq}- Decreases valency by one argument. Coded passives but either of them are not so productive. Cf. fn. 7.

i) Dynamic pseudo-passive +\textit{sc}(-\textit{u})- 'be —ed by s.o. to the detriment of' (suffix-initial s deleted

26 An applicative E -\textit{au}- 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.

27 My data contains a case effect of person occurrences, i.e. after primary (patientive) stem and applicative E, as well as primary stem and complex verb A’ at first O’s.
4/21/2011

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In order to see the nature of the construction and the case formation, it is necessary to understand that the pseudo-passive construction is also a composite suffix from a certain morphological construction. The pseudo-passive construction is in some cases derived from a verbalization by a verb followed by a nominal (e.g., "bear-ABM.SG follow-PPAS-PST-IND.3SG sound-PRV-APP.3RSG").

Complex verbs are added to the pseudo-passive construction (47) as well as to (50)b (Miyaoka 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.

For more information on this topic, please refer to Jacobson (1984: 445-46) and Andrew (1990: 443-44) regarding the agenthood status of the noun in question. Andrew (1990: 443-44) also notes the importance of the agenthood status in the construction of complex verbs, which will require more detailed consideration.

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Note: In a 'passive' vs. an 'active' comparison, the transitive construction is more typical in Yaku and other Inuit languages, with transitive constructions corresponding to passive ones (Miyaoka 1010a: 558).
5.2.4. Reportative A': -ni-. Introduces an upper clause reportative agent ‘one who says/considers that s.o. - ’:

(54) a. Tangerr-saq ni-a arna-m angan Nuk’a-mek
    see-DES-A’say-IND.3SG woman-REL.SG man-ABS.SG name-ABM.SG
    ‘The woman says that the man wants to see Nuk’aq.’

b. Tangerr-saq ni-aq 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.’

Also +uciir(ut)- ‘will not know that’

5.2.5. Ignorative A': ++. Introduces an upper clause ignorative agent ‘one who does not know / is unaware that s.o. - ’:

(55) a. Na-ni qapiar kuvya-llru-ciit-uq   May
    where-LOC=ITS net-PST-A’.IGN-IND.1SG name.ABS.SG
    ‘I think Nukaq asked the woman to let the child eat a seal.’

b. Na-ni qapiar luvya-ilru-llru-ciit-uq   May
    where-LOC=ITS net-PST-A’.IGN-IND.1SG name.ABS.SG
    ‘Muyaq does not know exactly where he (himself) killed a seal.’

Also +uciir(ut)- ‘will not know that’

5.2.6. Expectant A': -nercir-. Introduces an upper clause expectant agent ‘one who waits s.o. -to, as a more indirect causation than the preceding:

(56) a. Tuntuq qimugte-mun tuqu-t-nercir-aa.
    die-A-APAS-A’.think-APAS-IND.1SG bear-ALL.SG  dog-ABM.SG
    ‘He waited until the/a dog killed the caribou.’

b. Tuntuq qimugte-mek tuqu-t-nercir-aa.
    caribou.ABS.SG dog-ALL.SG
    ‘He waited until the/a dog killed the caribou.’

Also +uciir(ut)- ‘will not know that’

6. Summaries
6.1 Argument hierarchy CAY arguments, both primary (non-embedded) 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-italsics represent primary arguments,
while italics are extended ones:

(59) Valency extension and argument hierarchy:

<table>
<thead>
<tr>
<th>simplex</th>
<th>complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>( S &gt; E_{ADV} )</td>
<td>( E_{ADV} &gt; S^0 )</td>
</tr>
<tr>
<td>( P )</td>
<td>( T &gt; R )</td>
</tr>
<tr>
<td>( T &gt; R )</td>
<td>( E &gt; A )</td>
</tr>
<tr>
<td>( A_{MTR} )</td>
<td>( A' &gt; A'' )</td>
</tr>
</tbody>
</table>

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) \( A_{MTR} \) never co-occur, and they do not occur after an A'.

In the foregoing sections, case alignment of extended verbs, either simplex or complex, is hardly explained. Extended trivalent verbs, which include only \( P, A_{MTR}, A' \) (from monotransitive), \( S, E_{ADV}, A' \), [but apparently no \( S, E_{ADV}, A_{MTR} \) (§2.2.3); \( E_{ADV}, S', E_{ADV}, S, A_{MTR}, A', S, A_{MTR}, A' \), 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 \( A, A_{MTR}, A' \), or \( A', A'' \)) in order to promote the next higher (if any) to fill the vacated position. Subject coreference 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 (Ø) alternations:

(60) Passives, antipassive, and causatives

<table>
<thead>
<tr>
<th>passive</th>
<th>antipassive</th>
<th>causative</th>
</tr>
</thead>
<tbody>
<tr>
<td>monotransitive</td>
<td>dirimative</td>
<td>agentive</td>
</tr>
<tr>
<td>( O ) (ATM-sensitive)</td>
<td>( O ) (mediopassive)</td>
<td>( O )</td>
</tr>
<tr>
<td>( -restaurant- )</td>
<td>( -gau-/-pape- )</td>
<td>( -gau-, kengar- )</td>
</tr>
<tr>
<td>( kengar- )</td>
<td>( -gau-, kengar- )</td>
<td>( -gau-, kengar- )</td>
</tr>
</tbody>
</table>

§6.3 Interrelated patterns

i) Three basic and productive constructions are interrelated with each other through case alternation:

36 Reflects the caveat unique to \( E_{ADV} \) in relation to intransitive verbs (§5.1.2), requiring argument rearrangement (reversal).

37 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):

<table>
<thead>
<tr>
<th>TRIVALENTS</th>
<th>TRANSIVETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>transitive</td>
<td>transitive</td>
</tr>
<tr>
<td>( P ) A</td>
<td>( P ) A</td>
</tr>
<tr>
<td>( E_{ADV} ) A</td>
<td>( E_{ADV} ) A</td>
</tr>
<tr>
<td>( S ) A_{MTR} A_{MTR}</td>
<td>( S ) A_{MTR} A_{MTR}</td>
</tr>
<tr>
<td>complex 1</td>
<td>complex 2</td>
</tr>
<tr>
<td>( S, A_{MTR} ), ( S, A, A' ), ( A, A' )</td>
<td>( S, A_{MTR} ), ( S, A', A'' )</td>
</tr>
</tbody>
</table>

This is a fuller version of Table 1 in Miyaoka (2010a: 558). * Reflects the mentioned caveat, i.e. valency rearrangement concerning \( E_{ADV} \). ** Here may be \( E_{ADV} \) or \( E_{ADV} \). *** \( E_{ADV}=R \) stands for R-like \( E_{ADV} \).

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 \( \star \) (§40.2.4) is agentive (hence uncoded antipassive) while the other four types are patiunteer.

We are here only concerned with trivalent verbs, but quadrivalent and multivalent verbs, with one or more additional arguments (\( E \) or \( A \), or \( A' \)) 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 (passive) medials with the former and intransitive antipassives, to be summarized as:

(62) Medialization and passivization

<table>
<thead>
<tr>
<th>passive</th>
<th>antipassive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patientive monotransitives with ( P, A )</td>
<td>Medialization</td>
</tr>
<tr>
<td>Adversative trivalents with ( P, E_{ADV}, A )</td>
<td>antipassives</td>
</tr>
</tbody>
</table>

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 third are characterized by composite suffixes based on relational verbs.

(63) Patterns with quaternary opposition:
<table>
<thead>
<tr>
<th>Abbreviations/Conventions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
</tr>
</tbody>
</table>

### References:

Valency classes in Xârâcùù (New Caledonia)
Claire Moyse-Faurie (LACITO-CNRS)

1. Basics of Xârâcùù morphosyntax

- SVO basic word order (< Proto New Caledonian, $V_o S M_s$); VO smS still possible (1b):
  1a. Pa dopwa pia.  b. Ri pia, ngè 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

   uncle-1SG often sit LOC there
   ‘My uncle often sits there.’

3. È pwârâ 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


- location:
  4. Siibù cura bwasituu rè sêgè.
     rat baste heap POSS stone IPFV.PST live village
     ‘The rat is basting under stones.’
  5. Xötö nää nöö döxûâ.
     3SG.IPERS PST.PROG grill and turn+crush grain-coffee
     ‘We used to grill and grind coffee beans.’

- goal:
     and 3SG NEG pay.attention stone
     ‘And he was not paying attention to the stone.’
  7. Nă chörö tèpe réé.
     1SG argue speech POSS+3SG
     ‘I am arguing against his speech.’

- patient:
     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. Èê nää chûrû mê bikörö rè pii-köfi.
     3SG.IPERS PST.PROG grill and turn+crush 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’:

   2SG boast 2SG LOC father-2SG
   ‘You think you’re your father?’ (Lit. you are boasting up to your father)

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 (*nîmö* ‘tell a story’, *ngââ* ‘cry out’, *yaaru* ‘set riddles’, *xa* ‘speak’, *ché* ‘say’), and *baa* ‘appear’.

   1SG tell.story BEN one man
   ‘I am telling the story of a clan to someone.’

   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’, *mä* ‘be discouraged with’, *chörè* ‘pass’, *tecâ* ‘leave someone’, *mââî* ‘preceede’, etc.)

15. Nâ 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’

   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

17a. Nâ mââ na tùù döö.
17b. Nâ mââ=diùù na döö.
   1SG struggle PST CONCERN earth  1 SG struggle=CONCERN PST earth
   ‘I struggled for earth.’

d) *tàù/-dùù* ‘concerning’, ‘with regard to’: *bere* ‘be angry’, *pia* ‘fight for sth.’; *mââ* ‘struggle’, *tèpe* ‘speak about’; *têî* ‘cry on’, *xati* ‘quarrel for’, etc.

18. Ri xwi kaasé rè mwè […] nâ ri wà cûri ngê dôu wânnî.
   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 mwê (= Papêê jana na ngê mwê)*

  Coll+woman trade ins PST taro

  'Women are trading [their] taros.'

  f) wà ‘about’, ‘at’ with verbs of emotions (ooro ‘rejoice at’, bere ‘be angry at’, etc.), verb of unpleasant attitudes (virè ‘wrong s.o.’, giì ‘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 wà dèèri.

  3SG unkind 3 SG angry AT people

  'He is unkind; he gets angry at people.'


  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 wà nã chuè cè rè balôô dôbwanã mwârâ nã nàâbu rè

    fut 3SG.IPERS PFV PFV blow purp IPFV ball when play IPFV begin IPFV

    'Someone will have blown up the ball when the game will start.'

23.  È cemîâ mwâmwaa 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.'


    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)


25.  Mwêê-nà xâdùù na chaa lotoo xù Dapé.

    uncle-poss.1SG pay PST one car BEN Dapé

    'My uncle bought Dapé a car.'

26.  Nà xaciè bêé-nà xù wîrî

    1SG show friend-poss.1SG BEN 2PL

    'I [would like to] introduce you to my friend.'

27.  Ke xù xù na nù chaa mwanôô. (= Ke xù na chaa mwanôô xù nà)

    2SG give BEN PST 1SG one cloth

    'You gave me a piece of cloth.'


28.  Nà xàdùù na chaa lotoo taa Dapé.

    1SG pay PST one car FROM Dapé

    'I bought a car from Dapé.'
29. *Ná nââ sää-pwî taa rö.* (= *Ná 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. *Ná fatere taa è xōu rè nà.*  
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 chaas catìmê.*  
3SG welcome 1SG INS one gift  
‘He makes me welcome [with a gift].’

32. *Dëëri nà xwiri rè ri ngê mîï nô a*  
people IPFV sell IPFV 3PL INS these fish this  
‘People sell them these fish.’

33. *Ke xacè è ngê Dapê.*  
2SG name 3SG INS Dapê  
‘You can call him Dapê.’

34. *Rî wá fëi ngê è kwiìnètoo nâ ri wâ fida ngê è sìmiâgatè.*  
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 nó xù sibéëri 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. *Ná faxwata xù rö ngê chaas érêché.*  
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 (*mêgi* ‘warm; to have fever’, *mîï* ‘cold and humid’ and *xîpè* ‘cold’ + *xutuè* ‘be a long time’ and *cokwa* ‘be finished’); resultative vs causative pairs (*tëi* ‘be empty, empty, *xwî* ‘exist, build’, *cokwa* ‘be finished, finish’ *nââbu* ‘begin’, *kê* be burned, ‘burn’, *sûù* ‘suffer, treat, *xwêê* ‘fall, pour’, *sukwa* ‘be sugared, sugar’); middle alternation (grooming events: *xîì* ‘shave’; inherent reciprocity: *tôôbûtù* ‘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’; *màrâ* ‘be worried’, ‘feel dizzy’. 
37a. Nà kwèti ü-sööpö rè xōu.
   1SG tired NMLZ-wash POSS clothes
   ‘I am tired of washing clothes.’

b. Nà sii fè ti nuö döbwâ wâ-nâ kwèti.
   1SG NEG go LOC bush because inner-1SG tired
   ‘I don't go to the bush because I feel tired.’

### 3.2. Reflexive/reciprocal or iterative alternation

38a. Taiki kèkè è.
   dog bite 3SG
   ‘The dog is biting it/him/itself.’

b. Taiki kèkè mûgé è.
   dog bite return 3SG
   ‘The dog is biting itself.’
   or: ‘The dog is biting it/him again.’

39a. Rî ciwi ri.
   3PL help 3PL
   ‘They are helping them/each other.’

b. Rî ciwi mûgé ri.
   3PL help return 3PL
   ‘They are helping each other/ them again

### 3.3. Preposition alternation

40a. Kamûrû xangââ na xù nèxuu.
   man shout PST BEN girl
   ‘The man shouted to the girl.’ (to say hello to her)

b. Kamûrû xangââ na wâ nèxuu
   man shout PST AT girl
   ‘The man shouted to the girl.’ (the man scolded her)

c. Kamûrû xangââ ngê na chaa inââ taa nèxuu.
   man shout INS PST one demand FROM girl
   ‘The man shouted to the girl to ask her something.’

### 4. Valency changing devices in Xârâcùù

- the causative prefix fa-, a reflex of POc *pa[ka]-, which is productive with almost all types of verbs;
- the resultative prefix mê-, a reflex of POc *ma-, which is no more productive;
- the middle prefix ù-, a reflex of POc ‘plurality of actions’ middle/reciprocal prefix *paRi-, also no more productive in Xârâcùù.
- few traces of the transitive/applicative POc *-i and *akin[i] suffixes

#### 4.1. Valency reducing operations

##### 4.1.1. The mê- resultative prefix

41a. pōru ‘peel, skin’
    mê-bōru ‘skinned, scraped’

pûtû ‘paste, crush’
    mê-bûtû ‘crushed, battered’

pwèa ‘bend’
    mê-bwèa ‘bent’

tia ‘tear, split’
    mê-dia ‘splitted, torn’

Bound verb stems also admit the mê- prefixation:

b. -kai ‘crush’
    mê-gai ‘crushed’

-kôrô ‘break’
    mê-gôrô ‘broken’

-nyûû ‘pierce’
    mê-nyûû ‘pierced’

##### 4.1.2. The ù- middle prefix

- generic: bê ‘move’ > ù-bê ‘be restless’; xù ‘give’ > ù-xù ‘contagious’
- 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 nā tuu rè chaa kwâ.

one man IPFV step.on IPFV one boat

‘The man is stepping on the boat.’

b. Chaa kamûrû nā tuu kwâ.

one man IPFV step.on boat

‘The man is going on board.’

4.2. Valency increase operation

4.2.1. Transitivising/applicative suffix -ri

Verbs denoting emotions or feelings:

44. fiö ‘be lazy’

mârâ ‘be worried, be upset’

nyôô ‘foolish, drunk’

kwèti ‘be tired’

cara ‘be ashamed, dazzled’

fiö-ri ‘to refuse, to have had enough of’

mârâ-ri ‘be disgusted with’

nyôô-ri ‘be confused about’

kwèti-ri ‘be tired of’

cara-ri ‘be ashamed of, be dazzled by’

45a. È kwèti.

3SG be.tired

b. Rî wâ kwèti-ri kêchä.

3PL IPFV tired-APPL magnania

‘He is tired.’

‘They are sick of (eating) magnania.’

c. nâ kwèti-ri môrô rô.

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’, afâđé ‘(be) foreign’, xwâkêtè ‘profane’), or inherited distortions and diseases (amè ‘(be) paralysed’, bëpaii ‘(be) sickly’, dööpwé ‘hunchbacked’, mèrèdêê ‘deaf’), or natural ineluctable processes (kèpwiri ‘(be) high (tide)’, pââmé ‘toothless’), etc.

5. Verbal compounds

* Nuclear-layer serialization:

47. Rî wâ cuè kôō pwâârî sêgê mwîrî gaka nâ saù më da ti xu.

3PL IPFV 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’ > xô-; ta- ‘shoot’ < ?
48. È wá xō-fētaa möō chaax nii.
   3SG PFV flee-leave first one penis.sheath
   'He fled, first leaving his penis sheath.'
49. Ri wá ta-faaté è ngé a wââî 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 têtürù chaax xwâkûû-purèkwé.
51. Nâ 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. Ngè chêédè, è wá toa.
   INS evening 3SG PFV arrive
   'In the evening, he arrived.'
53. Pupèè rèè, Famuru sôôbô ii ngé na è.
   doll POSS+3SG Famuru play.with always INS PST 3SG
   'Her doll, Famuru used to play with it all the time.'
54. Ngè kwâdè, è wá sa ngé 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 châ rè kâmiâ
   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 sôôbô ngé 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!'
59b. È fi rö.
   3SG lie 2SG
   'He is lying to you.'
59c. È fi xiù 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 irî xwâvirè.
3SG lie INS 1PL.INCL unkindness
‘He is unkindly lying to us.’ (Lit. he is lying us with unkindness)

60a. Nà xwata nàa xàràcùù.
1SG listen language Xàràcùù
‘I understand the Xàràcùù language.’

b. È fa-xwata chaari chaa tèpe.
3SG CAUS-listen spontaneously one story
‘S/he tells a story spontaneously.’

c. Nà fa-xwata xù rö ngê chaa èrêché.
1SG CAUS-tell BEN 2SG INS one story
‘I am going to tell you a story.’

61a. Nà fadù ääda.
1SG share food
‘I am sharing the food.’

b. Nà fadù dèèri ngê ääda.
1SG share people INS food
‘I am sharing the food among the people.’

Abreviations: ANAPH anaphoric, COLL collective (human), DEIC deictic, DIR directional, IPERS impersonal (pronoun), SM subject marker

References
Moyse-Faurie, Claire and Françoise Ozanne-Rivierre, 1983. Subject case markers and word order in New Caledonia and Loyalty Islands Languages, in Papers from the Third International Conference on Austronesian Linguistics, Canberra, Pacific Linguistics C-77, pp. 113-152.
Valency in Sri Lanka Malay

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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

- 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-\textit{uu}jang ‘It rained.’
  - su-\textit{ka}asi ‘X gave Y to Z.’ (X,Y,Z inferrable from context)

Argument/adjunct-distinctions

- Free addition of extra participants

1. It\textit{thu ka}at\textit{hu=yang incayang=∅ Seelor}g=\textit{dering laayeng} {
\textit{DIST stone=ACC 3S.POLITE Ceylon-ABL other}}
\textit{ningar=nang asa-baapi. country=DAT cp-carry.away}
‘These stones, he brought them from Ceylon to other countries.’ (K060103nar01)

2. Tony=∅ \textit{pi}so=\textit{dering ini daaging=yang kaake=nang}
\textit{Tony knife=ABL PROX meat=ACC grandfather=DAT ara-poothong}
\textit{NONPAST-cut}
‘Tony cuts this meat for his grandfather with a knife.’

- No morphosyntactic tests to distinguish between the licensing properties of \textit{baapi ‘carry.away’ and poothong ‘cut’}
- to be discussed in more detail below
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’, thee ˘mbak ‘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

\[
\begin{align*}
&(x) & (x, y) & (x, y, z) & (x, y, z, u) \\
&(x, y, z, u, v) & (x, y, z, u, v, w) & (x, y, z, u, v, w, a) & (x, y, z, u, v, w, a, b, c)
\end{align*}
\]

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’, *thussa* ‘want.not’, *tharboole* ‘cannot’)
- all verbs can be derived with *k`ana*- 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) \[V\]

1-place predicates

(4) *su-uwjang*

\[\text{past-rain}\]

‘It rained.’

(5) \[
\begin{cases}
\text{NOM} \\
\text{ACC} \\
\text{DAT} \\
\text{DAT} \\
\text{ABL}* \\
\end{cases}
\]
1-place predicates

(6) Itthukapang Tony Hassan=∅ su-pii. then Tony Hassan PAST-go
'Then Tony Hassan left.' (K060116nar09)

(7) Go=jang karang bannyak th`ar`asiggar. 1s.familiar=dat now very sick
'I am now very sick.' (B060115nar04)

(8) Titanic kappal=jang su-thinggalam. Titanic ship=ACC PAST-sink
'The ship “Titanic” sank.' (K081104eli05)

(9) Police=dering su-dhaathang. police=abl PAST-come
'The police came.' (K081105eli02)

2-place predicates

(10) \[
\begin{array}{|c|c|c|}
\hline
\text{NOM} & \text{NOM} & \text{V} \\
\text{DAT} & \text{ACC} & \\
\text{DAT∗} & \text{DAT} & \\
\text{ABL∗} & \text{ABL} & \\
\text{ABL} & \text{LOC} & \\
\hline
\end{array}
\]

NOM-ACC

> overt marking of the patient depends on animacy, topicality, affectedness, number

(11) Itthukapang lorang=pe leherP=(yang) kithangA=∅ then 2PL=POSS neck=ACC 1PL
athing-poothong.
IRR-cut
'Then we will cut your neck.' (K051213nar06)

(12) BaapaA derang=pe kubbong=ka hatthu pohongP=∅ father 3PL=POSS garden=LOC INDEF tree
nya-poothong.
PAST-cut
'My father cut a tree in their garden.' (K051205nar05)

NOM-DAT, NOM-LOC

> The dative marks some 'patients' (see above), beneficiaries, and goals

(13) Rose-redA=∅ buurungP=nang su-puukul. Rose-red bird=DAT PAST-hit
'Rose-red hit the bird.' (K070000wrt04)

(14) Derang pada=∅A ar`a-banthu cinggala raaja=nangR. 3PL PL NON.PAST-help Sinhala king=DAT
'They help the Sinhalese king.' (K051206nar03)

(15) a. GuunungL=ka=jo kithangA ar`a-duuduk; mountain=LOC=EMPH 1PL NON.PAST-stay
'It is in the hills that we live,'

b. guunungG=nang=jo kithangA ar`a-pii. mountain=DAT=EMPH 1PL NON.PAST-go
'it is to the hills that we go.' (B060115prs01)

> The last example also illustrates the NOM-LOC pattern
The ablative is used for source and instrument

(16) SpaaruA IndonesiaSRC=dering dhaathang aada.
    some Indonesia=ABL come exist
    ‘Some came from Indonesia.’ (K060108nar02)

(17) 0_A ThaangangINSTR=dering bukang kaakiINSTR=dering
    hand=ABL NEG.NONV leg=ABL
    masà-maayeng.
    must-play
    ‘You must play not with the hands, but with the feet.’
    (N060113nar05)

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

[svaaraST hatthu]=0 derangEXP=nang su-dinngar.
    noise INDEF 3PL=DAT PAST-hear
    ‘They heard a noise.’ (K070000wrt04)

(19) se=dangEXP ini oorangT=yang thaau
    1S=DAT PROX man=ACC know
    ‘I know this man.’

3-place predicates

\[
\begin{array}{c}
\begin{align*}
& \{ \text{NOM} \} \\
& \{ \text{DAT} \} \\
& \{ \text{ABL} \}
\end{align*}
\end{array}
\]
3-place predicates

- Three-place predicates are typically predicates of transfer, i.e. giving and taking away.
- They include an agent, a theme, and a goal (or source)
- The agent is unmarked, the theme is optionally marked with the accusative, goal takes dative, and source, ablative
- The following examples illustrate these patterns for the verb kaasi 'give'
- There is no instance of the verb ambel 'take' with three overt arguments in the corpus, but it is predicted that the pattern will be [NOM-ACC-ABL], with the accusative optionally dropped

4-place predicates

- Four-place predicates almost exclusively involve transfer of a theme from a source to a goal
- The accusative marker can be dropped as usual.

\[
\left\{ \begin{array}{c} \text{NOM} \\ \text{DAT} \\ \text{ABL} \end{array} \right\} \left\{ \begin{array}{c} \text{NOM} \\ \text{ACC} \end{array} \right\} \text{DAT ABL V}
\]

Summary of n-place predicates

- **Zero** can be found on S, A and P.
- **Zero** is never found on R.
- The **accusative** marker can be found on P and in rare instances on S.
- The **dative** marker can be found on R and P.
- The **dative** can be found on S and A if they are experiencers.
- Modals can assign the **dative** to S or A.
- The **ablative** marker can be found on S and A when they are institutional.
- The **ablative** marker can furthermore be found on instruments and sources, widely construed.
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

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 Kluuṁbu=**nang** su-pii  
    Tony Colombo=**dat** past-go  
    ‘Tony went to Colombo.’

b. Tony Kluuṁbu=**ka** su-pii  
    Tony Colombo=**loc** past-go  
    ‘Tony went to Colombo.’

**=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=∅  
    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=∅  
    then 2pl=poss neck=acc 1pl  
    athi-poothong. irr-cut  
    ‘Then we will cut your neck.’ (K051213nar06)

**Involutive derivation**

- All verbs can be derived with *kànà*, 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-kànà-nyaani  
    Tony=dat nonpast-inv-sing  
    ‘Tony is singing involuntarily/against his will.’

**Verbs which can be derived with *kànà***

- 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:
  - *thaañdak* ‘dance’
  - *kriingath* ‘sweat’
  - *giigit* ‘bite’
  - *thirbang* ‘fly’
  - *puukul* ‘hit’
  - *jaatho* ‘fall’
  - *pii* ‘go’
  - *suusa* ‘become.sad’
  - *maakang* ‘eat’
  - *kuthumung* ‘see’
Causativization

- the causativizer -king can introduce an additional participant. It can attach to:
  - intransitive verbs: mliidi-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

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’

- 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. aajar ‘teach’

Vector Verb kaasi ‘give’, cont.

(30) Kithang=pe ini younger generation=nang=jo konnyong 1.PL=POS PROX younger generation=DAT=EMPH few masà-biilang kaasi, masà-aajar.
must-say give must-teach
‘It is to the younger generation that we must explain it, must teach it.’

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* [=jo] *su-buunung ambel*.
    3s.POLITE 3s.POLITE=ACC=EMPH PAST-kill take
    ‘He killed himself.’ (K081106eli01)

(35) *Kaake baapa=yang su-buunung*.
    grandad father=DAT PAST-kill
    ‘His grandad killed his father.’ (K081103eli04)

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: kliring ‘send’, no known exceptions

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?

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

Thank you

Valency Classes in Japanese II: Dialects

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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:
- 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 Kikajima 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 -nsus-, which has anticausative usage. (Sasaki 2002).
- Uncoded valency alternation: Some dialects exhibit types of possessor ascension construction not found in Standard Japanese.
  - Thanks to the existence of Suffixation (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 Mitsukado 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 Nakanada 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 Mitsukado dialect and the Hokkaido dialect, gathered through my own research.

2. Different case inventory induces different case alternations

The Mitsukado dialect is spoken in the southwestern part of Ibaraki prefecture, the area around the ex-Mitsukado 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 Mitsukado dialect exhibits grammatical difference from Standard Japanese.

(1) The voice suffixal auxiliaries in the Mitsukado dialect and Standard Japanese

<table>
<thead>
<tr>
<th>Voice</th>
<th>Mitsukado dialect</th>
<th>Standard Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive</td>
<td>/tare/</td>
<td>/tare/</td>
</tr>
<tr>
<td>Causative</td>
<td>/tare/</td>
<td>/iasu/</td>
</tr>
<tr>
<td>Potential</td>
<td>/e, rare/</td>
<td>/e, rare/</td>
</tr>
</tbody>
</table>

Table 1. Case system in the Mitsukado Dialect and in Standard Japanese (Sasaki 2001)

<table>
<thead>
<tr>
<th>Case system</th>
<th>Mitsukado dialect</th>
<th>Standard Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nom. Nonspec</td>
<td>NP-ŋgo</td>
<td>NP-ŋgo</td>
</tr>
<tr>
<td>Accusative</td>
<td>NP-go</td>
<td>NP-ŋo</td>
</tr>
<tr>
<td>Experiential cases</td>
<td>NP-ŋgo</td>
<td>NP-ŋgo</td>
</tr>
<tr>
<td>Nonspecitive</td>
<td>NP-ŋgo</td>
<td>NP-ŋgo</td>
</tr>
<tr>
<td>Locative</td>
<td>NP-an</td>
<td>NP-ŋa</td>
</tr>
<tr>
<td>Ablative</td>
<td>NP-ŋgo</td>
<td>NP-ŋgo</td>
</tr>
<tr>
<td>Instrumental</td>
<td>NP-ŋe</td>
<td>NP-ŋe</td>
</tr>
<tr>
<td>Comitative</td>
<td>NP-si</td>
<td>NP-si</td>
</tr>
<tr>
<td>Genitive</td>
<td>NP-ŋgo</td>
<td>NP-ŋgo</td>
</tr>
<tr>
<td>Adnominal locative</td>
<td>NP-ŋgo</td>
<td>NP-ŋgo</td>
</tr>
</tbody>
</table>

Using -ŋgo as an accusative marker is also found in some Tohoku (northeastern) dialects. The marked animic direct object is crosslinguistically well attested pattern (see Conrie 1979).

Uncoded valency alternations:
- Due to having two types of accusative case marking, the Mitsukado 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)

(2) Double accusative possessor ascension
   a. japo-ŋgo adama bukkarai-te ioka (non-ascension)
   b. japo-ŋgo adama bukkarai-te ioka (possessor ascension)

(3) Dative alternation (the data is from Tsuchi, the earth)
   a. wara-ŋgo mize mide-kote (data from Tsuchi)
   b. uhe-ŋgo mize mide-nu (data from Tsuchi)

(4) Double nominative possessor ascension
   a. Standard Japanese
      -cro-wa te-go oki:
      3g masc-TOP hand-NOM big
      'He has big hands.'
   b. Mitsukado dialect
      -cro-wa te- go ege
      3g-TOP hand-NOM big
      'S/he has big hands.'

Notes:
1. 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.
Concealing the oblique cases in this dialect, the most important thing is the existence of an experience-specific schema for case assignment (Kitaoka 1990). More important, there are cases in which the morphological features of oblique cases are different from other cases (Kitaoka 1990). On the other hand, in the Minaki dialect, the oblique experiencer and indirect object are case-marked differently, as illustrated in the examples (20) and (11).

### Potential constructions with passive nominal

- The case frame of the passive construction with oblique alters the alternation morphology.
- The case frame of the passive construction with oblique alters the alternation morphology.
- The case frame of the passive construction with oblique alters the alternation morphology.
- The case frame of the passive construction with oblique alters the alternation morphology.
Case in the transitive-based causal constructions is case-marked with the dative case particle -nage.

Oblique agent in passive construction is case-marked with the locative case particle -ni.

Case differentiation of demoted subjects

a. "are amakoko-goto taska-da (active)
3sg-NOM girl-ACC help-PST
'She helped a girl.'

b. "are-nigai-wa amakoko-goto taska-rare-be (potential)
3sg-EXP-TOP girl-ACC help-POT-may
'She can help the girl.'

c. "are are-ni amakoko-goto taska-rare-da (causative)
1sg-NOM 3sg-DAT girl-ACC help-CAUS-PST
'I made her/him help the girl.'

d. amakoko are-ni taska-rare-da (passive)
girl-NOM 3sg-LOC help-PASS-PST
'The girl was helped by her/him.'

Table 2. Case-marking of "demoted" subjects

<table>
<thead>
<tr>
<th>Oblique subject</th>
<th>Japanese</th>
<th>Minusaito dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAT (-ni)</td>
<td>EXP (ngaini)</td>
<td></td>
</tr>
<tr>
<td>Passive agent</td>
<td>LOC (-age)</td>
<td></td>
</tr>
</tbody>
</table>

The formal distinction of "demoted" subjects in the Minusaito dialect makes clearer the syntactic and semantic diversity of Standard Japanese dative.

The data from the Minusaito dialect shows that the dialect can exhibit a different valency alternation even though it has the same voice morphology.

3. Different voice morphology induces different range of transitivity alterations

The examination of the data from the Hokkaido dialect is important in two respects for the investigation of valency alternation: the relation between the range of causativization and its grammatical nature, and typological characteristics of Japanese dialects.

The Hokkaido dialect of Japanese was formed through the influence of the dialects of the immigrants from the other part of Japan.

The grammatical structure of the Hokkaido dialect is highly influenced by the northern Tohoku dialects, of which speakers were earliest immigrants settled in the coastal area from 16th century and they constitute a major part of immigrant population in 19th century.

For the detail of the historical background of the Hokkaido dialect, see Ono and Okada (1999).

The existence of spontaneous suffixal auxiliary /-masa/ used as a marker for causativization, is one of the grammatical features shared among the Hokkaido dialect and the northern Tohoku dialects.

The spontaneous suffixal auxiliary /-masa/ has three usages: unintentionality, potential (middle), and causative.

(16) (dareka-nisite) ko-te-ni okina maru-ga kak-asat-te-ru. someone-by ground-DAT big circle-NOM draw-SP-PROG-PRES
'Abig circle has been was drawn.'

- The manifestation of agent is ruled out even in the oblique form.
- It is interpreted not as progressive but as resultative even though the predicate is in the progressive form.
- The resumptive interpretation of progressive form is typical for the achievement predicate.
- The corresponding active transitive predicate /-"draw"/ has accomplishment aspectual property.
- Accomplishment - Achievement correspondence is characterized with the presence and lack of causing event.

These properties indicate that the sentence in (17) can be regarded as an anticausative version of the corresponding transitive sentence. (Sasaki and Yamazaki 2006)

- 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 referent of the object and the manner of activity of the agent is not specified.

Thus, transitive verb mur-u "paint", which implies the iterative motion parallel to the surface, has no intransitive counterpart.

(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. (Hasegawa 1993: 94)

- In the Hokkaido dialect, the range of lexical transitivity alternation is the same as in Standard Japanese.
- However, the range of anticausativization with /-erasar/ is wider than that of lexical anticausativization.
- The verbs specifying the manner of activity such as mur-u "paint" function as a base of anticausativization with /-erasar/.
- The transitive verb roots in Table 3 are gathered through the internet research using Yahoo! API. For the detail of this internet research, see Sasaki (2009). The verbs with fewer than 5 tokens are omitted.
- The verbs in the shaded cells specify manner of activity.

Table 3. Sources of anticausativization

Table 4. Lexical Anticausativization and Anticausativization with /-erasar/

- The wider range of anticausativization is also apparent from the Min Plank Valency database. (Table 4)

Forms without parenthesis in “lexical AC” column stand for the lexical anticausativizes. Forms without parenthesis in “lexical C” column stand for the lexical causatives. The predicates with (a) in “equivalent in target language” column are lexical anticausatives. The predicates with (e) are intransitive counterparts of lexical equative alternation.
34 verbs exhibit causative/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 equivalent alternations and 2 causative alternations. They do not include anticausative alternations. The verbs having lexical anticausatives are subsumes of the verbs having anticausatives with -rasar/. 209.9% of transitive verbs with anticausativization with -rasar/ have lexical anticausatives.

Syntactic nature of anticausativization with -rasar/

- The verb on -u “push” does not always change the state.
- When the verb phrase does not imply change of state, the anticausativization with -rasar/ fails to apply.
- On the other hand, when the verb phrase indicates the change of state as in (19), the anticausativization applies.

(18) *tenaka-ga os-atari-te-ru
back-NOM push-SP-PROG-PRES
<= tenaka o back-ACC push ‘to push someone’s back’

(19) sake-botan-ga os-atari-te-ru
replay button-NOM push-SP-PROG-PRES
‘The replay is on.’
<= sake-botan o 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 -atari/ 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. kare-ru “give (to me)” => “kare-rasaru-ru “give-SP-PRES”
b. yaru-ru “give” => “yaru-rasaru-ru “give-SP-PRES”

- The ungrammaticality shown in (20) indicates that the causative meaning is blocked when the person of the argument is specified for the lexical meaning of the verb.
- The verbs yaru-ru and kare-ru are distinguished by the deixis (Hidaka 2007) or directionality (Newman 1996) of giving.

- For the verb yaru-ru, the direction of the donation is from speaker to non-speaker. For the verb kare-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

<table>
<thead>
<tr>
<th>Verbs unspecified for manner of activity</th>
<th>Verbs specified for manner of activity</th>
<th>Verbs with person specification of arguments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexical AC (SJ, HD)-------------------</td>
<td>AC with /rasar/------------------</td>
<td>---------------------------------------------</td>
</tr>
</tbody>
</table>

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 morpholysis 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 alternation. On the other hand, 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 (Bugeawa 2004) and Nivkh (Nedjalkov, Otsinaa 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 Minatozu dialect and the Hokkaido dialect. Moreover 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.

References


Company.


I. Introduction

- Two types of grammatical variation relating to valency classes
- The variation with respect to case system
- The variation with respect to voice system

Valency Classes in Japanese II:

Dialects

Kan Sasaki (Sapporo Gakuin University)
Conference on Valency Classes in the World’s Languages (Max Planck Institute, Leipzig)
Case marking of passive agent
(The Grammatical Atlas of Japanese Dialects)

Coded valency alternation

- Anticausativization with /rasar/
  - Hokkaido dialect and the northern dialects of Honshu (the main island)
  - A O V
  - S V-rasar

Split Intransitivity

- Kikaijima dialect (Matsumoto 1982; 1990)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Object</th>
<th>Predicate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intransitive 1</td>
<td>NP-φ</td>
<td>Vi (stative)</td>
</tr>
<tr>
<td>Intransitive 2</td>
<td>NP-ηa</td>
<td>Vi (active)</td>
</tr>
<tr>
<td>Transitive</td>
<td>NP-ηa</td>
<td>NP-φ</td>
</tr>
</tbody>
</table>

Possessor ascension with Suffixaufnahme

Hachijojima dialect (Kaneda 1993: 175)

unya mikan-no-go: ko-jo muke
2sg.TOP orange-GEN-ADN.ACC skin-ACC peal.IMP
"You, peal an orange."
Possessor ascension in the Mitsukaido dialect

jaro-godo adama bukkurasj-te jak-ka
man-ACC head-ACC hit-COMP give-Q
‘(Someone) hit the man on the head.’

Dative object in the Nakaniida dialect (the northern Miyagi dialect)

usagi-o oikake-ta (Standard Japanese) rabbit-ACC chase-PST
usajji-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 Mitsukaido dialect and Standard Japanese

<table>
<thead>
<tr>
<th>Voice</th>
<th>Mitsukaido dialect</th>
<th>Standard Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive</td>
<td>/rare/</td>
<td>/rare/</td>
</tr>
<tr>
<td>Causative</td>
<td>/rase/</td>
<td>/sase/</td>
</tr>
<tr>
<td>Potential</td>
<td>/e, rare/</td>
<td>/e, rare/</td>
</tr>
</tbody>
</table>
### Case system: different from SJ

Table 1. *Case system in the Mitsukaido Dialect and in Standard Japanese* (Sasaki 2001)

<table>
<thead>
<tr>
<th>Case</th>
<th>Mitsukaido dialect</th>
<th>Standard Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Animate NP</td>
<td>Iranimate NP</td>
</tr>
<tr>
<td>Nominaive</td>
<td>NP-Ø</td>
<td>NP-ga Nominative</td>
</tr>
<tr>
<td>Accusative</td>
<td>NP-godo</td>
<td>NP-o Accusative</td>
</tr>
<tr>
<td>Experiencer</td>
<td>NP-ngani</td>
<td></td>
</tr>
<tr>
<td>Dative</td>
<td>NP-ngi</td>
<td>NP-ni Dative</td>
</tr>
<tr>
<td>Locative</td>
<td>NP-ni</td>
<td></td>
</tr>
<tr>
<td>Ablative</td>
<td>NP-gara</td>
<td>NP-kara Ablative</td>
</tr>
<tr>
<td>Instrumental</td>
<td>NP-de</td>
<td>NP-de Instrumental</td>
</tr>
<tr>
<td>Comitative</td>
<td>NP-do</td>
<td>NP-to Comitative</td>
</tr>
<tr>
<td>Genitive</td>
<td>NP-no</td>
<td>NP-no Genitive</td>
</tr>
<tr>
<td>Possesive</td>
<td>NP-nga</td>
<td></td>
</tr>
<tr>
<td>Adnominal locative</td>
<td>NP-na</td>
<td></td>
</tr>
</tbody>
</table>

### Double accusative constructions

(2) Double accusative possessor ascension

a. *janu-gu adama bukkuras-ite jak-ka* (non-ascension)
   *man-POSS head-ACC hit-COMP give-Q*
   *(Someone) hit the man’s head.*

b. *janu-godo adama bukkuras-ite 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 ear’)

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. *uhei-godo mizime misete-nonga* (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. *kare-wa te-ga oki:* 3sg.masc-TOP hand-NOM big
   *(‘He has big hands’)*

b. *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

a. *seNse: are-godo kodomo-godo home-da teacher-NOM 3SG-ACC child-ACC praise-PST
b. *nezumi konotsuke asi kazir-ta mouse-NOM this desk-ACC foot-ACC bite-PST

In the Mitsukaido 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 Mitsukaido 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-∅.

Double accusative causatives

(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 aruk-ase-ta
   child-ACC road-ACC walk-CAUS-PST
   ‘(Someone) makes the child walk.’

(8) Mitsukaido dialect causative based on motion verb

a. motion verb (plain)
   kodomo mizi arui-te-ru child-NOM road-ACC walk-PROG-PRES
   ‘The child is walking on the road.’

b. Double accusative causative
   kodomo-godo mizi arug-ase-ru
   child-ACC road-ACC walk-CAUS-PST
   ‘(Someone) makes the child walk on the road.’

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-NOM English-ACC learn-CAUS-PST
   In the Mitsukaido 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 Mitsukaido Dialect and in Standard Japanese (Sasaki 2001)

<table>
<thead>
<tr>
<th>Nominative</th>
<th>Accusative</th>
<th>Experiential case</th>
<th>Dative</th>
<th>Locative</th>
<th>Ablative</th>
<th>Instrumental</th>
<th>Comitative</th>
<th>Genitive</th>
<th>Possessive</th>
<th>Adnominal locative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitsukaido dialect</td>
<td>Animate NP</td>
<td>Inanimate NP</td>
<td>Standard Japanese</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Nomi-∅</td>
<td>NP-o</td>
<td>NP</td>
<td>Nomi-∅</td>
<td>Aomi</td>
<td>Aomi</td>
<td>Aomi</td>
<td>Aomi</td>
<td>Aomi</td>
<td>Aomi</td>
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<tr>
<td>Accu-∅</td>
<td>NP-ga</td>
<td>Nomi-∅</td>
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<td>Locative-∅</td>
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<td>Comitative-∅</td>
<td>Genitive-∅</td>
<td>Possessive-∅</td>
<td>Adnominal locative-∅</td>
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<td>Expe-∅</td>
<td>NP-gandi</td>
<td>Nomi-∅</td>
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<td>Locative-∅</td>
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<td>Possessive-∅</td>
<td>Adnominal locative-∅</td>
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<td>NP-∅</td>
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<td>NP-ka</td>
<td>NP-∅</td>
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<td>NP-∅</td>
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<td>NP-do</td>
<td>NP-∅</td>
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<td>Possessive-∅</td>
<td>Adnominal locative-∅</td>
</tr>
<tr>
<td>Adnominal locative-∅</td>
<td>NP-na</td>
<td>NP-∅</td>
<td>Dative-∅</td>
<td>Locative-∅</td>
<td>Ablative-∅</td>
<td>Instrumental-∅</td>
<td>Comitative-∅</td>
<td>Genitive-∅</td>
<td>Possessive-∅</td>
<td>Adnominal locative-∅</td>
</tr>
</tbody>
</table>
Oblique experiencer and indirect object in MD

(10) Oblique experiencer
are-nganja (*-nge-wa) one-godo wagaY-me
3sg-EXP.TOP 2sg-ACC understand-MAY.NOT
‘She may not be able to understand you.’

(11) Indirect Object
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
a. are amakko-godo taske-da (active)
3sg-NOM girl-ACC help-PST
‘She helped a girl.’

b. are-ngani-wa amakko-godo taske-rare-be: (potential)
3sg-EXP-TOP girl-ACC help-POT-may
‘She can help the girl.’

c. are are-nge amakko-godo taske-rase-da (causative)
1sg-NOM 3sg-DAT girl-ACC help-CAUS-PST
‘I made her/him help the girl.’

d. amakko are-ni taske-rase-da (passive)
girl-NOM 3sg-LOC help-PASS-PST
‘The girl was helped by her/him.’

<table>
<thead>
<tr>
<th>Table 2. Case-marking of “demoted” subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oblique subject</td>
</tr>
<tr>
<td>Causee</td>
</tr>
<tr>
<td>Passive agent</td>
</tr>
</tbody>
</table>

Potential construction without nominative nominal

(12) Intransitive-based potential
are-ngani-wa tsukubasan-sa nobor-e-be-na
3sg-EXP.TOP Mt. Tsukuba-DAT climb-POT-may-PRT
‘She may be able to climb Mt. Tsukuba.’

(13) Transitive-based potential
aro janakko-nganja hebi-godo buttadag-e-ru
that boy-EXP.TOP snake-ACC hit-POT-PRES
‘That boy can hit a snake.’

(14) Active
<table>
<thead>
<tr>
<th>Standard Japanese</th>
<th>Mitsukaido dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active NOM</td>
<td>S</td>
</tr>
</tbody>
</table>

Potential
<table>
<thead>
<tr>
<th>NOM</th>
<th>DAT</th>
<th>EXP</th>
<th>EXP</th>
</tr>
</thead>
</table>

3. Different voice morphology induces different range of transitivity alternations

- Hokkaido dialect

Hokkaido
Spontaneous predicate

- Verb root+/rasar/
- Three usages
  - Unintentional
  - Potential (middle)
  - Anticausative

<table>
<thead>
<tr>
<th></th>
<th>Standard Japanese</th>
<th>Hokkaido dialect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive</td>
<td>V-rare</td>
<td>V-rare</td>
</tr>
<tr>
<td>Causative</td>
<td>V-sase</td>
<td>V-sase</td>
</tr>
<tr>
<td>Potential</td>
<td>V-e/rare</td>
<td>V-e/rare (V-ni i)</td>
</tr>
<tr>
<td>Anticausative</td>
<td>---</td>
<td>V-rasar</td>
</tr>
</tbody>
</table>

(16) *dareka-nijotte)*, te-ni, okina, 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. (Haskelmann 1993: 94)

Syntactic nature of anticausativization with /rasar/

(18) *senaka-ga asat-te-ru
     back-NOM, push-SP-PROG-PRES
     <= senaka-o as-
       back-ACC push
     'to push someone’s back'

(19) saise:botan-ga asat-te-ru
     replay button-NOM, push-SP-PROG-PRES
     'The replay button is on.'
     <= saise:botan-o as-
       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-u “give (to me)” → *kure-rasar-u “give-SP-PRES”
b. yar-u “(I) give” → *yar-rasar-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 transitivization.
  ◦ 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, Otaina and Xolodovic 1995), both of which employ reflexive morphemes as an expression of anticausativization.
Valency classes in Emai

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Southern Illinois University Edwardsville
and
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University of Ibadan

- 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 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 Edoid.
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.
• 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 *hua* ‘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* *óá* *li* *òhí*.
Oje build house APP Ohi
‘Oje built a house for Ohi.’

b. *òjè* *ré* *éghó* *li* *ònwìmè*.
Oje take money APP farmer
‘Oje gave money to a farmer.’

c. *òjè* *róó* *òlí* *ôgó* *héé* *li* *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* *ólí* *ákè* á.
Aleke break the pot CS
‘Aleke broke the pot.’

b. *òjè* *gúóghó* *úkpásání*.
Oje break cane
‘Oje broke the cane.’

c. *òjè* *gúóghó* *úkpásání* 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* *ómi* *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* *isávbèé* *ó* *vbi* *àwè*.
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* *fí* *ékhoí* *fí* *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 g.

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. ọjè kénhén kù á.
   Oje cough spread CS
   ‘Oje coughed spread CS.’

b. ọjè kénhén kù á vbi émàè.
   Oje cough spread CL LOC food
   ‘Oje coughed spread food.’

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.

A precedence V2 and its ACC argument tend to flag a notional comitative, replacive or instrument/means relation.

(6) a. ọjè kpáyé óhí hián ọli úì.
   Oje replace Ohi cut the rope
   ‘Oje cut the rope instead of / in lieu of Ohi.’

b. ọjè ré úvbiághè hián ọli 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. ọjè súá è kpètè ó vbi ékèn iwè.
   Oje push stool enter LOC inside house
   ‘Oje pushed a stool into the house.’

b. ọjè súá ọli údò yé óhí.
   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

Monovalent predicates consist of either a single verb or verbs in series
followed by either a postverbal particle or other verbs in series.

Since monovalent predicates also adjust aspectual valence with
postverbal particles, they can take on either a single verb
or verbs in series.

4.0 Bivalent Predicates

Bivalent predicates display two arguments and consist of a single verb,
other than verbs in series, preverbal particles or verbs in series.

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
assumingly.

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.

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.

- **vbi óhùà** 'be a hunter', kpaye 'help, give a helping hand to', khaan 'load, fill a gun with gunpowder'
- **lode** 'go to', **dia** 'live' preposition **vbi**
- **dia** 'sit', **vbi+LOC**
- **e** 'eat', **vbi+LOC**
- **tutu nwu** 'hug'
- **ga ze** 'meet,' **nwu re** 'bring,' and **do nwu** 'steal'

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.

- **voo n** 'fill', **vbie** 'cook' reflects ambitransitive alternation
- **shoo re** 'leave, exit, move out of, off of'
- **raale** '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 **li** and/or **o**.

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.
Bivalent predicates with trivalent potential reflect four classes.

\[
\begin{align*}
\text{<NOM V1 ACC> <NOM V1 ACC \text{li+DAT}>} & \quad \text{to n’dig, harvest’,} \\
\text{<NOM V1 ACC V2 > <NOM V1 ACC li+DAT>} & \quad \text{\text{vun’dig, uproot, harvest’,} hoo’search for’,} \\
\text{<NOM V1 ACC OBL>} & \quad \text{gbe’beat’,} \\
\text{\text{ghen’build, make’,} nye’cook’, collocation ze étò’shave hair’}
\end{align*}
\]

4.4 Bivalent ~ Monovalent ~ Trivalent Physical Event Predicates

Substantial number of physical event bivalent predicates occur with postverbal particle \( \text{a} \) as obligatory or optional.

They exhibit trivalent frames with a dative or locative argument flagged by a postverbal particle, \( \text{li} \) or \( \text{g} \) respectively, along with some showing monovalent frames. Bivalent predicates of this nature fall into eight classes.

\[
\begin{align*}
\text{<NOM V1 ACC> <NOM V1 ACC \text{a}+vbi+LOC>} & \quad \text{\text{hian’cut’}} \\
\text{<NOM V1 ACC li+DAT> <NOM V1 ACC \text{a}+vbi+LOC>} & \quad \text{\text{hian’cut’}} \\
\text{<NOM V1 ACC a> <NOM V1 a> hian’cut’} \\
\text{V2 verb in series in precedence or succedence relation to V1.}
\end{align*}
\]

\[
\begin{align*}
\text{<NOM V1 ACC a> <NOM V1 a> gbe a’break in pieces’, nya a’tear, rip off’,} \\
\text{V2 verb in series precedence relations only.}
\end{align*}
\]

\[
\begin{align*}
\text{<NOM V1 ACC > <NOM V1 ACC V2 a> guogho’break apart’, too ‘burn up’} \\
\text{<NOM V1 ACC > <NOM V1 a> guogho’break’, too ‘burn’} \\
\text{V2 verb in series precedence relations only.}
\end{align*}
\]

\[
\begin{align*}
\text{<NOM V1 ACC> <NOM V1 ACC a> ACC ãmò’child’} \\
\text{\text{khoob’bathe off’}} \\
\text{<NOM V1 li+DAT> DAT adult òkpèsò’woman’} \\
\text{\text{khoob’bathe’}} \\
\text{V2 verb in series precedence relations only.}
\end{align*}
\]

\[
\begin{align*}
\text{<NOM V1 ACC> <NOM V1 ACC a> <NOM V1 ACC li+DAT> <NOM V1 ACC \text{a}+vbi+LOC>} & \quad \text{bolo’peel plantain’ and} \\
\text{\text{fojo’peel yam’}} \\
\text{V2 verb in series precedence relations only.}
\end{align*}
\]

\[
\begin{align*}
\text{<NOM V1 ACC> and <NOM V1 ACC a> \quad ACC itébú’table’} \\
\text{<NOM V1 ACC li+DAT> ACC \text{évbíi’oil’} } \\
\text{\text{kalo’wipe, clean’}} \\
\text{V2 verb in series precedence or succedence relations.}
\end{align*}
\]
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 succedence 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 succedence 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 *mie* ‘see’, *oo* ‘think’, *to* ‘feel pain’ and the collocation *gbe ìò* ‘blink’. For verbs such as *hön*, which take *éhòn* ‘ear’ or *ìhùè* ‘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. *mie* takes physical object nouns and *oo* accepts abstract nouns like *èmòi* ‘issue’.

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
  - *een* ‘know’, *je* ‘laugh’, *vie* ‘cry’, *khuee* ‘scream’, *eghen* ‘please, like’

- <NOM V1 ACC> <NOM V1 > ambitransitive alternation
  - *niaa* ‘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 li+DAT >

ghoo 'look at'

< NOM V1 ACC > < NOM V1 ACC li+DAT hon>

ta étà 'speak, tell'

< NOM V1 ACC > < NOM V1 ACC li+DAT hon > < NOM V1 ACC V2 ACC >

so 'sing'

< NOM V1 ACC > < NOM V1 ACC li+DAT hon > < NOM V1 ACC V2 ACC >

kpe 'narrate, tell story', gue 'tell, inform'

< NOM V1 ACC1 > < NOM V2 ACC2 V1 ACC1 >

ófèn nwu 'fear', üin gbe 'feel cold', ôhànmì gbe 'be hungry'

causative alternation

7.0 Trivalent Predicates

Trivalent predicates exhibit three arguments. They denote cognitive events and physical events. Physical event trivalent predications employ postverbal particles. Cognitive trivalent predications 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 ré 'take', V2 vbiéé 'become apparent, show' takes ACC human noun. These predications reflect one class.

< NOM V1 ACC V2 ACC >

'show', ACC of V1 ré inanimate, physical object noun, úháóbi 'poison arrow'

< NOM V1 ACC V2 ACC >

'teach', ACC of V1 ré abstract noun, ṭsoómù 'arithmetic'

< NOM V1 ACC V2 ACC > < NOM V1 V2 ACC >

'appear', ACC of V1 ré is body-part noun égbé 'body', optional, ré itself obligatory

< NOM V1 ACC OBL > V1 OBL abstract noun, ACC human noun

V1 vbiéé 'teach', OBL abstract noun, ACC human noun

(8) a. ójé ré’ úháóbi vbiéé álélèkè.

Oje take poison.arrow show Aleke
‘Oje showed Aleke the poison arrow.’

b. ójé ré’ ṭsoómù vbiéé òhí.

Oje take mathematics show Ohi
‘Oje taught arithmetic to Ohi’

c. álélèkè ré égbé vbiéé ìvbíá ìjì.

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.

\[<\text{NOM V1 ACC} \text{ li+DAT}>\] ‘to name’

- collocation with V1 nwu ‘take hold of a singleton’, ACC ènì ‘name’
- V2 verb in series precedence relation only.

Postverbal particle o predications reflect one class.

\[<\text{NOM V1 ACC} \text{ o+Vbi+LOC}>\] ‘put’,

- V2 verb in series precedence relation only.

\[<\text{NOM V1 ACC} \text{ o+Vbi+LOC}>\] ‘pour’

- V1 oon ‘pour, move a liquid’, no ‘fill’ verb
- V2 verb in series precedence relation only.

\[<\text{NOM V1 ACC} \text{ o+Vbi+LOC}>\] ‘dress someone’

- V1 ku ‘spread, stretch’, ACC dress object
- V2 verb in series precedence relation only.

8.0 Quadravalent Predicates

Physical event predicates with four arguments exist as quadravalent frames in one class.

\[<\text{NOM V1 ACC OBL} \text{ Vbi+LOC}>\] miee ‘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.

\[<\text{NOM V1 ACC OBL} \text{ Vbi+LOC}>\] miee ‘take from, seize’, fi ‘hit, strike a blow on’

No bivalent potential where quadravalent sense is retained.

\[<\text{NOM V1 ACC}>\] bivalent miee ‘receive/accept’, bivalent fi ‘throw, spread’
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.

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 predications 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.

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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)
  > Chintang1 (िछĭताङ) 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

1 Usually spelt <Chhintang> in official texts. Here, <ch> is used for [t̻s̻ʰ] and <c> for [t̻s̻].

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 deictics 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)\}²:

(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-ng-e.*  
   Asu-GEN 3sPOSS-bracelet FOC break-COMPL.ITR-PST-PRF-IND.PST[.3sS]  
   ‘Asu’s bracelet is broken.’ [CLLDCh2R12S08.548]

²The 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 (Räi et al. 2004-2011). 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. dony- ‘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. jhokal- ‘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)\}

Copular, e.g. lis- ‘be(come)’
\{Theme-NOM Rheme-NOM V-s(Theme)\}

Trans impersonal, e.g. loki- ‘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. chiwa lens- ‘feel queasy’
- **Reciprocal ambitransitive**, e.g. tup- ‘meet’
- **Intransitive, optionally experiential**, e.g. kat- ‘come up, be felt’
- **Transitive experiential I**, e.g. nîn mîs- ‘be happy about’
- **Monotransitive/raised O-AGR**, e.g. nis- ‘know, know to’

\[\text{Note that the electronic version of the dictionary that is cited here is not finished but continuously being updated. This and a change of the definition of ditransitive verbs to match the definition given in Bickel et al. (2010) explain the differences in some of the numbers presented here to those given in Schikowski et al. 2010.}\]
- 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).

Class sizes are distributed unevenly so that there are few large and many small classes. The distribution looks Zipfian, barring formal tests (figure 9).
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)cī
- Reciprocal -ka lus-
- Benefactives -bid, -chokt, -dhett
- Augments (= largely lexicalised causative/benefactive markers) -s, -t
- Causative -mett
- Chained motion verbs, e.g. -thand ‘(bring) down’, -gatt ‘(bring) up’
- Passive participle -mayay
- 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):

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-
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. ᵇaĩli, kana-phak na ba-tta=kha
third daughter 1p-poss pig TOP PROX-EXT-NMLZ;
ghøŋ  
haŋ na aŋ...
grow.big [SUBJ.NPST.3sS] COND TOP QTAG
‘Saili, suppose our pig grew as big as this...’
[CLLDCh1R06S03.0151]
b. Ba=go phak them-ma ba-tta
PROX-NMLZ pig what-ERG PROX-EXT
ghøŋs-o-ŋs-e?
grow.big-3s[O-PRF-IND.NPST][3sA]
‘What has let this pig grow this big?’ [elicitation 2010]

(6) a. Sa-ŋa u-lett-o=kha phun?
who-ERG 3[p]A-plant-3P-NMLZ; 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.’ [fieldnotes 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 ghøŋs-, 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 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).

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 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

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tbody>
<tr>
<td>A</td>
<td>agent</td>
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<tr>
<td>COMPL</td>
<td>completive (-hat(t))</td>
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<td>T</td>
<td>ditransitive theme</td>
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References


Figure 9: Relation between class size and rank
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<tr>
<th>Class</th>
<th>monotrans.</th>
<th>intrans.</th>
<th>DO dirans.</th>
<th>PO dirans.</th>
<th>double object dir.</th>
<th>intrans. exp.</th>
<th>reciproc. ambitrans.</th>
<th>intrans., optionally exp.</th>
<th>trans. exp. I</th>
<th>monotr./raised O-AGR</th>
<th>DO PO dirans.</th>
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<th>O-AGR with emb. clause</th>
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<td><strong>S/O ambitransitivity</strong></td>
<td>+</td>
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<td>(only with Nepali loans)</td>
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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.
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 (धनकटा 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

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

Frames and verb classes

- verb class := set of verbs licensing identical frames

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-cheŋ ta od-ad-aŋs-e.
     Asu-GEN 3sPOSS-bracelet FOC break-COMPL.ITR-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. doŋ- ‘be confused’ {S-NOM V-s(S)}
- **Direct object ditransitive**, e.g. yuŋ- ‘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

- **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. punŋ- ‘start to’ {A-ERG/NOM P[(S) INF] V-a(A).p(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/P/G/T)}
- 4 minor frames only with single verbs

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-s(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)}
- **Trans impersonal**, e.g. lokt- ‘boil’ {S-NOM V-a(3s).p(S)}

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. *chiʔwa leŋs*-‘feel queasy’
- **Reciprocal ambitransitive**, e.g. *tup*- ‘meet’
- **Intransitive, optionally experiential**, e.g. *kat*- ‘come up, be felt’
- **Transitive experiential I**, e.g. *nirj nus*- ‘be happy about’
- **Monotransitive/raised P-AGR**, e.g. *njis*- ‘know, know to’

Frame and class frequencies

- 18 frames and 54 classes - where is the big picture?
- Frequency counts can give some answers

Verb classes

- **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 P-AGR**, e.g. *les*- ‘like ...ing’
- **P-AGR with embedded clause**, e.g. *phind*- ‘begin to’

Frame and class frequencies

- Two frames are licensed by most verbs:
Frame and class frequencies

- Two classes have most members:

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/c centres
- Reciprocal -ka lus-
- Benefactives -bid, -chokt, -dhett
- 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 -mayaŋ
- Active participle ka--pa
- Auxiliary alternation (corresponds to S/O ambitransitivity with loan verbs from Nepali) lis-/numd-/mett-
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

- 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) Saĩĩli, kana-phak na ba-tta=kha ghọŋ Ḣag na aŋ... third.daughter 1pePOSS-pig TOP PROX-EXT-NMLZ2 grow.big COND TOP QTAG
  ‘Saĩĩli, suppose our pig grew as big as this...’

  (5b) Ba=go phak them-ma ba-tta ghọŋs-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=kaphunŋ?
  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.’

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 ghọŋś-, 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 potential classes:

[Diagram showing percentage distribution]

The macrotransitive class

- Consequences for classes:

[Diagram showing percentage distribution]

The macrotransitive class

- Consequences for corpus frequency of classes:

[Diagram showing percentage distribution]
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)
1. Introduction

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
closely related to Muinane, possibly also related to the Wiotoan languages Wioto, Ocaina, and Nonuya (Aschmann 1993; Seifart and Echeverri 2010)
an endangered language, displaced by local Spanish

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
--- | --- | ---
nominaive | unmarked | - the only argument of intransitive predicates
accusative | -ke | - the most agent-like argument of transitive predicates
| (ACC) | unmarked for inanimates | - the less agent-like argument of montransitive predicates
| | | - the recipient argument of ditransitive predicates of transaction
allative | -divu | - the goal of the action/event
| (ALL) | -vu, -u (inanim.) | - the theme argument (secondary object) of ditransitive predicates
| ablative | -dityu | - the source of the action/event
| (ABL) | -ti (inanim.) | - static location that involves protrusion
| instrumental | -ri | - static location without protrusion
| (LOC/INST) | | - instrument
benefactive | -lilhye | - beneficiary
sociative | -na | - a participant that accompanies the action/event
comparison | -da | - 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) waji | chi-acó | ñiku-ke ñueder-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  dsííxcé-be
  man  run-M.SG
  ‘The man ran’

b. A P-ACC V-A
  wajpi  wálle-ke  wátájcoó-be
  man  woman-ACC  cover-M.SG
  ‘The man covered the woman with the blanket’

(3) a. V-S
  dsííxcé-be
  run-M.SG
  ‘He ran’

b. P-ACC V-A
  wálle-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  dsííxcé(-hi)
  man  run(-PRED)
  ‘The man ran’

(5) a. V-PRED
  * dsííxcé(-hi)
  run(-PRED)
  Intended reading: he/she/it ran

b. V-PRED S
  * dsííxcé(-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  níívúwa-ke
  man  hunt  deer-ACC
  ‘The man hunted a deer’

(7) a. wajpi  lliiřįįjá
  man  hunt
  ‘The man hunted’

b. * wajpi  lliiřįįjá  níívúwa-ke
  man  hunt  deer-ACC
  Intended meaning: The man hunted a deer
3. Valency patterns

3.1. Summary of valency patterns

<table>
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<tr>
<th>meaning</th>
<th>verb</th>
<th>frame</th>
<th>cases</th>
<th>prep</th>
<th>refl</th>
<th>inters</th>
<th>derivational suffix in basic verb form</th>
<th>prefix</th>
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<td>DRE</td>
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<td>+</td>
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<td>mact)</td>
<td>mə́chó</td>
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<td>+</td>
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<td>(X-acc)</td>
<td>+</td>
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<td>(X-acc)</td>
<td>+</td>
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<td>tájvé</td>
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<td>(M-acc)</td>
<td>+</td>
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<td>táávyé</td>
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<td>(M-acc)</td>
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<td>díí</td>
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<td>LIKE</td>
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<td>(M-acc)</td>
<td>+</td>
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<td>wáláché</td>
<td>A</td>
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<td>+</td>
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<td>tsáávyé</td>
<td>A</td>
<td>(X-acc)</td>
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<th>verb</th>
<th>frame</th>
<th>cases</th>
<th>prep</th>
<th>refl</th>
<th>inters</th>
<th>derivational suffix in basic verb form</th>
<th>prefix</th>
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<td>nehco</td>
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<td>(X-acc)</td>
<td>+</td>
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<td>WASH</td>
<td>ajyabáávaté</td>
<td>E</td>
<td>(P-acc)</td>
<td>+</td>
<td>+</td>
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<td>Éjyáátumu</td>
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<td>(M-acc)</td>
<td>+</td>
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<tr>
<td>SHOUT AT</td>
<td>táávyé</td>
<td>A</td>
<td>(X-acc)</td>
<td>+</td>
<td>+</td>
<td>-</td>
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<tr>
<td>SAY</td>
<td>xóč</td>
<td>A</td>
<td>(P-acc)</td>
<td>+</td>
<td>+</td>
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<tr>
<td>SCREAM</td>
<td>táávyé</td>
<td>A</td>
<td>(X-acc)</td>
<td>+</td>
<td>+</td>
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</tr>
<tr>
<td>HEAR</td>
<td>táávyé</td>
<td>A</td>
<td>(X-acc)</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>SHAVE</td>
<td>smí</td>
<td>A</td>
<td>(P-acc)</td>
<td>+</td>
<td>+</td>
<td>-</td>
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<td>extended ditransitives</td>
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<td></td>
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<tr>
<td>extended ditransitives</td>
<td>(extended monos-</td>
<td>transitives with goal/recipient)</td>
<td></td>
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<tr>
<td>extended ditransitives</td>
<td>(extended monos-</td>
<td>transitives with goal/recipient)</td>
<td></td>
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<tr>
<td>extended ditransitives</td>
<td>(extended monos-</td>
<td>transitives with goal/recipient)</td>
<td></td>
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</tr>
</tbody>
</table>
3.2. Avant 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. nííjyaba 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 iltihye ‘hunt’, ds né ‘run’, cátsíñiivye ‘jump’, pítsayévé ‘roll’, and x̄ehti ‘roll’, a less clearly agent-like role, as with ákityé ‘fall’ or éjéhtsó ‘cough’, or an experiencer, as with áyjbáávaé ‘be hungry’ or idáásto ‘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 ijchív ‘leave’, and (iii) (stative) locative case, as in ácuúcunú ‘sit down’ and iñipíj ‘live’. The (stative) locative case is polyfunctional and can also mean instrumental, as in example 9.

(9) a. ilihye ǰicyá casíncó-ri
   mouse be mortar-LOC
   ‘The mouse is in the mortar’

b. ováhtsa dömaçó támé-ke üméhéco-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’, wáájacú ‘know’ (example 10), iliyé ‘look at’, ákuhaye ‘fridge’, dáátsové ‘be sad’. The locative participant is also accusative, i.e. unmarked when it is inanimate.

(10) A KNOW P-ACC
    wajpi wajpecú ováhtsa-ke
    man know-SING.TRANS/boy-ACC
    ‘The man knew the boy’

(11) A FOLLOW P-ACC
    wajpi támévé bádsjíj-ja-ke
    man follow girl-ACC
    ‘The man followed the girl’

Related to this pattern is the verb nérityé ‘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 ákityé ‘see, meet’, illi ‘hear’, imále ‘like’, árahíjícu ‘smell’, and ilebó ‘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-vú o-ke ú ájcuú
    leftovers-ALL 1.SG-ACC 2.SG give
    'You give me the leftovers' [llijchuri_1: 685]

    b. R-ACC A GIVE T-ALL
    Tsá munú eñne mé-ke díté ájcu-tú mème-u
    no well that 1PL-ACC 3.PL give-NEG palm_fruit-ALL
    'They did not give us palm fruits' [nivana 083]

(13) a. A TEACH R-ACC T-ALL
    Mé úwaabó tsíimé-ké wálkmyé-vu
    1.PL teach children-ACC work-ADJ
    'We teach the children the work' (Thiesen & Thiesen 1998: 476)

(14) a. R/CAUSEE-ACC A SHOW T-ALL
    táj-tsíimé-ké éñne t-iyuŋ-iláá ni ú úúje-tsó
    1.S-child-ACC finally 1.SG-ACC 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-vú ánúmpt táj-dívú
    1.SG-ACC mé-úúje-tsó-ALL 2.PL finally
    'Come and show me your husband!' [lijchu_inetII1 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 wallóó 'send' (example 15) and tsivá 'bring' (example 16) and 4 others from the 80-meanings list (waad 'throw', tajjey 'carry', píco 'put', cáhh 'cause')

(15) a. A SEND T-ACC R-ALL
    ó wallóó waajicuháání tá-tuhbe écille-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
    múhša-kye tehdújaco tábdi llíhi wáljó-bí
    1.DL.EXCL-ACC well grandfather father send-PRED
    'Grandfather, father, send us (*to us)' [mEEvaMM06_3 39]

(16) a. BRING T-ACC R-ALL
    ováltsa tsivá wájácuháá tándóó ciimóó-ðivú
    1.PL 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: táñxí 'ask for' (example 17), dilli 'name' (example 18), and waad 'tell' from the 80-meanings list.

(17) a. P-ACC A ASK
    botsíi páryvéébe-ke ú táñxí-bí
    finally creator-ACC 2.SG ask-PRED
    táñxí-táá áñjót Peyu-ðí
    1.PL-nutrition cook-ALL
    'Finally you ask the creator for fish of our nutrition' [VerbaDicendi 043]

    b. ASK-A T-ACC
    Táñxí-tíyúcoo-be miñjótóta
    ask-PRED.N 1.SG ask fish-Ø
    'He already asked for nutrition' [nEjke_kuriota 083]
c. A ASK P-ACC
   mé táamei táhdi-kye áj-jé shdéépi-kye
   1p. ask grandfather-ACC palm-people forefather-ACC
T-ACC
   píiyé áj-jíáho
creation palm-leaf-Ø
   'We ask the grandfather, the forefather of palm people, for palm leaves of
   the creation' [origen_maloka 27]

(18) A NAME P-ACC T-ACC
   waqsi dilló ováhtsa-ke cuhjúba-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
   ováhtsa tsá-haam tá-ba-hjúcú wajácuháám -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 picyóó waajácuháám méésáwá halú-vu
1.SG put book ablat-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 wáháh-ná-hi
1.SG cut-MULT.TRANS-PRED
   'I cut'

5. Verb-coded alternations (voice alternations and valency change)

5.1. Two kinds of morphologically marked valued 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)

<table>
<thead>
<tr>
<th>instrument</th>
<th>root</th>
<th>verbal number and transitivity</th>
<th>other derivation</th>
<th>causative</th>
<th>reflexive</th>
<th>reciprocal</th>
<th>directional</th>
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<td>do-</td>
<td>-jeño</td>
<td>-ngw, TRANS</td>
<td>-líc, consider</td>
<td>-leó, &quot;CAUS&quot;</td>
<td>-mói, &quot;REEL&quot;,</td>
<td>-jótsi, &quot;RECIP&quot;</td>
<td>-va, &quot;come&quot;,</td>
</tr>
<tr>
<td>kl-</td>
<td>-vye</td>
<td>&quot;SNG,TRANS&quot;, etc.</td>
<td>-jí, &quot;begin&quot;, incipient&quot;, etc.</td>
<td>-leó, &quot;CAUS&quot;</td>
<td>-mói, &quot;REEL&quot;,</td>
<td>etc.</td>
<td>etc.</td>
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<tr>
<td>kl-</td>
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<td>&quot;MULT,TRANS&quot;, etc.</td>
<td>-jí, &quot;begin&quot;, incipient&quot;, etc.</td>
<td>-leó, &quot;CAUS&quot;</td>
<td>-mói, &quot;REEL&quot;,</td>
<td>etc.</td>
<td>etc.</td>
</tr>
</tbody>
</table>

Table 2: Template for derivational verb stem formation
5.2. Verbal number and transitivity markers

morphologically complex with many irregularities (Table 3)

| I | 103 | tállíyiáco - tállíyijcyo 'turn' |
| II | 79 | árohcáno - árohcáno 'turn around' |
| III | 14 | dí-áco - dí-jco 'burn' |
| IV | 44 | ácu-tsohcáno - ácu-tsohcáno 'break' |
| V | 82 | bájiro - bájiro 'wrap' |
| VI | 19 | bói-hjí-yí'co - bói-hjí-yí'co 'drill' |

<table>
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<th>transitive (-6 pairs of allomorphs)</th>
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<td>I</td>
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<td>II</td>
</tr>
<tr>
<td>III</td>
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<td>IV</td>
</tr>
<tr>
<td>V</td>
</tr>
<tr>
<td>VI</td>
</tr>
</tbody>
</table>

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

<table>
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<tr>
<th>(23) a.</th>
<th>waqpi</th>
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<td>man</td>
<td>si-SNG.INTR</td>
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<td>'The man is sitting'</td>
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<th>(24) a.</th>
<th>ta-hya</th>
<th>áiivyé-bí</th>
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<tr>
<td>'My house is burning' [VerbaDictendi 098]</td>
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<td></td>
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</tbody>
</table>

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:

1. 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 búní-ivyé
    log slip-SNG.INTR
    ‘the log slipped off’

b. uménebáá-ne búní-bá
    log-PL slip-MULT.INTR
    ‘the logs slipped off’

c. * búní-jaco/-hjáco/-ro/-áco/-hjáco
    slip-SNG.TRANS
    Intended meaning: someone made something slip

d. * búní-jco/-hco/-nu/-jcu/-jco/-cyo/-hcyo
    slip-MULT.TRANS
    Intended meaning: someone made something slip

About 45% combine only with transitive forms (examples 28)

(28) a. wağpi bójór-áco
    man scrape-SNG.TRANS
    ‘The man scraped something’

b. wağpi bójór-jco
    man scrape-MULT.TRANS
    ‘The man scraped something repeatedly’

c. * bójór-iye
    scrape-SNG.INTR
    Intended meaning: Something was scraped

d. * bójór-i-bá
    scrape-MULT.INTR
    Intended meaning: Something was scraped repeatedly

5.3. Causative, reflexive, and reciprocal markers

5.3.1. The causative marker -tso

Can be used with almost every Bora verb, including intransitive (example 29) and transitive verbs (example 30)²

(29) a. S V p-1. SG 61 dýnè-hi run-PRED
    ‘I ran’

b. A=P V P-Acc V-CAUS
    wağpi o-ke dýnè-tád-hi
    man 1. SG-ACC run-CAUS-PRED
    ‘The man made me run’

(30) a. A V P-Acc V-CAUS
    wağpi o-ke tó-és-hi okáji-ke
    man 1. SG-ACC see-PRED tapir-ke
    ‘I saw a tapir’

b. A=P V P-Acc V-CAUS T-All
    wağpi o-ke tó-és-bi okáji-dívu
    man 1. SG-ACC see-CAUS-PRED tapir-ALL
    ‘The man made me see a tapir’

5.3.2. The reflexive marker -meí

The reflexive marker -meí 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
    wağpi sájtáyé-hi wajácháám
    man carry-PRED book
    ‘The man carried the book’

b. A=P V-REFL
    wağpi sájtáyé-meí-hi
    man carry-REFL-PRED
    ‘The man carried himself’

² The only verbs found so far that do not regularly combine with the causative marker are ‘zákhye-tso ‘make fall’, which is accepted by some but rejected by other Bora speakers, and ‘icyahjácyé-tso ‘make live’, which is not accepted by any Bora speaker consulted so far.
c. **A** (DOWNGR.) **V**-REFL **P**-ACC
   wagpi   bátyé-meí-hí   wájicaháamí
   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. wagpi  ásiné-meí-hí
   man    run-REFL-PRED
   ‘The man tried to run’

b. wagpi  čéjtsó-meí-hí
   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. wagpi  píchóújcá-hí   íjyawa
   man    wipe- PRED  stool
   ‘The man wiped the stool’

b. íjyawa  píchóújcá-meí-hí
   stool    wipe-REFL-PRED
   ‘The stool was wiped’

5.3.3. The reciprocal marker **-jcaítśi**

Only transitive verbs combine with the reciprocal marker **-jcaítśi**, 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-fíhbe  nááni-kye  cábo-hcó-hí
   1.SG-brother  my_uncle-ACC  beat-MULT.TRANS-PRED
   ‘My brother beat my uncle’

b. **A=P** **V**-RECP
   tá-fíhbe-mu  cábo-hcó-jcaítśi-hí
   1.SG-brother-PL  beat-MULT.TRANS-RECP-PRED
   ‘My brothers beat each other’

(35) a. * ováhtsa  tsá-jcaítśi-hí  cóomi-tu
   boy   come-RECP-PREDvillage-ABL
   Intended meaning: The boy came himself (?) from the village

b. * ováhtsa  álítśítá-jcaítśi-hí
   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. më-úkó-tsá-meí-i-yá  áítreé-jú-vu
   1.PL-enter-CAUS-REFL-FUT-FRUS  bad-word-PL
   ‘We would let ourselves enter bad words’ [iamehe_prep_1 127]

b. múújipé-tsá-meí-tyje
   feel_ashamed-CAUS-REFL-M.SG
   ‘He made himself feel ashamed’ [lijkchu_ine_II2 166]

(37) a. dítýe  dáfívé-tsá-jcaítśi-hó
   they   die-CAUS-RECP-INAN
   ‘They killed each other’ [apajune_naae 19]

b. me-ávó-tso-jcaítśi-tyu-kí
   1.PL-be_alone-CAUS-RECP-NEG-PURP
   ‘So we do not abandon ourselves’ [AmpRepPop 481]

c. cúwá-tsá-jcaítśi-múp
   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. áfí-váí-jcáro
   INST:TOOTH-break-SNG.TRANS
   ‘break with teeth’

b. cáfí-váí-jcáro
   INST:POINTED-break-SNG.TRANS
   ‘break with pointed object’
c. *dd*-vár-jcáro
   INST:HAND-break-SNG.TRANS
   ‘break with hand’

d. *kf*-vár-jcáro
   INST:KNIFE-break-SNG.TRANS
   ‘cut’

e. *pf*-vár-jcáro
   INST:SAW-break-SNG.TRANS
   ‘open by sawing’

f. *wá*-vár-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. *kf*-bu-hjuyúcu-úbe
   INST:KNIFE-pull_out-SNG.TRANS-M.SG
   ‘He pulled out (something) (with a knife-like instrument)’

   b. *kf*-bu-hjuyúcu-úbe
      nifó-òwa-ri
      INST:KNIFE-pull_out-SNG.TRANS-M.SG machete-INST
      ‘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

Abbreviations and orthographic conventions

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>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; DM - 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; PRF - perfect; RECP - reciprocal; REFLEX - 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.</td>
<td></td>
</tr>
</tbody>
</table>

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], (h) - [h], (j) - [h], (l) - [l], (y) - [u]. Long vowels are represented by two identical vowel symbols, e.g. (aa).

Acknowledgements

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References


Appendix: Two verb stem classes defined by verbal number allomorphs

<table>
<thead>
<tr>
<th>Verb stem class I</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>wátaaháco 'cover, thatch; close'</td>
<td>cáhjí 'to throw one's hand'</td>
</tr>
<tr>
<td>wáhjí 'to make the earth with sth.'</td>
<td>wáheecóro 'rock/push sb. in a hammock violently'</td>
</tr>
<tr>
<td>wáruhíyo 'bend sth. by rubbing it with hands'</td>
<td>wáro 'cut sth. with the foot'</td>
</tr>
</tbody>
</table>

**Verb stem class II**

<table>
<thead>
<tr>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>wátuu 'to blow'</td>
</tr>
<tr>
<td>wámaáco 'shake sth. to take sth. out'</td>
</tr>
<tr>
<td>wátúnuáco 'tell'</td>
</tr>
</tbody>
</table>

---

Balinese (Basa Bali)

One of the eastern-most Western Malayo-Polynesian languages

Adelaar (2005)

Proto Austronesian (PAn)

Proto Central-Eastern Malayo-Polynesian

Proto Malayo-Chamic-BSS

Madurese

Sundanese

Proto Malayo-Sumbawan

Western Malayo-Polynesian

Prot Austronesian (PAn)

Proto Malayo-Polynesian

Malayic Chamic

Balinese

Sasak

Sumbawa

Rukai

Proto Malayo-Chamic-BSS

Proto Malayo-Sumbawan

Proto Malayo-Chamic

Sasak

Sumbawa

Rukai

Formosan

Philippine

Malay/Indonesian

Balinese

Javanese

Sasak*

Sumbawa*

Lun Dayeh

(Sawarak)

Thao, Kavalan

(Philippines)

Sumbawa*

Sasak*

AF: <um>, m-

PF: -in

LF: -an

CF: i-

a. H<um>i-hiwa ang=laraki ng=karne. (AF construction: <um>)

RED<AF>-cut TOP=man GEN=meat

‘The man is cutting meat.’

b. Hi-hiwa-in ng=laraki ang=karne. (PF construction: -in)

RED-cut-PF GEN=man TOP=meat

‘The man is cutting the meat.’

Bahasa Melayu/Indonesia (Malay/Indonesian)

a. Saya mem-beli rumah baru (AF construction: N-)

I AF-buy house new

‘I bought a new house.’

b. Rumah baru itu saya beli. (PF construction: Ø-)

house new that I PF.buy

‘I bought the new house.’

Basa Bali (Balinese)

a. Tiang meli umah anyar (AF construction: N-)

I AF-buy house new

‘I bought a new house.’

b. Umah anyar=e ento tiang beli (PF construction: Ø-)

house new=DEF that I PF.buy

‘I bought the new house.’
“precategorial” 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).’

(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 -kar; 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.

**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
      ‘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
      ‘I tied the tree trunk (with) the horse.’

Here –in derivation increases valency.

(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
   ‘The man put the table (with) the book.’

Here –in derivation does not increase valency; a case of argument realignment (w/o valency increase).

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
   ‘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.)
Essence of \textit{-in} (applicative) suffixation

(1) PUT (\textit{ejang}) underived basic verb form (trivalent)
   a. Anak=e ento ng-ejang buku=ne di meja=ne.
   \begin{itemize}
     \item person=DEF that AF-put book=DEF on table=DEF
   \end{itemize}
   \begin{quote}
     'The man put the book on the table.'
   \end{quote}

   \textit{-in} derived form (trivalent)
   b. Anak=e ento ng-ejang-in meja=ne (aji) buku=ne.
   \begin{itemize}
     \item person=DEF that AF-put-IN table=DEF (with) book=DEF
   \end{itemize}
   \begin{quote}
     Lit. 'The man put the table (with) the book.'
   \end{quote}

(2) TIE (\textit{tegul}) underived basic verb form (bivalent)
   a. Tiang negul jaran=ne.
   \begin{itemize}
     \item IA F. tie horse=DEF
   \end{itemize}
   \begin{quote}
     'I tied the horse.'
   \end{quote}

   \textit{-in} derived form (trivalent)
   b. Tiang negul-in punyan kayu=ne jaran=ne.
   \begin{itemize}
     \item IA AF.tie-IN trunk tree=DEF horse=DEF
   \end{itemize}
   \begin{quote}
     Lit. 'I tied the tree trunk (with) the horse.'
   \end{quote}

Functions of \textit{-in/-ang} suffixation

- \textit{-in} suffixation: Align a Ground expression with the Object (see above)
- \textit{-ang} suffixation: Align a Figure expression with the Object

Fig=Causee-Theme
a. Anak=e cenik ento menek (ka) gedebeg=e.
   \begin{itemize}
     \item person=DEF small that AF.climb to cart=DEF
   \end{itemize}
   \begin{quote}
     'The child climbed onto the cart.'
   \end{quote}

   b. Ia menek-ang anak=e cenik ento ka gedebeg=e.
   \begin{itemize}
     \item s/he AF-CAUS person=DEF small that to cart=DEF
   \end{itemize}
   \begin{quote}
     'He loaded the child onto the cart/ Lit. He made the child climb onto the cart.'
   \end{quote}

Fig=Instrument
a. Ia ng-lempag cicing=e (aji sampat).
   \begin{itemize}
     \item s/he AF-hit dog=DEF (with bloom)
   \end{itemize}
   \begin{quote}
     'S/he hit the dog (with a bloom).'\end{quote}

   b. Ia ng-lempag-ang sampat ka cicing=e.
   \begin{itemize}
     \item s/he AF-hit-CAUS bloom to dog=DEF
   \end{itemize}
   \begin{quote}
     'S/he hit a bloom against a dog.'
   \end{quote}

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"

-\textit{-in/-ang} contrasted

Precategorial LEARN/TEACH (\textit{uruk})

a. \textbf{GR=OBJ alignment pattern (bivalent)}
   Tiang ng-uruk-in anak cenik (basa inggres).
   \begin{itemize}
     \item I AF-learn-LOC person small (language English)
   \end{itemize}
   \begin{quote}
     'I teach the children (the English language).'
   \end{quote}

b. \textbf{FIG=OBJ alignment (bivalent)}
   Taing ng-uruk-ang basa inggres (ka anak cenik).
   \begin{itemize}
     \item I AF-learn-CAUS language English to person small
   \end{itemize}
   \begin{quote}
     'I teach the English language (to children).'
   \end{quote}
### -in/-ang contrasted

Non-precategorial WRITE (*tulis*)

a. Basic transitive valency pattern (bivalent)
   Ia nulis 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 nulis-*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 nulis-*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.’

### Bi-trivalent verb classes

**Table 1** Verb Classes and Alignment Patterns

<table>
<thead>
<tr>
<th>Alignment</th>
<th>GR=OBJ &gt; FIG=OBL/OBJ</th>
<th>FIG=OBJ &gt; GR=OBL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic verb class (A):</td>
<td>basic forms</td>
<td>basic forms</td>
</tr>
<tr>
<td>Basic verb class (B):</td>
<td>basic forms</td>
<td>-ang forms</td>
</tr>
<tr>
<td>Basic verb class (C):</td>
<td>-in forms</td>
<td>basic forms</td>
</tr>
<tr>
<td>Basic verb class (C’):</td>
<td>*-in forms</td>
<td>basic forms</td>
</tr>
<tr>
<td>Basic verb class (D):</td>
<td>basic forms</td>
<td>-ang forms</td>
</tr>
<tr>
<td>Precategorial class 1:</td>
<td>-in forms</td>
<td>-ang forms</td>
</tr>
<tr>
<td>Precategorial class 2:</td>
<td>-in forms</td>
<td>*-ang forms</td>
</tr>
</tbody>
</table>

### 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.’

- **FILL** (*isinin*)
  - 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.’

### 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** (*godot*), **TOUCH** (*tundik*), **HIT/BEAT** (*lempag*)

- **COVER** (*kerurub*)
  - a. Basic locative pattern: GR=OBJ (> FIG=OBL/OBJ)
    
    Anak=e ngerurub anak=e cenik ento (aji saput).
    *child=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).
    *child=DEF 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.’
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.'

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=OBL

TIE (teguh), GLUE (elim), NAIL (pacek), HANG (gantung)
ATTACH (temper), SMEAR (uap), MOUNT (pasan)

TIE (teguh)

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.'

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.'
Precategorial Class 1  
-in derived locative pattern: GR=OBJ>FIG=OBJ
-ang derived causative pattern: FIG=OBJ>GR=OBL

POUR (turuh), THROW (entung), GIVE (enjuh), SHOW (edeng)
HIDE (engkeb), SAY/TELL (orah), DRESS SOMEONE (payas), ENTER (celep)

POUR (turuh)
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.'

Precategorial class 2  
-in derived locative pattern: GR=OBJ
*ang derived causative pattern: FIG=OBJ

HELP (tulung), SEE/MEET (tepuk), CALL X Y (kauk)

HELP (tulung)
-in derived locative pattern: GR=OBJ
a. Anak=e ento nulung-in anak=e luh ento.
   person=DEF that AF.help-LOC person=DEF female that
   'The man helped the girl.'

b. Tiang nulung-in guru=ne ngae umah
   I AF.help-LOC teacher=DEF build house
   'I help the teacher to build a house.'

Object symmetricality

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.'

Asymmetrical Double Objects: POUR (turuh-in), HIDE (engkeb-in)

Only Primary Object can be a PF Topic

POUR (turuh) 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.'
Intransitive/Transitive Alternation Patterns

Five classes of intransitive verbs

(1) a. Basic bivalent intransitive; LIKE (*demen*), etc.
   Anak=e cenik ento demen 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 is angry at Ketut.’

   b. -in derived bivalent transitive (Transitivizing w/ valency increase)
   Nadi medih-in Ketut.
   ‘Nadi is angry at Ketut.’

(3) a. Basic monovalent intransitives that do not take OBL; CRY (*eling*), etc.
   Tiang ng-eling (*teken Ketut).
   ‘I cried.’

   b. -in derived bivalent transitive (Transitivizing w/ valency increase)
   Tiang ng-eling-in Ketut. (AF)
   ‘I cry over/about Ketut.’

(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)

(5) a. Precategorial: no basic valency pattern; THINK ABOUT (*keneh*)
   *Ia ngeneh teken tiang.
   s/he AF.think with I
   Intended for: ‘s/he has love feeling for me.’

   b. ma-derived bivalent intransitive
   Ia ma-keneh teken 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).
Increasing valency of -ma/-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) underived 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=ne.
   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).’
      person=DEF that AF-dead-CAUS-CAUS stick=DEF to snake=DEF
      Intended for: Lit. ‘The man caused the stick to kill the snake.’

(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 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-bersih)
   a. ma-derived: Anak=e luh ento ma-bersih 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-bersih-in telaga=ne
      person=DEF that MID-wash-LOC pool=DEF
      ‘The girl washed (herself) in the pool.’
   c. -ang derived: *Anak=e luh ento ma-bersih-ang anak cenik ento.
      person=DEF female that MID-wash-CAUS person small that
      ‘The girl washed the child.’

Decreasing valency

Decreasing valency by ma-resultative middles is limited

a. Underived 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).’

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.’
-\textit{in/-ang} derived verbs outside the alternation paradigm of Table 1 do not reduce valency via middle resultative \textit{ma}-marking

(1) a. Intransitive: \textit{Ia mules (di umah=ne anyar).} s/he AF.sleep in house=3POSS new ‘He slept (in his new house).’

b. \textit{-in locative transitive: Ia mules-\textit{in} umah=ne anyar.} s/he AF.sleep-LOC house=3POSS new ‘S/he slept in his new house.’

c. Resultative middle: *\textit{Umah=ne anyar suba ma-pules.} house=3POSS new already MID-sleep

Intended for: ‘His new house has already been slept in.’

(2) a. Stative intransitive: \textit{Lalipi=ne mati.} snake=DEF dead ‘The snake is dead.’

b. \textit{-ang causative transitive: Wayan mati-\textit{ang} lalipi=ne.} Wayan dead-CAUS snake=DEF ‘Wayan killed the snake.’

c. Resultative middle: *\textit{Lalipi=ne suba ma-mati(-ang).} snake=DEF already MID-dead-CAUS

‘The snake is already killed.’

(Cf. Lalipi=ne suba \textit{ma-tampah} ‘The snake is already slaughtered’.)

\section{Conclusion}

1. \textit{-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 \textit{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. \textit{medih-in} (angry-LOC) ‘scold’.

3. The syntactic passive conversion, which reduces valency across the board.

\section*{Compare ungrammatical resultative middles with passives}

(1) a. \textit{-in locative active: Ia mules-\textit{in} umah=ne anyar.} s/he AF.sleep-LOC house=3POSS new ‘S/he slept in his new house.’

b. Resultative middle: *\textit{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: \textit{Umah=ne anyar suba pules-\textit{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. \textit{-ang causative active: Wayan mati-\textit{ang} lalipi=ne.} Wayan dead-CAUS snake=DEF ‘Wayan killed the snake.’

b. Resultative middle: *\textit{Lalipi=ne suba ma-mati(-ang).} snake=DEF already MID-dead-CAUS

‘The snake is already killed.’

c. Passive: \textit{Lalipi=ne suba mati-\textit{ang-a} (teken Wayan).} snake=DEF already dead-CAUS-PAS (by Wayan)

‘The snake has already been killed (by Wayan).’
Valency classes in Yaqui

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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. *Lime* uusi-m(S) muuni-m(O) bwa’e(V)  Plural subject, plural object

det=pl. child-nl. bean- pl. eat

‘The children are eating beans’

b. Maria-D(S) uusi-m(O) ji’i-bwa-tua(V)  Singular subject, plural object

Maria-nom child-nl. thing- eat-caus

‘Maria is feeding the children’

c. Maria-D(S) uusi-ta(O) ji’i-bwa-tua(V)  Singular subject, singular object

Maria-nom child-aoc 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  kauna  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 paškola-ta  nu’up-a-k

Juan bean-nl. party-goal bring-pref

‘Juan brought beans to the party

* We are indebted to our Yaqui consultants, Melcides Bejiñone Cruz and Crescencio Batirmea. 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; Sn = singular; P = plural; NEG = negation; DES = desiderative; Pros = prospective; Dir = directive; ACC = accusative; GEN = genitive; Pos = possessive; DAT = dative; REF = reflexive; TR = transitive; INTR = intransitive; Red = reduplication; Caus = causative; Non = non-transitive; Appl = applicative; Ind = indicative suffix; Nom = normalizing suffix; Res = resultative; Perf = perfective aspect; Part = past participle; Com = commutative postposition; Goal = goal postposition; Instr = instrumental postposition; Loc = locative postposition;
1. 1.2. Pronominals

(4) Yaqui pronominal system (based on Estrada et al. 2004: 397)

<table>
<thead>
<tr>
<th>Subject</th>
<th>Object</th>
<th>Obliques</th>
<th>Possessives</th>
<th>Reflexives/reciprocal</th>
</tr>
</thead>
<tbody>
<tr>
<td>inepe</td>
<td>aepo</td>
<td>ine/e</td>
<td>in</td>
<td>emo/emo</td>
</tr>
<tr>
<td>=me</td>
<td>=e</td>
<td>=te</td>
<td>=em</td>
<td>emo</td>
</tr>
<tr>
<td>nee</td>
<td>enchi</td>
<td>aepof/k</td>
<td>isom</td>
<td>enchim    bemplo/im</td>
</tr>
<tr>
<td>=e</td>
<td>a</td>
<td>=e</td>
<td>=em</td>
<td>am</td>
</tr>
<tr>
<td>neu</td>
<td>eu</td>
<td>au</td>
<td>isou</td>
<td>emou    ameu</td>
</tr>
</tbody>
</table>

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: -(t)u, -wi
- Comitative: -(t)u-mak, -nuk, -mea
- Instrumental: -ta-mak, -ta-e, -mea
- Locative (in, at): -po
- Locative (on, over): -ce, -ce

2. Coding properties in alternations

2.1. Verbal suffixes

(8) Non valency changing suffixes

- Desiderative suffix -pea
- Maria muunim bwas-‘a-pee
- Maria beans cook-TIR
- Maria is going to cook beans

- Prospective suffix -baw
- Maria muunim bwas-a-baw
- Maria beans cook-TIR
- Maria is going to cook beans

(9) Valency changing suffixes

- Desiderative suffix -t’aa (+1)
- Maria-ta muunim bwas-a-t’aa
- Juan wants Maria to cook beans
- Juan asked Maria to cook beans

- Directive suffix -sae (+1)
- Maria-ta muunim bwas-a-t’sae
- Maria wants to cook beans

- Juan-ta muunim bwas-a-t’sae
- Juan asked Maria to cook beans

1.1.3. Verbal agreement

(6) Suppletive number agreement

<table>
<thead>
<tr>
<th>a.</th>
<th>b.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uu</td>
<td>Ume</td>
</tr>
<tr>
<td>uusi (S)</td>
<td>uusi-m(S)</td>
</tr>
</tbody>
</table>

- Des child there run:Sc.SL
- Des child-pl there run:Sc.PL

- ‘The child is running (over there)’
- ‘The children are running (over there)’
Other valency changing suffixes:

(10) Valency changing suffixes

a. Direct causative –tua (+1)
   *Juan María-ta muunim bwas-a-tua
   Adds new agent, Juan
   ‘Juan made Maria cook beans’

b. Indirect causative –tebo (+1, -1)
   *Juan muunim bwas-a-tebo
   Adds new agent, Juan
   Juan beans cook-TR-CAUSt
   ‘Juan had beans cooked’

c. Passive –wa (-1)
   *Nee ringo-nok-ta maja-wa
   Suppresses agent

1SG American-language-ACC teach-PASS
‘I am being taught English’

d. Applicative –ria (+1)
   *Ne librom nim mafa-ta esso-ria-k
   Adds benefactive

1SG book 1SG child ACC hide-APPL-PERF or malefactive
‘I hid the book from my mother’

e. Realisative –ri (-1)
   *Kuhaji po-pon-ri
   Suppresses agent

Drum red-pound-RES
‘The drum is pounded’

2.2. Transitivity markers

<table>
<thead>
<tr>
<th>INTRANSITIVE</th>
<th>TRANSITIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>jam-te</td>
<td>jam-ta</td>
</tr>
<tr>
<td>om-te</td>
<td>om-ta</td>
</tr>
</tbody>
</table>

(11) Valency change after object incorporation

a. TRANSITIVE
   *Kota-m chuk-ri!

kota-chuk-ta!
‘Cut wood!’

b. INTRANSITIVE
   *Wood-pl cut-TR

wood-cut-INTR
‘Cut wood! (lit., ‘do some wood-cutting’)

Other ways to mark transitivity: Stem-internal changes and suppletion

(12) a. INTRANSITIVE
   Ubba ‘have a bath’

Ubba ‘give a bath’

b. TRANSITIVE
   U ili ussi Ubba-k

Aurelia uki ili ussi-ta Ubba-k
‘The child took a bath’

2.3. Unmarked alternations

(13) Labile alternation

a. CAUSATIVE-INCHOATIVE ALTERNATION

(INceso) um-e yaave-m mesa-po yeu machia-k

1SG DET.CPL key-PL table-LOC out appear-PERF
‘I made the keys appear on the table, cf. the keys appeared on the table’
b. ADDEING AN OBLIQUE

i. Ne ta-tase-k
   iSG red-cough-PERF
   ‘I coughed’

ii. Juan ne-ta-tase-k
    iSG loc red-cough-PERF
    ‘Juan coughed on me’

2.3. SYNTACTIC MECHANISMS: REFLEXIVIZATION

(14) REFLEXIVES AND RECIPROCALS

a. a’ana ‘dress
   u jarnut wusita a’ana
   det woman child-ACC dress
   ‘The woman is dressing the child’

b. ibakta ‘hug’
   Juan María-ta ibakta-k
   Juan into Maria emo ibakta-k
   ‘Juan is hugging Maria’

   Juan María-ACC hug-PERF
   Juan and Maria refl hug-PERF
   ‘Juan and Maria are hugging’

   Note that the verb is invariably coded transitive (e.g., -ta)

3. ARGUMENT ALTERNATIONS

3.1. THE CAUSATIVE-INCHOATIVE ALTERNATION

(15) EQUIVALENT ALTERNATION: beeta/beete ‘burn’

a. CAUSATIVE -t(0)u
   Juan karita beeta
   ‘Juan burned me’

b. INCHOATIVE -(t)es
   Juan house-ACC burn-TR
   ‘The house is burning’

(16) SUPPLETIVE ALTERNATION: me’a ‘kill’ / muake ‘die’

a. CAUSATIVE me’a ‘kill’(SG.O)
   Juan chu’u-ta me’a-k
   ‘Juan killed the dog’

b. INCHOATIVE muake ‘die’(SG.S)
   U chu’u muake-k
   ‘The dog died’

(17) LABILE ALTERNATION: biika ‘spoil’

a. CAUSATIVE biika ‘spoil’
   U tataria ume kauwa-m biika-k
   ‘The milk got spoiled’

b. INCHOATIVE biika ‘spoil’
   DET heat DETPL milk-PL spoil-PERF
   ‘The milk got spoiled’

Álvarez González (2007:116)

2 Based on Levin (1993).


4 Other verbs participating in this alternation are macha ‘appear’, choeu ‘wilt’, and jooze ‘beal’ (see Álvarez González (2007) for relevant examples).
(18) **Anticausativization:** *ená ‘close’

<table>
<thead>
<tr>
<th>a. hoán paué-ta ét-k</th>
<th>b. hu’u paué <em>ená</em> ét-k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Juan door-ACC close-perf</td>
<td>det door refl close-perf</td>
</tr>
<tr>
<td>‘Juan closed the door’</td>
<td>‘The door closed’ (lit. closed itself)</td>
</tr>
</tbody>
</table>

Estrada Fernández (2009: 118, 390, 391)

(19) **Causativization:** *soso* ‘get pricked with thorns (*intr*)’ / *soso-tua* ‘prick (*tr.*)’

<table>
<thead>
<tr>
<th>a. intransitive</th>
<th>b. causativized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maria <em>soso</em>-k</td>
<td>Juan Maria-ta <em>soso-tua</em>-k</td>
</tr>
<tr>
<td>Maria prick-perf</td>
<td>Juan Maria-ACC prick-CAUS-perf</td>
</tr>
<tr>
<td>‘Maria got pricked with thorns’</td>
<td>‘Juan pricked Maria’</td>
</tr>
</tbody>
</table>

Álvarez Ganzále (2007:10)

(20) **Interesting cross-linguistic contrasts**

<table>
<thead>
<tr>
<th>a. Inchoative variant of <em>chuku-chuku</em> ‘cut’</th>
<th>b. causativized</th>
</tr>
</thead>
<tbody>
<tr>
<td>U taji chuk-ér-k</td>
<td>det light cut-INTR-perf</td>
</tr>
<tr>
<td>‘The electricity went off’</td>
<td></td>
</tr>
<tr>
<td>b. See 20 above.</td>
<td></td>
</tr>
</tbody>
</table>

(21) **The middle transformation**

<table>
<thead>
<tr>
<th>a. transitive</th>
<th>b. middle</th>
</tr>
</thead>
<tbody>
<tr>
<td>ne pelkalam bit-bae u kawi kaatuki bit-tu</td>
<td>det mountain NEG well see-INCH</td>
</tr>
<tr>
<td>‘I’m going to see a movie’</td>
<td>‘The mountain isn’t easy to see (lit. doesn’t see easily)’</td>
</tr>
</tbody>
</table>

(22) **Alternative ways to express the middle transformation**

<table>
<thead>
<tr>
<th>a. equivalent</th>
<th>b. reflexivization/anticausativization</th>
</tr>
</thead>
<tbody>
<tr>
<td>ine kaha-m kaatuki jam-jam-te</td>
<td>det door neg well red-crack-intr</td>
</tr>
<tr>
<td>‘These eggs don’t crack well’</td>
<td></td>
</tr>
<tr>
<td>b. reflexivization/anticausativization</td>
<td></td>
</tr>
<tr>
<td>i pueta kaatuki au etapo</td>
<td>det door neg well 3SG REFL open</td>
</tr>
<tr>
<td>‘This door doesn’t open easily’</td>
<td></td>
</tr>
</tbody>
</table>

3.3. **The reflexive deletion**

Reflexive pronouns are typically obligatory:

<table>
<thead>
<tr>
<th>a. <em>ama</em> ‘dress’</th>
<th>b. intransitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>u jamut uusi-ta a’ana</td>
<td>det woman child-ACC dress 3SG REFL dress</td>
</tr>
<tr>
<td>‘The woman is dressing the child’</td>
<td>‘He is getting dressed (lit. dressing himself)’</td>
</tr>
</tbody>
</table>

A few inherently reflexive verb forms express their transitive form either via causativization or via a suppletive form:

(24) **Suppletion:** *euse* / *esso* ‘hide’

<table>
<thead>
<tr>
<th>a. transitive: <em>esso</em></th>
<th>b. intransitive: <em>euse</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Maria librom <em>esso</em>-k</td>
<td>Maria <em>euse</em>-k</td>
</tr>
<tr>
<td>Maria book hide(<em>tr</em>)-perf</td>
<td>Maria hide(<em>intr</em>)-perf</td>
</tr>
<tr>
<td>‘Maria hid the book’</td>
<td>‘Maria hid (e.g., herself)’</td>
</tr>
</tbody>
</table>
(25) CAUSATIVIZATION: jin-te ‘cover self’
   
a. INTRANSITIVE
   b. CAUSATIVIZED
   u jamut jin-te-k
   ili uusi-ta jin-tea

   DET woman cover-INST-perf
   little child-ACC cover-CAUS

   ‘The woman covered herself’
   ‘Cover the child!’

3.4. The reciprocal transformation

All reciprocals involve a reflexive pronoun, even ‘natural’ reciprocals such as ‘kiss’, ‘hug’, or ‘meet’.

(26) ihanan ‘hug’

Juan into Maria emo iha

Juan and Maria Refer. 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 VERB: maka, mika ‘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 mika-k
   1sg book-pl Maria-acc-goal give(as present) perf
   ‘I gave the book to Maria’

(28) ACCUSATIVE-GOAL SUBCATEGORIZATION FRAME VERBS: eetje ‘tell’

u ili uusi jamut eetje-ta ne-u eetje-k

DET little child woman story-acc 1sg-goal tell-perf

‘The little child told 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 dibigo-m Juan-ta bit-tua-k
   Maria drawing-pl Juan-acc see-caus-perf
   ‘Maria showed drawings to Juan’

b. ‘send’: ACCUSATIVE-CAUSAL 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) BENEFICIAL INTRODUCED BY APPLICATIVE -ria

Juan kari-ta ne=ya-ria-k
   Juan house-acc 1sg=make-appl-perf
   ‘Juan made me a house’

(31) MALEFICIAL INTRODUCED BY APPLICATIVE -ria

Juan Maria-ta tomi-ta ethwa-ria-k
   Juan Maria-acc money-acc steal-appl-perf
   ‘Juan stole money from Maria’

(32) BENEFICIAL INTRODUCED BY GOAL ARGUMENT

Maria bwife-m ne-u bwife
   Maria sing-1sg sg 1sg=goal sing
   ‘Maria is singing a song for me’

(33) BENEFICIAL ALTERNATION: -ria vs. betchi ‘lo’

a. POSTPOSITION betchi ‘lo’ ‘for’
   Juan Maria-ta-betchi’lo kikte-k
   Juan Maria-acc-for stop-perf
   ‘Juan stopped for Maria’

b. APPLICATIVE -ria
   Juan Maria-ta kikte-ria
   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=me maleeta-m-mea tapunia
   car-AOC-LOC suit case-PL-LOC fill
   ‘I am loading the car with suitcases’

   b. puakta ‘load’
   karo-po maleeta-m pu’aka
car-LOC suit case-PL load
   ‘I am loading suitcases in the car’

3.8. The conative alternation

(35) chona ‘knock’
   a. Juan mesa-ta cho-chona-k
      Juan table-ACC thing-knock-TR
      ‘Juan knocked the table’

   b. Juan mesa-po jita cho-chona-k
      Juan table-LOC thing red-thing-knock-TR
      ‘Juan knocked the table’

(36) tasataste ‘hit’
   a. Juan mesa-ta tas-to-k
      Juan table-ACC hit-TR
      ‘Juan hit the table’

   b. Juan mesa-to-t tas-te-k
      Juan table-ABL hit-TR-TR
      ‘Juan hit the table’

3.9. The ‘search’ alternation

1) Via oblique + indefinite object pronoun

(37) jaiwa ‘look for’
   a. Ume yoem-en ili uusi-ti jaiwa
      DET OBJ man little child ACC search
      ‘The men are looking for the child’

   b. Ume yoem-en siime kari-po jita jaiwa-k
      DET OBJ man-PL all house-LOC thing search-TR
      ‘The men searched the entire house’

2) Via suppletive verb

(38) mojake ‘search’
   ume yoem-en kari-po mojake-k
   DET OBJ man-PL house-LOC search-TR
   ‘The men searched the house’

3.10. The object deletion alternation

1) Object deletion proper

(39) Juan kaarichita
      Juan need see
      ‘Juan can’t see’

2) Semantic object deletion, syntactic indefinite object

(40) u chu’a ye jujukuja
dog people red-smell
      ‘The dog is sniffing around’

3) Indefinite object incorporation

(41) a. Juan mansana-ta bwa’e
ejana apple-ACC eat
      Juan thing-eat Juan eat
      ‘Juan is eating an apple’
      ‘Juan is eating’
      ‘Intended: Juan is eating’

3.11. The cognate object alternation

(42) a. Maria bviika-m bviika
      Maria sing-ACC sing
      ‘Maria is singing a song’
      ‘Maria is singing’

3.12. The preposition dropping alternation

(43) a. Ba’am ne pichel-po kom to’a
      water loc pichel-LOC down pour
      ‘I am pouring water in the jar’

   b. ba’am so’qi-po to’a
      water pot-LOC pour
      ‘Pour the water in the pot!’

Not always possible:

(44) a. i pichel kaa tuiji jita yeu to’oja
      DET loc pichel red well thing out pour
      ‘This jar doesn’t pour well’

   b. *i pichel kaa tuiji jita yeu to’oja
      DET loc pichel red well thing out pour
      ‘This jar doesn’t pour well’
3.13. The instrumental subject transformation

(45) a. uka mesa-tame \textit{tajo'ri-me} patta
    \textit{Det ACC table-ACC} sheet-COM
    ‘I’m covering the table with a sheet’

b. \textit{u tajo'ri} mesa-ta patta-la
    \textit{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 \textit{muak-\textsc{e}-k}
    \textit{DET dog} die\textsc{(SG)-INTER-REAL}
    ‘The dog died’

b. Mercedes chu’u-\textsc{a} \textit{muuch-\textsc{a}-k}
    Mercedes dog\textsc{-ACC} die\textsc{-TR-REAL}
    ‘Mercedes’s dog died’

4.2. Psychological stimulus object

(47) a. Peo \textit{Juan-ta-mak o’-\textsc{om-te}}
    Peo \textit{Juan-\textsc{ACC} COM} read\textsc{-angry-REAL}
    ‘Peo is angry at Juan’

b. \textit{Peo Juan-\textsc{ta} o’-\textsc{om-ta}}
    Peo \textit{Juan-\textsc{ACC} COM} read\textsc{-angry-REAL}
    ‘Peo is angry at Juan’

Other verbs like this are \textit{majox} ‘fear’, coche/\textsc{athwa} ‘laugh’.

4.3. The ‘\textit{yeew}’ alternation

(48) a. Juan \textit{yeew-e}
    Juan play\textsc{-TR}
    ‘Juan is playing’

b. \textit{Juan pelootam-poyeew-e}
    Juan ball\textsc{-ACC} play\textsc{-TR}
    ‘Juan is playing soccer’

4.4. Object incorporation

(49) a. \textsc{transitive} verb forma
    kota-\textit{m} chuk-ta
    wood\textsc{-PL} cut\textsc{-TR}
    ‘chop wood!’

b. \textsc{intransitive} verb forma
    kota-\textit{chuk-\textsc{e}}
    wood-cut\textsc{-INTR}
    ‘chop wood!’

Not fully productive:

(50) a. \textsc{transitive} form
    kuchu-ta beak-ta
    fish\textsc{-ACC} slice\textsc{-TR}
    ‘Slice the fish’

b. \textsc{intransitive} form
    *kuchu-beak-\textsc{e}
    fish-slice\textsc{-INTR}
    ‘Slice the fish’

4.5. Resultative –\textsc{ri}

Quite productive:

(51) a. Maria mansana-\textsc{ta} bwa’a-\textsc{ka}
    Maria apple\textsc{-ACC} eat\textsc{-TR}
    ‘Maria has eaten the apple’

b. U mansana bwa’a-\textsc{ri}
    \textit{DETER MINI} apple eat\textsc{-RES}
    ‘The apple is gone (eaten)’

4.6. Passive suffix –\textsc{wa}

Fully productive:

(52) a. \textsc{transitive} verb root
    U mansana bwa’a-wa-k
    \textit{DETER} apple eat\textsc{-PASS-REAL}
    ‘The apple has been eaten’

b. \textsc{intransitive} verb root
    in cantina-pohkisi ji-ji-bwa-wa
    here cantina\textsc{-LOC} good very food\textsc{-PASS-REAL}
    ‘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., -\textsc{wa}, -\textsc{ta})
(b) quite productive: verbal suffixes (e.g., -\textsc{ria}, -\textsc{ri})
(c) semi-productive: verbal suffixes (e.g., middle -\textsc{tu}, noun incorporation, reflexivization, caus-incho, etc.)
(d) rather idiosyncratic: preposition dropping, ‘search’ alternation

Morphological alternations

Equivalent (adding –\textsc{te}/\textsc{ta}) is very common. However, all morphological alternations appear to be lexically determined (they depend on the verb).

Bibliography


1. Introduction

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 are 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. Nom 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.

2. Basics of morphosyntax of Sliammon Salish

2.1. The Internal Structure of Verbs

The following is a simplified schema of a verbal predicate:

\[
\text{[ROOT]}_1 - \text{RDPL-LS-APPL-TR/INTR}_2 - \text{OBJ-SBJ}_3 = \text{SBJ} = \text{CLT}_4
\]

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 ‘Oblique (OBL)'. Direct NPs are coreferential with the subject of intransitive predicates (S) and the object of transitive predicates (O).

\begin{align*}
\text{(2)} & \quad \text{q'aq'a - tª= cuy'}
\text{hungry - DET= child} \\
& \quad 'The child is hungry.' \\
\text{(3)} & \quad \text{tuy§ap-t-0-as tª= saLtxW}
\text{follow-CTR-3OBJ-3ERG DET= woman} \\
& \quad 'He followed the woman.' \\
\end{align*}

\begin{align*}
\text{(4)} & \quad \text{ya§p'-ªxW-0-as tª= mªmk'ayustªn}
\text{break-NTR-3OBJ-3ERG DET= rock} \\
& \quad 'He broke the window with the stone.' \\
\text{(5)} & \quad \text{hu-h-uL =c kW= tiskWat sjasuL}
\text{go-EPEN-PAST DET= place.name DET= yesterday} \\
& \quad 'I went to Powell River yesterday.'
\end{align*}
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) hay-2am =c \( \varepsilon \) ?æ- k""ax"a
make-A.INTR =1SG.INDC.SBJ OBL= DET= box
'I will make a box.'

(8) hay-2am-θi =f am
make-IND-CTR+2SG.OBJ =1SG.INDC.SBJ+FUT OBL= DET= fish
'I will give you a fish.'

Relativization of Oblique Objects

(10) ?ay-sx"-mut =c \[tσ = poču \[hay-2am-θ-ə=-s\]c\]v
good-CAU-very =1SG.INDC.SBJ DET= basket make-IND-CTR+1SG.ØB-PAST-3POSS
'I like the basket she made for me.'

(11) ?ay-sx"-mut =c \[hσ = [xanà-θ-w=ap]c\]v
good-CAU-very =1SG.INDC.SBJ DET= give-CTR+1SG.ØB-PAST-2PL.POSS
'I really like the one you (pl.) gave me.'

Relativization of Oblique Adjuncts

(12) ?ay-sx"-mut-as \[hσ = [xanà-θ-w=ap]c\]v
good-CAU-very-3ERG DET= house NOM= go-PAST-3POSS
'He likes the house to which he went.'

(13) tαx"=n[ʊ]x" =c \[k"= [x" = [thu-θ-tw=ap]c\]v
find.out-NTR(5TV) =1SG.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. Unsuffixed (Bare root)

"Unsuffixed" refers to forms that are not suffixed 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. Unsuffixed verbs are of two types: agentive and non-agentive. Only about twenty Unsuffixed forms are agentive.

Agentive Unsuffixed verbs:


The subject of Agentive Unsuffixed verbs are the agent of the act denoted by the root.

(14) ?itom =f am
eat =1SG.INDC.SBJ+FUT
'I will eat.'

(15) k‘ulta =f am
borrow =1PL.INDC.SBJ+FUT OBL= DET= wheelbarrow
'We will borrow your wheelbarrow.'

The majority of Unsuffixed verbs are non-agentive.

(16) ṭap’ =čan
chib =1SG.INDC.SBJ
'I got clubbed.'

(17) ṭap =O ta= ṭapay’
chib =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.

The roots Ḳu and Ḳθ appear to be basically interchangeable with no discernible difference in the meaning.
(18) %n%g-va-%m = %%g t- = tumiS
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) %n%g-va-%m = %xw §m = t- = janxw
wash- A.INTR =2SG.INDC.SBJ OBL = DET= fish

'Wash (Clean) the fish!'

The **Middle** suffix -%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) 'x%ay-%m = pa%m
dive-MDL =1SG.INDC.SBJ+FUT

'I will dive.'

(21) k'Wit'F-im t- = mimaw'
jump-MDL

'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 Middles" (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.

<table>
<thead>
<tr>
<th>Locational Middle</th>
<th>related forms</th>
</tr>
</thead>
<tbody>
<tr>
<td>niS-%m'</td>
<td>'be on this side'</td>
</tr>
<tr>
<td>sa%t-%m</td>
<td>'up above; the top shelf; the upper bed of a bunk bed'</td>
</tr>
<tr>
<td>0%h-%m</td>
<td>'be on the other side'</td>
</tr>
<tr>
<td>2as%l.'aq%-%m</td>
<td>'be outside'</td>
</tr>
<tr>
<td>0%x%t-%m</td>
<td>'be far behind, (be) behind'</td>
</tr>
<tr>
<td>hiwi-%m</td>
<td>'before, (be) in front of (?)'</td>
</tr>
</tbody>
</table>

With some Non-agentive Unsuffixed verbs, the Middle suffix attains the meaning 'susceptible to ..., easy to ...' (indicated as 'easy to' in the Appendix):

<table>
<thead>
<tr>
<th>New suffix</th>
<th>Unsuffixed form</th>
</tr>
</thead>
<tbody>
<tr>
<td>q%tx-%m</td>
<td>'easy to burn, easily catches fire'</td>
</tr>
<tr>
<td>yay%p-%m</td>
<td>'get scared easily'</td>
</tr>
<tr>
<td>e%px-%m</td>
<td>'easy to get dirty'</td>
</tr>
<tr>
<td>k%ax-%m</td>
<td>'easy to catch fire'</td>
</tr>
<tr>
<td>0%px-%m</td>
<td>'easy to break [in two], easily get broken; fragile'</td>
</tr>
<tr>
<td>p%ax-%m</td>
<td>'easy to flatten, burst'</td>
</tr>
<tr>
<td>tsk%-%m</td>
<td>'easy to bounce; bouncy'</td>
</tr>
</tbody>
</table>

Middle stems with susceptible meanings

2.3.3. Transitive markers

There are four suffixes that mark the verb form as bivalent transitive: -t "Control transitive" (CTR), -%g "Noncontrol transitive" (NTR), -%stg "Causative" (CAU), and -VS. (The last one, -VS, attaches to a limited number of roots, mostly in complementary distribution with the CTR -t.) 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'u%t%u-a-%t-0-as
shoot-LV-CTR-3OBJ-3ERG

'He shot at it.'

(22b) t'u%t%u-%x%-%0-as
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 is 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.

3 The loss of ? in the related forms regularly occurs, but it needs further investigation as regards its precise conditions.

4 I do not have an explanation for the glottalization on the root resonant and the change of the vowel from the unsuffixed form.
2.3.3.2. Causative

The Causative -stg 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

<table>
<thead>
<tr>
<th>Unsuffixed form</th>
<th>Causative</th>
</tr>
</thead>
<tbody>
<tr>
<td>ṭitom</td>
<td>‘feed him (make him eat)’</td>
</tr>
<tr>
<td>ṭadux</td>
<td>‘make him enter’</td>
</tr>
<tr>
<td>ṭowad</td>
<td>‘make him embark, load it aboard’</td>
</tr>
</tbody>
</table>

2.3.4. Extended transitive (applicatives)

There are two productive applicative suffixes in Sliammon: the Indirective -§ªm (or -a§am) and the Relational -mi.

The Indirective suffix (IND) -§ªm 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.

<table>
<thead>
<tr>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>fap-§ªm-t</td>
<td>‘bathe (s.o.) for him’</td>
</tr>
<tr>
<td>k'Wit'F-im-(m)i-t</td>
<td>‘jump for / towards it’</td>
</tr>
<tr>
<td>jªT'-mi-t</td>
<td>‘run towards him’</td>
</tr>
<tr>
<td>-§ªm-t</td>
<td>‘run’</td>
</tr>
<tr>
<td>q'ªtxW-a§am-t</td>
<td>‘burn (s.t.) for him’</td>
</tr>
<tr>
<td>qas-mi-t</td>
<td>‘laugh at him’</td>
</tr>
<tr>
<td>q'ªtxW-a-t</td>
<td>‘burn it’</td>
</tr>
<tr>
<td>k'Wit'F-im</td>
<td>‘jump’</td>
</tr>
<tr>
<td>qas-§ªm</td>
<td>‘laugh’</td>
</tr>
<tr>
<td>jªT'</td>
<td>‘run’</td>
</tr>
<tr>
<td>jªT'-mi</td>
<td>‘run’</td>
</tr>
<tr>
<td>yªc'-§ªm-t</td>
<td>‘fill (s.t., e.g. bucket) for him’</td>
</tr>
<tr>
<td>yoq'-§ªm-t</td>
<td>‘fill (s.t.) which bears a relation to him’</td>
</tr>
<tr>
<td>yªc'-§ªm</td>
<td>‘be full, be filled up’</td>
</tr>
<tr>
<td>jªT'</td>
<td>‘run’</td>
</tr>
<tr>
<td>jªT'-§ªm-t</td>
<td>‘run for him’</td>
</tr>
<tr>
<td>jªT'-mi</td>
<td>‘run’</td>
</tr>
<tr>
<td>yªc'-§ªm</td>
<td>‘be full, be filled up’</td>
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<tr>
<td>jªT'-mi-t</td>
<td>‘run’</td>
</tr>
<tr>
<td>yªc'-§ªm-t</td>
<td>‘fill (s.t.) which bears a relation to him’</td>
</tr>
<tr>
<td>yªc'-§ªm</td>
<td>‘be full, be filled up’</td>
</tr>
</tbody>
</table>

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”). 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"-t-Ø = çan =s¬m
eat-CTR-3OBJ =1SG.INDC.SBJ =FUT ‘I will eat it.’

(23b) mak"-t-Ø = çan =s¬m
ta = Janx"
et=CTR=3OBJ =fis 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’ is the same, qay’. 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 Unsuffixed 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

<table>
<thead>
<tr>
<th>Class</th>
<th>Unsuffixed/Middle</th>
<th>Transitive</th>
<th>Causative</th>
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<tr>
<td>Class I</td>
<td>✓</td>
<td>*</td>
<td>✓</td>
</tr>
<tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Class III</td>
<td>✓</td>
<td>✓</td>
<td>*</td>
</tr>
<tr>
<td>Class IV</td>
<td>*</td>
<td>✓</td>
<td>*</td>
</tr>
</tbody>
</table>

5 It should be pointed out that the sole case marker, the Oblique §ª, 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: Unsuffixed/Middle - *Transitive - Causative
Class I is characterised by the alternation between Unsuffixed/Middle and Causative, but not allowing Transitive.

4.1.1. Subclass Ia
The verbs in Subclass Ia are avelent verbs. Verbs of weather belong to this subclass: ć'ot 'rain', ʔaxʷ 'snow'. Some weather verbs in this subclass show regular alternation; for example, niʔaxιtʰ ‘cloudy’, niʔaxιtʰ-ʔm ‘it becomes cloudy' (with the Middle suffix).

4.1.2. Subclass Ib
Subclass Ib shows Non-agentive Unsuffixed forms and Causative forms.

4.1.3. Subclass Ic
Subclass Ic shows Agentive Unsuffixed 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: Unsuffixed/Middle - Transitive - Causative
Class II is characterised by the alternation between Unsuffixed/Middle, Transitive, and Causative.

4.2.1. Subclass IIa
This subclass is problematical and may be further divided. However, the characteristic shown by 'BURN' warrants a (sub)class; it clearly shows Non-agentive Unsuffixed - Transitive - Causative alternation. (See also under Subclass IIIb.)

4.2.2. Subclass IIb
The verbs in Subclass IIb show Agentive Unsuffixed - 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 IIa ('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. Class III
Alternation: Unsuffixed/Middle - Transitive - *Causative
Class III is characterised by the alternation between Unsuffixed/Middle, Transitive, but not allowing Causative.

4.3.1. Subclass IIIa
The verbs in Subclass IIIa show Non-agentive Unsuffixed - Middle - Transitive alternation. This alternation shows that Non-agentive Unsuffixed - Transitive alternation, which is equivalent to 'inchoative-causative' alternation, and the "middle" alternation is possible with the same verb in Sliammon. 6

(24a)  
χayp =č  
starkə =1SG.INDC.SBJ  
'I got startled.'

(24b)  
χay'p-ʔm =Ø  
kitlin  
kitlin  
'Katherine gets scared easily.'

(24c)  
χayp-ʔi =č  
startə-MDL =3INDC.SBJ  
PERNAME  
'I scared you.'

4.3.2. Subclass IIIb
The verbs in Subclass IIIb show Non-agentive Unsuffixed - Transitive alternation. The verbs depicting motion ('GO', 'RUN') and location ('exist', 'CLIMB (up)') render associative meaning with the Causative ('run with X') or location ('be on top').

4.3.3. Subclass IIIc
The verbs in Subclass IIIc show Middle - Transitive alternation.

4.4. Class IV
Alternation: *Unsuffixed/Middle - Transitive - *Causative
Class IV is characterized by allowing Transitive but not Unsuffixed/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 Unsuffixed forms).

6 See Levin (1993: 26) for discussion on the middle alternation and the causative/inchoative alternation.
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 Unsuffixed or Middle forms.

4.4.2. Subclass IVb
The verbs in this subclass show the Transitive forms but not the Unsuffixed 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 Sliammon), 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 Sliammon 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 Sliammon is in line with the latter analysis.

Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<td>STV</td>
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</tbody>
</table>

Honoré Watanabe
### References


### Appendix: Valency alternations in Sliammon Salish

#### Abbreviations and symbols used in the table

- (RDPL) indicates that the form is without the suffix of that column but a reduplicated form of the root fits in that column; (w/RDPL) indicates that the suffix in question attaches to the reduplicated form.
- (E) indicates that the (unsuffixed) form is a noun.
- (w/MDL) indicates that the forms are built on the Middle form and the Stative form, respectively.
- (w/STV) indicates that the forms are built on the Stative form and the Middle form, respectively.
- (A) indicates that the form is under another “meaning label”; e.g., the form qªy-t (die-CTR) is found at the label ‘KILL’.
- (P) indicates that the form (the Unsuffixed root form or in other columns, the form with the root and the suffix) is attested.
- (w/MDL) and (w/STV) 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.
- *no* indicates that the form was rejected by the language consultants.
- (w/MDL) indicates that the forms are built on the Middle form and the Stative form, respectively.
- (RDPL) indicates that the form is without the suffix of that column but a reduplicated form of the root fits in that column; (w/RDPL) indicates that the suffix in question attaches to the reduplicated form.
- (E) indicates that the (unsuffixed) form is a noun.
- (w/MDL) indicates that the forms are built on the Middle form and the Stative form, respectively.
- (w/STV) indicates that the forms are built on the Stative form and the Middle form, respectively.
- *no* indicates that the form was rejected by the language consultants.
- ---- indicates that the form has not been attested.
- *no* indicates that the form was rejected by the language consultants.
- (w/MDL) indicates that the forms are built on the Middle form and the Stative form, respectively.
- (RDPL) indicates that the form is without the suffix of that column but a reduplicated form of the root fits in that column; (w/RDPL) indicates that the suffix in question attaches to the reduplicated form.
- (E) indicates that the (unsuffixed) form is a noun.

#### Table of Valency Alternations in Sliammon Salish

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<th>#</th>
<th>ID</th>
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<th>verbal form</th>
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Honoré Watanabe  MPI-EVA, Apr. 14-17, 2011
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The Relational Applicative form qWay-sxW has a lexicalized meaning: (A) to talk to P.

The Active-intransitive form qWi-qWay-sxW means (A) to talk to P, i.e. "(A) to make P talk".

The Causative form qWay-sxW means (A) to make P talk.

The Middle form jªT'-sxW means (A) to make P run. The Noncontrol Reflexive form jªT'-sxW means (A) to make P run. The Noncontrol form jªT'-sxW means (A) to make P run.

The Control form jªT'-sxW means (A) to make P run.

The Causative forms qWi-qWay-sxW and tuq'Wt-sxW have both been attested with the meaning: (A) make P cough. The latter is more common than the former.

The Middle forms jªT'-sxW and tuq'Wt-sxW have been attested with the meaning: (A) make P cough.

The Active-intransitive form qWay-sxW means (A) to make P talk. The meaning "A to talk to P" is expressed in the Causative form but with an idiosyncratic CV-reduplication, qWi-qWay-sxW and tuq'Wt-sxW.

The Middle forms jªT'-sxW and tuq'Wt-sxW have been attested with the meaning: (A) make P cough.

The Causative forms qWi-qWay-sxW and tuq'Wt-sxW have been attested with the meaning: (A) make P cough. The latter is more common than the former.

The Middle form tuq'W-um-sxW has both been attested with the meaning: (A) make P cough. The latter is more common than the former.

The Middle forms jªT'-sxW and tuq'Wt-sxW have been attested with the meaning: (A) make P cough. The latter is more common than the former.

The Causative form qWi-qWay-sxW means (A) to talk to P. The meaning "A to talk to P" is expressed in the Causative form but with an idiosyncratic CV-reduplication, qWi-qWay-sxW and tuq'Wt-sxW.

The Causative form qWi-qWay-sxW means (A) to talk to P. The meaning "A to talk to P" is expressed in the Causative form but with an idiosyncratic CV-reduplication, qWi-qWay-sxW and tuq'Wt-sxW.

The Middle forms jªT'-sxW and tuq'Wt-sxW have been attested with the meaning: (A) make P cough. The latter is more common than the former.

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Semantic patterns underlying syntactic alternations cross-linguistically

Søren Wichmann
MPI-EVA / LeidenUniversity

<table>
<thead>
<tr>
<th>Possibilities for investigation: cluster phenomenon A by phenomenon B</th>
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<tbody>
<tr>
<td><strong>Languages</strong></td>
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<tr>
<td>Micro-roles</td>
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No meaningful results for classifying alternations through the verbal concepts that they apply to

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Meaningful results for classifying verbal concepts according to alternations that they occur in

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<tr>
<td>Alternations</td>
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<td>X</td>
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Data

**SUFFICIENT ATTESTATIONS:**
- 87 verbal concepts
- 143 alternations
- 12 languages: Ainu, Arabic, Bezhta, Bora, Chintang, Hocank, Icelandic, Italian, Jakarta Indonesian, Mandinka, Nu, Zenzontepec Chatino

Distance-based clustering

<table>
<thead>
<tr>
<th></th>
<th>be ill</th>
<th>break</th>
<th>eat</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ainu Subject-Oriented</strong></td>
<td>4</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>Chintang Benefactive</strong></td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Italian Reciprocal</strong></td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

**DISTANCES**

<table>
<thead>
<tr>
<th></th>
<th>be ill</th>
<th>break</th>
<th>eat</th>
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<tbody>
<tr>
<td>be ill</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>break</td>
<td>66%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>eat</td>
<td>66%</td>
<td>66%</td>
<td></td>
</tr>
</tbody>
</table>
NeighborNet of concepts by alternations

Multi-Dimensional Scaling

Neighborjoining of concepts by alternations

Clearest result: NeighborNet
A character-based method seems preferable

<table>
<thead>
<tr>
<th></th>
<th>be ill</th>
<th>break</th>
<th>eat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ainu Subject-Oriented Reciprocal</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Chintang Benefactive</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Italian Reciprocal Reflexive</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

Results for Wagner parsimony

,'Wagner parsimony'

- Treats characters (here verbal concepts) as if they evolve within a phylogeny
- Reconstructs the tree (or several trees) that most parsimoniously account for the changes observed

The way forward

- Classify concepts by the constructions they occur in cross-linguistically
- Identify clusters
- List semantic parameters that are responsible for clusters
- Replicate the main features of the classification
Examples of possible semantic features

- (potentially) uncontrolled movement
- temperature involved
- (potentially) controlled movement whole
- internally induced emotion
- suffrance
- 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

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 alteration types probably only possible using cross-linguistic data
- Hope that we can discern some maximally salient semantic features

<table>
<thead>
<tr>
<th>verb</th>
<th>code</th>
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<tr>
<td>appear</td>
<td>00100000..</td>
</tr>
<tr>
<td>ask_for</td>
<td>00000011..</td>
</tr>
<tr>
<td>beat</td>
<td>00000000..</td>
</tr>
<tr>
<td>be_a_hunter</td>
<td>00000000..</td>
</tr>
<tr>
<td>be_dry</td>
<td>01001000..</td>
</tr>
<tr>
<td>be_hungry</td>
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</tr>
<tr>
<td>be_ill</td>
<td>00001000..</td>
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<tr>
<td>be_sad</td>
<td>00011000..</td>
</tr>
<tr>
<td>blink</td>
<td>10000000..</td>
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</tbody>
</table>

Columns:
1. (potentially) uncontrolled movement
2. temperature involved
3. (potentially) controlled movement whole
4. internally induced emotion
5. sufferance
6. controlled non-movement
7. animate R
8. mildly impacted animate P/R, no contact
Valency classes in Mapudungun

Fernando Zúñiga
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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, Aucaracan Region) and Curita (Arauco Province, Biobío Region). I checked most data with different speakers—including some of the neighboring Lakanquén dialect,—but my year-long collaborator León Lienlaf deserves special mention because we went through the Valency Classes questionnaire (cf. Section 3.1) in great detail.1

The paper is organized as follows. Section 2 summarizes the basic aspects of Mapudungun morphology. 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 morphology

This language has a fairly simple phonology and shows a rather simple nominal morphology on the one hand and a rich polysynthetic concative (predominantly suffixing) verbal morphology on the other.2 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 -ı, subjunctive -ı or imperative -ı), a person marker (4 ‘1’, -ı ‘2’ or -ı ‘3’), and a number marker (-ı ‘SG’, -ı ‘DU’ or -ı ‘PL’). (There are few portmanteau markers encoding both person and number, and sometimes also mood, e.g. -ı ‘SEG.BD’ instead of expected -ı ‘IH’.) 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 format: sometimes the second participant is understood as 2SG by default, and on occasion only its person, but not its number, is explicitly marked via suffixion.3 There is one suffix that encodes definiteness or and another that cross-references a differentially marked object (β), and other formations express future tense (-a), habitual aspect (κ), ruped implicature (κβ), and hearsay evidentiality (κηε), among other categories. On the derivational side, a number of morphological processes correspond to valency-changing operations (passive -γε, causative -ı or -ı, applicative suffixation of -ı or -ı, applicative serialization with τ ‘take’ or ye ‘carry’, reflexive -ı, and nominal incorporation), whereas others express space-related values (interlocutive -ı, translative -ı, andative -ı, serialization with τ ‘ascend’ or neg ‘descend’, etc.).4

Clauses with bivalent and trivalent verbs come in two guises, viz. direct and inverse. Roughly, interactions with S[peeech] A[ct] P[articipant] A[gentive] arguments and 3rd person P/R (patientiverecipient-like) arguments are invariably direct while those with SAP/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 S (Zúñiga 2010b). Inverse verb forms take the inverse suffix -ı, have a SAs and P/R PAs, and never take the DOM-β. 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” OBSERVATIVE 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 main spatial notions (preposed pu ‘in’, ina ‘near’, mütche ‘beneath’, wente ‘above’, furitu ‘behind’, putima ‘in front of’, ngrego ‘without’; postposed πide ‘towards’, by’, kata ‘since’), there is a semantically unspecified postposition mew—it can also appear as suffixed/ecliticized mu mew—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

1 I am indebted to the Swiss National Science Foundation (Grant 10813-125811) and the EuroBABEL program of the European Science Foundation for making this research possible.

2 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 Argentine, the same convention is utilized, but τ is used instead of τ to represent the vowel [i].) The usual citation form of Mapudungun verb is the so-called infinitive characterized by the suffix -ı, and I have followed the widespread practice of giving its surface form when mentioning verbs; in most cases, the τ preceding this suffix is epenthetical (an exception being e.g. lātki ‘be sad’, where τ is the stem-final vowel).

3 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 referential NP in the clause but distinguish singular, dual, and plural if the argument is covert.

4 Nonfinite verb forms invariably replace the morphology encoding mood and person/number of the PA by a specific ending (-ı, -ı, and -ı, among others); the PA is expressed via a verb-external possessive or personal pronoun. In addition, their aspect-temporal inflectional potential is restricted when compared with matrix verbs.
context. Examples follow (note that independent pronouns are usually only used for focusing/disambiguating purposes):

| 1 | a. (fāte) pe-β-β the shaman. | 1 sg see-3 pl-1sg.ind art shaman | ‘i saw the shaman.’ |
| 2 | b. (fāte) pe-β-β the shaman. | 1 sg see-3 inv-1sg.ind-3a art shaman | ‘the shaman saw me.’ |

2. Elu-β-β kite manhug.  
give-3 pl-3 ind one ox  
‘s/he (prox) gave her/him (obj) an ox.’  

| 3 | a. Amu-β-β Trolten mew.  
go-fut-1sg.ind t. PPos | ‘i will go to Trolten.’ (Augusta 1903:128) |
| 3 | b. Kīpα-β-β Trolten mew.  
come-1sg.ind t. PPos | ‘i came from Trolten.’ (Augusta 1903:128) |
| 3 | c. Longko mew ni-ε-β-β mew.  
head PPpos take-inv-ind-3 aA | ‘s/he (obj) took her/him (prox) by the head.’ (Augusta 1903:135) |
| 3 | d. Mizongka-pu-β-β kite karōt mew.  
hit-trans-3 pl-3 ind one A stick PPpos | ‘s/he (prox) hit her/him (obj) with a stick.’ (Augusta 1903:128) |

3. The valency patterns of Mapudungun

As noted in Golluscio (2010), most nonderived verbs are syntactically alvent (e.g. manwín ‘min’), monovalent (e.g. akan ‘arrive here’), bivalent (e.g. nién ‘have’), or trivalent (e.g. òun ‘give’). There are few labile verbs, notably some ambitransitives (either agentive, like kúndun ‘work (on)’, or patientive, like waron ‘break’) and some ambitransitivites (e.g. pín ‘say’, which optionally expresses the R argument). Even though some alvent/monovalent verbs cannot be causativized or applicativized (e.g. mīlén ‘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 sōkun P (X mew) | 1-causative of sōkun |
| 2 | b. fills P (with X) | A sōpul P (X mew) | 1-causative of sōpul |
| 3 | c. loads T (onto L) | A chuchumil L (T mew) |
| 4 | d. ties P (to L) (with I) | A nārin P (L mew) |
| 5 | e. pours T somewhere (L) | A wāturutan T (L mew) | (also wāturan) |
### 3.2 Aental 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 kūrițuk ‘become windy’, mawiggin ‘rain’, yuwa ‘hail’, and piren ‘snow’. (The participle of the latter predicate can appear in NPs, e.g. piren wingkig ‘snowy hill’.) The verbs pugin ‘get dark, become night’ and wūgin ‘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:

1. **Mawig-ŋ-i-Ø.**
   - rain-ind-3
   - ‘It rained.’ (p.k.)
2. **Mawig-ŋu-ŋu-i-ŋu-Ø?**
   - rain-apple-3gs-ind-2sg
   - ‘Did you (sg) get rained on while coming here?’ (Augusta 1916: 133)
3. **Kūrițuk-ŋu-mawig-ŋ-i-Ø.**
   - wind-putrain-ind-3
   - ‘It stormed (lit. rained with wind).’ (Augusta 1916: 107)

### 3.3 Monovalent verbs

The arguments of undervived monovalent predicates can be animate or inanimate, volitional or nonvolitional, etc. They index the PA, which can be covert or overt. Examples follow:

1. **Kude-ŋ-Ø ti pu pichi wenu.**
   - play-ind-3 ART pl. little man
   - ‘The boys played.’
2. **La-i-Ø ti domu.**
   - 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 ṭafon / waron ‘break’ and others like wirarin ‘scream, shout’ (at):

### Table 1: Verbs by sense

| Sense | English | Ik Code | Example
<table>
<thead>
<tr>
<th></th>
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<th></th>
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<tbody>
<tr>
<td>Sings</td>
<td>S ikkantun</td>
<td>S</td>
<td>S sings</td>
</tr>
<tr>
<td>Lives somewhere (L)</td>
<td>S mülun (L mow)</td>
<td>S</td>
<td>S lives somewhere (L)</td>
</tr>
<tr>
<td>Appears</td>
<td>S urful (L mow)</td>
<td>S</td>
<td>S appears</td>
</tr>
<tr>
<td>Dies</td>
<td>S jan</td>
<td>S</td>
<td>S dies</td>
</tr>
<tr>
<td>Falls</td>
<td>S umun (L mow)</td>
<td>S</td>
<td>S falls</td>
</tr>
<tr>
<td>Is cold</td>
<td>S wūren</td>
<td>S</td>
<td>S is cold</td>
</tr>
<tr>
<td>Is hungry</td>
<td>E ngițițun</td>
<td>E</td>
<td>E is hungry</td>
</tr>
<tr>
<td>(10) rain</td>
<td>mawin</td>
<td>mawin</td>
<td>(10) rain</td>
</tr>
<tr>
<td>Gets T (from X)</td>
<td>R bowi T</td>
<td>ma-applicative to accommodate X</td>
<td>R gets T (from X)</td>
</tr>
<tr>
<td>Cries</td>
<td>S ngițițun</td>
<td>S</td>
<td>S cries</td>
</tr>
<tr>
<td>Makes P (out of X)</td>
<td>A ewesman P (X mow)</td>
<td>A</td>
<td>A makes P (out of X)</td>
</tr>
<tr>
<td>Thinks about X</td>
<td>A rakudumun (X mow)</td>
<td>A</td>
<td>A thinks about X</td>
</tr>
<tr>
<td>Searches for X</td>
<td>A kūntun X</td>
<td>A</td>
<td>A searches for X</td>
</tr>
<tr>
<td>Hugs P</td>
<td>A niflumun P</td>
<td>A</td>
<td>A hugs P</td>
</tr>
<tr>
<td>Feels pain in M</td>
<td>E kūntumun poss M / E kūntumun-M-n</td>
<td>E</td>
<td>E feels pain in M</td>
</tr>
<tr>
<td>Is sad</td>
<td>E ṭūun</td>
<td>E</td>
<td>E is sad</td>
</tr>
<tr>
<td>Is sick</td>
<td>S kūntum-kwle-n</td>
<td>S</td>
<td>S is sick</td>
</tr>
<tr>
<td>Is dry</td>
<td>S amgul-le-n</td>
<td>S</td>
<td>S is dry</td>
</tr>
<tr>
<td>Laughs</td>
<td>S apun</td>
<td>S</td>
<td>S laughs</td>
</tr>
<tr>
<td>Burns</td>
<td>S kiți-kwle-n</td>
<td>S</td>
<td>S burns</td>
</tr>
<tr>
<td>Blows</td>
<td>S iți-kwle-n</td>
<td>S</td>
<td>S blows</td>
</tr>
<tr>
<td>Is a hunter</td>
<td>S ogowamun</td>
<td>S</td>
<td>S is a hunter</td>
</tr>
<tr>
<td>Takes P (from X)</td>
<td>A mánn P</td>
<td>má-applicative to accommodate X</td>
<td>A takes P (from X)</td>
</tr>
<tr>
<td>Drinks (for X)</td>
<td>A nängun</td>
<td>X requires a second V in nonfinite form</td>
<td>A drinks (for X)</td>
</tr>
<tr>
<td>Peels (X off)</td>
<td>A oqìfijn P</td>
<td>X requires a second V in nonfinite form</td>
<td>A peels (X off)</td>
</tr>
<tr>
<td>Grinds P with D</td>
<td>A mîlun P (l mow)</td>
<td>A</td>
<td>A grinds P with D</td>
</tr>
<tr>
<td>Shaves (his beard/hair)</td>
<td>A psyutun</td>
<td>A</td>
<td>A shaves (his beard/hair)</td>
</tr>
<tr>
<td>Pushes P (somewhere (L))</td>
<td>A pyiuj P</td>
<td>L mow possibly unidirectional</td>
<td>A pushes P (somewhere (L))</td>
</tr>
<tr>
<td>Goes somewhere (L)</td>
<td>S amun (L mow)</td>
<td>S</td>
<td>S goes somewhere (L)</td>
</tr>
<tr>
<td>Rolls</td>
<td>A ṭuul</td>
<td>A</td>
<td>A rolls</td>
</tr>
<tr>
<td>Teaches R T</td>
<td>A kântum R T</td>
<td>A</td>
<td>A teaches R T</td>
</tr>
<tr>
<td>Screams</td>
<td>S wūrițun</td>
<td>S</td>
<td>S screams</td>
</tr>
<tr>
<td>Cooks P</td>
<td>A afumun P</td>
<td>m-causative of afum</td>
<td>A cooks P</td>
</tr>
<tr>
<td>Hears M</td>
<td>E ollumun</td>
<td>E</td>
<td>E hears M</td>
</tr>
<tr>
<td>Wants X</td>
<td>E aqumun X</td>
<td>E</td>
<td>A wants X</td>
</tr>
<tr>
<td>Sinks</td>
<td>S lari</td>
<td>S</td>
<td>S sinks</td>
</tr>
<tr>
<td>Rolls</td>
<td>S ṭwun</td>
<td>S</td>
<td>S rolls</td>
</tr>
<tr>
<td>Smells M</td>
<td>E nqamun</td>
<td>ta-applicative of nqam</td>
<td>E smells M</td>
</tr>
<tr>
<td>Dresses P</td>
<td>A jàłumun P</td>
<td>A</td>
<td>A dresses P</td>
</tr>
<tr>
<td>Shows at X</td>
<td>A wūrițun X</td>
<td>A</td>
<td>A shows at X</td>
</tr>
<tr>
<td>Builds P (out of X)</td>
<td>A amesman P (X mew)</td>
<td>A</td>
<td>A builds P (out of X)</td>
</tr>
<tr>
<td>Fits somewhere (L)</td>
<td>S umi-le-n (l mow)</td>
<td>S</td>
<td>S fits somewhere (L)</td>
</tr>
<tr>
<td>Left L</td>
<td>A ṭpmun (L mow)</td>
<td>A</td>
<td>A left L</td>
</tr>
<tr>
<td>Plays</td>
<td>S owițun</td>
<td>S</td>
<td>S plays</td>
</tr>
</tbody>
</table>

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1. There is some variation with wirarin ‘scream, shout’. According to Gollubico (2010), this predicate is monovalent and needs to be applicativized in order to take a nonagentive argument, viz. wirarin-ŋu-i-ŋu-Ø (about-appl3pf-1gs-ind-2sg) ‘I shouted at him’. Such a usage was confirmed by some of my Chelonian consultants in elicitation, but for most wirarin 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 Salar’s (2006) texts. Smeets (2008:577) explicitly notes that it is labile but mentions the applicativized form as meaning ‘shout at (someone far away)’.
(7) a. Rakidiam-i-Ø ti huke mew.
    think-INFL-3 3.3RS mother PPOS
    'S/he thought about her/his mother.'

b. Ti wernu rakidiam-ye-i-Ø ti wewipantu.
    ART mew think-APP-4-INFL-3 ART New.Year
    'The man thought about (the celebration of) New Year.'

(8) a. Tüfa ruka mew mële-i-Ø che.
    this house PPOS be-INFL-3 people
    'This house is inhabited.' (lit. there are people in this house) (Augusta 1916: 136)

b. Tsiaw-n Sütua mapa mew.
    come.from-1SGIND S. land PPOS
    'I come from Switzerland.'

Non-causeative motion verbs like konin ‘enter’ and nagin ‘descend’ are monovalent, and a goal participant can be expressed via a mew-phrase or via tu-applicativization (cf. 5.4):

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7 Giuluscio (2010: 727) mentions pin ‘say’ as belonging to the same class as ngilatan, 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 ambiditransitive.
`come` + `el causative` + `el applicative`), kinelín `teach` (sthg.) to (sbdy.)` (kin- `know` + `el causative`), and pengélín `show` (sthg.) to (sbdy.)` (pe- `see` + `el causative`; the apparently empty ng element might be the same as the one present in langlín `kif` and arengélín `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.\(^6\) Potentially complex NPs can follow the verb root(s) and reduce the syntactic valency of a bivalent predicate (11a). 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) (11b); it can also occur with dummy 3rd person marking and a monovalent verb root (11c):

(11a) a. Katrí-kachú-me-a-n.
cut-grass-and-cut-3SG.IND
`I will go to mow the grass / do some grass-mowing.` (Harmelink 1992: 129)

b. Waw-yaw-kaí-le-mi.
leak-nose-PROG-IND-2SG
`You (SG) have a bloody nose.` (Smeets 2008: 319)

c. Dewma pawa-tráuya-le anu-ta-a-n.
finished-arrive.that-evening-3.SSU go-back-PUT-3SG.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 eldingun `inform`, tell (sbdy.)` (elu- `give` + dingun `matter, issue`):

(12a) Ehu-dingû-a-b-n.
give-matter-PUT-3SG.IND
`I will inform him/her of it.` (Augusta 1916: 39)

4. Uncoded alternations

The ambitransitives trafón / watchon `break` and warítan `scream, shout (at)` were already mentioned in 3.3 above. The verb of melting strictly distinguishes valency following the default Mapudungun pattern (Iwón is patientive monovalent and m-causativized ñwíñ is bivalent), and others do so following a pattern possibly calqued from Spanish, e.g. reflexivized ngáwìn is patientive monovalent `open` while unreflexivized ngalan is either bivalent or agentive monovalent `open`. Since Mapudungun has a relatively small amount of lable verbs, it is perhaps not surprising that uncoded alternations are comparatively few as well. Golluscio (2010: 727) mentions some verbs that can be used either as bivalent or as trivalent predicates without coded alternations mediating between the two variants. Kullín `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):

(13a) a. Kullî-fi-n chi wëntu tañi waka mew.
pay-3P-1SG.IND ART man 1SG.PSR cow PP-S
b. Kullî-fi-n tañi waka chi wëntu.
pay-3P-1SG.IND 1SG.PSR cow ART man
Both: `I paid the man for my cow.` (Golluscio 2010: 728)

Ramûn `ask` appears to be different from kullín, since it can occur with or without an overt T argument, but not with a [T mew] constituent. Ngllátun `pray, beg, request` also differs from these two cases. First, it is derived (cf. ngllan `buy`); ramûn might be historically derived, but there is no underlying `ramûn` in the present-day language. Second, Golluscio (2010: 729) provides data showing that it can be monovalent (e.g. ngllátun-ñ iñche `I prayed`), bivalent (ngllátun-a-fí-m-i chaw `you (SG) shall pray to your father`), or trivalent (14b). Nevertheless, there seems to be variation here as well; Golluscio cites sentence (14b) (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 kullín `pay` in (13a) above:

(14a) a. Ngllátun-a-n kîñe msarío padre mew.
ask-FUT-1SG.IND one rosary priest PP-S
`I will ask a rosary from the priest.` (Augusta 1916: 62)

b. Ngllátun-fi-n pûchî kachûla tañí pûchê.
ask-3P-1SG.IND little wheat 1SG.PSR child.of.woman
`I (f) asked my son for some wheat.` (Golluscio 2010: 729)

c. Ngllátun-â-m-e-n mew ñí rosario.
ask-for-APPL2-1SG.IND-3A 1SG.PSR rosary
`S/he asked me for my rosary.` (Augusta 1916: 62)

Golluscio’s last example, viz. the pair arentu `borrow, rent` and arelin `lend`, is more complicated. The underlying predicate aren `get/be hot` exists but is unlikely root for the verbs just mentioned. Augusta (1916) also mentions aretu, which appears to be ambiditransitive, as Golluscio says—but note (15c), where the R participant is integrated into the clause via applicativization instead:

(15a) a. Arentu-a-n kîñe karetu.
borrow-FUT-1SG.IND one wagon
`I’ll borrow a wagon.` (Augusta 1916: 11)

b. Arentu-fi-n karetu tañí chaw.
borrow-3P-1SG.IND wagon 1SG.PSR father
`I borrowed a wagon from my father.` (Golluscio 2010: 729)

c. Arentu-â-m-e-n ñí kawell.
borrow-APPL2-3P-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 arengélín, but he notes that the former means `lend` (sthg.) to (sbdy.) while the latter means `lend` (sthg.):
(16) a. Arel-fl-n -pillata.
   lend1-3P-lSG.IND money
   'I lent him/her money.' (Augusta 1916: 11)
b. Arnegelìvin-ke-la-n -pillata mapunche mew.
   lend224AB-NEG-1SG.IND money M.
   'I do not lend money to the Mapuche.' (Augusta 1916: 11)

Arelin can appear either without the DOM-fl and only with an overt T argument in the clause, in which case it is syntactically monovalent, or with -fl, as in (16a) above, in which case it is trivalent. With respect to arengelìmin, 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 arengelìmin is not anomalous with respect to the linear order of its elements, ‘are’- should have been monovalent for it to be passivizable via -ne, 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 underlying 1sa- ‘die’ and causative langm- ‘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 -m.

5. Coded alternations

5.1 Reflexives and reciprocals

There is a morphological reflexive/reciprocal suffix -w (-aw after nonverbs) that occurs (i) only marginally with monovalent predicates (possibly a calque of teлизicarne 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 lelìn ‘look at oneself, look at each other’ (< lelìn ‘look at’) and elawiñ ‘give (sth.) to oneself, give (sth.) to each other’ (< dun ‘give’) are felicitous, but mintuwin (< mintunt ‘take away’) and arehwiñ (< arelin ‘lend’) only admit the reciprocal interpretations ‘take away from each other’ and ‘lend to each other’ respectively. See Golluscio (2010: 7428) for more details.

5.2 Passives

Mapudungun passives are obligatorily agentless. The verb takes the suffix -ne and indexes via person-number morphology the P argument of bivalent verbs and the R argument of trivalent predicates. Whether the pastivized stem is derived or nonderived, neither DOM nor inverse morphology can appear on the verb form. Examples follow:

(17) a. Elu-ne-n  ñqu  waka.
    give-PASS-1SG.IND two cow  
    'I was given two cows.'
‘k. bird’, which is the primary object in the applicativeized clause (i.e., it is coreferential with the verbal DOMr)6.

(18) Pu mapuche úyuntuku-lef-f-i-Ø keshkeshef øitung karipotro.
pi. M. name-APPL1-3P-IND-3 k. bird k. ‘The Mapuche call the keshkeshef bird karipotro.’ (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 rare, but it is found as well.

(19) Ehu-f-f-i-Ø salchu tafi getyi tafi fatum.
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 -ld, under specific phonological and lexical conditions. Golluscio (2010) prefers to treat -ld 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-le- ‘put, cover (sthg.)’ for (sbdy., y) (where -l is a clear applicative) and kádaw-l- ‘work for (sbdy., y) / make work’ (where -l is arguably an underspecified transitivizer) vs. kádaw-l- ‘work for (sbdy., y)’ (where -l is a clear applicative). The facts are more complicated, however; despite Golluscio’s claim that “-el 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. kádu- ‘feed’ (< l- ‘eat’). See Zúñiga (2009, 2010a, forthc., i.p.) for more details.

Applicativ2, 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-lef-f-i-Ø Juan ñi kwella.
buy-APPL1-3P-1SG.IND J. 3PSR horse
‘I bought a/the horse for / in order to give it to Juan.’

b. Ngilla-fatum-i-Ø Juan ñi kwella.
buy-APPL1-3P-1SG.IND J. 3PSR horse
‘I bought a/the horse from / on Juan.’

With derived trivalent verbs, -fáma seems to be the preferred applicativizing option and does not seem to have a clearly benefactive or malefactive interpretation:

(21) a. Weicie-fatum-fatam-i-mi waka tamii fatum.
steal-APPL1-2P-PASS-IND-2SG cow 2SG.PSR son.of.man
‘They stole your (MSG) son’s cow.’ (Salas 2006: 124)

b. Kiipa-fatum-fatam-i-mi kuram tamii fuke.
com-e-CAUS-APPL1-2P-PASS-IND-2SG egg 2SG.PSR mother
‘They brought eggs to your (SG) mother.’ (Salas 2006: 124)

With avalent and monovalent verbs, it has received separate treatment by other authors (e.g. Salas 2006 “participative” and Smeets 2008 “experience”). Even though the allomorphy conditions are admittedly more complex than with -l, there is enough evidence to regard the formative -ma (→ -ma) found with avalent and monovalent verbs as allomorph of the formative -(q)íma (→ -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. Biche akú-íma-n kíte kéme duŋu.
1SG arrivewhere-APPL2-1SG.IND one good matter
‘I received a nice message.’ (Smeets 2008: 302)

b. Biche af-ma-n kōke.
1SG end-APPL2-1SG.IND bread
‘I ran out of bread.’ (Smeets 2008: 302)

C. Biche konma-n trisúri ñi nge mow.
1SG enter-APPL2-1SG.IND dust 1SG.PSR eye PPSS
‘I got dust in my eye.’ (Smeets 2008: 302)

d. Fennge konma-a-i-u ale.
thus enter-APPL2-PUT-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. Chakú-íma-ín ti katruñ i lu.
sal-APPL2-3P-1SG.IND ART cut-NFIN meat
‘I put salt on the piece of meat.’ (Smeets 2008: 303)

b. Anti-íma-e-i-mow wokúñu.
stdown-APPL2-INV-IND-3-S3A demon
’S/he (PROXY) 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 -fáma 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. kakintu (tu- change (sthg.), deñma (ye-) make’); sometimes they might show some semantic shift (e.g. ríkufun ‘see’ vs. ríkufun ‘mend’, pen ‘see’ vs. peyen ‘picture’); tu- is reported by Augusta (1916) to de-transitiveize 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., y)’ place’, from kontun ‘enter’ and stimulus SAs to monovalent psych verbs (e.g. llunkut ‘get angry at’, from llun ‘get angry’). In turn, ye- typically adds topics of speech/thought to monovalent verbs (e.g. dunggun ‘speak about’, from dungun ‘speak’).

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6The bivalent verb úyuntuku ‘name (sthg.)’ is morphologically complex and consists of iy ‘name’ plus the infinitive tam ‘take’ and the root tik ‘put, cover’, but this is irrelevant for the suffixation of applicative -le.
6. Conclusions

Like in many other languages, the number of Mapudungun avental verbs and undervived trivalent verbs is relatively small. The language is basically transitivizing (Nichols et al. 2004), with several valency-increasing operations applying to undervived verbs in order to accommodate causals, as well as to both undervived and derived verbs to accommodate different nonagentic 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 skewed 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 indirect/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 dative coded nonbase participants instead of the causative and applicative strategies of Mapudungun. Even though Spanish preparations 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 mee—which is used rather rarely to introduce nonbase 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 able 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, APPR applicative, ART article, CAUS causative, CB causative, DOMr differential object marker, DE dual, F future, Fut future, HO3 habitual, ind indicative, INV inverse, INTF interruptive, MAN masculine, NEG negative, PA primary argument, PASS passive, PPV perfective, PL plural, PSV postposition, PROG progressive, PS possessor, SA secondary argument, SAP speech act participant, SUB subjunctive, SG singular, TEL telic, TRANS transitive, VBZ verbalizer

References