On the interaction between TAM, voice forms, and Nom NPs in Squliq Atayal

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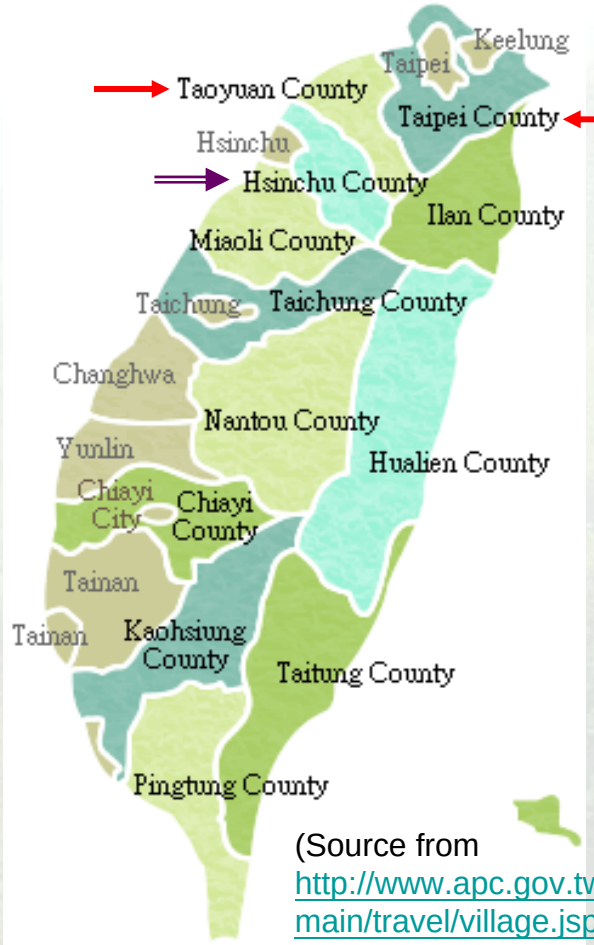
Goals of this study

- 1. to show that contrary to previous studies, NOM NP information and TAM information that the voice forms encode are quite complicated (in elicited data);
  - no two verbs in Squliq Atayal have exactly the same syntax with respect to participant roles of Nom NPs and TAM they encode;
- 2. to show that in discourse data, a Nom NP can be omitted, since the Nom NP is referential and Speaker and Hearer(s) pay more attention to HOW to develop a story; and in discourse data, voice forms tend to express realis events

Previous studies on Atayal verbs

- 1. An analysis of 4 voice/focus forms
  - Egerod (1965, 1966):
    - Verb inflexation
    - (Squliq) Atayal (in Taoyuan County and Taipei County)
  - Rau (1992):
    - Verbal morphology (Ch. 3 & Ch. 4)
    - Wulai Atayal (in Taipei County)
  - L. Huang (1993)
    - Participant & events (Ch. 3)
    - Wulai Atayal (in Taipei County)
  - L. Huang (1995)
    - Participant (Ch. 3) & events (Ch. 4)
    - Mayrinax Atayal (in Miaoli County)
  - Zeitoun et al. (1996)
    - An examination on how voice/focus, tense, aspect, and modality interact with each other in 9 languages
    - Mayrinax Atayal (in Miaoli County) and Wulai Atayal (in Taipei County)



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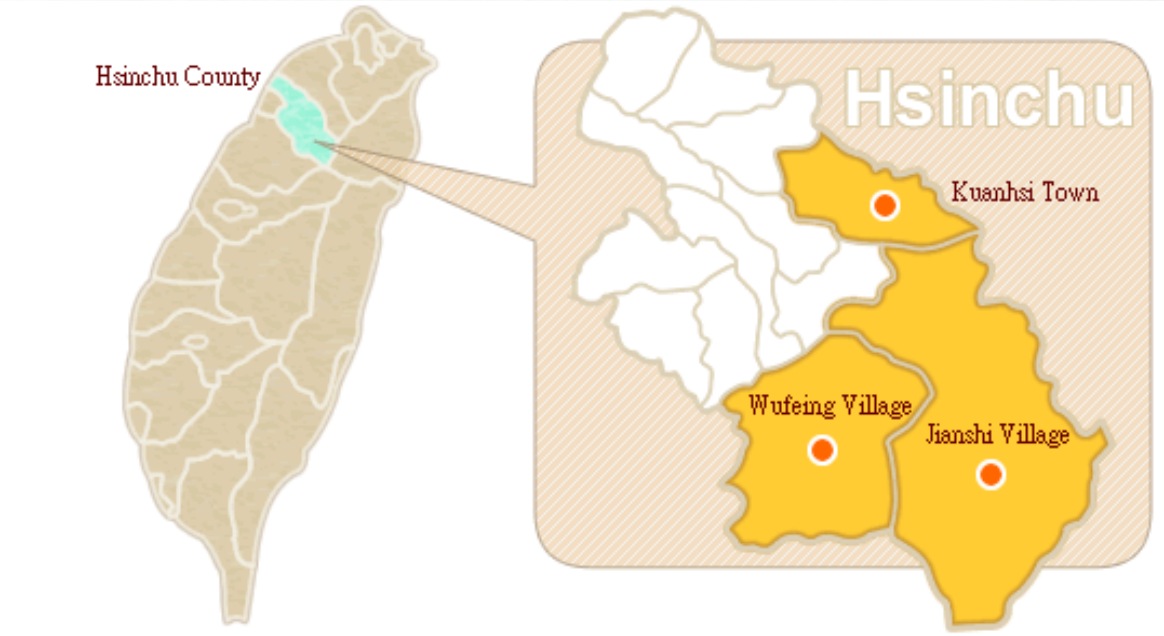
- 2. Studies on verb classification
  - L. Huang (2000)
    - Dynamic verbs vs. stative verbs
    - Mayrinax Atayal
  - S. Huang (2005)
    - A split O phenomenon in NAV constructions
  - S. Huang (2008)
    - Semantic maps
    - Cebuano, Squliq Atayal and Tsou
  - Yeh, Maya Yuting (2002)
    - Conceptualization of emotion verbs
    - Squliq Atayal (Jianshin Shiang, in Hsinchu County)

Target language

- Squliq Atayal, in Jianshi Shiang, Hsinchu County



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Methodology

- Both elicited data & discourse data are used; Frog stories, 20 Squliq texts in http://formosan.sinica.edu.tw/ and 1 long conversation (2 hours) form the database of this study
- Consultants for elicited data

	Atayal name	Gender	Age
1	Ciwas Batu’	F	72 (1937)
2	Hama’ Ihil	F	65 (1944)
3	Sehu’ Tana’	M	71 (1938)

Issue 1.
Semantic roles of Nominative NPs & their interaction with TAM

- Findings form elicited data
  - *pqwas* “sing”
    - Table 1

pqwas	**PV2** ***<(i)n>***	**PV1** ***-un***	**LV1** ***-an***	**LV2** **<(i)n>…-an**	**BV1/IV1** **s-**	**BV2/IV2** ***C1ə-***
Ciwas	The_{Past}	The_{Irr}	The_{Re}	The/Loc_{Past}	The_{Irr}	*
Hama’	The_{Past}	The_{Irr}	$The_{Re/}Loc_{Irr}$	Loc_{Past}	$Bene_{Re}$	$Bene_{Fut}$
Sehu’	The_{Past}	The_{Irr}	Nmz	Loc_{Past}	$Bene_{Re}$	$Bene_{Fut}$

- *kita'* "see"
  - Table 2

kita'	**PV2** **<*(i)n*>**	**PV1** ***-un***	**LV1** ***-an***	**LV2** **<(i)n>…-an**	**BV1/IV1** **s-**	**BV2/IV2** ***C1ə-***
Ciwas	(Nmz)	$Pcrp_{Irr}$	$Pcrp_{Re}$	$Pcrp_{Past}$	$Bene_{Re}$	$Bene_{Fut}$
Hama'	(Nmz)	$Pcrp_{Irr}$	$Pcrp_{Re}$	$Pcrp_{Past}$	$Bene_{Re}$	$Bene_{Fut}$
Sehu'	(Nmz)	$Pcrp_{Irr}$	$Pcrp_{Re}$	$Pcrp_{Past}$	$Bene_{Re}$	$Bene_{Fut}$

Five patterns of the interaction between TAM, Nom NPs and voice constructions

- Two types of information encode on verb forms:
  - (1) the semantic role of the Nom NP
  - (2) “reality” of the event expressed by a verb
- There are 5 broad patterns of the interaction between TAM, Nom NPs and voice constructions as shown in Table 3.

Table 3

Voice form	PV2	PV1	LV1	LV2	BV1/IV1	BV2/IV2
	<(i)n>	***-un***	***-an***	***<i(n)>…-an***	***s-***	***C1ə***
Pattern 1	(AV)	X_{Irr}	X_{Re}	(ObjNmz)	Y_{Re}	Y_{Fut}
Pattern 2	X_{Past}	X_{Irr}	Y_{Irr}	Y_{Past}	Z_{Re}	Y_{Fut}
Pattern 3	(AV)	X_{Irr}	X_{Irr}	$X_{Remote\ Past}$	Y_{Re}	Y_{Fut}
Pattern 4	X_{Past}	X_{Irr}	Bene	(ObjNmz)	Y_{Re}	Y_{Fut}
Pattern 5	X_{Past} (/ObjNmz)	X_{Irr}	X_{Irr}	X_{Past} (/ObjNmz)	Y_{Re}	Y_{Fut}

- Patterns given in Table 3 are broad structural templates; in reality, the 2 types of information specified by voice forms in Table 3 can be shown to be lexically specific. (see the following slides)

Examples

- A. *qaniq* “eat”
  - Participant types: {food, instrument, location}
    - Mostly applied to *nbuw* “drink” {drink, instrument, location}
    - Table 4

Type of voice form	PV2	PV1	LV1	LV2	IV1	IV2
Voice marker	*<(i)n>*	*-un*	*-an*	*<in>…-an*	*s-*	*C1ə-*
Verb	q<n>aniq	niq-un	niq-an	q<in>niq-an	s-qaniq	q-qaniq
Nom NP	Nmz: food	Patient	Patient(/Nmz: table)	Location (Nmz: restaurant)	Instrument	Instrument
Reality/Tense	*	Neu.	Realis	Remote past	Realis	Future

- B. *ciriq* ‘capture’
  - Participant types: {wild beast, mountain, snare}
    - Table 5

Type of voice form	PV2	PV1	LV1	LV2	BV1	BV2/IV
Voice marker	*<(i)n>*	*-un*	*-an*	*<in>…-an*	*s-*	*C1ə-*
Verb	*	triq-un	triq-an	c<in>riq-an	s-ciriq	c-ciriq
Nom NP	*	Patient	Location	Patient; location; Instrument (IV2)	Benefactee	Instrument / Benefactee
Reality/ Tense	*	Neutral	Realis	Past	Realis	Future (BV2; root form)

- 1. The reality of *-un* is neutral; it refers to a realis event when preceded by a perfective marker *wal*.

- 2. *-an* is used to express the location of a realis (past) hunting event; if the location is in a future or in an irrealis event, Squliq Atayal uses an AV clause.

- 3. <*in*> in <*in*>*…-an* is used to express a past event. The semantic roles expressed by the corresponding verb form (<*in*>*…-an*) are multiple. The form also shows the fluid nature of semantic role.
    - For the Location reading, the speaker aims to describe one's experience which happened in a specific place.
    - The Instrument reading is based on the instrument regarded as a location (i.e. a small-scaled one) where a wild beast was captured.
    - However, the Patient reading is not easy to understand; maybe, in a past-tensed event, a captured beast occupies a spatial position.
    - See Example (1).

- 4. BV *s-* is used to encode a Beneficiary in a realis event.

- 5. The *C1ə-* form in BV encodes an instrument in a future event. A future event, in which a benefactee is Nom-marked, needs a root form in a subordinate clause and its main predicate obligatorily takes a preceding modal auxiliary verb *aki'* "want to".
  - See Example (2).

- C. *hongu'* "build a bridge"
  - Participant types: {river, cause (transportation), wood}
  - Implicit participant: {bridge}
    - Table 6

Type of voice form	PV2	PV1	LV1	LV2	BV1/IV	BV2
Voice marker	*<(i)n>*	*-un*	*-an*	*<in> …-an*	*s-*	*C1ə-*
Verb	*h<n>ongu'*	*hng-un*	*hngw-an*	*h<in>ngw-an*	*s-hongu'*	*h-hongu'*
Nom NP	Theme	Loc	Loc	Theme	Bene/Instr	Bene
Reality/Tense	Realis	Immediate future	future	Remote past	Realis/Irrealis	Future

- 1. <*(i)n*>: The description of a Nom-marked theme in an irrealis event is impossible; instead, a theme argument in an irrealis event must appear in an AV clause.

- 2. PV1 and LV1 are used for describing a future event, in which Location is their Nom NP. A Nom-marked location appears in a realis event expressed by the PV1 and the LV1 form when there is a perfective marker *wal* in the clause. This also applies to the cases, where a Nom-marked instrument appears in a realis event.

- 3. The <*(i)n*>*…-an* form of *hongu'* is used to specify a past event and the changing state of a bridge has changed.
  - See Example (3).

- D. *gluw* “accompany”
  - Participant type: {Accompanee}
    - A causative reading associated with its BV1 form.
    - Table 7

Type of voice form	PV2	PV1	LV1	LV2	BV1	BV2
Voice marker	*<(i)n>*	*-un*	*-an*	*<(i)n> …-an*	*s-*	*C1ə-*
Verb	*g<n>luw*	*glg-un*	*glg-an*	*	*s-gluw*	*
Nom NP	Accom	Accom	Accom	*	$\text{Causee}_{\text{Accomp}}$	*
Reality/Tense	Past	Immediate future	Future	*	Irrealis	*

- E. *ngilis* “cry”
  - Occurs only in AV (m-ngilis) and BV/IV form (in affirmative clauses).
  - Can also appear in PV (i.e. *lngis-un*) and LV forms (i.e. *lngis-an*), where it means “unwilling to give up something”.
    - Table 8

Type of voice form	PV2	PV1	LV1	LV2	BV1	BV2
Voice marker	*<(i)n>*	*-un*	*-an*	*<in>…-an*	*s-*	*C1ə-*
Verb	*	*	*	*	*s-ngilis*	*ng-ngilis*
Nom NP	*	*	*	*	(Benefactee in) a cause event	
Reality/Tense	*	*	*	*	Realis	Future

- F. *ciqan* “pitiful”
  - Table 9

Type of voice form	PV2	PV1	LV1	LV2	BV1	BV2/IV1
Voice marker	*<(i)n>*	*-un*	*-an*	*<in>…-an*	*s-*	*C1ə-*
Verb	*	*	*	*	*	*
Nom NP	*	*	*	*	*	*
Reality/Tense	*	*	*	*	*	*

  - The word *ciqan* “pitiful” has only an AV form.

Other patterns

- G. *som* “wipe”:
  - The goal argument of *som* “wipe” is coded as PV or LV.
- H. *nbuw* “drink”:
  - IV form can’t be used to express Instrument; LV form must be used.

An interim summary

- We have shown that the participant roles of Nom NPs and interpretations of their TAM are highly lexically specific. In other words, no two verbs have exactly the same syntax with respect to the semantic roles of their Nom NPs and their TAM.

Issue 2. TAM in discourse

- In this section, we mainly examine the expression of TAM in discourse.
- Discourse data show that (1) 85% of the NAV clauses do without aspectual particles (i.e. *nyux/cyux*, and *wal*) and (2) that these (95%) voice constructions almost always express realis events.

TAM in discourse

Table 10

Types of verb occurring with/without TAM marker	*wal*	*nyux*	*<in>, <(i)n>…-an*	*only in voice form* (*-an, -un, s-*)
Clause No.	2 (2.1%) (Ex. A)	6 (6.2%) (Ex. B)	7 (7.2%) (Ex. C)	82 (84.5%)
Distribution	After a sequence of events, used in a quotation clause or a comment from the Speaker(; most in AV clauses)	(most in AV clause)	Relative clauses, subordinated clauses and nominalized constructions	mostly
Function	To indicate a permanent change of state (one that cannot be restored)	To express background information(, because it only expresses the existence of a state)	To modify its immediately preceding entity or event; to indicate a past event	To express a realis event

Example A

- Frog 03: 188-196

188.	…	wal	mluw	sa	a,	
		Asp	follow.AV	Loc	PM	
189.	…	a	bqanux	qu',		
		Filler	deer		Nom	
190.	..	laqi'		ga',		
		child		FP		
191.	..	yumin	qani	la.		
		PN	this	FP		
		The child, i.e. Yumin, followed with the deer.				
192.	…	**wal**	s-panga'		nqu'	bqanux,
		Asp	IV-carry.on.back		Gen	deer
193.	..	nyux	m-hutaw	ga',		
		Asp	AV-fall	Top		
194.	…	m<in>hutaw			ru,	
		AV<Past>fall			Conj	
195.	..	**wal**-nya'		s-panga'	qu'	laqi' qasa ru,
		Asp-3Sg.Gen		IV-carry.on.back	Nom	child that Conj
196.	..	wayal.				
		go.away				
		(He) was carried away by (the) deer and (he) fell. That child was carried away by it. (They) left.				

Example B

- **Frog 01:103-109**

103.	**…(0.8)**	**so-n**	**qasa**	**trang**	**nquʔ,**	
		say-PV	**that**	**just.as**	**LNK**	
104.	**..**	**nyux**	**mita’**	**squ’**	**a,**	
		Asp	**see.AV**	**Obl**	**Filler**	
105.	**…**	**zik**	**na’,**			
		bottom	**Gen**			
106...		**bling**	**na’**	**uraw**	**qu’**	**iy,**
		hole	**Gen**	**soil**	**Nom**	**Filler**
107.	**..**	**botu’**		**qani**	**ga’,**	
		male.name		**this**	**Top**	
108.	**…**	**a**	**m-htuw**		**qu’**	**a,**
		PM	**AF-come.out**		**Nom**	**Filler**
109.	**…**	**qoli’**	**la.**			
		mouse	**FP**			

While Botu was watching the burrow, there came out a mouse.

Example C

Frog 01: 38-41

- 38. …(0.8) nanu yasa qu’,
- what that.way Nom
- 39. .. ungat qu’ a ka,
- Neg Nom Filler Filler
- 40. .. (q)patung ka,
- frog Lig
- 41. …(0.8) s<n>i’-nya’ yuyut qasa lga’.
  put<Past.ObjNmz>put-3S.G bottle that FP:FP
  Therefore, the frog which he put in that bottle earlier was gone.”

Nom NP in discourse

- Table 11 below shows that nearly half of the Nom NP in discourse data are omitted.

Types of Nominal Arguments in Squliq Atayal discourse

- Table 11

Grammatical role / Type of Argument nominal	S (AV)	S (EIC)	E (EIC)	A (NAV)	O (NAV)
Lexical NP	303 (45.7%)	14 (34.15%)	36 (87.8%)	43 (8.85%)	237 (48.77%)
Demonstratives/Free pronoun	16 (2.41%)	0	5 (12.2%)	1 (0.2%)	6 (1.23%)
Bound pronouns (or Clitics)	46 (6.94%)	4 (9.76%)	0	354 (72.83%)	6 (1.23%)
Omitted	**298 (44.95%)**	**23 (56.1%)**	0	88 (18.1%)	**237 (48.77%)**
Total	363	41	41	486	486

See Examples (4) & (5)

- In discourse, speech participants are interested in ***HOW*** event participants, especially the protagonist, take part in an event; and, the story is developed by a sequence of activities, in which participant roles are determined by the verb (including its temporal frame) and their respective nature (e.g. animacy). For example, a bird will eat treefruits, but not vice versa.

Discourse principle: Only one focused NP in a topic chain

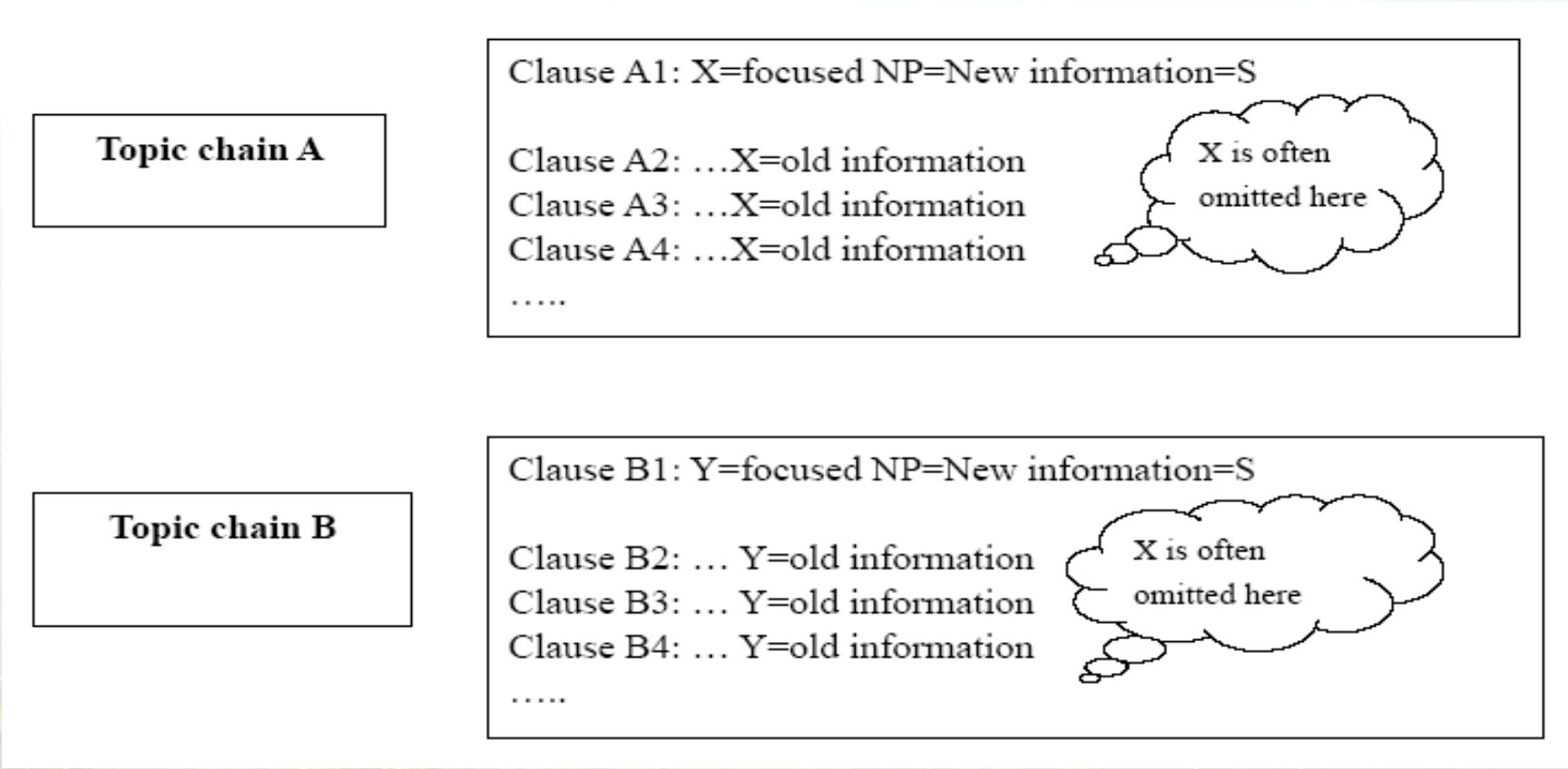

Figure 1

An interim summary

- 1. In discourse, voice forms specify participant roles and some kind of TAM information; 95% of the clauses express realis events.
- 2. Aspectual particles (*cyux/nyux*, *wal*, *(<in>)/<in>…-an* etc) are used to indicate background information or to modify a preceding event or entity.

3. An interaction between voice forms, TAM and participants in discourse can be shown as:

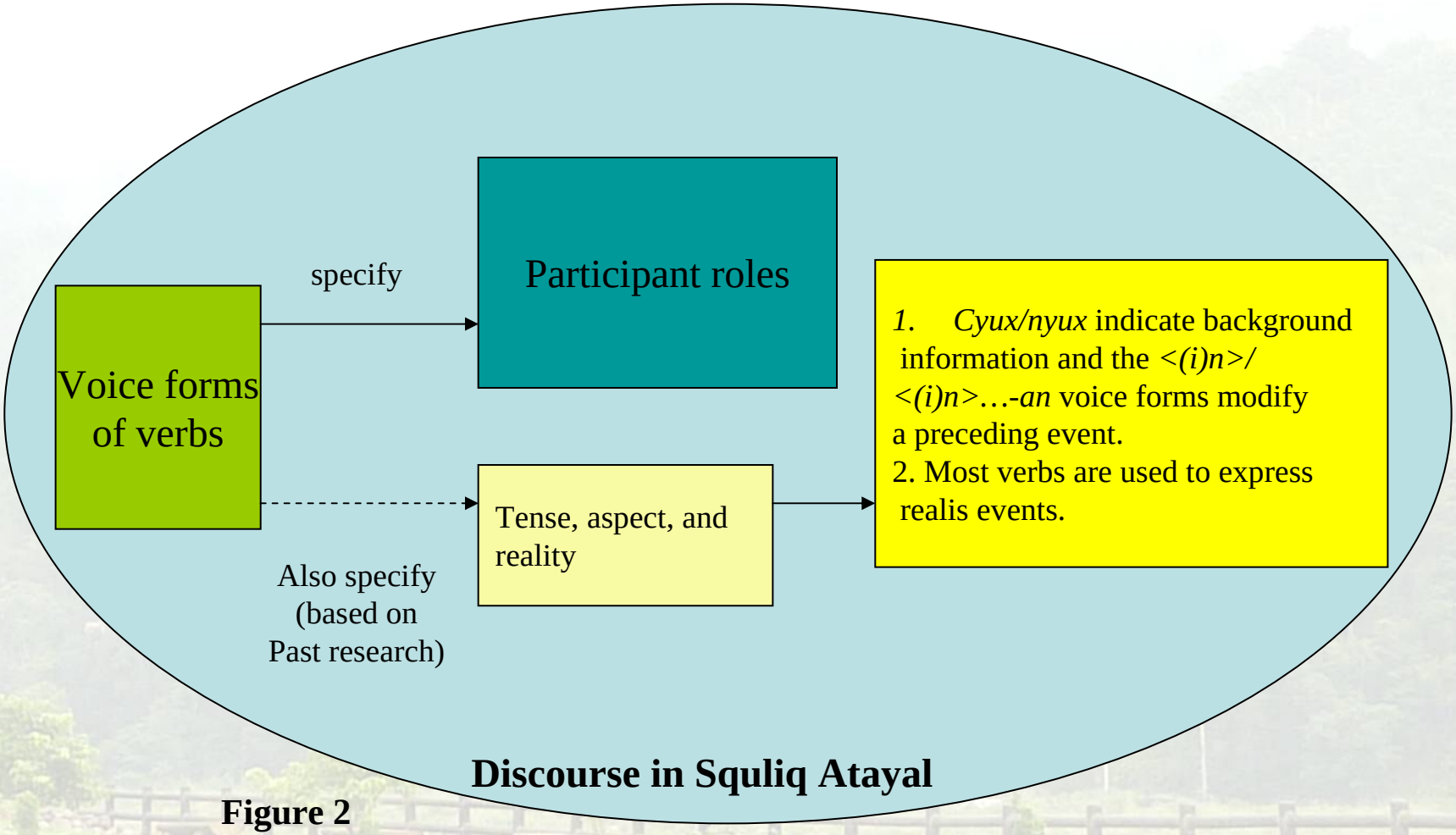

Figure 2

Conclusion

<The framework of our study>

- We have shown that the participant roles of Nom NPs and interpretations of their TAM are highly lexically specific. In other words, no two verbs have exactly the same syntax with respect to their Nom NPs and their TAM.
- We have also shown that TAM information that voice forms encode is quite complicated (in elicited data); and yet in discourse data, voice forms tend to express only realis events.

- In discourse, voice forms specify participant roles; clauses are almost always realis events and aspectual particles (*cyux/nyux*, *wal*, *<(i)n>/<)i)n>…-an* etc) are used to indicate background information or to modify a preceding event or entity.

More worth doing

- 1. Non-indicative verb forms
  - "think": *lung-aw* (< *lung-un* (PV)) vs. **lung-ay* (**lung-an* (LV))

- 2. Genre types
  - For example, in a text about hometown description
    - Its NAV clauses are relatively rare.
    - However, the NAV voice form selection depends on the relationship between participant roles in discourse.
    - When an object is destroyed, the PV form will be selected, *i.e.hilk-un* "destroy", because the NOM NP is encoded as a patient.

  Table 12

Voice form		AV	NAV
Distribution	Main clause	21	2
	Non-main clause	0	3
Reality	Realis	21	4
	Irrealis	0	1

  - Conversation data: there will be more complicated findings from conversation data.

- 3. A proper mechanism for verb classification in Squliq Atayal

A voice system in Squliq Atayal

Table 13 (Yeh, in progress)

Voice TAM	Actor				Patient	Location	Referential	
INDICATIVE Neutral	m-✓	m-✓	✓<m>✓	✓	✓-un	✓-an	s-✓	
Neutral Negative	p-✓	k-✓	✓	✓	✓	✓-i	s-✓	
Perfective	(m)in-✓	-✓	m<(i)n>✓-	✓	(<n>✓)	(<in>✓-an)	(s-✓)	
Future	p-✓	-✓	✓	✓	R-✓-ən	R-✓-an	R-✓	
NON-INDICATIVE **Imperative** (for 2nd PERSON only)	✓				✓-i		✓-an	
Projective	m-✓-a	Z			✓-ay	✓-aw	an s-✓ ani' s-✓, (s-✓-ani')	anay s-✓, (s-✓-anay)
Person & Reading	1+2=> Hortative	Z			1/3=> Permissive 2=> Prohibitive		2=> Hortative	1/3=> Hortative


Thank you!

Comments & Questions

(Photographed by Maya, in Pqwasan na' Slak)

11 ICAL

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Examples:

1. c<in>riq-an-maku' para' qu' mrusa' qa.
   <Past>capture-LV-1Sg.Gen Formosan.barking.deer Nom snare this
   I once captured Formosa barking deer with this snare.

2. aki'-saku' m-usa' s<m>i' mrusa'
   Mod-1Sg.Nom AF-go <put>AV snare
   ciriq-maku'/*s-ciriq-maku' para'
   capture-1Sg.Gen/*BV-capture-1Sg.Gen Formosan.barking.deer
   qu' yaya'-maku'.
   Nom mother-1Sg.Gen
   I want to/plan to go to make snares in order to capture Formosan barking deer(s) for my mother.

3. h<n>ngw-an-maku' qu' gung qani lga',
   <Past>make.a.bridge-1Sg.Gen Nom river this FP:Top
   wal hor-un la.
   Asp wash.away-PV FP
   I built a bridge over the river (before), but the bridge was washed away.

4. Narrative (From http://formosan.sinica.edu.tw/)
   02-005-d
   akiʔ-nahaʔ ʔsa-n hβyaw ɣaʔ, (i)yat-nahaʔ tsin-heβaŋ rwaʔ.
   Mod-3P.Gen go-LF chase Top Neg-3P.Gen *-measure EP
   Though they wanted to chase (boars), it wasn't the place where they can enter into.
   Nom NP omitted
   02-006-a
   a nanu hβyaw quʔ (β)nkis ka mrqwaŋ ɣaʔ.

Fill what chase Nom old+man Lig Mrqwang FP
However, the ancestors of the Mrqwang (still) chased (boars).
02-006-b
wal krayas squʔ ɣoŋ ka a ɣoŋ ka qes nquʔ mknaziʔ
Asp cross Loc stream Lig Fill stream Lig boundary Gen Mknazi
quʔ βzyok-nahaʔ lɣaʔ, iniʔ-nahaʔ hyaɣ-i la.
Nom pig-3P.Gen FP:Top Neg-3P.Gen chase-PF.Neg FP
However, once boars had crossed over the stream, which was in the territory of the Mknazi's clan, people failed to chase them back.

5. Conversation (gaga' na' Atayal)

2409. A: … (1.4) (H),_
2410. .. ini'-ku' soya' so-n-mu',_
Neg-1Sg.Nom like say-PV-1Sg.Gen
2411. … sa-n -naha' cqeli' so-n.\
Go-LV-3Pl.Gen teasesay-PV
I don't like birds. People will tease (me if I eat the birds he hunted).
Nom NP, i.e. –saku' "1Sg.Nom", omitted
2412. S: .. ay ay.\
Excl Excl

2413. A: … (1.1) nanu ana' bgzin ga',_
what no.matter bird Top
2414. … cingay cingay ma ru._
many many QP and
What he has hunted are large in amount, including birds, of course.
Nom NP omitted in an AV clause
2415. S: .. a sa balay bgzin yal la,_
Fill Fill true bird very FP
Birds are expensive.
2416. … (1.3) laxi' kusa pi' Ma'.\
Neg like.that FP PN
Don't do that, Ma!

2417. : … kbhun mziman ma la,_
one .hundred fifty QP FP

2418. .. qutux ma.\
One QP
Each is worth 150 dollars.

2419. … bir-un maha iy,_
buy-PV QP Fill
If (we) buy.
Nom NP, i.e. bgzin “bird”, omitted in a PV clause

2420. H: (0) aw ey.\
right FP
Right.

2421. C: .. aw [ma]-
right QP
That’s true.

2422. H: [Akun] ni’,_
PN Gen

2423. .. Piku’ ga’,_/
PN Top
Piku’s son, Akun,

2424. C: .. m.\
DM

2425. H: .. a,_
Fill

2426. .. “nyux maniq a bway,
Asp eat.AV Fill fruit
Nom NP, i.e. birds, omitted in an AV clause

2427. .. ini’-su’ bhng-i’ na’ mama’.”
Neg-2Sg.Gen net-PV.Neg still uncle
Nom NP, i.e. birds, omitted clause

2428. .. so-n-saku’-nya’ ma.
say-PV-1Sg.Nom-3Sg.Gen QP
He told me (he saw my husband and he asked him), “(Birds) start to eat tree fruit. Uncle, have you already netted the birds?”