# Conditions and variation in pronominal indexing: The Alor-Pantar languages

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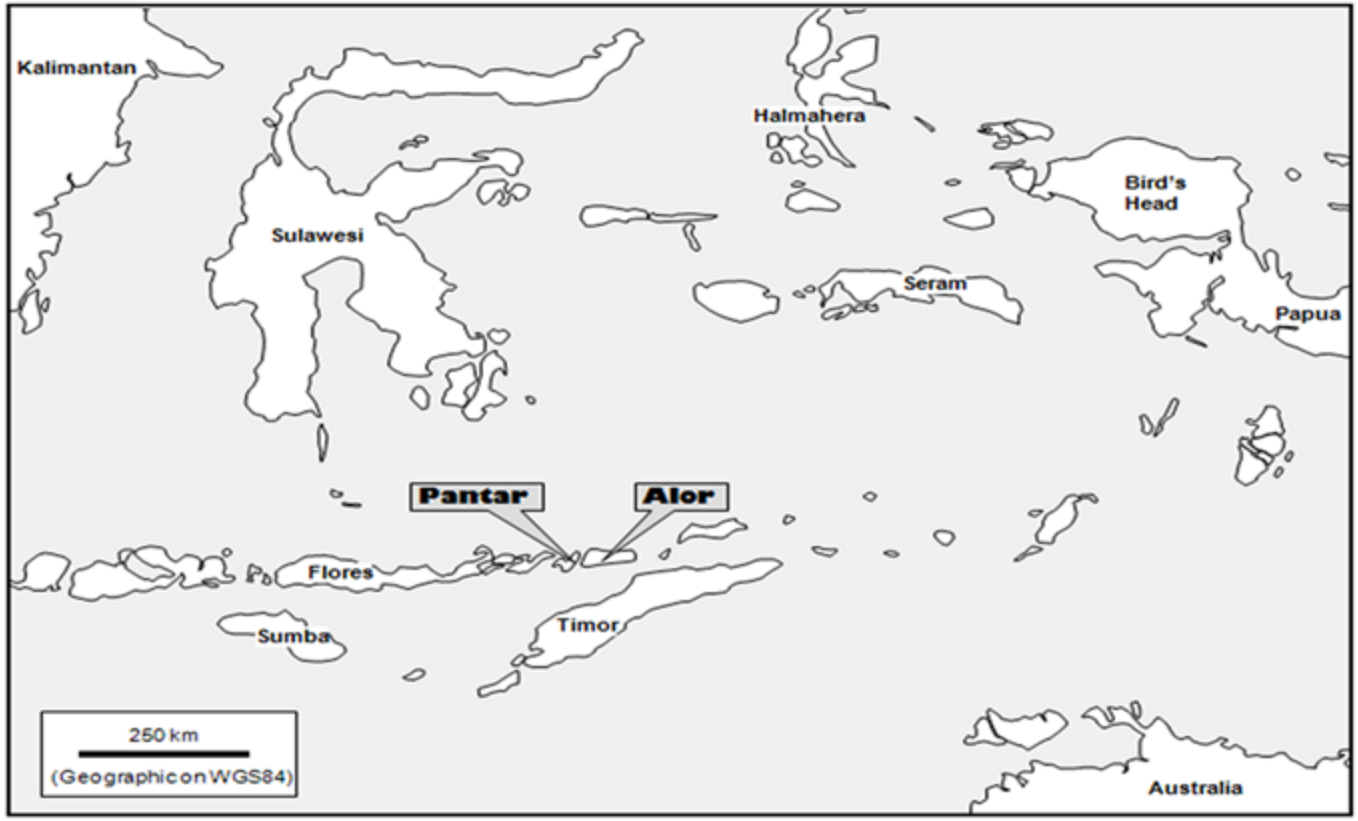
# Introduction

- Our approach: Examining the varying role of conditions on pronominal indexing in different languages of one family
- Using both specially prepared video stimuli and existing descriptions
- For this we need a family with considerable within-group variation of the semantic parameters which govern indexation patterns

# The Alor-Pantar (AP) languages

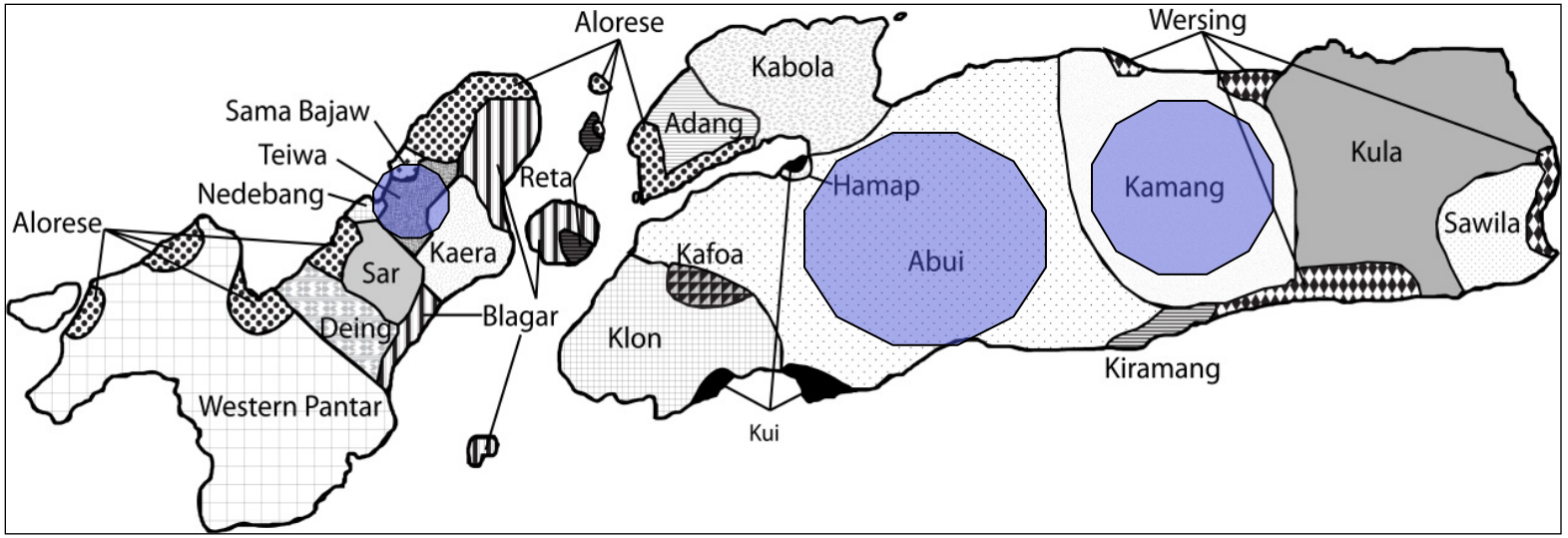
- are a family of about 20 endangered Papuan (non-Austronesian) languages
- spoken on the islands of Alor and Pantar in eastern Indonesia

# The Alor-Pantar languages




*Map 1.* The islands Alor and Pantar in eastern Indonesia

# Sample




*Map 2.* The Alor-Pantar languages

# Outline

- Pronominal indexing in the AP languages
- Affectedness and volitionality in Abui
- Affectedness in Kamang
- Animacy in Teiwa
- Conclusions

# PRONOMINAL INDEXING IN AP

# Example of pronominal indexing

- Indexing

  (noun phrase$_{k}$ / free pronoun$_{k}$) prefix$_{k}$-verb

- No indexing

  (noun phrase / free pronoun) verb

- No morphological case marking
- AP languages have APV / SV order

# Pronominal indexing in the AP languages

- Alor languages Abui and Kamang have more than one set of verb prefixes
- The degree of “lexical stipulation” is lower in Abui than in Kamang
  - Abui has fewer verb for which the prefix is fixed
- Pantar languages, like Teiwa, have a single set of prefixes

# Conditions on pronominal indexing

- Pronominal indexing on verbs is subject to a variety of constraints which differ between the languages

# Conditions on pronominal indexing

- E.g. Teiwa (Pantar)
- Syntactic alignment (of the 'accusative' type)
  - S and A are expressed with a free pronoun
  - Indexing of P's is associated with animacy (Klamer 2010: 171)

- Marking of only the object on the verb is rare, occurring in only 7% of the languages from the WALS sample (Siewierska 2013)

# Teiwa indexing: intransitives

(1) Teiwa (Klamer 2010: 169)
A her
3SG climb
'He climbs up.'

(2) Teiwa (Klamer 2010: 388)
[…] bui una' esan ta taxaa.
[…] betelnut also place TOP fall_down
'… as well as the betelnut fell down.'

(3) Teiwa (Klamer 2010: 98)
*Pi* *p-o'on.*
1PL.INCL 1PL.INCL-hide
'We hide.'

**Small class: Only *-o'on* 'hide', *-ewar* 'return', *-ufan* 'forget'**

# Teiwa indexing: transitives

(4) Teiwa (Klamer 2010: 159)
*Name ha'an n-oqai g-unba.*
Sir 2SG 1SG-child 3SG-meet
'Sir, did you see (lit. meet) my child?'

(5) Teiwa (Response to video clip C18_pull_log_29, SP3)
*Bif eqar kopang nuk tei baq kiri.*
child female small one tree log pull
'A little girl is pulling a log.'

# Conditions on pronominal indexing

- E.g. Abui (Alor)
- Semantic alignment system (Mithun 1991; Donohue and Wichmann 2008)
  - More agent-like arguments (actor) are coded with a free pronoun or NP and *no* prefix
  - More patient-like arguments (undergoer) are coded with a prefix

# Conditions on pronominal indexing

- Volitionality (together with animacy) is an important determinant of pronominal marking on verbs with one argument

# Abui indexing: volitionality

(6) Abui (Kratochvíl 2007: 15)
*Na* *laak.*
1SG leave
'I go away.'

(7) Abui (Kratochvíl 2007: 15)
*No-laak.*
1SG.REC-leave
'I (am forced to) retreat.'

(8) Abui (Kratochvíl 2007: 14)
*Simon* *de-wiil* *ho-dik.*
PN 3.AL.POSS-child 3.REC-tickle
'Simon is tickling his child.'

# Conditions on pronominal indexing

- Non-volitional participant is indexed
- Natural connection with the situation in Teiwa, where prefixation is restricted to (animate) objects
- Objects are typically non-volitional (Givón 1985: 90; Malchukov 2005: 79; von Heusinger and Kaiser 2010: 4)

# Further conditions on pronominal indexing

- Affectedness in:
  - Abui (Kratochvíl 2007: 190-191)
  - Kamang (Schapper, fieldnotes; Fedden et al. 2014)
  - Western Pantar (Lamma, Tubbe, Mauta) (Holton 2010: 106)
  - Klon (Baird 2008: 52)

# Further conditions on pronominal indexing

- Specificity in Abui (interacting with affectedness) (Kratochvíl 2014: 586-587)
- Focus in Teiwa (Klamer 2010: 409)
- Irrealis modality in Western Pantar (Holton 2010: 106)

# Cf. conditions on DOM and DSM

- Similar factors have been reported for DOM, e.g.
  - Animacy and definiteness (Bossong 1991; Aissen 2003)
  - Specificity (von Heusinger and Kaiser 2005),
  - Affectedness (von Heusinger and Kaiser 2010)

- Volitionality argued to play a role in DSM (e.g. Mohanan 1990 on Hindi)

VOLITIONALITY AND AFFECTEDNESS

# ABUI

# Pronominals in Abui

*Table 1.* Abui free pronouns and prefixes (Kratochvíl 2014: 555)

| | Free pron. | Prefixes | | | | |
|---|---|---|---|---|---|---|
| | | PAT | REC | LOC | GOAL | BEN |
| 1SG | *na* | *n(a)-* | *no-* | *ne-* | *noo-* | *nee-* |
| 2SG | *ha* | *a-*[1] | *o-* | *e-* | *oo-* | *ee-* |
| 3I | *-* | *h(a)-* | *ho-* | *he-* | *hoo-* | *hee-* |
| 3I | *di* | *d(a)-* | *do-* | *de-* | *doo-* | *dee-* |
| 1PL.EXCL | *ni* | *ni-* | *nu-* | *ni-* | *nuu-* | *nii-* |
| 1PL.INCL | *pi* | *pi-* | *po-/pu-* | *pi-* | *puu-/poo-* | *pii-* |
| 2PL | *ri* | *ri-* | *ro-/ru-* | *ri-* | *ruu-/roo-* | *rii-* |

[1] Ø before vowel

# Degree of lexical stipulation: Abui

*Table 2.* Distribution of the Abui PAT prefixes

| | PAT obligatory | PAT optional | |
|---|---|---|---|
| | Prefix required | Pefix required | Prefix not required |
| | 29 verbs | 4 verbs | 68 verbs |
| Total (of 210 verbs) | 14% (29/210) | 2% (4/210) | 32% (68/210) |

Data: Fedden et al. (2013)

- Based on 210 verb roots, stipulation is limited to a subset of 29 verbs (14%)
- This restriction is limited to the PAT series, the oldest in the family (Holton et al. 2012: 115)

# The concept of *volitionality*

- “[D]egree of planned involvement of an A[gent] in the activity of the verb” (Hopper and Thompson 1980: 286)
- Conscious control over the activity of the verb (DeLancey 1985: 52)
- Sometimes finer distinctions, e.g. instigation, i.e. the responsibility for the onset of an event, and control, i.e. the responsibility for its execution (Mithun 1991; Kratochvíl 2011)

# The concept of *volitionality*

- Contrary to [+/-] animacy, [+/-] volitionality typically not a property of the lexical semantics
- Nouns such as *person* or *man* can be used in contexts in which they may be subject to volitional acts (e.g. walk) or non-volitional ones (e.g. stumble)
- Volitionality is a property of a participant which is observed in the context of an event (Fedden et al. 2014)

# Volitionality in Abui

(9) Abui (Response to video clip P09_person_fall_14, SP9)

| *Neng* | *nuku* | *laak-laak-i* | *ba* |
|---|---|---|---|
| man | one | walk-walk-PFV | and |

| *me* | *la* | *da-kaai* | *yo* | *eya!* |
|---|---|---|---|---|
| come | just | 3.PAT-stumble | DEM | ? |

'A man walks along and stumbles.'

# Volitionality in Abui

- Effect of volitionality does not give a clear picture

*Table 4.* Indexation of non-volitional and volitional S's in Abui

| | SP8 | SP9 | SP10 | SP11 | All |
|---|---|---|---|---|---|
| Non-volitional S's | 11 | 6 | 4 | 6 | 27 |
| Prefixed | 5 | 3 | 2 | 2 | 12 |
| Proportion | 45% | 50% | 50% | 33% | 44% |
| | | | | | |
| Volitional S's | 6 | 6 | 6 | 6 | 24 |
| Prefixed | 3 | 3 | 2 | 3 | 11 |
| Proportion | 50% | 50% | 33% | 50% | 46% |

# Volitionality in Abui

- The impact of non-volitionality becomes more obvious when one looks at non-volitional animate S's

*Table 5.* Indexation of non-volitional animate S's in Abui

| | SP8 | SP9 | SP10 | SP11 | All |
|---|---|---|---|---|---|
| Non-volitional AND animate S | 6 | 4 | 3 | 3 | 16 |
| Prefixed | 4 | 3 | 2 | 2 | 11 |
| Proportion | 66% | 75% | 66% | 66% | 69% |

- This pattern might have the functional explanation since non-volitional animate S's are atypical and therefore get more marking

# The concept of *affectedness*

- Persistent change in an event participant
- Change: “an inherently *relational* concept involving both a theme participant that undergoes the change and a scale participant defining the progress of the change over time” (Beavers 2011: 1; emphasis in the original)

# The concept of *affectedness*

- Affected participant is typically an argument of the predicate
- Predicate spells out scale and progress of the participant undergoing the change on this scale, i.e. it specifies the degree of affectedness:

  *He breaks the wooden board.* [HIGH]

  *He hits the wooden board.* [LESS HIGH]

# The concept of *affectedness*

- Entailment of change with *break*
- No entailment of change with *hit*
  - The fact that the agent makes contact with the wooden board means that it is impinged upon but this does not entail a change of state

# Affectedness in Abui

- Abui allows the expression of different degrees of affectedness by choosing between the PAT and the LOC prefix for P

(10) Abui (Kratochvíl 2011: 596)
he-dik
3.LOC-pierce
'stab at it'

(11) Abui (Kratochvíl 2011: 596)
ha-dik
3.PAT-pierce
'pierce it (through)'

# Affectedness in Abui

| Lower degree of affectedness: LOC prefix | Higher degree of affectedness: PAT prefix |
|---|---|
| *he-dik* 'stab at it' | *ha-dik* 'pierce it through' |
| *he-akung* 'cover it' | *h-akung* 'extinguish it' |
| *he-pung* 'hold it' | *ha-pung* 'catch it' |
| *he-komangdi* 'make it less sharp' | *ha-komangdi* 'make it completely blunt' |
| *he-lilri* 'warm it up (water)' | *ha-lilri* 'boil it (water)' |
| *he-lak* 'take it apart' | *ha-lak* 'demolish it' |

(Kratochvíl 2011: 596, p.c.)

AFFECTEDNESS

# KAMANG

# Pronominals in Kamang

*Table 6*. Kamang person prefixes (Schapper, to appear)

| | Free pron. | Prefixes | | | | | |
|---|---|---|---|---|---|---|---|
| | | PAT | LOC | GEN | AST | DAT | DIR |
| 1SG | *na* | *na-* | *no-* | *ne-* | *noo-* | *nee-* | *nao-* |
| 2SG | *a* | *a-* | *o-* | *e-* | *oo-* | *ee-* | *ao-* |
| 3 | *ga* | *ga-* | *wo-* | *ge-* | *woo-* | *gee-* | *gao-* |
| 1PL.EXCL | *ni* | *ni-* | *nio-* | *ni-* | *nioo-* | *nii-* | *nio-* |
| 1PL.INCL | *si* | *si-* | *sio-* | *si-* | *sioo-* | *sii-* | *sio-* |
| 2PL | *i* | *i-* | *io-* | *i-* | *ioo-* | *ii-* | *io-* |

# Degree of lexical stipulation: Kamang

*Table 7.* Kamang verbs (obligatorily and non-obligatorily prefixed)

| | Obligatorily prefixed | Non-obligatorily prefixed |
|---|---|---|
| Transitive | 45% (113/250 verbs) | 55% (137/250 verbs) |
| Intransitive | 20% (53/260 verbs) | 80% (207/260 verbs) |
| Total (of 510 verbs) | 33% (166/510 verbs) | 67% (344/510 verbs) |

Fedden et al. (2013)

- Based on 510 verb roots, stipulation is greater than in Abui
- In contrast with Abui a verb can be restricted to (almost) any of the prefix series
  - 45% of transitives are restricted to a single series
  - 20% of intransitives are restricted to a single series

# Degree of lexical stipulation: Kamang

*Table 8.* Proportion of obligatorily prefixed intransitive verbs by prefix class

| PAT | LOC | GEN | AST |
|---|---|---|---|
| 65% (33 verbs) | 15% (8 verbs) | 18% (11 verbs) | <2% (1 verb) |

Fedden et al. (2013)

*Table 9.* Proportion of obligatorily prefixed transitive verbs by prefix class

| PAT | LOC | Other |
|---|---|---|
| 35% (46 verbs) | 60% (82 verbs) | <5% (9 verbs) |

Fedden et al. (2013)

# Affectedness in Kamang

- Kamang allows the expression of different degrees of affectedness by choosing between the LOC prefix and no prefix for S of stative verbs

(12) Kamang (Schapper, to appear)
Kik nok wo-saara.
palm_rib one 3.LOC-burn
'A palm rib burns down/on (i.e. is consumed over time).'

(13) Kamang (Schapper, to appear)
Kik nok saara.
palm_rib one burn
'A palm rib burns.'

ANIMACY

# TEIWA

# Pronominals in Teiwa

*Table 10*. Teiwa free pronouns and prefixes (Klamer 2010: 77-78)

| | Subject | | Object | |
|---|---|---|---|---|
| | Long form | Short form | Free form | Prefix series |
| 1SG | *na'an* | *na* | *na'an* | *n(a)-* |
| 2SG | *ha'an* | *ha* | *ha'an* | *h(a)-* |
| 3SG | *a'an* | *a* | *ga'an* | *g(a)-, gə-* |
| 1PL.EXCL | *ni'in* | *ni* | *ni'in* | *n(i)-* |
| 1PL.INCL | *pi'in* | *pi* | *pi'in* | *p(i)-* |
| 2PL | *yi'in* | *yi* | *yi'in* | *y(i)-* |
| 3PL | *iman* | *i, a* | *iman* | *g(i)-, ga-* |
| 3PL.ELSEWH. | *i'in* | *i, a* | *gi'in* | *g(i)-* |

# Animacy in Teiwa

- Highly consistent results
- All three Teiwa participants used prefixes exclusively with the same verbs
  - *-tan (tup)* [lit. call get_up] ‘wake up’
  - *-u’an* ‘hold in one’s arms’
  - *-arar* ‘be afraid of’

# Animacy in Teiwa

- It is typical for the P of a transitive verb to be indexed with a prefix that it has an animate referent

# Animacy in Teiwa

(16) Teiwa (Response to video clip P07_wake_up_person_19, SP4)

| *Kri* | *nuk* | *ma* | *bif goqai* | *ga-tan-an* | *tup.* |
|---|---|---|---|---|---|
| old_man | one | come | child | 3SG-call-REAL | wake_up |

'An old man comes and wakes up a child.'

# Animacy in Teiwa

- Having an animate P is not a sufficient criterion for prefixation
- Prefixation of an animate P is at chance level

*Table 11.* Prefixation with animate P's in Teiwa

| | SP2 | SP3 | SP4 | All |
|---|---|---|---|---|
| Animate P's | 5 | 6 | 7 | 18 |
| With prefix | 3 | 3 | 3 | 9 |
| Proportion | 60% | 50% | 43% | 50% |

# Animacy in Teiwa

- The results suggest that the animacy of P cannot be the whole story
- Only 22% (49/224 types) of transitive verbs allow prefixation (Fedden et al. 2014)
- Indexing animacy restrictions seems to be related to the typical use of a verb

# Animacy in Teiwa

- If prefixation was purely a matter of sensitivity to the animacy property of the argument, rather than a manifestation of the class to which a verb belongs, …

# Animacy in Teiwa

- … we would expect one and the same verb to alternate between prefixation and non-prefixation, depending on the animacy of the object it happened to be taking

# Animacy in Teiwa

- However, this is often not the case
- Typically, the same verb does (or doesn't) have a prefix regardless of the animacy of the object

# Animacy in Teiwa

(17) Teiwa (Klamer 2010: 88)

| *A* | *qavif* | *ga-uyan* | *gi* | *si* | *[…]* |
|---|---|---|---|---|---|
| 3SG | goat | 3SG-search | go | SIM | […] |

'He went searching for [a] goat …'

(18) Teiwa (Klamer 2010: 340)

| *Ha* | *gi* | *ya'* | *siis* | *nuk* | *ga-uyan* | *pin* | *aria'.* |
|---|---|---|---|---|---|---|---|
| 2SG | go | small_bamboo_sp. | dry | one | 3SG-search | hold | arrive |

'You go look for dry bamboo to bring here.'

# Animacy in Teiwa

(19) Teiwa (Response to video clip C13_bump_into_person_38, SP4)
*Uy masar nuk wa kri tumah.*
person male one go old_man bump
'A man is going and bumps (into) an old man.'

(20) Teiwa (Response to video clip C16_bump_into_tree_42, SP4)
*Kri nuk tewar wa tei tumah.*
old_man one walk go tree bump
'A old man walks and bumps (into) a tree.'

# Teiwa verb class 1

- Class 1 of transitive verbs
  - index their P with a prefix
  - separate NP constituent may optionally be present
  - typically occur with animates: *-tan tup* ‘wake sb. up’, -*bun* ‘answer sb.’, -*lal* ‘show to sb.’, -*liin* ‘invite sb.’, -*pak* ‘call sb.’, -*sas* ‘feed sb.’ -*’uam* ‘teach sb.’, -*wei* ‘bathe sb.’

# Teiwa verb class 2

- Class 2 of transitive verbs
  - have no prefix
  - can be accompanied by a separate noun phrase for the inanimate object
  - typically occur with inanimates: *miman* ‘smell’, *na* ‘eat’, *bangan* ‘ask for’, *boqai* ‘cut up’, *dumar* ‘push away’, *hela* ‘pull’, *mat* ‘take’, *ol* ‘buy’, *pin* ‘hold’, *qas* ‘split’, *taxar* ‘cut in two’

# Teiwa verb classes: alternation

- Prefix alternation:
  - (a) Class 3: a verb has a prefix and an animate object or no prefix and an inanimate object
  - (b) Class 4: a verb selects one prefix set with animate objects and another prefix set with inanimate objects

# Teiwa verb class 3

- Class 3, presence vs. absence of prefix determined by animacy of P:

  -*sii* ‘bite s.o.’ and *sii* ‘bite (into) sth’

  -*dee* ‘burn s.o.’ and *dee* ‘burn sth’

  -*mian* ‘give s.o.’ and *mian* ‘put at sth’

  -*mai* ‘keep for s.o.’ and *mai* ‘save sth’

  -*mar* ‘follow s.o.’ and *mar* ‘take/get sth’

  (very small class)

# Teiwa verb class 4

- Alternation between two different prefixes in the 3rd person. Inanimate objects are indexed with the canonical prefix, animate objects take an augmented form (with a glottal stop):

  -*wulul* 'tell s.o., tell sth.'

  -*wultag* 'talk to s.o., talk about sth.'

  -*kiid* 'cry for s.o., cry about sth.'

  -*tad* 'strike s.o., strike at sth.'

# Teiwa verb class 4

(21) Teiwa (Klamer 2010: 91)
*Ha* *gi* *ga'-wulul.*
2SG go 3SG.AN-talk
'You go tell him. / You go talk with him.'

(22) Teiwa (Klamer 2010: 91)
*Ha* *gi* *ga-wulul.*
2SG go 3SG-talk
'You go tell it (i.e. some proposition).'

# Teiwa verb class 4

- For class 4 there is a small inflectional paradigm for verbs in which the animate-inanimate distinction constitutes an (agreement) feature realized by different prefix types

# CONCLUSIONS

# Conclusion

- Substantial variation between the sample languages in terms of degree of lexical stipulation as opposed to semantically determined factors
- Abui:
  - Semantically aligned
  - With sensitivity to volitionality and affectedness
  - Low degree of lexical stipulation

# Conclusion

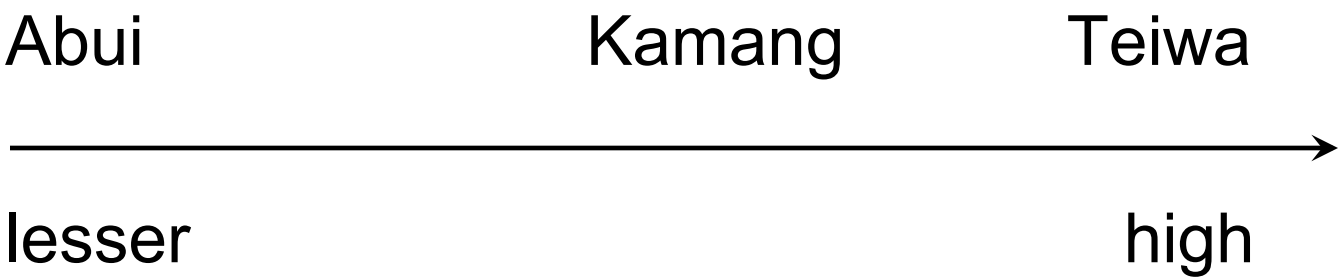
- Kamang:
  - Semantically aligned
  - With sensitivity to affectedness
  - Higher degree of lexical stipulation than in Abui

# Conclusion

- Teiwa:
  - Constraints on verbs rather than semantic factors in events
  - Animacy is important
  - Verb classes are associated with the animacy of their typical objects
  - Highest degree of lexical stipulation

# Conclusion

*Figure 2.* Lexical verb classes are important in the AP languages to different degrees



# Conclusion: Video elicitation

- There is a semantic motivation underlying the prefixation pattern in the AP languages under investigation
- Animacy and volitionality have an impact on whether an argument is indexed with a prefix

# Conclusion: Video elicitation

- Abui: Volitionality is important in that non-volitional animate S's tend to be indexed on the verb
- Teiwa: It is typical for an argument to be indexed to be an animate P

# Conclusion: Video elicitation

- The experiment shows that none of these systems of argument indexation is semantically fully transparent
- Teiwa: Many animate P's are in fact not indexed and the number of verbs which 'alternate' is quite small

# Conclusion: Video elicitation

- Abui: No consistent indexation of non-volitional animate S's
- There are verbs which are used without a prefix, even though the animate participant does not have volition with respect to the event, e.g. *taa* 'sleep', *yatul* 'fall asleep'
- Clearly other factor(s) involved

# Conclusion: Video elicitation

- The experiment confirms that the patterns of argument indexing in the AP languages are semantically motivated but not semantically determined

thank you

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APPENDIX

# ON VERB SEMANTICS

# Prefixation not based on verb semantics

- An explanation of the behaviour of the verb (prefix or no prefix) based on the semantics of the verb is likely to fail
- Verbs can have similar semantics and have, or not have, a prefix
- Some verbs which typically occur with inanimates, e.g. *pin* ‘hold’ could occur with animates

# Prefixation not based on verb semantics

(X) Teiwa

| *kri* | *nuk* | *g-oqai* | ***g-****u'an-an* | *tas-an* |
|---|---|---|---|---|
| old_man | one | 3-child | **3-**carry-REAL | stand-REAL |

'An old man is standing carrying his child.'
(Response to video clip P15_hold_person_24, SP3)

(Y) Teiwa

| *qau* | *ba* | *iman* | *ta* | *mauqubar* | *g-oqai* | *pin* |
|---|---|---|---|---|---|---|
| good | SEQ | 3PL | TOP | frog | 3-child | hold |

| *bir-an* | *gi* |
|---|---|
| run-REAL | go |

'So they hold the baby frog and go […].' (Klamer 2010: 425)

# Prefixation not based on verb semantics

- Approximate characterization of transitive verb semantic classes in corpus:
  - Handling and object manipulation
  - Physical contact
  - Communication
  - Social interaction
  - Perception

# Prefixation not based on verb semantics

| Handling and object manipulation | |
|---|---|
| **Prefixed** | **No prefix** |
| *-an* ‘give to s.o.’<br>*-ayas* ‘throw at s.o.’<br>*-fin* ‘catch s.o.’<br>*-fur* ‘turn s.o.’<br>*-panaat* ‘send to s.o.’<br>*-u’an* ‘carry s.o.’ | *mat* ‘take s.o./sth’<br>*moxod* ‘drop s.o./sth.’<br>*pin* ‘hold s.o./sth.’ |

# Prefixation not based on verb semantics

| Physical contact | |
|---|---|
| **Prefixed** | **No prefix** |
| *-far* ‘kill s.o.’<br>*-sii* ‘bite s.o.’<br>*-tad* ‘strike s.o., strike at sth.’<br>*-ua’* ‘hit s.o.’ | *kikar* ‘scratch s.o., sth.’ |

# Prefixation not based on verb semantics

| Communication | |
|---|---|
| **Prefixed** | **No prefix** |
| -*bun* ‘answer s.o.’<br>-*pak* ‘call s.o.’<br>-*regan* ‘ask s.o.’<br>-*wulul* ‘tell s.o.’ | *wan we’* ‘call out to s.o.’<br>*taxaqar* ‘address s.o.’ |

# Prefixation not based on verb semantics

| Social interaction | |
|---|---|
| **Prefixed** | **No prefix** |
| *-fai* ‘swear at s.o.’<br>-*unpaxai* ‘share with s.o., divide sth.’,<br>-*rian* ‘look after s.o.’ | *daar bub* ‘curse s.o.’<br>*puan yaqai* ‘cheat s.o.’ |

APPENDIX

# TEIWA - PREFIX PRODUCTIVITY

# Animacy in Teiwa

- Is the rule of object indexation at all productive in Teiwa?
- If so, can the effects we have observed in relation to a property of the argument be more readily associated with the verb itself?

# Animacy in Teiwa

- Corpus search of transitive verb hapax legomena, inspired by the quantitative method in Baayen (1992) (Fedden et al. 2013: xx)
- Corpus size: ~ 16,900 words of which roughly one third is elicited material

# Animacy in Teiwa

- Assumption: If a morphological process is productive in a language hapax legomena in the corpus will exhibit it
- Lower frequency items will need to rely on the creativity associated with rules, whereas memory will have a greater role in relation to high frequency items

# Animacy in Teiwa

- *Table 4*. Hapax legomena of transitive verbs in Teiwa (Fedden et al. 2013: xx)

| | Total number of hapaxes | With prefix | Proportion |
|---|---|---|---|
| With animate P | 9 / 7 | 8 / 6 | 88.8% / 85.7% |
| With inanimate P | 13 / 12 | 1 / 1 | 7.7% / 8.3% |

(Number before the slash includes hapaxes in elicited material, number after the slash excludes them)

# Animacy in Teiwa

- These results strongly indicate that prefixation of animate objects is productive in Teiwa
- 88.8% (85.7%) of transitive verb hapaxes with an animate object actually also have a prefix
- Caveat: The Teiwa corpus is nowhere nearly as massive as the corpus Baayen used