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語言、空間與情緒（I）

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Table of Contents

1

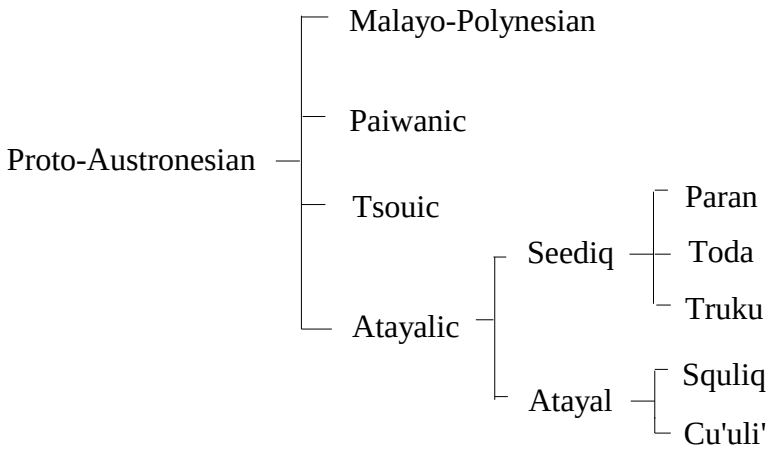
Seediq: Spatial Representation in a Language without Prepositions

Abstract

This paper presents the linguistic mechanisms used to represent spatial relations in Seediq, focusing on the syntax and semantics of locative nouns and path verbs. It is demonstrated that most of the path categories are never specified and that topological notions are encoded only sparingly in Seediq. Where path relations are encoded, they are done in a way distinct from what is found in a "satellite-framed" language or in a "verb-framed" language. Instead, the path relations are distributed over two or more different spatial form classes in a sentence. Finally, the paper examines Jackendoff's theory of "universalist" conceptual structure in the context of the Seediq data. It is clear that the kind of conceptual structure constructed by Jackendoff has been biased by the particular languages used in building that structure, and the universality claim of Jackendoff's conceptual structure remains at best controversial. It is suggested that research into the role of linguistic form and its interaction with pragmatics to yield understandings of spatial relations would be a far more productive line of investigation.

1. Introduction

The purpose of this paper is to provide a description of the way in which spatial information is linguistically encoded in the Paran dialect of Seediq, a moderately endangered Formosan language spoken in central Taiwan, which belongs to the Ataylalic branch of the Austronesian family. The genetic classification of Seediq in the Austronesian family is shown below (Blust 1977, 1985; Li 1985):



The aim of the paper is to present the Seediq solution to the problem of how to specify the relations of the focal object and the reference object in spatial expressions. What is particularly interesting about the Seediq solution is that Seediq is a language that lacks the syntactic category of prepositions entirely and that spatial information is coded by a combination of spatial predicates and locative nouns or path verbs. This coding strategy found in Seediq and possibly other Formosan languages is different from the coding strategy found in a language like English where spatial locations are canonically encoded by prepositional phrases headed by spatial prepositions. While there is a vast amount of literature on the English system, the Seediq system has to my knowledge never been investigated.

The organization of the paper proceeds as follows. First, the basic spatial constructions in Seediq are introduced in Section 2. Section 3 deals with two types of genitive constructions involving spatial morphemes and argues that Seediq is a language that lacks the class of prepositions entirely. This is followed by a discussion of spatial representations of path notions in the language. Section 4 touches on briefly the concepts of daya and rahuc. Section 5 evaluates Jackendoff's theory of conceptual structure in the context of Seediq spatial expressions. Section 6 is the conclusion.

2. Basic Seediq Spatial Constructions

Seediq, like other Western Austronesian languages, possesses a highly complex system of focus morphology. The term 'focus' refers to the attachment of verbal focus markers in order to express a special relation between the verb and a particular noun participant. In other words, the focus system can be regarded as the manifestation of agreement in a sentence between the verb and the noun in focus. This sort of agreement is one of the characteristics of Austronesian languages.

There are four verbal focuses in Seediq: agent focus (AF), indicated by the verbal affixes -m-/mV-/ ; patient focus (PF), indicated by the verbal suffix -un or -an; locative focus (LF), indicated by the verbal suffix -an, and referential focus (RF), indicated by the verbal prefix s-. PF, LF, and RF are collectively known as non-agent focus (NAF) systems (See Huang et al. for details).

The basic word order in Seediq is, in an agent focus construction, VOA, except where A is a pronoun, in which case, it becomes VAO. In a non-agent focus sentence, the word order is VAO, except where both argument pronouns occur in a portmanteau form, in which case, ordering is based on person rather than case: 2>1>3 (The second person pronoun precedes the first person pronoun, which in turn precedes the third person pronoun).

In a Seediq spatial construction, a focal object -- an object that is located -- is coded as an NP, and a reference object is coded as an NP which is sometimes but not always dependent on the presence of a locative noun that specifies a search domain with respect to the reference object. The relation between the focal object and the reference object is expressed by a spatial predicate waga 'be located' as in (1), (2) and (3):

	Relation	Reference Object	Focal Object
(1)	Waga	Pungerah	Ga nasi
	be located	Bowl	DEF pear

'The pear is in the bowl.'

Relation	Reference Object	Search Domain	Focal Object

(2)	Waga	Pungerah	Turuma	ga nasi
	be located	Bowl	Inside	DEF pear

'The pear is (deep) inside the bowl.'

	Relation	Reference Object	Focal Object
(3)	Waga	Sapah	Ka Takun
	be located	House	SM PN

'Takun is at home.'

In (2), as the glosses show, there is a locative noun turuma 'the inside (of some object)' that specifies a search domain; in (1) and (3) there is no such a locative noun and the reference object is represented by an inherently locative noun (a toponym) sapah 'home, house' or by a nominal pungerah 'bowl' which can be and must be interpreted as an object defined region 'in the bowl' in the present context. In effect sentences like (1) and (3) mean that the coding for the search domain (a containment relation) relative to the reference object and the coding for the reference object itself are collapsed into a single noun. This behavior is comparable to situations in languages with case systems where nouns referring to places are unmarked in the locative case. Whereas all the spatial information in sentences (1)-(3) is carried in English by the prepositions in/inside/at, the main verb is being nearly vacuous, the semantic load in the Seediq sentences is distributed over the locative predicate waga 'be located', an NP that denotes the reference object, and an optional locative noun that specifies where the focal object is in relation to the reference object. To encode a containment relation, though not a contact and support relation in Seediq, sentences like (1) represent the canonical strategy and there is no need to linguistically specify the search domain, as in (2). The hearer must infer the exact topological nature of the spatial relationship on the basis of their common sense knowledge of the objects and events in the world. The speaker would be compelled to use (2) only when the focal object is, for example, too small in size relative to the reference object as to be inaccessible to visual perception, or when the speaker knows with certainty that the focal objet is contained in the reference object. This brings us to the important distinction in Seediq between ga, the definiteness marker and ka, the subject marker. The former is instantiated in (1) and (2) and the latter in (3).

Unlike English, Seediq provides explicit information on the accessibility to visual perception of the focal object. If the focal object is visible, or if the speaker is sure of the presence of a referentially definite focal object in the discourse context, the definite marker ga would be used; otherwise the subject marker ka would normally be

the default choice. (4) and (5) are further illustrations:

(4)	Waga	tibu	Ka	babuy
	be located	sty	SM	pig

'The pig is in the pigsty.'

(5)	Waga	tibu	Ga	babuy
	be located	sty	DEF	pig

'The pig is (visibly) in the pigsty.'

Since the function of a spatial description is to tell us where to find the focal object, it is important to be fairly explicit about the geometrical nature of the search domain projected from the referent object, or the trajectories of focal objects in motion. This, however, is what Seediq usually does not or can't do. While Seediq can and sometimes does provide for functional and topological notions of containment (in), support and contact (on), occlusion (under) and proximity (beside), and relations involving projective order (in front of, in back of, behind), it lacks the grammatical machinery for specifying trajectories of objects in motion (across, over, up, down, off). Based on naturally occurring narrative data from retellings of the well-known Pear film for a total of 594 clauses, we tabulate below the distribution of spatial morphemes in Seediq which would be functionally equivalent to prepositions in English.

Table 1 Distribution of spatial morphemes in Seediq functionally equivalent to prepositions in English (Based on six Pear Stories for a total of 594 clauses)

Seediq spatial morpheme	English equivalent	Frequency
baro ‘up above’	over, above	16
turuma ‘inside of some object’	in/inside	6
bobo 'surface of some object '	on/on top of	10
siyo 'side of some object '	by/beside	15
berah 'front of some object '	in front of	6
bukuy 'back of some object '	in back of \behind	4
muquri 'face, toward'	Toward	2
kundalax 'from'	From	2
toma 'underside of some object '	Under	6
?	To	0
?	Up	0
?	Down	0

?	across	0
?	over	0
?	with	0
?	off	0

Table 1 shows that Seediq uses locative nouns to encode topological relations, but the language lacks the class of path prepositions entirely. As indicated above, Seediq uses locative nouns to express topological notions of containment and support and contact, though it does so only sparingly, constrained in part by discourse pragmatics (see further below for detail). Surely one does find locative nouns that gloss rather similarly to prepositions in English; still there is no underlying conceptual parallelism between, say, English on and Seediq bobo 'surface (of)'. On, like other English prepositions, is highly abstract and schematic and has a topological flexibility of applications; bobo, on the other hand, can only be applied to objects that have an upper surface. Consider the following English spatial expressions involving on and their Seediq equivalents:

(6)

a. Takun is sitting on the bed.

a'. waga tileung bobo qulapo ka Takun
be located sit surface bed SM PN
'Takun is sitting on the bed.'

b. There is a poster on the wall.

b'. miqan kingan kulabuy punqupahan ka qunabin
to have one poster be hung SM wall
'The wall has a poster hanging up.'

c. On the ceiling was a bug.

c'. miqan kingan kuyi ka toma na tezo baro.
to have one bug SM under GEN ceiling up
'Underneath the ceiling up there is a bug.'

d. Takun put the pears on the ground.

d'. Wada pusaun na dheran nasi ka Takun
ASP be put GEN ground pear SM PN
'Takun put the pears on the ground.'

e. A shirt was hanging on the hook.

e'. Waga	quyaanan	so daquc	ka	kingan	syacu
be located	be hung	vicinity hook	SM	one	shirt

'A shirt was hung on the hook' (lit. 'in the vicinity of hook')

f. The buttons on his shirt are missing.

f'. Waga	tuting	botang	na	syacu	na
ASP	fall	button	GEN	shirt	his

'The buttons on his shirt are missing.'
(lit., "His shirt's buttons have fallen.")

In (a) on encodes the notion of contact and support and corresponds to bobo in Seediq. In (b) since on means attachment to the side of a wall, but not to its uppermost surface, bobo can't be used in Seediq. Similarly, in (c), since on means attachment to the underneath of some object (in the present case a ceiling), bobo would be inappropriate in (c'). In (d), on indicates a surface which some object moves toward (equivalent to onto). Now, as shown above in Table 1, path categories are rarely specified in Seediq; in particular, the endpoint of a trajectory (the goal) of an object in motion is never encoded, whether that relation is indicated in English by to, onto or into. This is why bobo cannot be applied to (d'). In (e), since on indicates attachment to the end of something rather than to its surface, it is clear that bobo would not be appropriate in Seediq. Finally, in (f), on means attachment of a focal object to something and the focal object is considered part of it. In Seediq bobo applies only to the surface of a reference object on which a focal object can move. This accounts for why the attachment sense of on finds no functional equivalents in bobo.

The exercise above strongly suggests that the spatial concepts underlying the English preposition on and the Seediq locative noun bobo are different and so, consequently, are the overall sets of spatial scenes they pick out. Similar arguments can be constructed for the conceptual differences between in in English and turuma 'inside (of an object)' in Seediq. Thus the Seediq data pose a challenge to the universality claim of the basic nature of some prepositions that has been made in the literature. Thus Herskovits (1986:127) states that

> "At, on and in constitute in English a fundamental set of prepositions, with the large number of distinct types of uses derived from three ideal meanings which are cognitively basic, essentially topological relations. ...

The most basic human perception of space is surely universal, and claims of universality of basic conceptual building blocks to refer to spatial relationships would

seem well motivated (see, however Levinson 1996, Haviland 1993 for dissenting views). When the claim is couched in such language-specific terms, however, it has little to recommend itself.

3. Spatial Morphemes in Genitive Construction

In this section I present an overview of the spatial morphemes in Seediq describing their semantic and syntactic properties. In Seediq, locative nouns are typically construed as parts or part defined regions inherently related to reference objects. This is evident from the way in which they are coded in the grammar with respect to reference objects, i.e., in genitive constructions. Two types of genitive construction can be distinguished in Seediq (cf. also Ameka 1995). The first type has the form X na Y, where X is the possessee, na the genitive marker and Y the possessor. The second type has the form XY in which the possessee and the possessor are juxtaposed to each other without any intervening genitive marker. Although some of the detail remains to be worked out, it is safe to say that the first type, involving a genitive marker, is used to code relations between the entities perceived as less inherent or more accidental, and the second construction, involving no genitive marker, is used to code relations between the intrinsic parts of an object and the object itself, as in body-part relations and part-whole relations, including spatial relations. The narrative data from retellings of the Pear film also bear this out. In (1) below are genitive relations that make use of the first type of construction and in (2) the second type, with examples drawn from the Pear data.

(1) Relations coded as X na Y, where X is prossessee, y possessor:

laqi 'child'	na	Takun PN	"Takun's child"
lunengo 'thinking'	na	Takun PN	"Takun's thinking"
rawa 'basket'	na	nasi 'pear'	"basket of pears"
Papah 'foot'	na	laqi 'child'	"child's feet"
Hunyegan 'stature, looks'	na	mqedin 'girl'	"looks of the girl"

Guguwan	na	laqi	'the stealing by the child"
'stealing; object stolen		'child'	

(2) Relations coded as XY, where X is possessee and Y is possessor:

siyo elu	"road side" (lit. side road)
rawa turuma	"inside of basket" (lit. basket inside)
Quhuni baro	"tree top"
Tunux laqi	"head of the child" (lit.: head child)
elu bbtunux	"gravel road" (lit. road gravel)
Papah laqi	"feet of child" (lit.: foot child)
bobo rulu	"top of bike" (lit. top bike)
heyi quhuni	"tree fruit" (lit. fruit tree)
toma baki	"underside of old man"
bobo dheran	" ground surface" (lit.: surface ground)

All of the expressions in (2) have to do with either body part relations or spatial relations containing such locative nouns as siyo 'side', turuma "inside", bobo "top (of something)", toma "underside (of something)", and baro "region over something". Table 2 gives a list of the class of spatial morphemes in Seediq (including both locative nouns and path verbs).

Table 2 Seediq spatial morphemes

Spatial Morpheme	Gloss	Source
baro	'above, over'	baro 'region above some object
berah	'in front of'	berah 'bosom'
bukuy	'behind	bukuy 'buttocks'
bobo	'on'	bobo 'upper surface (of object)'
ngerac	'outside'	ngerac 'outside (of object)'
so	'about, around'	so 'vicinity (of something)'
siyo	'beside'	siyo 'side (of an object)'
toma	'under'	toma 'underside, armpit'
turuma	'inside'	turuma 'inside (of an object)'
irin	'left'	irin 'left hand'
narac	'right'	narac 'right hand'
(mu)quri	'face; toward'	(mu)quri 'face; toward'

kundalax	'from'	kundalax 'from'

Some of the locative nouns have evolved from body-part terms, others from object-part terms and none has evolved from environmental landmarks (cf. Bowden 1991, Svorou 1994). Left hand (baga irin) and right hand (baga narac) are still in use, but left and right as spatial morphemes are disappearing from among the current generations of Seediq speakers, who often have to resort to some such locations as the weaker side/ the stronger side or this side/that side accompanied by gesture. Cardinal concepts (north, south, east, west) are not part of the vocabulary of the language.[1] This leaves the present day Seediq language with only the intrinsic system, which is based on the inherent features of objects or topological descriptions, and the relative system (minus the concepts of right and left), which is based on anthropocentric concepts like front and back, left and right, in the linguistic representation of spatial orientation (cf. Fillmore 1971, Levinson 1994, Heine 1997).

It is well known that stative spatial grams (adpositions) often owe their genesis to the grammaticization of head nouns in genitive constructions, arriving ultimately at a stage at which they are bound to another form as an affix. Similarly, dynamic motion verbs pass through a stage at which they are frequently used in a serial verb construction and a stage at which they lose some of the verbal components in their semantics, subsequently arriving at a stage at which they become directional path grams (Svorou 1994). Neither locative nouns nor motion (path) verbs in Seediq can be justifiably argued to be spatial grams. A locative noun in conjunction with a nominal denoting the reference object routinely takes the subject marker ka and a predicate phrase to form a sentence, just as other types of NPs do, as in (7) and (8), or function as object of a transitive verb, as in (9), again as other types of NPs do:

(7) Niqan kingan kuyi ka toma na tezo baro
exist one bug SM under GEN ceiling up
"There is a bug up there on the ceiling."
(lit.: "the underside of the ceiling up there has a bug")

(8) Niqan patis ka bobo cukuwe
exist book SM surface desk
"There is a book on the desk."
(lit.: "the surface of the desk has a book")

(9) Muda so[2] susiyo alang ka Takun
pass vicinity side village SM PN
"Takun passes by the village."
(lit.: "Takun passes by the side of the village.")

Path verbs like quri 'face; move toward' and kundalax 'from' often occur in a serial verb construction, as in (10) and give the impression, from the perspective of their translations into English, that they are syntactically prepositions. However, just as locative nouns are not prepositions, the path morphemes are morphologically verbs. First, in Seediq, as in other Formosan languages, constructions that string together two or three motion verbs are fairly common. (10) is an illustration.

(10) Wada mukukesa muquri gakko ka Takun
leave walk move toward school SM PN
"Takun has left walking toward the school."

Second, path verbs (or path spatial morphemes, in order not to prejudge the case), like other true verbs, are inflected for the verbal categories of focus, tense or aspect.

(11) muquri ku sapah yaku, quri yayung isu
face I home I face river you
"I face home, you face the river."

(12) Kundalaxi hiya bulebing isu
from there pull you
"You pull from there."

In (11) mu- is the agent focus prefix attached to the verb stem quri 'face, toward', and it is the stem form that appears in an imperative sentence, as in the second clause in (11). In (12), kundalaxi 'from' is suffixed with the imperative marker for patient focus -i.

The strongest piece of evidence for claiming that path spatial morphemes are indeed verbs comes from the fact that in a sentence like (13) kundalax 'form' takes the genitive marker na to mark an agent. Only verbs in patient or locative focus constructions, in Formosan languages and in many of the Austronesian languages are privileged to do so:

(13) Kundalax na rawa turuma mangan heyi quhuni ka Takun
from GEN basket inside take fruit tree SM PN
"Takun took the tree fruit from inside the basket."

Talmy (1985, 1991) has distinguished a 'satellite-framed' language from a 'verb-framed' language. 'Satellite-framed' languages, which include most Indo-European languages, characteristically express path notions (movement into, out of, up, down, off...) in a constituent that is a satellite to the main verb, such as a prefix or a particle/preposition. On the other hand, languages such as Hebrew, Turkish, Spanish and Korean, which express path in the verb itself, are verb-framed languages (See Bowerman 1996 for facts about Korean). Talmy's scheme of classification is an oversimplification, however. We have shown above that Seediq, a language which lacks the grammatical category of prepositions, is generally not interested in, or lacks the grammatical machinery for, encoding certain aspects of the path notions. When it is capable of doing so, its strategy is typically to use combinations of motion verbs, path verbs and locative nouns in complex serial verb construction-like configurations. (14) and (15) are further illustrations.

(14) Wada tuting yayung ka Takun
Leave fall river SM PN
"Takun fell into the river."
(lit.: "Takun fell river.")

(15) Mutugiya kususiyo sapah tumalang ka Takun
Circle along house run SM PN
"Takun ran around the house."
(lit.: "Takun circled by running and following the sides of the house.")

Since the relevant path notions are distributed across the spatial morphemes (including motion verbs, path verbs and locative nouns) in a Seediq sentence, it would be more appropriate to type it and other similarly behaved languages as "sentence-framed" languages, in contradistinction to satellite-framed and 'verb-framed' languages.

Consider what a Seediq speaker must know in order to function effectively using this spatial system? It is clear that Seediq speakers must be able to locate the relevant topological relations and path concepts so they can describe object locations and trajectories. They must constantly monitor the relevant relations and directions. In some sense, of course, understanding sentences where topological

relations are not fully specified seems trivial enough. Thus a sentence like Many people the street could only mean, given some knowledge of the basic facts of Seediq syntax, that there are many people on the streets; Be located hiding the vicinity of bushes Takun could only mean Takun is hiking in the bushes. Even path categories seem in general easily inferable. Thus Be put by someone the bike must mean was put on the bike by someone; Is writing blackboard Takun must mean Takun is writing on the blackboard; Has fallen river Takun must mean Takun has fallen into the river. It is as if we were asked to take a cloze test in English, with all of the appropriate path prepositions left out, and we would still fare reasonably well, since we can rely on a combination of multiple semantic cues and discourse pragmatics to solve the problems.

4. Daya/rahuc

The part of the Seediq region where I did my field work consists of a string of villages located in a valley surrounded on the north and south sides by steep rolling hills, part of the rugged, powerful Central Mountain Range that dominates that landscape. From this area, known as Gluban, the nearest town, Puli, is ten miles to the east, which the villagers can get to by car or motorcycle or bus. Villages that live uphill are termed alang daya (lit. village uphill) and villages that live downhill are alang turahuc (or alang hunac) by villagers. The words daya (or tugudaya) means '(land which is) uphill' and turahuc (or tugurahuc) means '(land which is) downhill'. Daya has evolved from PAN * daya 'upriver, towards the interior' and tu(gu)-rahuc from PAN * lahud 'downriver, towards the sea'. They are reflexes in a huge number of daughter languages in the Austronesian area. Blust (1997) points out that Proto-Malayo-Polynesian (the ancestor of all non-Formosan Austronesian languages) makes reference to two fundamental orienting features: a land-sea axis, which is more localized, and the south-east Asian monsoons that represent an axis with a broader geographical basis. No modern Formosan Austronesian languages utilize a land-sea axis for spatial reference, suggesting that the Formosan system is one adapted to a life on land-locked hills and mountains in which access to the sea has been entirely absent following their split from Proto-Austronesian several millennia ago.

5. Seediq and the Status of "Conceptual Structure"

This section will evaluate Jackendoff (1983, 1990)'s work on conceptual semantics in the context of our understanding of spatial representation in Seediq discussed in the preceding sections. The central issue to be addressed is whether a universal conceptual structure of spatial relationships can be meaningfully constructed

independently of different syntactic or semantic structures in different languages (Cf. Tai 1993). Jackendoff's proposal is a universality claim of basic conceptual building blocks to refer to spatial relationships. It involves a number of technical innovations and is conceived within a modular theory of generative grammar. Jackendoff proposes a level of conceptual structure defined as "a single level of mental representation ... at which linguistic, visual, sensory, and motor information are compatible" (1983:17) and concludes that "the terms semantic structure and conceptual structure denote the same level of representation" (1983:95). Conceptual structures are generated by conceptual formation rules, just as syntactic structures are generated by syntactic formation rules. Conceptual structures are linked to syntactic structures by correspondence rules.

Jackendoff's conceptual formation rules operate on a finite set of ontological categories such as THING, PLACE, PATH, EVENT and STATE. These conceptual categories can be further elaborated by a series of conceptual functions characterized by a system of context-free rewrite rules. Three of the most important conceptual formation rules formulated in Jackendoff (1990:43) for the spatial domain are (16) , (17) and (18):

(16) [PLACE] $[_{\text{place}}$ PLACE - FUNCTION([THING])]

(17)

$$[\text{PATH}] \quad \left[\text{path} \left\{ \begin{matrix} \text{TO} \\ \text{FROM} \\ \text{TOWARD} \\ \text{AWAY-FROM} \\ \text{VIA} \end{matrix} \right\} \left(\left[\left\{ \begin{matrix} \text{THING} \\ \text{PLACE} \end{matrix} \right\} \right] \right) \right]$$

(18) [EVENT] $[_{\text{event}}$ GO ([THING] , [PATH])]

Rule (16) states that the conceptual category PLACE is construed as a PLACE-function with an argument of the category THING. The reference object serves as an argument for the PLACE-FUNCTION to define a region. In a spatial expression in the bowl, the bowl denotes the reference object and preposition in maps the reference object into the region inside it. Rule (17) states that the conceptual category PATH is construed as a function that maps a THING or PLACE into a path. In an expression from the park, the preposition to maps the reference object to a path. Rule (18) states that the conceptual category EVENT is a function that maps a

THING to a PATH function. In these rules, spatial prepositions are construed as functions which map reference objects or places into regions or paths. The features and functions are chosen as primitives to express linguistically and conceptually significant generalizations in the data. The result is a conceptual structure which encodes meaning as a complex algebraic expression.

The approach reminds us of the lexical decomposition of the kind first advanced by Katz and Fodor (1963), despite the difficulties spelt out by a number of distinguished researchers in semantics over the years (Kempson 1977; Fillmore 1985; Fodor et al. 1975, among others). Functions like TO, FROM, TOWARD, VIA etc. are 'primitives' where similarity to English prepositions is neither addressed nor explained. Indeed, Jackendoff's conceptual formation rules like (16) (17) and (18) are stated entirely in terms of a 'satellite-framed' language. As in much of the linguistic theorizing where one's meta-language is often, perhaps inescapably, biased by one's object language, Jackendoff's theory of conceptual semantics is no exception. Jackendoff's conceptual formation rules depend crucially on the role of prepositions as function mappers. Now prepositions in English encode highly schematic information about topological regions, main axes and trajectories, but not Euclidean information about angles and distances or about the exact shape or nature of the ground and especially the focal objects. Spatial expressions in other languages do not necessarily work this way, however. Levinson (1996) argues that Tzeltal is a language that utilizes absolute coordinates, together with a rich system of intrinsic distinctions that pick out a number of Euclidean properties of the focal objects and that the Guugu Yimithirr speakers of N. Queensland use a system of absolute orientation (similar to cardinal directions) which fixes absolute angles regardless of the orientation of the reference object. There is simply no analogue of the Indo-European prepositional concepts in these languages.

Similarly we have shown that the path categories in Seediq (excepting the concepts of toward and from) are never encoded for lack of the necessary grammatical machinery and that topological notions are expressed only sparingly. This is no doubt a consequence of the fact that Seediq lacks a class of spatial prepositions entirely, as demonstrated above. Spatial relation is something which must be expressed in English by prepositions, but it is something which is only optionally encoded in Seediq.

Even as a lexical category in English, Jackendoff's treatment of prepositions is seriously inadequate (Deane 1996). Prepositional polysemy is pervasive and systematic in the language (and perhaps in other languages as well), casting serious

doubt on their status as 'primitives", and consequently on the whole project of constructing universal conceptual structure, motivated largely by the spatial semantic structures of English.

6. Conclusion

This overview is preliminary and incomplete. Within the scope of this paper it would be an impossible task to treat exhaustively the whole range of the system of spatial representation in Seediq. I have therefore limited myself to areas with which I am more familiar, focusing on the syntax and semantics of locative nouns and path verbs. For some spatial expressions in Seediq it is the combinations of the spatial predicate waga and locative nouns in construction with a nominal reference object that are crucial for their understanding. For others, it is the combinations of the spatial predicate and a nominal reference object (a toponym or an activity noun) that are relevant. The search domain is generally not specified for the containment relation. For other relations, given sufficient context, combinations of the spatial predicate and a nominal reference object are also all that is necessary. The interpretation of the constructions is the result of the interaction between the meaning of the spatial predicate and the semantics of the nominal that represents the reference object plus discourse pragmatics.

The paper has also shown that most of the path categories are never specified in Seediq. Where path relations are encoded, they are done in a way distinct from what is found in “satellite-framed” languages and “verb-framed” languages. Instead, the path relations are distributed over two or more different spatial form classes in a sentence. Finally the paper examines Jackendoff’s theory of “universalist” conceptual structure in the context of the Seediq data. It is clear that the kind of conceptual structure constructed by Jackendoff has been biased by the particular languages used in building that structure, the universality claim of Jackendoff’s conceptual structure remains at best controversial. It is suggested that research into the role of linguistic form and its interaction with pragmatics. to yield understandings of spatial relations would be a far more productive line of investigation.

Linguistic meaning is always underspecified and unique reference is never purely a linguistic matter. What secures uniqueness is the user of the expression and the context in which it is used together with the expression. So is spatial reference. It is appropriate as a final note to paraphrase Quine (1971:144), “spatial reference is impossible apart from the network of terms, predicates and auxiliary devices that

speakers of a language share. Like semantic content more generally, spatial reference arises only through combining a linguistic expression with an interactive context.”

Footnotes

1. This is consistent with Blust's (1997) statement that in reconstructing earlier stages of Austronesian no basis is found for positing terms for cardinal directions, even though cardinal direction terms have entered a number of modern languages either through borrowing or through internal semantic change.

2. So 'vicinity' has a variety of functions. It can be attached to spatial morphemes or expressions to mean 'around, about', as in

   so hiya 'around there'
   so tutingan rulu 'around where one gets off the bus'
   so nigan boru hiya 'around where the ball is'

   when it occurs with a noun denoting an object, it means 'something like', as in
   kulaan so nasi ka kiya 'that could be a pear or something like that'

   when it occurs with a predicate, it means 'somehow or other', as in
   so dumayo 'help a little; help here and there'
   waga so munarux ka Takun 'Takun is somehow not feeling well'

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2

Spatial Representation in Tsou

This chapter is a preliminary study of the basic linguistic mechanisms used to represent spatial relation in Tsou, an endangered Formosan language which belongs to the Tsouic branch of Austronesian family. We would like to argue that Tsou is a language without prepositions and its spatial information is encoded into spatial predicates, the semantic interpretation of "focal object", or the interaction between two of them. It is instructive to observe that this language does not distinguish at/on/in which are treated as the fundamental set of prepositions in English by Herskovits (1986). However, it provides topological notions of containment "inside", relations involving projective order (in front of, in back of, behind), trajectories of objects in motion (by, across, over, around), and so on. The mechanisms it uses to perceive spatial information include the interpretation of focal objects and reference objects, the predicates with rich spatial information, the predicates that contain identifiable spatial morphemes, the combinations of both of focal objects and spatial predicates, locative nouns, and reduplications. There are five sections in this chapter. Section 1 is an introduction to the languages, especially its case marking system; section 2 presents the syntactic evidence for its lack of prepositions. Section 3 presents the linguistic mechanisms used to represent spatial information in this language. Section 4 is a summary.

1. Introduction

Tsou is a VOS language syntactically with a Philippine-style focus system including Agent Focus and Non-Agent Focus (PF: Patient Focus; LF: Locative Focus; BF: Benefactive Focus). It has a rich system of case markers (or articles) involving intrinsic semantic features of visibility, definiteness, distance, and so on. Table 1 is tsou's case marking system in isolated utterances:

Table 1. Tsou's case markers in isolated utterances

Visibility		Nominative case markers	Oblique case markers
Visible (specific/definite)	proximate	‘e	ta
	intermediate	si	
	distal	ta	
Invisible	specific	‘o	to
	not experienced	na	no
	locative		ne
	sensation	co	ninca/nca

The case marking system in Tsou is divided into two categories: nominative vs.

oblique case markers. /’e/, /si/, /ta/ are nominative case markers used to mark NPs which are [+visible] and [+specific]/[+definite]. Because of certain semantic extension, the nominative case marker /’e/ can also mark NPs which are [–visible] but [+specific]/[+definite]. The selection of ‘e/si/ta depends on the speaker’s recognition of the distance between other objects and himself: near/middle/far. The nominative case marker /’o/ marks NPs which are [–visible] but [+specific]. /na/ is used when its following NP is [–experienced] (and [–visible], of course). For oblique case markers, /ta/ is the corresponding one of ‘e/si/ta; /to/ of /’o/, and /no/ of /na/. The nominative marker /co/ and its counterpart /ninca/ are special for they deal with sensation only. /ne/ is an oblique case marker and must relate to [+location]. The purpose of introducing Tsou’s case marking system is to show that this language has requirement to describe certain spatial information. For example, case markers can reveal information like visibility, distance (between speakers and objects as a spatial relation), and even how the information of objects is gained (i.e., through visual perception or audio perception). Similar distinctions on spatial relation can also be found in its demonstratives as /eni/ “here”, /sico/ “there”, /tonoi/ “there (further)”. Rukai, a Formosan language of Paiwanic branch of Austronesian family, also has detailed distinctions of “distance” between speakers and objects. The case marker plus its following NP in Tsou may reveal a lot of semantic information more

than we imagine, and their interaction with spatial predicates represent perfectly any kind of spatial information even though this language lacks prepositions.

2. The Lack of Prepositions

The basic spatial construction in Tsou is based on the combination of spatial predicate (V) relation and the interpretation of Reference Object and Focal Object. Unlike English, there is no conceptual parallelism of in/on/at in this language. Consider first some basic examples:

	Relation		Focal Object		Reference Object	
(1)	mo	eon	ta takubingi	‘e	nasi.	
	AF	locate	Obl bowl	Nom	pear	
	“This pear is in the bowl.”					(Fieldnotes)
(2)	mo	eon	ta emoo	‘e	pasuya.	
	AF	locate	Obl house/home	Nom	Pasuya	
	“Pasuya is at home.”					(Fieldnotes)
(3)	mo	eusungu	ta hopo	‘e	pasuya.	
	AF	sit	Obl bed	Nom		
		Pasuya				
	“Pasuya is sitting on the bed.”					(Fieldnotes)

The three sentences above are all in Agent Focus, and in the surface structure the “reference object” (or trajectory in Langackerian terminology) must be in subject position and the “focal object” (or landmark in Langackerian terminology) in object

position. (1)-(3) in which the focal objects represent the ideas of in/at/on respectively in English do not make any distinctions in Tsou. If tested in existential sentences (the *pan-to* construction), we still get the same result. Here are some examples of "*on*" in English under existential construction:

(4) pan-to conci eoi ta sofU.
Exist-Obl. one worm Gen ceiling
"There's a worm on ceiling." (Fieldnotes)

(5) pan-to [i-si ngov'eni to tonghifza ci] poyave.
Exist-Obl NAF-3rd hang-NAF Obl wall Rl sword
"There's a sword which is hung on the wall." (Fieldnotes)

(6) pan-to [mo cUnghU to f'uhu-su ci] eoi.
Exist-Obl AF stick Obl back-2nd Rl worm
"There's a worm which sticks on your back." (Fieldnotes)

Although Tsou does not distinguish the spatial information inherent in English in/at/on, it doesn't mean that this language lacks the equivalent conception embedded in the English prepositions. Aside from case markers which are known to be pregnant with rich spatial information, in many cases the spatial predicates themselves reveal enough spatial information, for example, *nooeo* "inside" in example (7), *f'uhu* "(in) back (of)" in (8) (note that *f'uhu* can also be a noun; see (6)), and *~caefi* "over/cross" in (9):

(7) mo **nooeo** ta takubingi 'o eoi.
AF inside Obl bowl Nom worm
"The (invisible) worm is inside the bowl." (Fieldnotes)

(8) mo coni ‘o mo **f’uhu** ta ca’nU ci tposU.
AF one Nom AF in back of Obl chair Rl book
“There’s a book which is in back of the chair.” (Fieldnotes)

(9) mo su-**caefi** to taipahu nehucma ‘o pasuya.
AF _over/cross Obl Taipei yesterday Nom Pasuya
“Pasuya passed through Taipei yesterday.” (Fieldnotes)

3. Mechanisms for Spatial Representation

From the previous section we know that Tsou is a language without overt prepositions and it doesn’t distinguish in/on/at which were treated as the most fundamental prepositions in English. We also know that though there is no preposition, it can still represent certain spatial information by using spatial predicates as shown in (7)-(9). In this section we’ll argue that there are more than one mechanism used in this language: by the interpretation of focal objects, the predicates with spatial information incorporated, the spatial predicates which represent the conception of prepositions themselves, the combination of both spatial predicates and focal objects, and the use of locative nouns. The following sub-sections will take up each of these possible mechanisms, offering both syntactic and morphological evidence to support the thesis.

3.1 The Interpretation of Focal Object & Reference Object

Recall that in examples (1) and (2) we have *eon ta takubingi* to be “in the bowl”

and *eon ta emoo* to be "at home". And in (18) we have *eon ta ca'nU* to be "on the chair". Since in all of the three examples the same spatial predicate is used: *eon*, why does each predicate expression have a different interpretation? The obvious explanation must be that we get the spatial information from semantic interpretations of "focal objects" in relation to the "reference object", for example, the "bowl" in (1), "home" in (2), and "chair" in (18). Now consider the example (10). The spatial predicate "hang" either expresses an act *ngov'eni* or a state *ngov'o*. A check through the entry "hang" in English shows that it can go with a wide array of prepositions such as hang on, hang down, hang of, hang about, hang back, hang out, and hang over. This suggests that the verb "hang" does not really contain any relevant spatial information until it is combined with a spatial preposition in English. The predicates *ngov'eni* "hang" in (10a) and *ngov'o* "hang" in (10b) do not entail any prepositional information, but why does the final translation contain the preposition "on"? Such spatial recognition is obtained through the semantic interpretation of the focal object *tonghifza* "wall" in relation to the reference object *poyave* "sword".

(10) a. i-si **ngov'eni** ta tonghifza 'e poyave.
NAF-3rd hang-NAF Obl wall Nom sword
"The sword was hung on the wall." (Fieldnotes)

b. mo **ngov'o** ta tonghifza 'e poyave.
AF hang-AF Obl wall Nom sword
"The sword is hanging on the wall." (Fieldnotes)

3.2 Predicates Containing Rich Spatial Information

In this section a number of spatial predicates containing rich spatial information are introduced. This category is different from the one in section 3.3 for the verbs here contain no identifiable spatial morphemes but themselves embody inherent spatial information given by their intrinsic lexical semantics. (11)-(14) are the examples:

(11) mo **sunghucu** ‘o pasuya.
AF fall_into_water Nom Pasuya
“Pasuya fell into the water.” (Fieldnotes)

(12) **p’etpUti** ta pasuya ‘o mali.
step_on Obl Pasuya Nom ball
“The ball was stepped on by Pasuya.” (Fieldnotes)

(13) ‘e paicU, mita **bichipi** ta saungU.
Top PaicU AF-3rd stand beside Gen SaungU
“PaicU stands beside SaungU.” (Fieldnotes)

(14) nahocu **teongasi** si emucu-su.
allow put_down Nom hand-2nd
“You are allowed to put your hand down.” (Fieldnotes)

3.3 Predicates Containing Identifiable Spatial Morphemes

The use of spatial predicates is the most common linguistic mechanism for

representing spatial information in this language. These spatial predicates are of two types. To the first type belong spatial predicates that contain no identifiable spatial morphemes but are themselves rich in spatial information; the second type refers to those spatial predicates that contain an identifiable spatial morpheme. These two types are taken up separately below:

/nooeo/: inside

(15) mo **nooeo** ta feongo ‘o fkoi.
AF inside Obl cave Nom snake
“The (invisible) snake is inside the cave.” (Fieldnotes)

/nooeo/ also occurs in (7) *nooeo ta takubingi* “inside the bowl”. /nooeo/ is used, according to our informants, only when the “reference object” is invisible and the “focal object” is a container. Thus the reference objects in both (7) and (15) must be invisible and in a relation of “containment” with its focal object. This usage distinguishes *eon* “to be located; (in/on/at)” from *nooeo* “inside”.

/i’mi/: from

(16) te-ko **i’mi** ta’e ho e’tUi; te’o **i’mi** tan’e ho etUi.
Fut-2nd fromthere Conjpull Fut-1st fromhere Conj.pull
“You’ll pull from there and I’ll pull from here.” (Fieldnotes)

(17) aUlU conohie ceoconU ho mo **i’mi** to emoo-taini ho
just one day walk if AF from Obl house-his Conj
uh to emoo ta pasuya.
go Obl house Gen Pasuya
“Going to Pasuya’s house from his house takes a whole day’s walk.”(Fieldnotes)

(18) mio **i'mi** ne khagi.
AF-1st from Obl Chia-Yi
"I am from Chia-Yi." (Shoes: 1)

It is clear enough from examples (16)-(18) that /i'mi/ "to be from" is a verb rather than a preposition by its syntactic position, since a verb in Ttsou is located between an auxiliary and an NP.

/~'unu/: to

(19) mi-cu mongoi ho emo**'unu** ne 'oeona-tmopsU
AF-Perf leave Conj walk-to Obl location-study
"(He) had left and walked to the school." (Fieldnotes)

(20) mi'o mi'**unu** ta emoo'u, mi-ko mi'**unu** ta va'nU.
AF-1st face-to Obl house-1st AF-2nd face-to Obl river
"I face my house, and you face that river." (Fieldnotes)

The only difference in Tsou between /i'mi/ "to be from" and /~'unu/ "to" is that /i'mi/ must be in a free form while /~'unu/ must be in a bound form as a suffix. For example, we have *toe'unu* "run to~", *mi'unu* to be "face to~", *(e)mo'unu* "walk to~".

The spatial morpheme /~caefi/ must also be a suffix rather than a word. It is interesting to observe that /~caefi/ covers a range of meanings including "through", "by", and "across". Recall that in (9) we have *su-caefi to taipahu* "pass through Taipei" which is very similar to *to-caefi su* "walk by you" in (22). However, if we take the idea "by" to interpret *mei-caefi* in (21), it would be a little inappropriate (but

still work, in certain sense). /~caefi/ can also be treated as "cross/across", as is suggested by example (28) in section 3.4.

/~caefi/: through/by/across

(21) o'a mocu i'si tiv'v'oha hu-sansana, mi-cu mei**caefi**
Neg NAF-3rd in time for see-clearly AF-Perf fly-over
ta fnguu-si 'o zomU.
Obl head-3rd Nom bird
"Before he realized it, the bird had flown over his head." (Fieldnotes)

(22) mon'a aUlU to**caefi** su 'o pasuya,
then just walk-by 2nd Nom. Pasuya
o'a i-ko maka teolUi?
Neg NAF-2nd to one's surprise see
"Pasuya just walked by you then, and (are you sure) you didn't see him?"

/~upu/ is a spatial suffix which means "with":

/~'upu/: with

(23) su'**upu** si mo maica ci hia yonghu ci mamespingi,
go_with Nom AF like_this Rl how beautiful Rl female
mi-ta cus'a noana'o tUe'Ue'UhU?
AF-3rd must for a long time laugh in secret
"Such a beautiful lady sat beside him; he must laughed in secret for a long time."

(24) mo no'**upu** su na hamo.
AF be-with 2nd Nom God
"God is being with you." (Fieldnotes)

/~eafo/:out

(25) mo euso ci polo 'e mo eu**eafo** ta ceoa.
AF two Rl earthworm Nom AF crawl_out Obl earth
"The crawling (things) out of the earth are two earthworms." (Fieldnotes)

(26) isi ta**eafa** ta motoevi ‘e chumu ta kopu.
NAF-3rd shake-out Obl earthquake Nom water Gen cup
“The earthquake shook the water in the cup out.” (Fieldnotes)

/~ovei/: back

(27) mei-ovei ‘fly back’; mei~: fly
e-ovei ‘come/go back to the topic’; e~: words
eu-ovei ‘go back’; eu~: move
eo-ovei ‘return’ eo~: hand

/~avovei/: back and forth

(28) mei-avovei ‘fly back and forth’

3.4 Combinations of Space Predicates and Focal Nouns

So far we have seen that the spatial information in Tsou is expressed either by an interpretation of focal objects in relation to reference objects, or predicates with inherent spatial information, or spatial predicates that contain identifiable spatial morphemes. However, sometimes we have to take both the verbs and the objects into consideration so that we can fully understand what the sentence is about. Take (29) for example, *su’* means “go”, and only when it goes with the oblique *to* + NP can it mean “to fall into something or some place”. (30) & (31) are examples of *sucaefi*. *sucaefi ta va’hu* in (30) means “cross the river” & *sucaefi to mo eusno emoo* in (31) means “pass by two houses”.

(29) mo smoteUsU nehucma ho **su**’ to eo’hunge.

AF slip yesterday Conj go Obl valley
"(He) slipped yesterday and fell into the valley." (Fieldnotes)

(30) ake' i n'a buveici; ho tac'u afu'u su**caefi** ta va'hU
a little be patient if/when only go_acrossObl river,
'a tec'u sUc'UhU. (Fieldnotes)
arrive
"Be a little patient; we'll arrive (there) only if we have crossed the river.

(31) ta-hoza tan'e, su**caefi** to mo eusno emoo, ta-ko cu
begin here go_by Obl AF two house AF-2nd Perf
sUc'UhU to emoo to pasuya. (Fieldnotes)
arrive Obl house Gen Pasuya
"From here you just pass by two houses, and you will arrive at Pasuya's house."

3.4 The Use of Locative Nouns

The characteristic of this category is that the spatial information resides in locative nouns. The locative nouns in Tsou include the notions of 'left & right', 'nearness & side', 'this side & that side', 'below & under':

/veina/ vs. /vhona/: left vs. right

(32) cuma na ongko ta hcuyu ta **veina/vhona**-su.
what Nom. name Gen hill Gen left/right-2nd.Poss
"What is the name of the hill in your left/right side? (Fieldnotes)

There is no distinction of 'west/east' or 'north/south' in Tsou but 'left and right' (*veina* vs. *vhona*) and 'high/low place' (*omza* vs. *oii*). Though Tsou does not have the ideas of 'west' and 'east', it has expressions like *esmomha hie*, which means 'the place in which the sun rises'. The use of /cum'u/ 'nearness' and /feona/ 'side' is similar to 'left & right':

/cum'u/: nearness

(33) mo eon ta **cum'u** ta hcuyu 'e pasuya.
AF exist Obl near Gen hill Nom Pasuya
"Pasuya lives near the hill."

/feona/: side

(34) mi'o eon to **feona** to hia-peoza.
AF-1st exist Obl side Gen bridge
"I live beside the bridge."

/tanesi/ vs. /taesi/: this side vs. that side

The semantic interpretation of two deictic locative nouns *tanesi* "this side"and *taesi* "that side" are jointly determined by the relations among the trajector (=subject), the reference point, and the speaker's location at the speech act time. The uses of *tanesi* and *taesi* are thus completely speaker-oriented. Consider (35) & (36). For example, if the speaker is facing the main entrance of the store *veiyo* and his house is closer to him than the store, (35) will be used. On the other hand, if the speaker is facing the main entrance of the store but his house is farther away from him than the store is, (36) will be used.

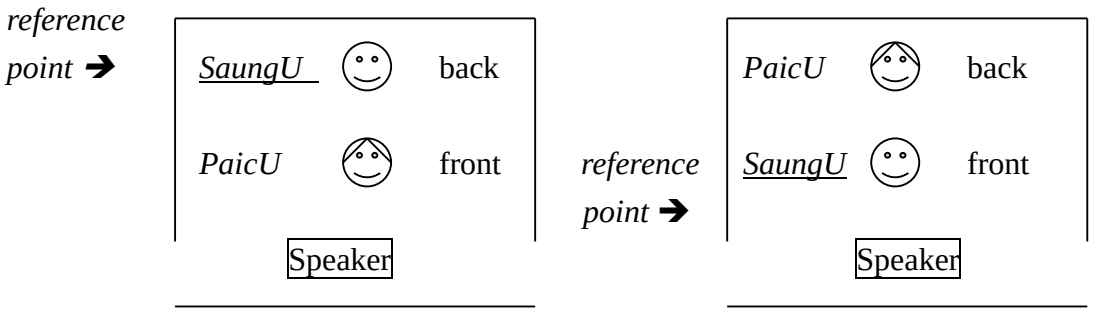
(35) mi'o eon to **tanesi** ne veiyo.
AF-1st exist Obl this side Gen Veiyo (name of a store)
"I live in the place which is in Veiyo's side." (Fieldnotes)

(36) mi'o eon to **taesi** ne veiyo.
AF-1st exist Obl that side Gen Veiyo (name of a store)
"I live in the place which is cross Veiyo." (Fieldnotes)

Similar interpretations apply to (37) & (38). In (37), *PaicU* is the focal object and *SaungU* is the reference object. Assume the speaker is as shown in the picture below at the time of speech act, then (37) means *PaicU* is closer to the speaker (i.e. she is at this side of *SaungU*). In (38), while *SaungU* is also a reference object, *PaicU* is farther away from the speaker (i.e. she is at that side of *SaungU*).

(37) ‘e paicU, mita eon ta **tanesi** ta saungU.
Top PaicU AF-3rd exist Obl this side Gen SaungU
“PaicU is in front of SaungU.” (Fieldnotes)

(38) ‘e paicU, mita eon ta **taesi** ta saungU.
Top PaicU AF-3rd exist Obl that side Gen SaungU
“PaicU is in back of SaungU.” (Fieldnotes)



tanesi *ta saungU ‘e paicU* ***taesi*** *ta saungU ‘e paicU*

/f’uf’u/ vs. /~peohna/: underside vs. downside

(39) & (40) are examples of *f’uf’u* ‘the underside of something ’; (41) is of

~peohnU ‘the downside’.

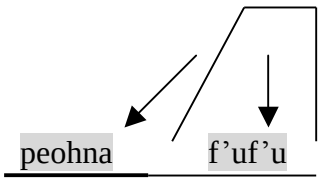
(39) pan-to mo aemo’U ta **f’uf’u** ne evi ci beahci.
Exist-Obl AF spilt Obl underside Gen tree Rl fruit
“There are fruits which are spilled under the tree.” (Fieldnotes)

(40) mo coni ‘o mo no**f’uf’u** ta ca’nU ci tposU.
AF one Nom AF be-underside Obl chair Rl book
“There’s a book which is under the chair.” (Fieldnotes)

(41) mo su**peohU** ‘o potingta ta eUsU.
AF go-downside = fall Nom button Gen cloth
“The button on the clothes fell/was missing.” (Fieldnotes)

Similar to the distinction of “under” and “below” in English, *f’uf’u* and *peohU/peohna* differ in whether there is a cover above them. *f’uf’u* is the underside of some reference object, so that it must be an NP that specifies the reference object, as shown in (39) and (40). The antonym of *f’uf’u* is *skopu*. We have *m’eoskopu* ‘tread on the upside’ & *m’ef’uf’u* ‘tread on the underside’. Different from *f’uf’u*, *peohU/peohna* only refer to downside and need not to specify a reference object. In (41), the button that fell or was lost does not have anything covering it.

f’uf’u vs. peohna:



3.6 Reduplication

Reduplication in Tsou, generally speaking, is realized by reduplicating the first syllable of a stem morpheme. In (42), /ma'~/ is a morpheme which means "walk", and /~kikiegni/ is formed by reduplicating the first syllable of /~kiegni/. (43)-(45) are the examples of the verb stem /~kukuyunvu/ 'around': fly around, be around the house, and walk around. According to our informant, there is no free morpheme functioning as a syntactically independent word *kuyunvu*. Besides, the difference between /~kikiengi/ and /~kukuyunvu/ is not as yet clear.

(42) mon'a aUlU **ma'ki-kiengi** ta emoo 'o oko.
then just Red-walk around Obl house Nom child
"The child kept on walking around the house from that moment." (Fieldnotes)

/kukuyunvu/: around

(43) **mei-kukuyunvu** 'fly around'

(44) **au-kukuyunvu** ta emoo
_around Gen house
"around the house"

(45) **emo-kukuyunvu** ho pasunaeno
walk-around Conj sing
"walk in a circle and sing"

5. Summary

We have shown that Tsou is a VOS language with a complex focus system and a system of case marking which distinguishes a set of case markers along such parameters as [visibility] [proximate] [distal] as part of their intrinsic semantic features. Such detailed distinctions in this language imply the importance of spatial relation in the semantics of case markers. We have also shown that prepositions are not a syntactic category of the language. Despite of the absence of preposition in Tsou as a syntactic category, it has other linguistic mechanisms to represent spatial information. As has already been mentioned, there are several ways to understand the spatial representation in a sentence, including the interpretation of focal objects, the predicates with rich incorporated spatial information, the spatial predicates which directly represent certain spatial notions, the combinations of both focal objects and predicates, locative nouns, and the reduplication. Based on these observations, suggest that Tsou is a "verb-framed" language whose spatial information is obtained through the understanding of the verbs/predicates in most of the case. Locative nouns play an important role, too. Of course, the interactions among verbs, focal nouns, and even the location of the speaker are also key points to have a full

understanding of spatial information in a sentence. To summarize, there are a lot of ways to get spatial information in Tsou, but only four syntactic mechanisms are used:

Table2. The syntactic mechanisms of space

Category	Morphemes	Examples	Gloss in English
Identifiable spatial predications	nooyo		‘inside’
	i’mi		‘from’
	~’unu/~’uni	emo’unu mi’unu/mi’uni	‘to’
	~caefi	meicaefi tocaefi sucaefi	‘by/cross’
	~’upu	su’upu no’upu	‘with’
	~eafo/~eafa	eueafo taeafo/taeafa	‘out’
	~ovei	meiovei eovei euovei eoovei	‘back’
	~avovei	meiavovei	‘back & forth’
Predications with rich spatial information	sunghucu		‘fall into water’
	p’etpUti		‘step on’
	bichipi		‘stand beside’
	teongasi		‘put down’
Locative nouns	veina/vhona		‘left/right’

	omza/oii		‘high/low’
	cum’u		‘nearness’
	feona		‘side’
	tanesi/taesi		‘this/that side’
	f’uf’u	nof’uf’u m’ef’uf’u	‘underside’
	skopu	m’eoskopu	‘upside’
	peohU/peohna	supeohU	‘downside’
	f’uhu		‘back’
Reduplication	~kikiengi	ma’kikiengi	‘around’
	~kukuyunvu	meikukuyunvu aukukuyunvu emokukuyunvu	‘around’

3

Spatial Representation in Squliq

Abstract

Space is a fundamental concept in human cognitive and linguistic system, since every human being is necessarily aware of his or her spatial location. As claimed by Svorou (1994), “it is in our nature to locate objects with respect to other objects, in a

relativistic way" (Svorou, 1994: 8). Therefore, focusing on the semantics of the spatial experiences, this paper discusses how Squliq, the major dialect of Atayal, structures space by means of the focal object and the reference object.

As in Seediq (Huang, 1998), Squliq can also be shown to be a language that codes spatial information by a combination of spatial predicates and locative nouns or path verbs rather than prepositions. This paper comprises two parts. In the first part, we discuss locative nouns in detail, and categorize locative nouns into four basic systems of spatial orientation (Heine, 1997). We find that either the reference object's characteristics such as animacy or the distance between the focal object and the reference object shape the way the native speaker uses the locative nouns. In the second part, we examine the semantics of spatial verbs, especially deictic motion verbs. We conclude that Squliq is a verb-framed language.

1. Introduction

To structure the space, we need a lot of entities such as the object, the location, the observer, etc. Langacker's suggestion (1986) is adopted more-spread. His major two entities structuring the space are the trajector and the landmark. The trajector is the entity to be located; the entity with respect to which the trajector is located is the landmark. In this paper, I adopt the two entities, the focal object and the reference

object, to frame the spatial representation in Squliq; the focal object refers to the same object as Langacker's trajector and the reference object is equal to his landmark.

The purpose of this paper is to discuss how Squliq structures spaces in terms of the notions of focal object and reference object. In section 2, we introduce basic Squliq spatial construction, and divide all spatial terms into two types: locative nouns and spatial verbs. In section 3, we discuss each locative noun in detail and examine the locative nouns in terms of Heine's four systems of spatial orientation. In section 4, we discuss spatial verbs.

2. Basic Squliq Spatial Construction

As in other Formosan languages, Squliq makes use of the focus system to indicate the complex agreement relationship between a focus VP and its corresponding focus NP. There are two main types of focus systems in Squliq: one is the agent focus (AF) construction with the basic word order in Squliq, VOS; the other is the non-agent (NAF) construction manifested by patient focus (PF), benefactive/instrumental focus (B/IF), and locative focus (LF). In a NAF sentence, its word order is VSO.

In this section, I introduce the basic spatial construction in Squliq. To frame the Squliq spatial construction, the combination of spatial predicate relation bases on the

interpretation of the reference object and the focal object is the main dimension I intend to explain. Consider first the basic construction as following:

	Relation	Reference Object	Focal Object			
(3).	cyux	maki☜	ska☜	yawa	cuygan	buwe_gitu☜.
	[Asp.	be:located	middle	basket	three	pear]

"Three pears are in the basket."

	Relation	Reference Object	Focal Object		
(4).	cyux	mlniq	ska☜	qsiya☜	quleh.
	[Asp	swim	middle	water	fish]

"Fish swims in the water. "

The two sentences above are AF constructions; the focal object is in subject position and the reference object is in object position. The spatial predicates, *maki*☜ 'be located' and *mlniq* 'swim' in sentences (3) and (4) respectively code the spatial relation framed by the focal object and the reference object. In (3) and (4), *cyux* is treated as a remote aspectual marker in opposition to *nyux* used to denote the immediate relation of the speaker's interaction with the event he is describing (Lou, 1994).

Besides functioning as an aspectual marker, *cyux* (or *nyux*) can also function as the main verb in a sentence, meaning 'to be located' or 'to be in existence'. First, as in (5), *cyux* as a locative verb constructs the spatial representation framed by the reference object, *zik niqan* and the focal object, *qutux ɑ iaw*.

Relation Reference Object Focal Object

(5). cyux zik niqan qutux ɯ iaw.

[be:located below desk one cat]

"A cat is under the desk."

Second, in existential sentences, *cyux* or *nyux* denotes the existence of the focal object as in (6).

Reference Object Relation Focal Object

(6). qsahuy na biruᵐ nyux qu lalu na bnrwan_sotaᵐ .

[inside Gen book Ext Nom name Gen President's sign]

"There is a sign of President inside the book."

So far I have introduced briefly the basic spatial construction in Squliq. In a basic construction, the spatial predicate relation is introduced first, then the reference object, and finally the focal object. The position of the focal object can shift from the sentence final to sentence initial position as in (6) or (5') below.

Focal Object Relation Reference Object

(5'). qutux ɯ iaw, cyux zik niqan.

[one cat be:located below desk]

"A cat is under the desk."

3. Spatial terms as nouns

Table 1 is a listing of some spatial terms in Squliq representing the same spatial concepts such as top/bottom/interior/side relationship.

Table 1.

Squliq	**Glossed in English**
babaw	above; over; on

qlaya	upside
yatux	upside
zik	below; under
qyahu	below
hogan	below
qsahuy	inside
skaᵐ	in the middle of
tanux	outside
lelaw	right
z zin	left
syaw	beside
beh	beside
binax	beside
lingay	beside
puyu	front
suruw	back
htgan wagiᵐ	east
petuhan/ byagan wagiᵐ	west
htgan hlaqi	north
bagan	south
qaniᵐ	here
qasaᵐ	there
thsaᵐ	over there

In the following discussion, these locative nouns are divided into those that represent the top region (*babaw*, *qlaya* and *yatux*), the bottom region (*zik*, *qlaya* and *hogan*), the exterior region (t*anux*), the interior region (*skaᵐ* and *qsahuy*), etc.

3.1.1. the top region

The locative noun, *babaw*, glossed as above/on/over in English, is used when the focal object is located at the top region of a reference object regardless of whether it is

contiguous with the reference object as in (7) and (8).

(7). *babaw* na rgyax qasaᵐ , cyux mlakaᵐ kya qutux kwaliᵐ .
[top Gen mountain that Asp fly one eagle]
"An eagle is flying over that mountain./Lit. The top of that mountain, an eagle is flying."

(8). *babaw* na rgyax qasaᵐ , cyux kya qpalon na utux.
[on:the:top:of Gen mountain that Asp pine Gen god]
"There is a pine on the top of that mountain."

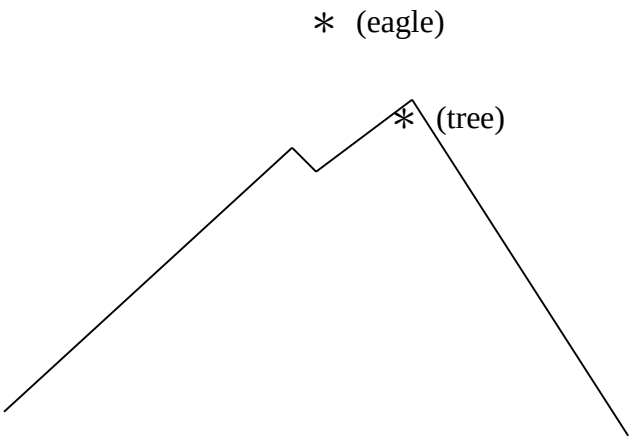


Figure 1.

In (7), the eagle is over the mountain; in (8), the tree is on the top of the mountain. This is shown in Figure 1. In (7), there is no contact between the eagle, the focal object and the mountain, the reference object, and the meaning of *babaw* here is glossed as 'above'. In (8), there is contact between the pine and the mountain, and *babaw* means 'on' in English. Thus *babaw* ranges in meaning from 'on' to 'above' or 'over'.

babaw can also be used to indicate the surface region of a 2-dimensional object, as in (9):

(9). cyux mqaluᵐ *babaw* qsiya qutux abaw.
[Asp flow above water one leaf]
"A leaf is flowing on the surface of water."

In addition to *babaw*, *qlaya* and yatux also indicates the top region of an entity where the focal object is located as shown in (10) and (11).

(10). *qlaya* naᵐ hyal maku lgaᵐ hyal Taliᵐ .
[on:the:top:of Gen estate 1st.Gen Top earth Taliᵐ]
"Taliᵐ 's estate is on the top of mine."

(11). A: cyux sqenu ú asal su pi?
[Asp which:one house 2nd. Gen Part]
"Which one is your house?"
B: cyux makiᵐ *yatux* naᵐ qala☠.
[Asp be:located the:upper Gen village]
"It is on the upper region (of village)."

In (10), *qlaya* indicates the top region of *hyal maku*; *yatux* also refers to the top region of the reference object. *qlaya* and *yatux* have the same origin, both referring to the upper village, a geographical landmark. Their distinction is based on whether the focal object is remote or not from the reference object; in other words, when *qlaya* is used, it refers to a place closer to the reference object than the place indicated by *qyahu*. However, the major difference between *babaw* and *qlaya/yatux* is the size of the reference frame as in (11).

(12). cigay qu biru cyux babaw/* *qlaya/*qayhu* kpan.
[many Nom book be:located above cabinet]
"Many books are on the cabinet,"

As depicted in (12), only *babaw* but not *qlaya/yatux* can indicate the top region of the reference object, a cabinet.

3.1.2. the bottom region

In Squliq, z*ik*, *qyahu* and *hogan* are three locative nouns that express the relative spatial arrangement between the focal object and the bottom region of a reference object in Squliq.

(13). cyux *zik* tnuhan qutux biruᵐ .
[Asp beneath pillow one book]
"There is a book beneath the pillow."

(14). cyux skapax yayaᵐ *zik* niqan mziman pilaᵐ .
[Asp stick mother beneath table fifty dollar]
"Mother sticks fifty dollars beneath the table."

In (13) and (14), there is a contact between the focal object and the reference object. But, as in the case of *babaw*, such a contact is not obligatory, as seen in (15):

(15). cyux *zik* niqan qutux ɨ iaw.
[Asp under table one cat]
"There is a cat under the table."

qyahu/hogan are also used to indicate the bottom region in Squliq. The

distinction between *zik* and *qyahu/hogan* parallels that between *babaw* and *qlaya/yatux*; the distinction between *qyahu* and *hogan* also parallels that between *qlaya* and *yatux*. The following example, (16) and (17), show the uses of *qyahu* and *hogan*.

(16). *qyahu* naᵐ hyal maku lgaᵐ hyal Taliᵐ .
[on:the:bottom:of Gen estate 1st. Gen Top estate Taliᵐ]
"Taliᵐ 's estate is at the bottom of mine."

(17). qsiya ga ari☠ yatux ru mqlyu *hogan*.
[water Top begin:with top Conj flow bottom]
"Water flows from the top to the bottom."

3.1.3. the interior region

In this section, we will discuss how Squliq expresses the interior relation spatially. In Squliq, *skaᵐ* and *qsahuy* encode the interior concepts. Though both two terms indicate the spatial concept of the focal object within a reference object, their difference has to do with outline of the reference object. First, if the outline is easy to picture such as a closet or the screen of a television set, both *skaᵐ* and *qsahuy* can be used to indicate the interior region. Generally speaking, *skaᵐ* refers to the center region of a reference object and it means "in the center/middle of" in English, as in (18) and (19) below:

(18). cyux *skaᵐ* ni hyal Yumin ru Tali hyal mu.
[Loc in:the middle:of Poss land Yumin Conj Tali land 1st.Gen]

"My land is located between Yumin's and Taliᵐ 's lands."

(19). cyux kian *skaᵐ* telebi qutux betunux klakis.
[Asp. to:be in:the:middle:of television one beautiful lady]
"There is a beautiful lady on television."

As for *qsahuy*, it indicates any spatial region inside a reference object whose outline is clearly defined as shown in example from (20) to (23) below:

(20). *qsahuy* naᵐ syasin gaᵐ cyugan hiᵐ . skaᵐ gaᵐ kun
[in Gen picture Top three body in:the:middle:of Top 1st.Nom
z zin ga yayaᵐ mu. lelaw ga yabaᵐ mu.
left Top mother 1st. Gen right Top father 1st.Nom]
"There are three people in the picture. I stand between the other two people. My mother stands on the left side. My father stands on the right side. "

(21). cyux makiᵐ *qsahuy* libuᵐ guruᵐ .
[Asp be in enclosure duck]
"Ducks are in the enclosure."

(22). cyux kian *qsahuy* telebi qutux betunux klakis.
[Asp to:be in television one beautiful lady]
"There is a beautiful lady on television."

(23). *qsahuy* naᵐ chotan ga cigay pilaᵐ .
[inside Gen drawer Top many money]
"There is a lot of money inside the drawer"

In the first clause in (20), the reference object is a photo; its boundary clearly defined. Therefore, to locate the three people in the photo, *qsahuy* is a good device. In (21), the enclosure is defined by bamboo sticks or an iron net culturally; as a result, its outline is easy to identity. In contrast to *skaᵐ* , *qsahuy* is used to indicate any point in

the interior region of a reference object where object is located.

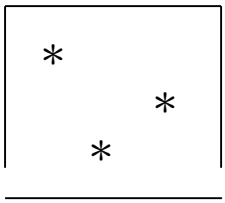


Figure 2.

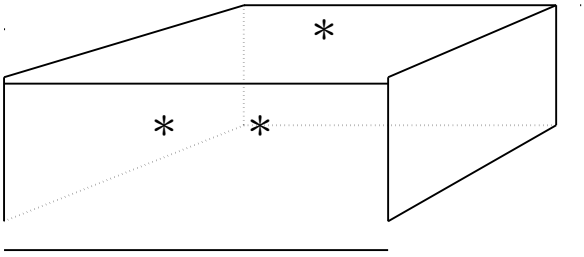


Figure 3.

In (20), (21) and (22), the place where *qsahuy* is used to indicate any location in the bounded space, except for the central part, as pictured in Figure 2. As for the three-dimensional space like a drawer, *qsahuy* is used to indicate any interior part in the container, as Figure 3 and (23) shows.

In the above paragraphs, we have suggested that *skaᵐ* and *qsahuy* are used to encode the interior region of a reference object when the outline of the reference is clearly definable. In the following discussion, we examine the interior spatial relationship when the 'outline' of the reference object such as a mountain or a crowd of people is not easily defined. In this case, *skaᵐ* is the only one choice as in

examples from (24) to (30) below:

(24). *skaᵐ* naᵐ rgyax qasaᵐ cyux qutux tgunan.
[in:the:middle:of Gen. mountain that Asp. one temple]
"There is a temple in the central part on the mountain."

(25). cyux myugi *skaᵐ* lahuy_squliq Umeᵐ .
[Asp dance in:the:middle:of the:crowd:of:people Umeᵐ]
"Umeᵐ is dancing among the people."

(26). pqwagun wagiᵐ *skaᵐ* /*qsahuy yulon.
[penetrate the:sun:light in:the:middle:of cloud]
"The sun light penetrates the cloud."

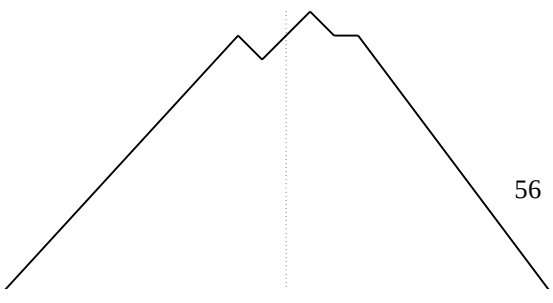
(27). *skaᵐ* /*qsahuy rgyax qasaᵐ cyux kian garux.
[in:the:middle:of mountain there Asp be bear]
"There are bears in the mountain."

(28). cyux mlnyaq *skaᵐ* /*qsahuy qsiya quleh.
[Asp swim in water fish]
"Fish swim in the water."

(29). cyux myugiᵐ *skaᵐ* /*qsahuy lahuy_squliq Umeᵐ .
[Asp dance among people Umeᵐ]
"Umeᵐ is dancing in the crowd."

(30). cyux mizyuᵐ skaᵐ /*qsahuy kᵐ man qutux hozil.
[Asp play among grass one dog]
"A dog is playing in the grass."

In (24), the temple is located more or less in the middle part of the mountain and the observer can see it clearly from a long distance as pictured in Figure 4.



*

Figure 4.

In (25), the outline of a crowd of people cannot be defined. Therefore, the location of Umeɱ can be viewed as being inside/in the middle of the reference object. In addition to the mountain and a crowd of people, clouds, lake, grass and so on can also be viewed as the reference object because of its unstable outline.

3.1.4. the exterior region

To express the idea of the exterior region, the reference object is treated as a container having an inside-region and an outside-region; the focal object is located outside the reference object. In Squliq, the word, *tanux*, is used to express the spatial relation, as in (31) and (32).

(31). iniɱ tehok ɯ asal naɱ Umeɱ gaɱ limaɱ mnaniq *tanux* la.
[Neg arrive house Gen Umeɱ Top already eat outside Part]
"Umeɱ had eaten before she came back."

(32).cyux lokah msbehuy *tanux*.
[Asp strong wind:blow outside:the:house]
"The wind blows outside strongly."

3.1.5. the side region

To express the idea of the side region of an object, the reference object must be located close to the focal object. In Squliq, there are four terms indicating the side region; they are *lingay*, *syaw*, *beh* and *binax*. *lingay* refers to the space which is rather far away from the reference object, as in (33). *syaw* and *beh* refers to the space more close to the side of the reference object than *lingay*. *beh* is limited to cases where the reference object is animate, as in (34), and *syaw* is restricted to inanimate reference objects (35).

(33).*lingay* naᵐ pqwasan qhmai yen laqiᵐ cyux mzyuᵐ .
[neighborhood Gen classroom many very children Asp play]
"Many children are playing near the classroom."

(34). cyux sulux *beh* yayaᵐ nyaᵐ Taliᵐ .
[Asp stand beside mother 3rd.Gen Taliᵐ]
"Taliᵐ stands beside his mother."

(35)."Yumin, laxiᵐ sulux *syaw* naᵐ snat qasaᵐ . tlagaᵐ kgun."
Yumin Neg. stand beside Gen cliff that too dangerous
"Yumin, don't stand beside the cliff. It is too dangerous."

The other word, *binax*, also can indicate the side region of the reference object as shown in (36) and Figure 5 below.

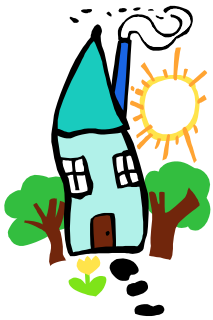


Figure 5.

(36). sazin *binax* naᵑ ɯ asal mu gaᵑ cyux kian qhoniq kwala.
[two side Gen house 1st. Gen Top Asp be tree both]
"There is one tree on each side of my house."

3.1.6. the front-back axis

To express the idea of the front-back region, the focal object is located at the front region of a reference object or the focal object is located at the back region of the reference object. In sentence (37), *puyu rgyax* means '(in) front of mountain', as shown in Fig. 6.

(37). cyux mlaka puyu rgyax cyakoɯ .
[Asp fly front mountain raven]
"The raven is flying in front of the mountain."

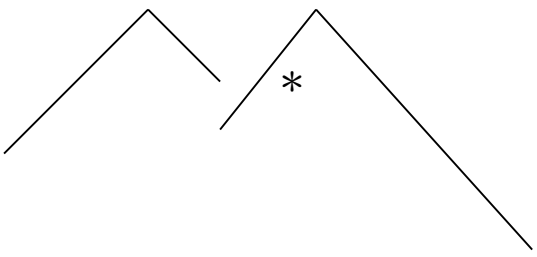


Figure 6.

suruw encodes the back region in Squliq. In (38), the focal object is the sun, which occur at the back of the reference object, the house as pictured in Figure 5. The sentence (39) is another other example indicating the back region.

(38). cyux *suruw* naᵐ ɯ asal mu lgaᵐ wagiᵐ la.
[Asp back Gen house 1st.Nom Top sun Part]
"The sun is in the back of my house."

(39). *suruw* naᵐ rgyax qaniᵐ lgaᵐ gilqn la.
[back Gen mountain the Top I-lan Part]
"I-lan is behind the mountain."

3.1.7. the left-right axis

Squliq uses body part terms for the left (*z zin*) and the right (*lz law*) hands to express the notions of left and right. The following sentences are examples.

(40). cyux *z zin* ɯ asal Taliᵐ gaᵐ qutux qu krahuy naᵐ kyokay.
[Asp left house Taliᵐ Top one Nom big Gen church]
"There is a church on the left side of Taliᵐ 's house."

(41).*lz law* qbaᵐ niᵐ Umeᵐ gaᵐ cyux meyen qutux mari
[right hand Umeᵐ Top Asp hold one ball/Jp]
"Umeᵐ holds a ball on the right hand."

A detailed discussion on *z zin* and *lz law* will be taken up in Section 3.2.

3.1.8. the cardinal direction

In Squlqi, the cardinal points, “west”, “east”, “north” and “south”, are based on the sun-model and the climatic phenomena. In addition, wind is also used as a model to indicate the two cardinal directions, the east and the west, but not the north and the south.

The east and the west can be expressed not only by the terms indicating sunrise and sunset respectively, but also by the strong wind and weak wind respectively, as in (42). The north and the south are expressed by terms that indicate climatic phenomena as the snow and the high temperature respectively, as in the example (43).

(42). wagiᵐ gaᵐ minariɻ *kogan/htgan wagiᵐ* ru mbyaq *petuhan/byagan wagiᵐ* .
[sun Top rise:from the east Conj set the west]
“The sun rises in the east and sets in the west.”

(43). traɻ qmisan gaᵐ bsiraq kahun *htgan hlaqi* mlakaᵐ
[at:the:begin winter Top bird come:from the:north fly
ru mwah *bagan*.
Conj reach the:south]
“When the winter begins, birds fly from the north to the south.”

In (42), *kogan* means ‘strong wind’ and *htgan wagiᵐ* means the place where the sun rises; both *kogan* and *htgan wagiᵐ* indicate the east. On the contrary, *petuhan* means ‘weak wind’ and *byagan wagiᵐ* indicates the place where the sun sets. In (43),

htgan hlaqi means ‘the place where the snows appears’ and *bagan* means ‘hot’ or ‘the summer’.

3.1.9. the Proximal-distal region

In Squliq, the only case for a tripartite division is the demonstrative-like nouns representing varying degree of distance from a deictic center, such as *(s)qaniᵐ* , *(s)qasaᵐ* , and *thsaᵐ* glossed as “here”, “there”, and “over there” in English respectively. Sentence (43) and Fig. 7 illustrate these three deictic nouns.

(43). nyux *(s)qani*☜ ga cyugan squliq nya☜, cyux *(s)qasa*☜ ga
[Asp here Top three people 3rd. Nom Asp there Top
qutux squliq nya☜, *thsa*☜ ga sazin squliq nya☜ la.
one person 3rd.Nom over:there Top two people 3rd.Nom Part]
“There are three people here; there is a person there; there are two people over there.”

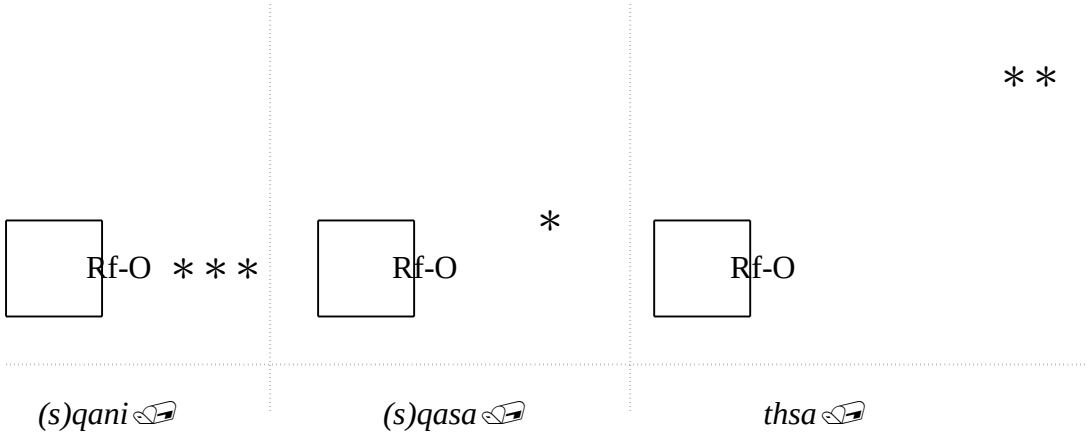


Figure. 7

(s)qasa☜ indicates the location away from the speaker; *(s)qani*☜, close to the

speaker.

3.2. Heine's Spatial Orientation

To explore and understand the spatial knowledge, Heine offers four systems of spatial orientation: deictic orientation, object-deictic orientation, landmark orientation and cardinal orientation (Heine, 1997). All of the four systems may originate from both cross-cultural models and culture-specific models. In this section, we will focus on the systems of spatial orientation that underline the grammar of space in Squliq, especially the landmark orientation.

3.2.1. Deictic Orientation

Deicitic orientation refers to speaker-deictic orientation. This system is associated with notions such as 'up', 'down', 'back', 'left' and 'right'. As indicated by Heine, body-part items can be treated as reference points in this system such as hand.

In Squliq, hand may serve as a reference domain for left and right as shown in Table 2.1.

Table 2.1 Deictic Orientation

left hand	★zin
right hand	l★law

3.2.2. Cardinal Orientation

Table 2.2 Cardinal Orientation

	west	east	north	south

Sun	V	V		
Wind	V	V		
Weather			V	V

As shown in Table 2.2, the same cardinal directions can be used on multiple models of orientation. For ‘east’ and ‘west’, the sun model appears to be stronger than the wind model. Wind is more susceptible to local geographical influence and the model is used rarely in Squliq.

Climatic phenomena have been shown to model the notions of ‘north’ and ‘south’ in section 3.1.8.

3.2.3. Landmark Orientation

In Squliq, the landmark-model is recruited to develop notions of ‘up’ and ‘down’. The landmark-model is based on geographical landmark, villages scattering in the mountain.

Each village scatters in the mountain. Based on the slope in the mountain, there is a distinction between two villages. Therefore, to indicate the spatial representation, up/down, Squliq uses *qlaya/qyahu* and *yatux/hogan*, the two sets. The distinction between *qlaya/qyahu* and *yatux/hogan* is based on whether the distance is remote or not. Generally speaking, *qlaya* and *qyahu* indicate the shorter distance between the focal object and the reference object; *yatux* and *hogan* indicate more longer distance

between two entities. Both *qlaya* and *yatux* refers to the upper village; *qyahu* and *hogan* are used for the expression of the lower/bottom village.

4. Verbs of Spatial Motion

In this section, we will examine spatial verbs in Squliq, especially deictic motion verbs and motion verbs. Tabel 3 is a listing of some of the most frequently used spatial verbs in the language.

Table 3.

Squliq	**Glosses in English**
(m)wah, hnyal, nyal	come
(m)usa, wayal, wan	go
skuraᵐ	(face, go,…) towards
msbinax	(move) backwards
kahun	(come) from
ariú	(come) from
tehok	(arrive, reach) to
gᵐ mluw	(move, walk,…) along
mbyaq	(climb) down
mqaraw	(climb) up
mhtu	(come) out
mzyup	(walk, go,…) into
mhotaw	(fall) down
hminas	(pass) by

(*m)wah/hnyal/nyal* ‘come’ and *(m)usa/wayal/wan* ‘go’ are deictic motion verbs; others

verbs are directional motion verbs.

4.1. come: (*m)wah/(h)nyal*

To express the concept that the direction of the entity moves towards the speaker, Squliq uses the two words, *mwah* and *hnyal* as in (45) and (46) respectively. *mwah* is a motion verb and its imperative form is *wah* as shown in the imperative sentence (47); *hnyal* is reduced to *nyal* to encoded as an irrealis aspectual marker.

(45). suxan gaᵐ *mwah* cisan qaniᵐ Sayun.
[tomorrow Top come play here Sayun]
"Sayun will come here and play tomorrow."

(46). *(h)nyal* Yumin.
[come/Irre Yumin]
"Yumin is coming."

(47).Sayun, *wah* qaniᵐ suxan.
[Sayun come here tomorrow]
"Sayun, come here tomorrow."

4.2. go: *(m)usa/wayal/wan*

Squliq uses *(m)usa*, *wayal* and *wan* to indicate the movement direction which the entity is away from the speaker. As exemplified in sentence (48), the motion verb, *musa*, means 'go' in English and its imperative form is *usa*, as shown in the imperative construction (49).

(48).suxan gaᵐ *musa* pqwasan Taliᵐ .
[tomorrow Top go school Taliᵐ]

"Taliᵐ will go to school tomorrow."

(49). Yumin, nahay *usa* abi'!
[Yumin quick go sleep]
"Yumin, go to bed quickly!"

wayal expresses the movement not only spatially but also temporally. Spatially, it indicates the movement away from the speaker; temporally, it decodes the past event time. Squliq treats *wayal* as a realis aspectual marker; *wan* is its abbreviated form as the following example in (50).

(50).*wayal/wan* Yumin la.
[go/Re Yumin Part]
"Yumin has gone."

4.3 (move, face,…) towards: s*kuraᵐ*

To express the spatial concept that the focal object is treated as moving in the direction of the reference object, Squliq uses the word, *skuraᵐ* . In other words, the face of the focal object is in the direction of the reference object. Unlike English, the part of speech of *skuraᵐ* in Squliq is a verb but not a preposition; additionally, its manner of movement is accomplished by the context as in (51), (52) and (53).

(52).*skuraᵐ* rgyax hmouw qu Umeᵐ .
[face:towards mountain shout Nom Umeᵐ]
"Umeᵐ faces towards the mountain the mountain and shouts."

(53).wayal *skuraᵐ* rgyax qu Taliᵐ .
[go/Re be:towards mountain Nom. Taliᵐ]

"Taliᵐ went towards the mountain."

(54).hnyal *skuraᵐ* kun Umeᵐ .
[come/Irre be:towards 1st.Gen. Umeᵐ]
"Umeᵐ walks towards me."

According to sentences above, the word, *skuraᵐ* , doesn't convey the manner of movement but the directionality. However, the manner only depends on the context.

4.4. come from & reach: *kahun/ariɬ* & *tehok*

As for the "from" concept, the reference object is treated as the point of origin; the focal object is moving away from the reference object. As for the "to" concept, the focal object is treated as moving so as to reach to the location of the reference object.

In Squliq, there are two kinds of representation for the origin; the first is *kahun* which is a motion verb; the second one is *ariɬ* which is a stative verb. There are two examples below to distinguish the two words as in (55) and (56)/(57) respectively.

(55). Yumin gaᵐ kahun nyaᵐ Bnqa kmuziᵐ turi: ru tehok Takaw.
[Yumin Top be:from 3rd.Gen Taipei drive car Conj reach:to Kaoshiung
payat nyaᵐ spoɬ lgaᵐ tehok la.
four 3rd.Gen clock Top reach Part]
"It takes Yumin four hours driving from Taipei to Kaoshiung."

In example (55), what the speaker concerns is that the focal object, Yumin, performs the action of *kmuziᵐ* . In other words, Yumin has the volition to control the action. Therefore, the starting point, *kahun nyaᵐ Bnqa*, is indicated by the action,

Yumin driving the car.

(56). *ariɬ* zik naᵐ rgyax ru tehok saᵐ babaw naᵐ rgyax
[be:from bottom Gen mountain Conj arrive top Gen mountain
gaᵐ ktaw yaw nyaᵐ ?
Top how long 3rd.Gen]
"How long is it from the bottom to the top of the mountain?"

(57). Yumin gaᵐ *ariɬ* piraᵐ spong mabiᵐ ?
[Yumin Top be:from how clock sleep]
"When does Yumin begin to sleep?"

In example (56), the reference object is the mountain; the focal object is the distance without volition to perform the action. Therefore, the VP, *ariɬ* followed by a starting point, can express the static action. As the same as in example (57), because the focal object is time but not Yumin, *ariɬ* is a good candidate to express the starting point.

4.5. (move) along: *gmᵐ luw*

To express the concept, "along", the relation between the focal object and the reference object is that the reference object is treated as an elongated entity and the focal object is moving parallel to the extended side of the reference object. Unlike English, the usage to express the spatial concept stated above, Squliq uses the verb, *gmᵐ luw* such as examples below.

(58). *gmᵐ luw* tuqiᵐ Umeᵐ .

[walk:along road Umeᵐ]
"Umeᵐ takes a walk along the road."

In (58), the focal object is Umeᵐ and the reference object is the side of the road. In the following example, the focal object is tear and its relative reference object is the face. *gmᵐ luw* only expresses the path of movement and its manner of movement is restricted in the context. As depicted in (59), *boq naᵐ loziq* functioning as the focal object falls along *leqyas* 'face', the reference object. Based on the common sense but not the language knowledge, the manner of *gmᵐ luw* is falling.

(59). nyux *gmᵐ luw* leqyas qu boq naᵐ loziq.

[Asp fall:along face Nom tear Gen eye]
"Tear falls down along the face."

To sum up, the word, gmᵐ luw, expresses the path of movement but not the manner.

There are other motion verbs like *mhotaw* 'fall down/descend', *mqaraw* '(climb) up', *mbyaq* '(go) down', *msbinax* 'move backwards' etc. in Squliq. But I don't intend to introduce all of them.

4.6. Verb-framed language

Talmy (1983) divides languages into those that express the 'core schema' by

means of verbs or satellites. As for the verb-framed language, the core meaning of a motion event-its directionality-tends to be expressed by the verb itself as *bajar* ‘go down’ in Spanish.

Thus, English has a large collection of verbs of motion which convey manner, but no directionality, combinable with a large of satellite. In other words, English is a satellite-framed language.

According to my examination on the motion verbs in Squliq, I find that Squliq is inclined to the verb-framed language. In other words, it is the verb itself, *mhotaw*, that conveys the core information of the path of movement as in (60).

(60). ari☠ babaw qhoniq *mhotaw* yongay qasa🥿.
[from above tree fall monkey that]
“That monkey falls down from the tree.”

5. Conclusion

In this paper, we have investigated how language structures space in Squliq semantically and cognitively. We discussed Squliq spatial relation constructed by the focal object, the entity to be located, and the reference object, the entity with respect to which the focal object is located.

Squliq is a language that codes spatial information by a combination of spatial predicates and locative nouns or path verbs rather than prepositions. As for locative

nouns, we discussed the top region, the bottom region, the side region, … etc in section 3. We found that the reference object's characteristics such as animate or inanimate has an influence on speakers to use the more appropriate locative nouns like the selection between *syaw* and *beh*. The outline of a reference object also influences the speaker's selection from *ska* and *qsahuy*. Additionally, the distance between the focal object and its reference object also determines the selection of locative nouns such as *qlaya/yatux* in the top region and *qyahu/hogan* in the bottom relation. In the discussion based on Heine's spatial orientation (Heine, 1997), we also examined some Squliq locative nouns. There are deictic orientation such as ★*zin* and *l*★*law* orignating from the hand, cardinal orientation including sun/wind/weather models and landmark orientation represented by *qlaya/qyahu/yatux/hogan* referring to villages.

In the second part, we discussed spatial verbs including deictic motion verbs like *(m)wah* 'come' and *(m)usa* 'go' and path verbs such as *kahun* 'from' and *tehok* 'arrive'. Based on our discussion, we found that the core meaning of a motion verb - its directionality – tends to be expressed by the verbs itself in Squliq. Therefore, we concluded that Squliq is a verb-framed language.

4

Emotion words in Tsou
—a classification by five modes and seven categories

1. Introduction

The main purpose of this chapter aims to do a primary study in the emotion words in Tsou. Five modes and seven main categories of emotion proposed in John-Laird & Otaley (1989) will be utilized to analyze the Tsou emotion words. This chapter will be organized as follows. Section 2 presents the Tsou emotion terms in five modes and seven categories. In Section 3, we view the texts and try to find the behavior of the the emotion words in texts. Section 4 is the conclusion.

John-Laird & Otaley (1989) propose that there is a small number of basic signals that can set up characteristic emotional modes within the organism, roughly corresponding to happiness, sadness, fear, anger and disgust. These five modes are primitives in emotion and are not analyzable. Any emotional term should fit one of the five basic emotion modes. Another parameter is the semantic classification of emotion terms into seven main categories, namely, generic emotions, basic emotions, emotional relations, caused emotions, causatives, emotional goals and complex

emotions. These five modes and seven categories will be addressed in the following sections.

2. Classification of emotions in Tsou

2.0 Generic emotions

Generic emotion words refer to those which denote the generic concept of emotions, like the English words ‘emotions’ or ‘feelings’.

TABLE 1—Generic emotion terms

Tsou	*English gloss*
‘tohUngU	mind, emotion, thought, feeling
ta’uni(PF)	feel (psychological state)
ta’hongi	feel (bodily sensations)

Table 1 shows the generic emotion words in Tsou. *‘tohUngU* is the most frequent generic emotion word used in the expressions of emotions. *‘tohUngU* functions as a noun, meaning mind, emotion, thought or feeling. Consider the following examples:

1. mi'o sop'o co 'tohUngU ho micu aepUngU sikeng.
   AF-1st light CM mind when Aux finish exam
   "I feel relaxed after finishing the exam." [Fieldnotes]

2. na'no poa-cong'e 'togUngU ho os'o talUi 'e e'e ta Pausya.
   very Cau-pain mind when NAF-1st hear Nom words Gen
   " What Pasuya said hurt my feelings."
   Lit:"When hearing what Pasuya said, I felt hurt." [Fieldnotes]

3. aukuzkuzoi'ta 'to'tohUngU ta eatatiskova 'e hia eUsvUsvUtU ta Pausuya
   harm Obl mind Gen people Nom way saying Gen
   "What Pasuay said has bad influence on people's mind (thought)." [Fieldnotes]

Note that *'tohUngU* is always marked with the case marker *co* to signal abstract (hence invisible) mental state, feeling or sensation. *Co* is a case marker used to indicate something that can only be felt or sensed but cannot be seen. Furthermore, it is interesting to observe that the word *koyu* 'ear' can also replace *'tohUngU* 'mind', since *koyu* 'ear' in Tsou is also believed to be the site of mentation or emotion. In (4) and (5), (a) and (b) are semantically identical:

4a. la'u eainca no koyu'u, mo i'mi ho la asngUcU aveoveoeU.
   Hab-1st say Obl ear-1st.Poss Aux from when Hab ofeten joyful
   "I think it is because he is always happy."
   Lit: "My ear says that it's because he is always happy." [Fieldnotes]

4b. la'u eainca no 'tohUngu'u, mo i'mi ho la asngUcU aveoveoeU.
   Hab-1st say Obl mind-1st.Poss Aux from when Hab ofeten joyful
   "I think it is because he is always happy."
   Lit: "My mind says that it's because he is always happy." [Fieldnotes]

5a. os'o cong'eneni koyu 'e o'oko'u.
PF-1st hurt-BF ear Nom children-my
" I feel distressed at my children."
Lit: "My ear hurts for my children." [Fieldnotes]

5b. os'o cong'eneni 'tohUngU 'e o'oko'u.
PF-1st hurt-BF feeling Nom children-my
" I feel distressed at my children."
Lit: "My feeling hurts for my chidren." [Fieldnote]

The verb *ta'uni*, glossed as 'feel', means 'to feel some emotion or sensation'. It is differentiated from the word *ta'hongi*, which means 'to feel a bodily sensation'.

6. aUmtU UmnU co isi ta'uni ta Pasuya.
really good CM NAF-3rd feel Obl
" Pasuya feels good." [Fieldnote]

7. na'no UmnU co isi ta'uni ho mito noteuyunu.
very good CM NAF-3rd feel when AF-1st.Pl together
" It feels good to have people stay together." [Fieldnote]

8. ita ta'hongi ho mo congo co pUeo-taini.
NAF-3rd feel Comp AF pain CM belly-3rd.Poss
"He feels pains in the belly." [Fieldnote]

9. isi ta'hongi ta oko ho mo congo co koyu-si.
NAF-3rd feel Obl child Comp AF pain CM ear-3rd.Poss
" The child feels pain in his ear." [Fieldnote]

2.1 Basic emotions

Basic emotions are emotions that can be experienced without the experiencer knowing their cause, though obviously they can also be used to refer to emotions experienced for a known reason. Since they are primitive, basic emotion signals have no internal structure that is parsed and interpreted within the system. Table 2 is a listing of all of the emotion verbs in five basic modes elicited in the fieldwork. [P] indicates the verb is in Patient focus form; [A] indicates the verb is in Agent focus form.

TABLE 2— Basic emotion terms

Basic Modes				
Happiness	*Sadness*	*Fear*	*Anger*	*Disgust*
kaeba [P] (happy)	**nac'oa** [P] (sad)	**smoeoa** [P] (fear)	**sU'noa** [P] (angry)	**kuzoa** [P] (dislike)
kaebU [A] (happy)	**nac'o** [A] (sad)	**smoeo** [A] (fear)	**sU'no** [A] (angry)	**him-kuzo** [A] (see-bad) (dislike)
kokakaeba [P] (very happy)	**ma'ecvUhU** [A] (think-heavy) (heavy-hearted)	**t'oe'Uya** [A] (timid)		
kokakaebU [A] (very happy)				
ma'sosop'o [A] (think-light) (light-hearted)				
ma'sosohuyu [A] (feeling comfortable) (to be in good mood)				
ma'kakaebU*[A]* *(think-happy)*	***ma'nac'o*** *[A]* *(think-sad)*	***ma'smoeo*** *[A]* *(think-fear)*	***ma'sU'no*** *[A]* *(think-angry)*	

makakaebU*[A]*	***manac'o*** *[A]*	***masmoeo*** *[A]*	***masU'no*** *[A]*
(prone-happy)	*(prone-sad)*	*(prone-fear)*	*(prone-angry)*
(optimistic)	*(pessimistic)*	*(timid)*	*(irritable)*
tio-kaebU	***tio-nac'o***	***tio-smoeo***	***tio*-sU'no**
(hand move-happy)	*(hand move-sad)*	*(hand move-fear)*	*(hand move-anger)*
peis-kaebU	***peis-nac'o***	***peis-smoeo***	***peis*-sU'no**
(act-happy)	*(act-sad)*	*(act-fear)*	*(act-angry)*
o'-kaebU	***o'-nac'o***	***o'-smoeo***	***o'-sU'no***
(eat-happy)	*(eat-sad)*	*(eat-fear)*	*(eat-angry)*
beu-kaebU	***beu-nac'o***	***beu-smoeo***	***beu-sU'no***
(drink-happy)	*(drink-sad)*	*(drink-fear)*	*(drink-angry)*
to-kaebU	***to-nac'o***	***to-smoeo***	***to-sU'no***
(walk-happy)	*(walk-sad)*	*(walk-fear)*	*(walk-angry)*
him-kaebU	***him-nac'o***	***him-smoeo***	***him-sU'no***
(look-happy)	*(look-sad)*	*(look-fear)*	*(look- angry)*
buh-kaebU	***buh-nac'o***	***buh-smosmoeo***	***buh-sU'no***
(look-happy)	*(look-sad)*	*(look-fear)*	*(look-angry)*
smo'eU-kaebU	***smo'eU-nac'o***	***smo'eU-smoeo***	***smo'eU-sU'no***
(look-happy)	*(look-sad)*	*(look-fear)*	*(look-angry)*

Tsou has a rich system of affixation. The prefixes in these words indicate the manner in which the emotion is expressed. For example, *to-* in *tokaebU* means 'to walk' and *tokaebU* means 'walk happily'. In fact, these prefixes are very productive, since they can be attached to many words other than emotion words.

Various modifications of the basic modes can be made. The first modification of the basic modes has to do with the intensity of the modes. There are two ways in Tsou in which the intensity of an emotion can be expressed. One is to use the degree adverb *na'na* (PF) or *na'no* (AF). The other is to reduplicate the first syllable of an

emotion stem verb. For example, *nac'o* means 'sad' and *nanac'o* means 'very sad'; *sU'no* means 'angry' and *sU'sUno* means 'very sad'.

The second dimension we are going to look at is the temporal duration of the basic emotion. Some of the basic emotion terms refer to currently experienced emotion, others refer to a prolonged state or mood, and still others refer to an even longer-term state-- a disposition of the personality. Based one the data we collected, two categories of emotion are discernible: those that refer to currently experienced emotion and those that refer to disposition of personality. In Tsou, words in the latter category are formed with a prefix *ma-* 'prone to' attached to the words in the former category. For example, *smoeo* is 'to feel afraid' and *masmoeo* refers to a personality of being disposed to feeling afraid. Similarly, *makakaebU* means 'optimistic', *manac'o* means 'pessimistic' and *masU'no* means 'irritable'. Another important prefix *ma'-* 'think', as in *ma'kakaebU*, is a very essential device in the expression of emotions. Prefixes *ma'-* (AF) and *ta'-* (PF) comes in pairs, meaning "think"[ii]. They can be attached to a common verb to form an emotion word, expressing the state of mind. Observe the examples listed below.

10a. na'no poa-congo **co** **'tohUngU**'u ta mocmo.
very Cau-pain CM feeling-my Nom others
" Others made me feel distressed." [Fieldnotes]

10b. na'no poa-**ma'**co'congo ta mocmo.

very Cau-think-pain Nom others
" Others made me feel distressed." [Fieldnotes]

11a. sop'o **co tohUngU'**u ho micu aepUngU siken.
light CM mind Comp Aux-already finish exam
" I feel relaxed after finishing taking the exam." [Fieldnotes]

11b. **ma'**so'sop'o ho micu aepUngU siken.
think-light Comp Aux-already finish exam
" I feel relaxed after finishing taking the exam." [Fieldnotes]

Ma'- and *ta'-* can also attach to stem which is already an emotion word. For example, *kaebU* 'happy' is an emotion word and we have *ma'kaebU* 'think-happy', meaning 'when thinking of something, one is happy.' As Table 2 shows, *ma'nac'o*, *ma'sU'no* and *ma'smoeo* are all instances of this type.

Still, some morphemes attached to by *ma'-* or *ta'-* are not meaningful in isolation. For example, *-susuaeza* or *–susuae* in *ta'susuaeza* and *ma'susuae* are meaningless.[iii] Many examples can be found in subsequent tables. *Ma'ecingi* 'miss'in Table 3, t*a'kuv'a* and *ma'kuv'o* 'worry' in Table 4, *ta'ecinga* and, *ta'cocoveoza* and *ma'cocoveoi* 'feel pity on' in Table 7

2.2 Emotional relations

Words in emotional relations refer to the relation between someone who experiences an emotion and its object. Table 3 is a listing of words in emotional relations in five basic modes.

TABLE 3—Emotional relation terms

Basic modes				
Happiness	*Sadness*	*Fear*	*Anger*	*Disgust*
kaeba [P] (like)	**cong'eneni** [B] (distressed for Sb.)	**smoeoa** [P] (fear)	**sU'nova** [P] (angry with)	**kuzoa** [P] (dislike)
kaebU [A] (like)	**cong'o** [A][iv] (distressed)	**smoeo** [A] (fear)	**sU'no** [A] (angry with)	**him-kuzo** [A] (see-bad) (dislike)
UmnUa [P] (love)	**ta'cocongva** [P] (think-pain) (distressed at)	**ngoheUngea** [P] (afraid of)	**aubut'a** [P] (show grievance)	**him-nac'oa** [P] (see-sad) (dislike)
UmnU [A] (love)	**ma'cocongo** [A] (think-pain) (distressed at)	**ngoheUngeU** [A] (afraid of)	**aubut'u** [A] (show grievance)	**him-nac'o** [A] (see-sad) (dislike)
huseolUa [P] (be to one's liking)	**ta'ecinga** [P] (miss)	**sokoeva** [P] (worry about)		**nahanga** [P][v] (hostile to each other)
buhsaseolU [A] (be to one's liking)	**ma'ecingi**[A] (miss)	**sokoeu** [A] (worry about)		**nahangU** [A] (hostile to each other)
koei [A] (respect)		**ma'tataso** [A] (think-force) (strong character)		**mihangU** [P] (hostile)
koei'ia [P] (respect)		**'UteU** [A] (brave)		**mihango** [A] (hostile)
enva [P] (respect)		**ma'sasmoeo** [A] (fear)	***tiu-but'u*** *(hand move-grievance)*	**him-sU'nova** [P] (see-anger) (dislike)
einu [A] (respect)			***peis-but'u*** *(act-grievance)*	**him-sU'no** [A] (see-anger) (dislike)
ma'cocacni [A] (friendly)			***ou-but'u*** *(eat-grievance)*	**sU'nova** [P] (angry) (dislike)
ta'UmUnUa [P] (hear-like)			***beu-but'u*** *(drink-grieva*	

(approve of)	*nce)*
ta'UmUnUi [A]	***to-but'u***
(hear-like)	*(walk-grievan*
(approve of)	*ce)*
ngohia [P]	***him-but'u***
(treasure)	*(look-grievance)*
buh-UmnU [A]	***buh-but'u***
(look-like)	*(look-grievance)*
hu-UmnUa [P]	***smo'eu-but'u***
(look-like)	*(look- grievance)*

It is worth mentioning that in the *Disgust* category, there are many morphologically derived words. Take *himkuzo* for example. *Kuzo* originally means 'bad' or 'die' and the prefix *him-* means 'look'. Thus, *himkuzo,* while it literally means that when one sees something, one feels bad, is an emotion verb meaning 'disgusted with something', regardless of whether one sees the object or not. This is shown in (10) and (11).

12. maica ho o'a mo cu te **kuzo** na 'e cou.
like_this Neg AF Fut die Nm man
"This is why the man didn't die." [bear, 109]

13. i-ne-mio moso aUmtU na'no **himkuzo** no mo nat'e na cmoi
then Aux really very dislike Obl AF stink Nom bear
"The bear really did not like the smell." [bear, 130]

There are emotion words which also fall into the emtional relation category but which are not shown in Table 3. They are *–neni* suffixed words. The suffix *-neni* is attached to a verb to form Benefactive Focus (BF) and the noun in the nominative

case is the beneficiary of the action or state associated with the verb. Compare the following examples.

14a. mo congo co ‘tohUngU-u
AF pain CM mind-1st.Poss
“I am distressed.” Lit: “My mind pains.” [Fieldnotes]

14b ita cong’eneni ‘tohUngU ‘e o’oko-taini.
Aux-3rd pain-BF mind Nom children-3rd.Poss
“ He is distressed at his children.”
Lit: “His mind pains for his children.” [Fieldnotes]

15a. mi’o na’no kaebU.
AF-1st very happy
“ I am very happy.” [Fieldnotes]

15b. os’o kaebUneni ‘e Pasuya ho mita eaa av’u.
AF-1st happy_for Nom Comp Aux-3rd have dog
“ Pasuya has a dog. I am happy for him.” [Fieldnotes]

In example (14), although *congo* and *cong’eneni* derive from the same stem, they have quite different syntactic behavior. In (14a), we can see that the verb *congo* is followed by the noun *‘tohUngU* ‘mind’ with a case marker of sensation *co*. However, in (14b), it is found that there is no case marker between the verb *cong’eneni* and the noun *‘tohUngU* ‘mind’. As long as there are emotion verbs in the *–neni* form, the NP in the nominative case represents the stimulus (the benefiary) of the emotion.

2.3 Caused emotions

Some verbs signify a feeling that has a cause known to the individual experiencing it. Of course, all emotions ought to have a cause, but the label here is meant to imply merely that some aspects of it are known to the experiencer. Syntactically, while emotional relation words take an object, the caused emotion words always occur with a clausal complement to specify an event as the cause.

TABLE 4—Caused emotion terms

Basic Modes				
Happiness	*Sadness*	*Fear*	*Anger*	*Disgust*
kaeba [P] (like)	**nac'oa** [P] (sad)	**smoeoa** [P] (fear)	**sU'nova** [P] (angry)	**sohpoza** [P] (be sick of; be disgusted with)
kaebU [A] (like)	**nac'o** [A] (sad)	**smoeo** [A] (fear)	**sU'no** [A] (angry)	**sohpoi** [A] (be sick of; be disgusted with)
UmnUa [P] (like)		**ngoheUngeU** [P] (afraid)	**yungsongsou**[vi] [A] (furious)	
UmnU [A] (like)		**ngoheUngea** [A] (afraid)	**yubupciki**[vii] [A] (extremely furious)	
aveoveoneni [B] (glad,joyful, thankful)		**eophia** [P] (afraid)		
aveoveoeU [A] (glad,joyful, thankful)		**eophi** [A] (afraid)		

tau'nonav'U [P] (admire/surprise)		**sokoeva** [P] (worry)	
mau'nona'o [A] (admire/surprise)		**sokoeu** [A] (worry)	
huhmohma [P] (amaze)		**ta'kuv'a** [P] (worry)	
buhmohmo [A] (amaze)		**ma'kuv'o** [A] (worry)	
huhnonav'U [P] (surprise to see sth. novel)		**eamceni** [B] (surprise)	
buhnona'o [A] (surprise to see sth.novel)		**eamci** [A] (surprise)	***ta'sU'nova*** *[P]* *(think-angry)*
UmUUmUnUa [P] (be content with)		**eohzU** [A][viii] (frighten)	***ma'sU'no*** *[A]* *(think-angry)*
UmUUmUnU[A] (be content with)		**eaUm'Um'i** [A] (having heart fluttering with fear)	***ta'sU'sU'nova*** *[P]* *(think-very angry)*
		ma'tipvongU [A] (perturbed)	***ma'sU'sU'no*** *[A]* *(think-very angry)*
'okaebUa *[P]* *(extremely glad)*	***'onac'oa*** *[P]* *(extremely sad)*		***'osU'noa*** *[P]* *(extremely angry)*

Several words appear in both Table 3 and Table 4. This is so since the distinction between emotional relations and caused emotions is partially syntactic. Such overlap between emotional relations and caused emotions is also found in John-Laird & Oately (1989)'s scheme of classification for English, as Table 5 shows:

TABLE 5—Comparison of some emtional relation and caused emotion terms in English

Emotional relations	Caused emotions
afraid of	afraid
angry at	angry
worry about	worry

It is apparent from Table 5 that the distinction between the two categories of emotion words depends on the presence and absence of a preposition. Since no grammatical category of preposition is justified in Tsou, the same emotion words can be classified as both emotional relations and caused emotions.

16a. os'o sU'nova 'e Pasuya.
PF-1st angry Nom
" I was angry at Pasuya." [Fieldnotes]

16b. mi'o sU'no ta Pasuya.
AF-1st angry Obl
" I was angry at Pasuya." [Fieldnotes]

16c. mi'o sU'no ho miko o'te uhtan'e.
AF-1st angry Comp Aux-2nd come_here
" I was angry that you did not come here." [Fieldnotes]

16d. os'o sU'nova ho miko o'te uhtan'e.
Aux-1st angry Comp Aux-2nd Neg come_here

" I was angry that you did not come here." [Fieldnotes]

In example (16), (a) and (b) shows that the word *sU'no* and *sU'nova* indicate a relation between 'Pausya' and 'I'. 'I' is the experiencer of the emotion angry and Pausya is my object. In (c) and (d), *sU'no* and *sU'nova* is the caused emotion experienced by 'me', and the complements (you did not come here) signify an event, which causes this emotion.

The prefix *'o-* indicates the highest intensity of an emotion. Three such high intensity caused emotion words are given in the bottom of Table 4, and they are *'okaebUa, 'onac'oa, and 'osU'noa*. Furthermore, the adverb *atva'esi* 'the most' indicates the superlative degree. See the following sentence.

17. atva'esi nac'o ta mo cono emoo 'e Pasuya.
the_most sad Obl Aux one/ whole home Nom
" Pausya is the saddest in the whole family." [Fieldnotes]

2.4 Causatives emotions

The category of causative emotion verbs expresses the relation between the cause of an emotion and person who experiences it. One example of a causative

emotion verb is *annoy* as in "The news *annoyed* the President." Causative verbs in Tsou are formed by placing the prefix *poa-* to the caused emotion. *Poa-* is fairly productive, for it can attach to any caused emotion to form a causative verb. In (18) and (19) are 2 causative sentences. The sentences in (18b) and (19b) are expressed by causative emotion verbs.

18a. nanac'o 'e mo noteueymu ci eatatiskova.
sad Nom. Aux together Rel people
" People around feel sad." [Fieldnotes]

18b. **poa-**nanac'o ta mo noteueymu ci eatatiskova 'e Pasuya.
Cau.-sad Obl. Aux together Rel people Nom.
" Pasuya saddens the people around him."
Lit:" Pasuya makes the people around him sad." [Fieldnotes]

19a. isi na'na ta'kuv'a 'e Pasuya ho mo ot'e maine'e o' oko.
PF-1st very worry Nom Comp Aux Neg come_home Nom child
" Pasuya was worried about the child not coming back yet." [Fieldnotes]

19b. **poa-**ma'kuv'o 'e Pasuya ho mo ot'e maine'e o' oko.
Cau.-worry Nom Comp Aux Neg come home Nom child
"That the child is not coming back yet worries Pasuya." [Fieldnotes]

2.5 Emotional goals

Emotions often function as motives that lead to characteristic behaviors designed to achieve goals. The achievement of goals may lead to happiness and unfulfilled goals to sadness or to anger. Several types of verbs fall into this category, including

emotion verbs denoting the state of having achieved a goal, the sadness or anger state because of failure of reaching the goal, and the sadness state resulting from thwarted love or desire.

TABLE 6—Emotional goal terms

Basic Modes				
Happiness	*Sadness*	*Fear*	*Anger*	*Disgust*
tata'ea[ix] [P] (desire/adore) **tata'e** [A] (desire/adore) **konvosa** [P] (covet) **konvosU** [A] (covet) ***huhtata'ea*** [P] (see-desire) ***buhtata'e*** [A] (see-desire)				

(20) and (21) are two sentences exemplifying emotional goals:

20. mita buhtata'e ta mo bonU 'e Pasuya.
    Aux-3rd see-desire Obl Aux eat Nom
    " Pasuya wants to eat when seeing people eating." [Fieldnotes]

21. mita konvosU ta gamcia 'e Pasuya.
    AF-3rd covet Obl candy Nom
    "Pausya covets the candy." (He wants all of the candy to be his.) [Fieldnotes]

So far, we have only collected data which fit to the *happiness* mode.

2.6 Complex emotions

Complex emotions denote feeling and emotions that should be analyzable in terms of a basic emotion. Words that denote basic emotions can be used to refer to complex emotions, too. For example, when someone says "I felt anxious because I was aware that I has made a fool of myself in front of those people, " the experience can be viewed as an 'embarrassment', which is a mild fear or shame brought on by self-consciousness.

TABLE 7—Complex emotion terms

Basic Modes				
Happiness	*Sadness*	*Fear*	*Anger*	*Disgust*
	ta'cocoveoza [P]			**koei'ia** [P]
	(feel pity for)			(ashamed)
	ma'cocoveoi [A]			**koei** [A]
	(feel pity for)			(ashamed)
	ta'cingha [P]			**huhfueva** [P]
	(empathize)			(jealous)
	ma'cinghi [A]			**buhfuyo** [A]
	(empathize)			(jealous)
	ta'susuaeza [P]			***so'eU-konvosa*** [P]
	(regret)			(see-covet)(envy)
	ma'susuae [A]			***smo'eu-konvosU*** [A]
	(regret)			(see-covet)(envy)
	ta'vovea [P]			***so'eU-but'ua [P]***
	(repent)			*(see-grievance)(envy)*
	ma'vovei [A]			***smo'eu-but'u*** [A]
	(repent)			(see-grievance)(envy)

so'eU-sU'nova *[P]*
(see-angry)(envy)

smo'eU-sU'no *[A]*
(see-angry)(envy)

First, see the following two sentences with complex emotion verb.

22. smo'eukonvosU ta PaicU 'e Pasuya ho mo eueupasU.
envy Obl Nom Comp Aux many_money
"Pausya envies PaicU's much money." [Fieldnotes]

23. ta'cocoveoza 'o hia-si atutumzo to Pasuya.
feel_pity_for Nom way-3rd.Poss sufferings Gen
"Pasuya suffers a lot. I feel sympathy for him."
Lit: "I feel pity for Pasuya's sufferings." [Fieldnotes]

In the similar way as Table 3 shows, the words in the Disgust category are plenty of combined words, which have derived new meanings. If we would like to express the concept of 'evny' in Tsou, we have three choices—*smo'eubut'u* 'see-grievance', *smo'eusU'no*(see-angry) and *smo'eukonvosU* (see-covet). The former two borrows the emotion 'angry' to express the emotion 'envy'.

3. Emotion words in texts

In this section, we try to look at the behavior of emotion words in texts. Table 8 shows the emotion words and their focus forms found in the texts.

Table 8 Emotion words found in texts:

No.	Text	IU No.	Focus	Tsou	English
1	Snake	27	PF	smoeoa	fear
2		30	PF	smoeoa	fear
3		39	PF	smoeoa	fear
4		124	PF	smoeoa	fear
5		137	PF	smoeoa	fear
6		138	PF	eophia	afraid
7		150	PF	smoeoa	fear
8		158	PF	eophia	afraid
9		158	PF	smoeoa	fear
10		165	PF	smoeoa	fear
11		166	PF	eophia	afraid
12		218	PF	tata’za	desire
13	Lasuru	15	PF	ta’cocoveoza	feel pity for
14		19	AF	aveoveoeU	glad
15		30	***AF***	ma’vovei	repent
16	Bear	101	***AF***	himnac’o	dislike
17		112	***AF***	himkuzo	dislike
18		120	PF	ta’unona’vU	admire
19		143	AF	ngoheUngU	afraid
20		158	PF	smoeoa	fear
21	Pear 1	32	PF	tata’za	desire
22	Pear 2	16	***AF***	aveoveoeU	glad
23		50	***AF***	kokakaebU	happy
24	Pear 3	22	***AF***	ngoheUngU	afraid
25		34	PF	huseolUa	be to one’s liking
26		50	***AF***	aveoveoeU	glad

Emotion words found in texts and their frequency:

smoeoa (9), eophia (3), tata’za (2), ta’cocoveoza(1), ta’unona’vU (1), huseolUa (1), aveoveoeU (3), ma’vovei (1), himnac’o (1), himkuzo (1), , ngoheUngU (2) and kokakaebU (1).

Percentage of agent focus form and patient focus form:

AF: 9/26=35% PF: 17/26=65%

Emotion words are not easy to find in texts. Eight texts have been viewed[x], but we find only 26 examples with emotion words, among which only 12 emotion words are actually used. Emotion words are more frequent in patient focus form (65%) than agent focus (35%). Besides, some emotion words are found to appear only in certain focus form. For example, *smoeoa* appears only in PF form, while *aveoveoeU* appears only in AF form.

4. Conclusion

We have attempted in this paper to give a taxonomy of emotion words in Tsou. Emotion terms are classified by two parameters--five modes and seven main categories of emotion as proposed in John-Laird & Otaley (1989).

A total of 160 emotion words were elicited in the course of the fieldwork, although it should be noted that Tsou has a rich system of affixation capable of forming emotion words that indicate whether the manner in which an emotion is

expressed or the intensity of an emotion. Finally, the uses of emotion words in 8 narrative texts were surveyed and it was found that the emotion words were largely used in PF form, the major significant exceptions being words in the basic mode of happiness-- *aveoveoeU* were always in AF form.

Notes

[1] The word *aukukuzo* comprises two parts-- the prefix *au-* and the reduplicated form of *kuzo*. *Au-* indicates 'an action' and *kuzo* means 'bad'. Therefore, *aukukuzo* is literally translated as 'doing something bad', namely 'to harm'.

[ii] The root of the prefix comes from the verbs 'think' --*ma'to'tohUngsU*(AF) / *ta'to'tohUngva*(PF).

[iii] It is believed that these bound morphemes used to be content words, containing meaning of its own. However, they lost their own meanings through time.

[iv] There are two AF form in the Tsou word for 'pain'— *congo* and *cong'e*. See the example listed below.

mio congo co 'tohUngU-u = mi'o cong'e 'tohUngU.
pain CM mind-1st.Poss AF-1st pain mind
"I am distressed." Lit: "My mind pains." [Fieldnotes]

It is stipulated that *cong'e* is a merger of the verb *cong'o* and the nominative case marker *'e*. Therefore, the case marker is absent in the sentences with *cong'e*.

[v] *nahangU* (AF)/ *nahanga* (PF) means 'two persons or two groups have hostility to each other, but *mihangU*(AF)/ *mihango* (PF) means 'someone or some group has hostility to another person or group.' Consider the following sentences:

na'no (yupa) nahanga 'e Pasuya ho PaicU.
very Rec hostile Nom Conj [Fieldnotes]
"Pasuya and PaicU are hostile to each other."

na'no himhangU 'e Pasuya ta PaicU.
very hostile Nom Oble [Fieldnotes]
"Pasuya is hostile to PaicU."

[vi] *ngsou* means 'breath'; therefore, *yungsongsou* literally means 'a lot of breath' and turns out to be 'furious'.

[vii] The word *bupciki* means to ‘strangle’, thus *yubupciki* means ‘one is so angry that he can hardly breathe.’

[viii] As informant pointed out, this word does not have corresponding PF form.

[ix] In the dialect of TapangU, it is *tata’ia*.

[x] The title of the texts are Snake, Lasaru, Bear, Ba’eton’u, Pear 1, Pear 2, Pear 3 and Dailylife.

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Appendix -- Glossary of the emotion words in Tsou

The following is the listing of all the emotion verbs in Tsou elicited in the fieldwork. The derived words forming by the prefixation indicating whether the manner in which an emotion is expressed or the intensity of an emotion will not be listed here. However, the derived word that has a derived new meaning will be included.

AF	*PF/ BF*	*English gloss*
aveoveoeU	***aveoveoneni [BF]***	glad, joyful, thankful
aubut'u	***aubut'ua***	show fury to
buhfuyo	***huhfueva***	jealous
buhmohmo	***huhmohma***	amaze
buhnona'o	***huhnonav'U***	surprise (at sth. novel)
buhsaseolU	***huhseolUa***	be to one's liking
cong'o	***cong'eneni [BF]***	pain
eamci	***eamceni [BF]***	surprise (at sth. unexpected)
eohzU	*****	frighten
eophi	***eophia***	afraid
einu	***enva***	respect
himnac'o	***himnac'oa***	dislike
himkuzo	***kuzoa***	dislike
himsU'no	***himsU'nova***	dislike
kaebU	***kaebUa***	happy
koei	***koei'ia***	shame/ shy
konvosU	***konvosa***	covet
ma'cinghi	***ta'cingha***	empathize
ma'cocacni	*****	gentle/ friendly
ma'cocongo	***ta'cocongva***	distressed at

ma'cocoveoi	***ta'cocoveoza***	feel pity for
ma'ecingi	***ta'einga***	miss
ma'ecvUhU	*****	heavy-hearted
ma'kuv'o	***ta'kuv'a***	worry
ma'sosop'o	*****	light-hearted
ma'sosohuyu	*****	having a good mood
ma'susuae	***ta'susuaeza***	regret
ma'tataso	*****	strong character
mau'nona'o	***tau'nonav'U***	admire/ surprise
ma'tipvongU	*****	perturbed
ma'vovei	***ta'vovea***	repent
mihango	***mihangU***	hostile (to sb.)
nac'o	***nac'oa***	sad
nahangU	***nahanga***	hostile (to each other)
ngoheUngeU	***ngoheUngea***	afraid
himngohi	***ngohia***	treasure
smoeo	***smoeoa***	fear
smo'eubut'u	***so'eUbut'ua***	envy
smo'eukonvosU	***so'eUkonvosa***	envy
smo'eusU'no	***so'eUsU'nova***	envy
sohpoi	***sohpoza***	be sick of; be disgusted with
sokoeu	***sokoeva***	worry about
sU'no	***sU'noa***	angry
tata'e	***tata'ea***	desire/ adore
ta'UmUnUi	***ta'UmUnUa***	approve of

t'oe'Uya	*****	timid
UmnU	***UmnUa***	love
UmUUmUnU	***UmUUmUnUa***	be content with
'UteU	*****	brave
yungsongsou	*****	furious
yubupciki	*****	furious

5

Morphology of Emotion Verbs

Introduction

ma'-, *ma-* and *lua-* are very productive prefixes in the word formation of Tsou emotion verbs. The following are examples of emotion verbs with these prefixes.

(1) ausuhcu ma'-sUsU'no 'e PaicU ho mo 'oha
gradually think-angry Nom. PaicU when Aux Neg.
tmalalU 'e oko
listen Nom. child
"PaicU gradually becomes angry when she thinks that her child does not listen to her." [fieldnotes]

(2) mi-ta masU'no 'e Pasuya
AF-3rd Sg. prone to anger Nom. Pasuya
"Pasuya is prone to get angry." [fieldnotes]

(3) la ta lua-sU'no 'e Pasuya ho mo
HAB 3rd. Sg. disposed to-angry Nom. Pasuya because Aux
oh'a tmalalU 'e oko
Neg.listen Nom. child
"Pasuya is often disposed to get angry because his child does not listen to him. [fieldnotes]

The prefixes *him-* and *buh-* that often go with emotion verbs are found in our narrative data. Both describe the action of seeing and the relation between perception and emotion. The following are examples:

(4) inemio, 'e… i'o moso tufku ci oko no mamespingi, cuma
at that time Nm Nm Aux wash clothes Rl child Obl girl what
ic'o buh-saseolU to oko no hahocngU
see-like each other Obl child Obl boy
"At that time, the girl who washes clothes love the boy for the first sight."
[love story 1]

(5) amak-ta aUmtU him-nac'o no nat'ee
unexpectedly-3rd Sg. really see-feel bad Obl. stink
"Unexpectedly, it really hates the stink." [Bear]

In addition to *him-* and *buh-*, quite a few prefixes denoting actions are collected during our fieldwork. There was no systematic research of these affixes before. Here are a pair of words resulting from the word formations of one identical prefix and two different stems (*beu-* is a variant of *be-*).

besU'no "to drink when one is angry"

bebut'u "to drink to vent one's anger"

Previous studies alluded to these affixes without focusing on emotion words. Tung (1964) analyzed *ma'-* as a shortened form of *ma'mi* "to think," and *ma* as either a prefix for "various, all kinds of" or a shortened form of *mahafo* "to take." Szakos (1994), in discussing morphology of verbs, observes that *lua-* is a prefix meaning "disposed to," and that *ma-* as a prefix for "to take." Neither Tung nor Szakos discussed *ma* as a prefix that means "disposed to." Tung considered *buh-* to be a variant of *bu-*, which he claimed was often attached to primary words to show intensification. Tung also took the prefix *him-* to mean "owner of something or somebody." The late two analyses done by Tung are not relevant to the present study on emotion verbs and will be ignored.

The purpose of this chapter is to uncover the meanings of these prefixes in emotion verbs and the constraints on the type of words they are attached to. The organization of the chapter is as follows. Section 2 discusses the prefix *ma'-* and its restrictions. Section 3 concentrates on the meaning and distribution of the prefix *ma-*. Section 4 discusses the prefix *lua-* and its difference from *ma-*. Section 5 analyzes the prefix of "seeing" *buh-* and *him-*. Section 6 investigates a variety of

prefixes denoting actions such as *'o-* "eat," *be-* "drink," *bohi-* "chop", *eo-*"beat," *tma-* "hear," *peis-* "act" and *tiu-* "do with hands." Section 7 concludes the paper.

The Prefix *ma'-*

The prefix *ma'-* "to think" has an identical form with the prefix meaning "to take." Tung (1964) undertook a detailed discussion of the words that the prefix *ma'-*"to take" goes with, as in *ma'fueo* "to catch fish by draining water," ignoring the similarly productive prefix *ma'-* "to think," though he did suggest that *ma'-* "to think" is a shortened form of the word *ma'mi* "to think." Whether *ma'-* comes from *ma'mi* or not is not our present concern. Rather, our concern is with the distribution of *ma'-*, the syntax and the semantics of words formed by attaching it to various types of stems.

2.1 The Distribution of *ma'-*

ma'- is a verb-forming prefix. This means that the stems that *ma'-* is attached to can be either a verb or a noun, but the resulting emotion words are exclusively verbs. When *ma'-* is attached to a stem, the word so formed is in agent focus form (AF); the corresponding patient focus form (PF) of this prefix is *ta'-*. Consider the following examples.

ma'kuv'o "to worry about something when one thinks about it"

ta'kuv'a "something is worried about when something is thought about"

ma'nac'o "to feel sad about something when one thinks about it"

ta'nac'ova "something is felt sad when something is thought about."

ma'soesos'o "to want something when one thinks about it"

ta'soesos'a "something is wanted when something is thought about"

ma'sonU "to suspect something when one thinks about it"

ta'snova "something is suspected when something is thought about"

The *ma'-* prefixed emotion verbs are frequently accompanied by "partial root reduplication," undoubtedly an iconic device to indicate the stronger intensity of an emotion (cf. Matthews 1991, Tung 1964). Usually only the first syllable of the root is reduplicated, as in:

ma'totohngU "to think hard"

ma'kaekaebU "to be truly happy"

ma'nanac'o "to be truly sad"

2.1.1 intra-class prefixation

The intra-class prefixation (Lockwood 1993) refers to a type of word formation that forms a word that has the same part of speech as that of the root word. In Tsou, most emotion verbs are created by means of intra-class prefixation. Here is a partial list of emotion verbs of this type.

ma'sUno "to feel angry about something as long as one thinks about it/to be truly angry"

ma'nac'o "to feel sad about something when one thinks about it/to be truly sad"

ma'ngoheUngU "to be afraid of something when one thinks about it/to be truly afraid"

ma'smoeo "to be frightened by something unknown when one thinks about it/to be truly frightened"

ma'sosohpoi "to be disgusted about something when one thinks about it/to be truly disgusted about something"

ma'kaebU ""to feel happy about something when one thinks about it/to be truly happy"

ma'congo "it hurts when one thinks about it"

ma'soesos'o "to want something when one thinks about it"

ma'tipvongu "to worry about something when one thinks about it"

ma'susuae "to regret something when one thinks about it"

makuv'o "to worry about something when one thinks about it"

ma'sop'o "light-hearted (lit. think-light)"

ma'ecvUhU "to be upset (lit. think-heavy)"

ma'cinghi "to be thoughtful/ care about others (lit. think-stick to)"

ma'konuvosU "to be greedy; to be stingy (lit. think-envy)"

ma'sohuyu "to feel at ease(lit. think-comfortable)"

ma'paeoU "to forget (lit. think-disappear)"

This intra-class prefixation turns out to be a very productive process in the formation of emotion verbs. Indeed, more than 90% of prefixed emotion verbs are created by this pattern.

2.1.2 inter-class prefixation

The inter-class pattern, in contrast to intra-class pattern, refers to the type of word formation that produces words with a different part of speech from that of the root word. The prefixation of *ma'-* to a noun is an instance of inter-class prefixation:

ma'totohngU "to think hard" (lit. think-thought)

As we can see, the inter-class prefixation is much less productive.

2.2 The Meaning of *ma'-*

We agree with Tung (1964) that this prefix does have relation with the action of thinking in that the *ma-'* prefixed words are all emotion words. The words that *ma'* is attached to are of three kinds: basic emotion words, non-basic emotion words and other word types. When the prefix is attached to an emotion word, the resulting

word may have two senses[1]: (1) one truly feels E (2) one feels E when one thinks about something (where E means emotion or feeling). When the prefix is attached to a non-basic emotion word or other word, the resulting word means "one feels E." The first sense of [*ma'*-][basic emotion word] is illustrated below.

(6)a. ausuhcu ma'-sUsU'no 'e PaicU ho mo 'oha
gradually AF:think-angry Nom. PaicU when Aux Neg.
tmalalU 'e oko
listen Nom. child
"PaicU gradually becomes angry when she thinks that her child does not listen to her" [fieldnotes]

b. ta'-sUsU'nova ta PaicU 'e oko ho mo 'oha
PF:think-angry Obl. PaicU Nom childbecause Aux Neg.
tmalalU 'e oko
listen Nom. child
"PaicU becomes angry whenever she thinks of the fact that her child does not listen to her." [fieldnotes]

The examples for the second sense are given below.

(7) a. ma'-sosohpoi c'o ta eatatiskova 'e Pasuya
think-disgust just Obl. people Nom. Pasuya
"Deep down Pasuya is disgusted about people in general." [fieldnotes]

b. mi'o ma'-kaekaebU uh ne luhtu
Aux-1st Sg. think-happy go Obl. Joumei
"I am very pleased to go to Joumei" [fieldnotes]

Here are examples where the prefix goes with non-basic emotion words and other types of words.

[1] At this early point of our research into the semantics of this prefix, it is not yet known whether it is polysemous in these two senses, or it has a generality of meaning ranging over these two senses.

ma'konovosU "to be greedy; to be stingy" (lit. think-envy)

ma'cocongo "it hurts" (lit. think-hurt physically)

ma'soesos'o "to want" (lit. think-itch)

ma'sonU "to worry" (lit. think-quick)

ma'sop'o "to be light-hearted" (lit. think-light)

ma'ecvUhU "to upset" (lit. think-heavy)

ma'cinghi "to be thoughtful/care about others" (lit. think-stick to/attach to)

ma'paeoU "to forget" (lit. think-disappear)

ma'sohuyu "to feel at ease"

It is not yet clear how the resulting word generates the new meaning from the root and the prefix, which needs further exploration in the future. Here are some sentences with emotion verbs of this kind.

(6) ma'-sosohuyu ho os'o talUi co e'e-su
AF:think-comfortable when 1st Sg. hear Nom. words-your
"I felt at ease when I heard your words." [fieldnotes]

(7) os'o ta'-kuv'a ho Pasuya ho o'a
1st Sg. PF:think-disobey because Pasuya when Neg.
mo ho to maine'e
Aux past Nom. return
"I am worried because Pasuya hasn't come back." [fieldnotes]

The prefix *ma-*

Szakos (1994) points out that *ma-* is a prefix meaning "easily." Tung (1964) noted the ambiguity of the apparently homophonous prefix *ma-* "to take" and "various." In this section we will focus on the prefix *ma-* meaning "easily" or more precisely, "to be prone to."

3.1 The Distribution of *ma-*

This prefix can only be attached to verb stems. In other words, only the intra-class pattern is allowed. The resulting verbs can only be in AF form. No root reduplication is allowed after the prefix *ma*, which is different from *ma'-*. Compare the following examples for grammatical and ungrammatical forms.

masU'no "prone to get angry"

**masU'nova* **masUsUno*

macocvo "prone to cry"

**macocva* **macococvo*

masmoeo "prone to be frightened"

**masmoeoa* **masmosmoeo*

3.2 The Meaning of *ma-*

The verbs that the prefix *ma-* attaches to are emotion verbs such as *nac'o* "to be sad" or verbs expressing emotive responses like *cocvo* " to laugh." All of the resulting verbs mean "prone to feel E." Some of the *ma-* prefixed words are given below.

masU'no "prone to get angry"

masmoeo "prone to be frightened by something"

mangoheUngU "prone to be afraid of something"

makoei 'prone to be shy"

macocvo "prone to cry"

The two sentences in (10) are not ambiguous, but have slightly different interpretations in different contexts, though *masU'no* in both sentences have the same meaning.

(10)a. ma-sU'no	'e	Pasuya	ho	mi-ta	'oha	
prone to-angry	Nom.	Pasuya	because	Aux-3rd Sg.	Neg.	
UmUmnU						
well						

"Pasuya gets angry easily because he is not well." [fieldnotes]

b. mi-ta ma-sU'no 'e Pasuya
Aux-3rd Sg. prone to-angry Nom. Pasuya
"Pasuya is prone to get angry." [fieldnotes]

The prefix *lua-*

The meaning of *lua-* is very similar to *ma-* because it also means "be prone to; be given to." Nevertheless, one sense of the prefix and its distribution is different from *ma-*. Szakos (1994,1999) has defined the prefix as meaning "disposed to." This is in basic agreement with our data. In this section we will focus on its contrast with the prefix *ma-* in both distribution and semantics.

4.1 The Distribution of *lua-*

Only verbal stems can be prefixed by *lua-*. The type of verb stem it attaches to is restricted to basic emotion verbs, mental state verbs and verbs of emotive response. The resulting verbs maybe in AF or PF form, i.e., *lua-enu* "prone to praise," *lua-enva* "prone to be praised." No reduplication of the verb stem is allowed, as it is in the prefixation of *ma*. It is interesting to observe that *lua* can be attached to stems that have already participated in prefixation. In our data, the *ma'*-RV, the *ma*-RV and the *buh*-RV can again be prefixed by *lua-*. In the following examples, the last three words have two prefixes attached to the stem verb.

luaenu "habitually praise; prone to be praised"

luaeaeo "habitually lazy: prone to be lazy"

luatiusnu "habitually beat people; prone to beat people"

luacocvo "habitually mock at others; prone to mock at others"

luama'paeoU "habitually forgetful; prone to be forgetful" (lit.

habitually-think-disappear)

luamamongsi "habitually cry; prone to cry" (lit. habitually-easily-cry)

luabuhUmnU "habitully fall in love; prone to fall in love" (lit. habitually-look-be fond of)

4.2 The Meaning of *lua-*

There are two related senses associated with the prefix *lua-*: (1) habitually and (2) prone to. The habitual sense of *lua-* has a close relation with the habitual aspect markers *la* and *lea.* We assume, on intuitive grounds, that the prefix *lua-* "habitually; prone to" probably comes historically from either aspect markers. Consider the following sentences.

(11) la ta lua-sU'no 'e Pasuya
HAB. 3rd Sg. habitually-angry Nom. Pasuya
"Pasuya habitually gets angry." [fieldnotes]

(12) mi-ta lua-sU'no 'e Pasuya
Aux-3rd Sg. habitually-angry Nom. Pasuya
"Pasuya habitually gets angry." [fieldnotes]

According to our informants, the two sentences are identical in meaning. Once the prefix *lua-* is attached to an emotion verb, the habitual aspect marker *la* becomes redundant and can be omitted.

Both *lua* and *ma* can be attached to an enotion verb without much difference in meaning; for example, *luasU'no* "habitually angry; prone to be angry"and *masU'no* "easily angry; prone to be angry." On the other hand, when the root is a verb of emotive response, *lua-* seems to depict a negative emotion whereas *ma-* describes a positive emotion. There is thus a drive toward division of labor between *ma-* and *lua-*. The pair below exhibits the distinction.

macocvo "prone to laugh" (indicating an optimistic personality)

luacocvo "prone to mock at others" (indicating a negative personality)

We conclude that *ma-* and *lua-* are interchangeable with each other in the sense of "prone to" when either prefix is attached to an emotion verb. But the two prefixes split their functions when the stem they attach to is a verb of emotive response.

The prefixes *him-* and *buh-*

In this section we discuss the two prefixes together since there is enough semantic commodity between them. However, *him-* differs from *buh-* in that the constraints that are imposed on the type of verbs *him-* is in construction with and the fact that the *him-* prefixed emotion verbs do not require the visual perception on the spot are unique to *him-*.

5.1 The prefix *him-*

In discussing the prefix *him-*, Tung (1964) stated it was "attached to certain core words with an additional syllable containing the initial consonant of the base and the vowel /o/ to denote the possessor or doer of something." As illustrations, he gave words like *himhohupa* "owner of a hunting area," *himoevi* "owner of a tree," etc. However, he did not mention any word with the prefix *him-* meaning "to see" to indicate the resource of emotion that figure importantly in the emotion lexicon of he language. The next two sections will examine the distribution and semantics of the prefix.

5.1.1 Distribution of *him-*

The words that *him-* is prefixed to are apparently restricted to basic emotion verbs like *sU'no* "be angry" and *kaebU* "be happy." Prefixation of *him-* to verbs of emotive response such as *cocvo* "to laugh" or non-emotion words, e.g., *tUs'U* " be

clear" is not permitted. Besides, root reduplication is often employed to emphasize intensity of emotion, as with the prefix *ma'-*.

himnanac'o "to detest very much when one sees something"

himsU'sU'no "to be very angry when one sees something"

himkaekaebU "to be very happy when one sees something"

Both the AF form and PF form of the root verb can be prefixed by *him-*, as seen in (13).

(13)a. mi'o him-sU'no ta Pasuya
AF:Aux-1st Sg. See-AF: be angry Obl. Pasuya
"I get angry when I see Pasuya."
b. os'o him-sU'nova ta Pasuya
PF:Aux-1st Sg. See-PF: be angry Nom.Pasuya
"I get angry when I see Pasuya." [fieldnotes]

5.1.2 Meaning of *him-*

Two sense of the prefix *him-* can be distinguished: (1) "one feels E when one sees something or somebody" and (2) "one feels E about something (without necessarily seeing that thing)." The words illustrating the first sense of prefix *him-* are:

himsU'no "to be angry when one sees someone or something"

himkaebU "to be happy when one sees someone or something"

himsmoeo "to be afraid when one sees someone or something"

himeamci "to be surprised when one sees someone or something"

In some cases, when the prefix *him-* is attached to certain root verbs, senses of the root verbs change. For example, *nac'o* means "to be sad; to feel bad," but *himnac'o* means "to dislike." *kuv'o* means "act against one's will," but *himkuv'o* means "to detest." Consider the following sentences:

(14) mi-ta him-nac'o ta Pasuya
Aux-3rd Sg. see-to feel bad Obl. Pasuya
"He dislikes Pasuya."

(15) mi-ta him-kuv'o ta PaicU
Aux-3rd Sg. see-to feel bad Obl. PaicU
"He detests PaicU."

(14) mi-ta him-kaebU ta Pasuya
Aux-3rd Sg. see-happy Obl. Pasuya
"She is fond of Pasuya." [fieldnotes]

5.2 The prefix *buh-*

Another prefix important in the formation of the emotion lexicon of the Tsou language is *buh-* "to see," a fact which largely escaped the attention of Tung (1964) and Szakos (1994). This is understandable since the importance of the prefix *buh-* becomes obvious only when one's attention is drawn specifically to emotion words.

5.2.1 Distribution of *buh-*

The prefix *buh-* can be attached to either emotion verbs, e.g., *nac'o* "to be sad" or to verbs of emotive response, e.g., *cocvo* "to laugh." Only intra-class prefixation is allowed. The *buh-* prefixed words are in AF form; the corresponding PF form uses the prefix *hu'-*:

buhsU'no(AF) "one gets angry when one sees someone or something"

hu'sU'nova (PF) "one gets angry when one sees someone or something"

Root reduplication is used to show intensity of emotion.

buhnanac'o "to feel very sad when one sees someone or something"

buhUmnUmnU "to like someone or something very much when one sees someone or something"

buhsU'sU'no "to feel very angry when one sees someone or something"

5.2.2 Meaning of *buh-*

Distinct from *him-*, the semantics of *buh*-RV is straightforward. Namely, the *buh-* prefixed words describe the same emotion as that associated with the root verb, e.g., *buhnac'o* means "one feels sad when one sees someone or something." The emotion that the derived word expresses must be one that is triggered by seeing some person, object or event on the spot, as in (17).

(17) mi-ta buh-nac'o ta mo eobai 'e Pasuya
Aux-3rd Sg. see-feel sad Obl. Aux fight Nom. Pasuya
"Pasuya feels sad when he sees people fight." [fieldnotes]

When *buh-* attaches to an emotion verb, it means "to feel E when one sees someone or something." When it is prefixed to a verb of emotive response, the derived word means "to feel like V-ing when one sees someone or something," (where V stands for an emotive response), as in (18):

(18) os'o hu'-cocvi ta Mo'o
PF:Aux-1st Sg. see-PF:laugh Nom. Mo'o
"I feel like laughing when I see Mo'o." [fieldnotes]

The *buh-* prefixed words do not change the semantics of the root verb, but *him-* prefixed words do. When *buh-* is attached to *nac'o* "to feel sad," *buhnac'o* means "to feel sad when one sees someone or something"; whereas *himnac'o* means "to dislike." The *buh-* prefixed words refer to emotions triggered by the action of seeing, while the *him-* prefixed words depict emotions without the action of seeing. Similarly, the contrast in meaning between *buhkuv'o* and *himkuv'o* is that the former shows one's detest when one sees someone or something and the latter denotes one's detest toward someone or somebody without seeing it.

Other prefixes for action

In addition to the prefixes indicating seeing, there are a number of other prefixes

describing various kinds of actions. Some denote a specific action like *be-* "to drink" and *o'-* "to eat," others encompass a large range of activities involving the use of a specific instrument or part of body. The following is a partial list of the prefixes for action.

tma-	"to hear" (AF)	*ta-*	"to hear" (PF)
'o-; ou'-	"to eat"		
be-; beu-	"to drink"		
peis-	"to play"		
tiu-	"to do with hands" (including throw, slam, put, etc.)		
bohi-	"to chop with knife"		
eo-	"to beat"		
au-	"to act for a long time"		
a-	"to act for a short time"		

Except for *tma-* "to hear," all of the prefixes above can take a stem verb in PF form. The corresponding PF form *ta-* "to hear" of *tma-* is used when the root verb is in PF form. Hence, *tasU'nova* "to get angry as soon as one hears something" is well-formed but ***tmasU'nova*** is ill-formed. Reduplication, again, is used to show intensity of emotion. Moreover, not only basic emotion verbs but also verbs of emotive response can be attached to by the prefixes of action. (19) and (20) show the use of the prefix *ta-* (PF of *tma-*) when it is attached to basic emotion verbs and verbs of emotive response respectively.

(19) os'o ta-sU'nova co e'e-su
Aux-1st Sg. PF:hear-be angry Nom. words-your
"I get angry when I hear your words."

(20) os'o ta-cocvi co e'e ta PaicU
Aux-1st Sg. PF:hear-laugh Nom. words Gen. PaicU
"I feel like laughing when I hear PaicU's words." [fieldnotes]

6.1 Prefixation to *but'u*

When a prefix of action attaches to *but'u* "discontent," the resultant verb means

"to vent one's discontent by V-ing," where V represents the action associated with the prefix. Since perception is not an action, prefixes *tma-*, *him-* or *buh-* cannot be attached to *but'u* as in (21a); in contrast, words created by attaching action prefixes to *but'u* are legitimate and productive as in (21b).

(21a) **tmabut'u*

**himbut'u*

**buhbut'u*

(21b)

'ou'but'u	"to vent one's displeasure by eating"
beu'but'u	"to vent one's displeasure by drinking"
bohi'but'u	"to vent one's displeasure by chopping"
eobut'u	"to vent one's displeasure by beating people or things"
tiubut'u	"to vent one's displeasure by throwing things"
peisbut'u	"to vent one's displeasure by fouling things up"
aubut'u	"to vent one's displeasure by action with perseverance"
abut'u	"to vent one's displeasure by action in vain"

(22) is an example using this type of verbs.

(22) mi-ta eobai 'e Pasuya, koko mi-ta
Aux-3rd Sg. fight Nom. Pasuya therefore Aux-3rd Sg.
beu-but'u
drink-displeasure
"Pasuya had a fight, therefore he vented his anger by drinking."

6.2 Prefixation to basic emotion verbs

The sense of words formed by attaching the prefixes of action (except for the prefix *tma-*, *au-* and *a-*) to basic emotion verbs is "to do V to the point of feeling E."

Consider the prefixed words below.

osU'no "to eat to the point of getting angry"

besU'no "to drink to the point of getting angry"

tiusU'no "to put to the point of getting angry"

bohisU'no "to chop to the point of getting angry"

peisU'no "to play to the point of getting angry"

Sentence (23) illustrates the sense of a word attached by an action prefix.

(23) mi-ta eobako ta oko 'e PaicU ho
Aux-3rd Sg. beat Obl. childNom PaicU and
eo-sU'no
beat
"PaicU beat and beat the child to the point of getting angry."
[fieldnotes]

In addition, the emotion verbs prefixed by *tma-*, similar to those formed by prefixing *buh-* and *him-*, describes the emotion triggered by perception of some event. Example (19) shows this meaning.

(19) os'o ta-sU'nova co e'e-su
Aux-1st Sg. PF:hear-be angry Nom. words-your
"I get angry when I hear your words."

Unlike other action prefixes such as *o-* "to eat," *be-* "to drink" and *bohi-* "to chop," which all denote specific action, the prefix *au-* "to act with perseverance" and *a-* "to act in vain" describe general action including facial expression and behavior. *au-* serves as a perseverative aspect marker and *a-* depicts the action of an agent as futile due to misunderstanding or ignorance. Reduplication is often used to show intensity of emotion. The *au-* and *a-* prefixed emotion words along with sentences are given below.

au-nanac'o "to show one's sorrow with perseverance"

au-sU'sU'no "to show one's anger with perseverance"

au-kakaebU "to show one's happiness with perseverance"

a-nanac'o "to show one's sorrow in vain"

a-sU'sU'no "to show one's sorrow in vain"

a-kakaebU "to show one's happiness in vain"

(24) au-kakaebU ʻe Pasuya ho i-ta cohivi
act with perseverance-happy Nom. Pasuya because Aux-3rd Sg. know
ho i-si UmnUa to PaicU
that Aux-3rd Sg. good Obl. PaicU
"Pasuya is happy because he knows that PaicU likes him."

(25) a-kakaebU ʻe Pasuya ho o'a mo-cu
act in vain-happy Nom. Pasuya because Neg Aux-Perf.
i-ta cohivi ho i-si UmnUa to PaicU
Aux-3rd Sg. know that Aux-3rd Sg. good Obl. PaicU
"Pasuya is happy in vain because he hasn't known that PaicU does not like him."

Table 1 summarizes the findings in this section. In particular, it indicates the constraints on the distribution of each of the prefixes of action.

Table 1 Prefixes of Action and Their Constraints

		tma-	o-	peis-	tiu-	be-	bohi-	eo-	au-	a-
but'u	AF	*	o-but'u	peis-but'u	tiu-but'u	beu-but'u	bohi-but'u	eo-but'u	au-but'u	a-but'u
	PF	*	*	*	*	*	*	*	*	*
kaebU	AF	tma-kaebU	o-kaebU	peis-kaebU	tiu-kaebU	be-kaebU	bohi-kaebU	eo-kaebU	au-kaebU	a-kaebU
	PF	ta-kaebUva	o-kaebUva	peis-kaebUva	tiu-kaebUva	be-kaebUva	bohi-kaebUva	eo-kaebUva	au-kaebUva	a-kaebUva
sU'no	AF	tma-sU'no	o-sU'no	peis-sU'no	tiu-sU'no	be-sU'no	bohi-sU'no	eo-sU'no	au-sU'no	a-sU'no

	PF	ta-sU'nova	o-sU'nova	peis-sU'nova	tiu-sU'nova	be-sU'nova	bohi-sU'nova	eo-sU'nova	au-sU'nova	a-sU'nova
smoeo	AF	tma-smoeo	o-smoeo	peis-smoeo	tiu-smoeo	be-smoeo	bohi-smoeo	eo-smoeo	au-smoeo	a-smoeo
	PF	ta-smoeoa	o-smoeoa	peis-smoeoa	tiu-smoeoa	be-smoeoa	bohi-smoeoa	eo-smoeoa	au-smoeoa	a-smoeoa
nac'o	AF	tma-nac'o	o-nac'o	peis-nac'o	tiu-nac'o	be-nac'o	bohi-nac'o	eo-nac'o	au-nac'o	a-nac'o
	PF	ta-nac'ova	o-nac'ova	peis-nac'ova	tiu-nac'ova	be-nac'ova	bohi-nac'ova	eo-nac'ova	au-nac'ova	a-nac'ova

*: No such word is attested in the elicitation.

Conclusion

In this chapter we have analyzed the distirbution of the prefix of thinking *ma'*-, the prefixes of disposition *ma*- and *lua*-, the prefixes of seeing *him*- and *buh*-, the prefix of hearing *tma*- and the prefixes of action *'o*-, *be*-, *bohi*-, *tma*-, *tiu*- and *peis*-. We have found reduplication is often used in the word formation process of emotion words as a device to emphasize intensity of emotion. Among the prefixes, only *ma'*- allows inter-class prefixation, while the rest can only undergo intra-class prefixation. *ma'*- means "to think" and when it is attached to a noun a noun or non-emotion verb, the resultant word means "one feels E." When it is attached to an emotion verb, the derived word means "one feels E as long as one thinks about something" or "one truly feels E."

Additionally, both *lua*- and *ma*- mean "prone to," but *lua*- signals negative emotions and *ma*- denotes positive emotions when the stem is a verb of emotive response. Besides, though *him*- and *buh*- both represent the action of seeing, *him*- has a more abstract sense without having to see someone or something on the spot. The other prefixes of action, including *o*-, *be*-, *bohi*-, *tma*-, *tiu*- and *peis*-, carry

different meanings depending on the root they select. When these prefixes go with the noun *but'u*, the action indicated by the prefix is a way to vent discontent. When the stem is a basic emotion verb, the prefixed word means "perform the action to the point of getting the emotion associated with the stem." Lastly, the action prefixes *au-* "to act with perseverance" and *a-* "to act in vain" describe general action and the stems are often reduplicated to enhance intensity of emotion. The two prefixes can attach to both *but'u* "discontent" and basic emotion verbs. All in all, these prefixes are diverse in their functions in depicting the disposition, action that triggers emotion and action for venting emotion.

6

TSOU IS DIFFERENT:A COGNITIVE PERSPECTIVE ON LANGUAGE, EMOTION AND BODY*

Abstract

Three cultural models for discourses on emotion are distinguished: the metaphorical model, the metonymic model and the grammatical model. The purpose of this paper attempts to examine the grammatical model that speakers of Tsou use when talking about emotions, with particular reference to emotional expressions involving body part and bodily action. It is argued that Tsou differs significantly from English or Chinese in that the metaphorical way of talking about emotions, which is the preferred strategy for English and the metonymic way of talking about emotions, which is the preferred strategy for Chinese, are generally dispreferred or simply unavailable. Tsou is shown to be a type of "verb-framed" language in which the antecedent causal event prior to the onset of emotion is conceptualized as an integral part of the lexicalized emotion verb concept. This grammatical prefixation model, the preferred strategy for Tsou, makes it possible, indeed necessary, to conceptualize bodily actions and emotions as more intimately intertwined, part of an integrated emotion concept, in a way that a satellite-framed language, such as English, seems inherently less capable of. Given the grammatical prefixation strategy, it seems eminently plausible to make the claim, experimentally testable, that Tsou speakers should be more sensitive to the co-presence of emotion and action, and that the core of an emotion, to Tsou speakers, is not simply a psychological state or process, but a readiness to act in a certain way, the acts being coded in the language with the prefixes for bodily actions.

Key words: emotion and body;cultural model; verb-framed languages; satellite framed languages, grammatical prefixation strategy

1. Introduction

In this paper I examine linguistic strategies that speakers of Tsou use when talking about emotions, with particular reference to emotional expressions involving body part and body action. I will show that the conceptual domain of

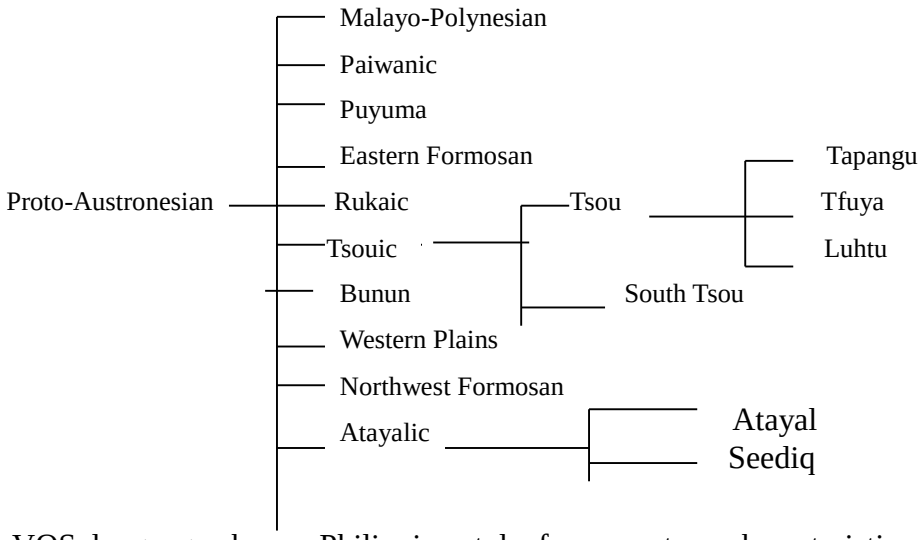
emotions in Tsou depend on behavioral reactions or bodily accompaniments commonly associated, in folk models, with the experience of emotions. Emotions in human languages are known to make use of metaphors and metonymies relating to physiological effects and behavioral reactions. Lakoff (1993) and Kövecses (1990, 1995), in particular, have shown that English metaphors and metonymies used in our folk model of emotions are motivated by our body and our physiology. This and other findings have led to the view that our concepts are embodied (Johnson 1987; Lakoff 1999). Although there is convincing evidence in support of this hypothesis, as yet most of the data has come largely from English or other major languages of the world. There is obviously a need for detailed studies on other languages and cultures. The main purpose of this paper is to show some of the unique ways in which the human body and bodily actions act as a point of departure for the conceptualization of emotion concepts in Tsou. I will demonstrate that Tsou differs decidedly from English or Chinese in that the metaphorical way of talking about emotions, which is the preferred strategy for English and the metonymic way of talking about emotions, which is the preferred strategy for Chinese, are generally dispreferred (see Lakoff & Johnson 1980; Kövecses 1990 for English and Huang 1994; King 1989 for Chinese). It will be shown that Tsou is a type of "verb-framed" language in the sense that the antecedent causal event prior to the onset of emotion is conceptualized as an integral part of the lexicalized emotion verb concept. This grammatical prefixation strategy, the preferred strategy for Tsou, depends to a certain extent on a system of metonymies to elaborate perceived bodily experiences, but in a way different from that operates in a language like Chinese.

The organization of this paper is as follows. First, the basic structural features

of the Tsou language are introduced in Section 2. Section 3 takes up characteristics of the emotion concepts in Tsou, including a short discussion on the role of koyu "ear", seat of emotion and mentation, in structuring metaphorical expressions in the language. This is followed by an extended examination of the interesting semantic properties of the prefixes for perception and for bodily actions. There a distinction between verb-framed languages such as Tsou and satellite-framed languages such as English is made. Section 5 turns to the prefix for thinking ma'- and to its role in the formation of complex emotion concepts. Section 6 is the conclusion.

2. The Tsou language

Tsou, a moderately endangered Austronesian language spoken in the highlands of Southwest Taiwan, has about 4500 speakers distributed among three major dialects. The dialect described here is the Tapangu dialect. Tsou belongs to the Tsouic branch of the Austronesian family. The genetic classification of Tsou in the Austronesian family is shown below (Blust 1999, Diamond 2000; but see Li 1990, Dyen 1990, and Starosta 1995 for dissenting views):



Tsou, a VOS language, has a Philippine-style focus system characteristic of Western Austronesian languages. This is a system of verbal affixation which allows

different arguments to be placed in "subject" position, thereby marking them as identifiable and which signals the presence of a particular semantic role associated with the subject[2]. Three focus forms will be distinguished for purposes of this study: Agent focus (AF), Patient focus (PF) and Benefactive focus (BF). Not all emotion verbs can readily appear in all three of the focus forms. Expressions in (1) illustrate the verbs *kaebU* "to be happy" and *cong'o* "to hurt; to be distressed" in various focus forms and sentences in (2) exemplify their usage:[3]

(1) *kaebU* "to be happy (about)" (AF)

kaeba "to be happy (about)" (PF)

kaebeneni "to be happy for" (BF)

ma'cocongo "to be distressed (about)" (AF)

ta'cocongva "to be distressed (about)" (PF)

cong'eneni "to be distressed for" (BF)

(2)

a. *Mo congo co tohUngU-'u.*

Aux distressed Nom mind-my

"I am distressed."

Lit. "My mind pains."

b. *I- ta cong'eneni tohUngU 'e o'oko-taini.*

Aux-3rd .sg distressed mind Nom children-3rd gen.

"S/he is distressed about his/her children."

c. Mi-'o na'no kaebU.

Aux-1st.sg very happy

"I am very happy."

d. Os-'o kaebeneni 'e Pasuya ho mita eaa av'u.

Aux-1st.sg happy for Nom PN conj Aux-3rd.sg have dog

"Pasuya has a dog and I am happy for him."

The pragmatics of focus in Austronesian languages has been a topic of recent intense research (cf. Cooreman et al. l984, Cumming and Wouk l987, Hopper l988, Wouk 1999; Payne 1994; Huang 2000 among many others). It would be clearly inappropriate for me to attempt, within the confines of this paper, to summarize even the major findings on the topic, given the vast literature that is currently available. Suffice it to say that functionally PF forms are far more common than AF forms in Tsou and the use of focus is determined, to a statistically significant extent, by discourse transitivity and topicality metrics. A check through eight narrative texts in the corpus, which run to 532 clauses, shows that emotion words are, as expected, predominantly used in PF forms (65% as against 35% in AF forms), a result consistent with both the distribution pattern of other clauses types in the language and with what is known about the behavior of emotion verbs in most other Western Austronesian languages (cf. Yeh, In progress). Some emotion expressions, however, appear typically in PF forms (e.g. *smoeoa* " to be afraid"), others only in AF forms (e.g. a*veoveoeU* " to be glad").

3. Characteristics of Tsou emotion concepts

3.1 Koyu "ear" as seat of emotion and mentation

Tsou makes do with a fairly limited repertoire of grammatical categories, making

no syntactic distinction among such categories as verb, adjective, adverb and preposition. In derivational morphology, deverbal nouns are practically nonexistent. Emotion concepts must be realized syntactically as verbs in the language and can never be nominalized, a point alluded to in the previous section. By contrast, in English (and numerous other languages), reification of emotion concepts is pervasive. Thus, the word fear is a noun that is treated like a concrete noun and is talked about in much the same way (e.g. A *fear* is the unpleasant feeling you have when you are in danger; you talk about your hopes and *fears* to your friends.) Much of the conceptual domain of fear (and other emotions) is understood in English by a set of metaphorical expression, which refers to either physiological effects or behavioral responses. However, much of the metaphorical way of talking about fear and other emotions is impossible in Tsou, since emotion concepts can never be entitized. For example, whereas in English we find conceptual metaphors that elaborate the domain of emotional experience like FEAR IS A FLUID IN A CONTAINER; FEAR IS AN OPPONENT; FEAR IS A NATURAL FORCE, such metaphors can never be constructed for Tsou because of morphosyntactic constraints on nominalization. However, a deeper explanation for the morphosyntactic constraints derives from the observation that Tsou does not exploit what Lakoff and Johnson (1980) call "ontological metaphors" that view states, events and activities as discrete entities that exist in space and time with well-defined boundaries. Since Tsou does not work with this kind of ontology, it follows that the conceptual metaphors for emotions such as those mentioned above cannot exist.

The body part most intimately associated with cognition (thinking or intending) or feeling in Tsou is *koyu* "ear", the seat of Tsou emotion and mentation. This can be seen from the following sentences.

(3)

a. *Micu nac'o co koyu-taini*.

Aux sad Nom ear-3rd.sg.gen

"S/he has been sad."

Lit. "His/her ear has been sad."

b. *Os'o cong'eneni koyu 'e o'oko'u*.

PF-1st.sg hurt-BF ear Nom children-1st.gen

"I feel distressed about my children."

Lit. "My ear aches for my children."

c. *La'u eainca no koyu'u mo i'mi ho*

Hab-1st.sg say-PF Obl ear-1st.gen Aux from Comp *mita sU'no*.

Aux-3rd.sg angry

"I think it is because s/he is angry."

Lit. "My ear says that is because s/he is angry."

d. *Mi'o ya koyu no tmopsu no taigaku*.

Aux-1st.sg have ear Comp study Obl college

"I am inclined to go to college."

Lit. "I have the ear to study at a college."

e. Mi'o akoyu tmopsu no taigaku.

Aux-1st. sg intend study Obl college

" I intend to go to college."

f. Ta-ko akokoyu no uso a'o

hohucma.

Aux-2nd.sg remember Obl come me tomorrow

" Remember to come to my place tomorrow."

In (3a) and (3b) *koyu* is where sadness or distress is experienced; in (3c), (3d), (3e) and (3f) *koyu* is where thinking, intending and remembering originate. Note that the generic emotion term *tohUngU* "feeling, mind, thought, emotion" can be substituted for *koyu* in the sentences above without any change in meaning. (4a) below is synonymous with (3a) and (4b) with (3b):

(4)

a. *Micu nac'o co tohUngU-taini*.

Aux sad Nom feeling-3rd. sg

"S/he has been sad."

b. *Os'o Cong'eneni tohUngU 'e o'oko'u*.

PF-1st.sg hurt-BF feeling Nom children-1st.gen

"I feel distressed about my children."

It is interesting to observe both *koyu* "ear" and *tohUngU* "feeling, mind, thought, emotion" are always marked with the nominative case marker *co*, if they function as "subject" of a sentence, to signal that they are invisible or abstract entities. *Co* is used to mark entities that can be felt, sensed, or imagined but not seen. Mental states, feelings or sensations (e.g. hunger and pain) as well as ears and (head) hair and the wind belong to this category of objects.

A related piece of evidence to suggest that in Tsou *koyu* "ear" or the sense of hearing has a close connection with feelings and emotions is the lexeme *t'mahongU* (AF)/*ta'hongi* (PF). It has two related senses: (a) to hear and understand; (b) to feel (a bodily sensation), as shown in (5):

(5)

a. *I-’o ta’hongi si e’e-su*.

PF-1st.sg hear-and-understand Nom word-2nd.gen

“I hear and understand what you say.”

b. *I-si ta’hongi ta oko ho mo congo co koyu-si*.

PF-3rd. sg feel-PF Obl child when Aux pain Nom ear-3rd. gen

“The child feels pain in his ear.”

Koyu “ear”, as the seat of emotion and mentation, predictably, plays an important role in the emotional lexicon of the language just as “the heart” does in English. Like “the heart” in English, *koyu* is also conceptualized as a metaphorical container for emotions. This point can be appreciated from the following comparison. English has the following metaphorical expressions with the heart as a container for emotions:

She knew all the secrets of my heart.

The news filled my heart with deep sorrow.

You should listen to the troubled heart of the young man.

English also has the following metonymic expressions in which the heart acts as an instrument for emotions:

My heart ached for the child.

My heart pounded with joy.

No one had the heart to tell her the truth.

In Tsou, these kinds of metaphorical expressions with *koyu* “ear” as a container for emotions are also available:

(6) *Ci os’ko cohivi co koyu’u?*

How PF-2nd. sg know-PF Nom ear-my
"How did you know my secrets?"
Lit. "How did you know my ear?"

(7) *Ci na'no kuici koyu?*
How very bad ear
"Why are you in such a bad mood ?"
Lit. "Why are your ears so bad?"

And, of course, as the sentences in (3) show, *koyu* can, much like *heart* in English, participate in metonymic expressions to elaborate aspects of the domain of emotional experience. However, if we turn to physiological effects involving other body parts and body organs, then one must conclude that somatization of emotional states is largely absent in the language. Metonymic expressions that exploit the physiological effects of these other body parts are generally unavailable: heart, face, eye, eyebrow, hair, blood flow, artery, head, toe, body fluids (tears, sweat and urine), *qi* (internal flow of energy—possibly the single most important psycho-physical element in the formation of Chinese emotion expressions) and physical agitation and disturbances are known to have been harnessed for use in the expression of emotions and account for an important part of the emotion lexicon in Chinese and in English (with the exception of *qi*).

3.2 Breath, fire and anger metaphor

We have seen that the system of ontological metaphors for emotions is not available in the language to structure emotion concepts. Since ontological metaphors for emotion concepts in at least some languages are connected with a wide range of emotional experience and contribute much information to the content of emotion concepts, the unavailability of this system of metaphors must be counted as a unique feature in the structure of emotion expressions in Tsou.

Still, Tsou does make use of one of the primary conceptual metaphors ANGER IS EXCESS AIR IN A CONTAINER to structure the emotion of anger. (See Grady 1997; Lakoff & Johnson 1999 for the notion primary metaphor) This container metaphor is needed to account for some of the expressions used to talk about anger. According to a Tsou folk belief, anger is caused by an excess air or breath (*nsou*) in the body:

Mita yu-nsonsou.
Aux-3rd.sg exhale-breath
"S/he fumed."

When the excess air is released, a person cools down and returns to calmness:

Mita yu-epUngi.
Aux-3rd.sg exhale-finish
"S/he calmed down."
Lit. "S/he finished expelling the breath."

If the air continues to build up, a person will explode:

Mita yusmoebako.
Aux-3rd.sg exhale-explode
"S/he exploded."

Alternatively, a person in anger is also conceptualized as someone being strangled, unable to breath freely:

Mita yubupciki.
Aux-3rd.sg exhale-strangle
"S/he was furious."
Lit. "S/he suffocated."

Another container metaphor conceptualizes anger as having excess fire in a container. For example, *ma'puzupuzu* "to burn with anger", which comes from *puzu* "fire". The examples above are familiar to the Western way of experiencing this emotion, since a large number of English expressions in English are known to conceptualize anger in terms of feelings of internal pressure (see Lakoff 1994 and Kövecses 1995, among many others).

4. Grammatical models involving the use of prefixes for bodily actions

In a rare linguistic strategy, Tsou has morphologized prefixes for bodily actions as part of lexicalized verbal expressions that indicate either antecedent trigger events leading to emotional onset or behavioral consequences of emotions. This section will look into some of the interesting semantic properties associated with the prefixes for bodily actions in emotion expressions. First, two prefixes for perceptual triggers. The prefix *buh*- (AF)/*hu'*- (PF) "to see" is used to indicate that the emotion experienced is triggered by a visual event; the prefix *tma*- (AF)/*ta*- "to hear" indicates that the emotional trigger is an auditory event.

(8)

a. *Mita buh-nac'o ta mo eobai 'e Pasuya*.
Aux-3rd.sg see-sad Obl Aux fight Nom PN

"Pasuya feels sad when he sees people fighting."
Lit. "Pasuya see-sad people fighting."

b. *Mi'o buh- sU'no ta Pasuya.*
AF-1st.sg see-angry Obl PN
"I get angry when I see Pasuya."
Lit. "I see-angry Pasuya.'

c. *Os'o hu'-sU'nova ta Pasuya.*
PF-1st.sg see-angry Nom PN
"I get angry when I see Pasuya."
Lit. "I see-angry Pasuya."

(9)

a. *Os'o ta-sU'nova co e'e-su.*
PF-1st.sg hear-angry Nom word-your
"I get angry when I hear what you say."
Lit. "I hear-angry your words."

b. *Os'o ta-cocvi co e'e ta Pasuya.*
PF-1st.sg hear-laugh Nom word Obl PN
"I felt like laughing when I heard what Pasuya said."
Lit. "I hear-laugh Pasuya's words."

Sentences in (8) and (9) show that what is expressed in English by the use of a separate adverbial clause is accomplished in Tsou through the incorporation of a prefix into the emotion verbs (or verbs of emotional reaction in the case of *cocvo* (AF)/*cocvi* (PF) "to laugh"), forming complex lexicalized emotion concepts. Prefixes for bodily activity work analogously, but with more nuanced meaning. Consider the prefixes *pe-*/*peu-* "to drink" and the lexicalized expressions *pe-sU'no* "drink-angry" and *peu-sU'no* "drink-angry" in (10):

(10)

a. *Mita pe-sU'no ta emi 'e Mo'o.*
AF-3rd.sg drink-angry Obl wine Nom PN
"Mo'o drank to the point of becoming angry."
"Mo'o got angrier and angrier as he drank."

b. *Mita peu-sU'no ta emi 'e Mo'o.*

AF-3rd.sg drink-angry Obl wine Nom PN

"Mo'o vented his anger by drinking."

In (10a), the interpretation is that Mo'o begins by drinking, but as he thinks about the frustrating happenings of the day, he gets more and more angry. In (10b), the interpretation is that Mo'o's anger may be said to precede his drinking and the more he drinks, the angrier he gets. Alternatively, Mo'o may be angry to begin with, but the point is that Mo'o means to vent his anger by drinking. In other words, in (10a), the action of drinking precedes and causes, often indirectly, the emotional onset; in (10b), anger precedes and causes Mo'o's drinking. Thus Tsou makes an important distinction between an interpretation in which actions precede and cause the onset of emotion and an interpretation in which emotions precede and lead to actions. When asked about the correct interpretation(s) for (10a) and (10b), however, young Tsou speakers often shift from one to the next and insist that all of the interpretations are equally valid for either prefix, *pe-* or *peu-*.

Correct interpretations aside, sentences in (8), (9) and (10) suggest a fundamental difference in the strategies for structuring emotion concepts between English and Tsou. Taking a cue from Talmy (1983, 1991) it may be useful to term languages such as English where the antecedent causal even of an emotional experience is expressed via a separate subordinate clause "satellite-framed" languages and languages such as Tsou where the antecedent causal event prior to the onset of emotion is expressed via a prefix for bodily action "verb-framed" languages. Satellite-framed languages characteristically express causes of emotions in a constituent that is a satellite to the main clause. On the other hand, verb-framed languages express causal events in the lexicalized verb itself and the causal events are conceptualized as an integral part of lexicalized concepts.

In addition to the prefixes for perception (*buh-*, *tma-*), there are a host of other prefixes for bodily actions that function either as behavioral causes for emotional experience or as bodily accompaniments to emotions. These prefixes are, as we have seen, incorporable into more basic emotion verb stems to form complex lexicalized emotion expressions. Based on my fieldwork experience with the language, it seems safe to say that such prefix incorporation is a fairly productive process in Tsou. The following is a partial listing of the prefixes for bodily actions:

(11) *o-/ou-* "to eat"

pe-/peu- "to drink"

ti-/tiu- “to play around with hand”

(12) *e-* “to beat”

bohi- “to chop with knife”

tma- “to write”

to- “to fish”

mateo- “to bathe”

boe- “to hunt; to trap”

smai- “to walk”

pei- “to work”

Prefix pairs in (11) make the same kind of distinction as that illustrated in (10) with the prefixes *pe-/peu-*. Most of the prefixes, such as those in (12), however, do not come in pair and Tsou speakers readily form, upon request, lexicalized emotion expressions incorporating any of these or other prefixes for situations in which emotions and bodily actions are seen as concurrent events or intimately intertwined that we cannot or do not really isolate them. Sentences in (13) exemplify the use of the prefixes in (12):

(13)

a. *Mita esU’no ta av’u ‘e PaicU.*
Aux-3rd.sg beat-angry Obl dog Nom PN
“PaicU got angrier and angrier as she beat the dog.”

b. *Mita ausuhcu tmakakaebU tmopsu ‘e Mo’o.*
Aux-3rd.sg gradually write-happy word Nom PN
“Mo’o got happier and happier as he wrote.”

c. *Mita tokakaebU toalungu ‘e Pasuya.*
Aux-3rd.sg fish-happy fish Nom PN
“Pasuya got happier and happier as he fished.”

5. The Prefix *ma’-* ‘to think; to feel’

We have thus far examined two broad types of prefixes important for the formation of emotion concepts: the prefixes for perception and the prefixes for bodily actions. A third type of prefix that figures prominently in the emotion lexicon of Tsou is the prefix *ma’-* “to think; to feel”. Tsou makes the interesting distinction between

simple emotions and more intense emotions that ensue as a result of the subject's thinking more and more about whatever it is that initially triggers the emotional reaction. The concepts for these more intense emotion are formed by attaching the prefix *ma'-* (AF)/*ta'-* (PF) to simple emotion verbs. For example, *nac'o* "to feel sad (about)"; *ma'nac'o* (AF)/*ta'nac'ova* (PF) "to feel sadder and sadder about something as one thinks more about it"; *kuv'o* "to worry"; *ma'kuv'o* (AF)/*ta'kuv'a* (PF) "to worry more and more about something as one thinks more and more about it." (14) and (15) are illustrations:

(14) *Mi'o ma'sUsU'no ta Pasuya.*
Aux-1st.sg think-angry Obl PN
"I am really mad at Pasuya (when I think about what he did)."

(15) *Ausuhcu ma'sUsU'no 'e PaicU ho mo 'oha tmalulu*
Gradually think-angry Nom PN conj Aux not listen to
'e oko.
Nom child
"PaicU got really angry when her child did not listen to her."

These ma'- prefixed emotion expressions can optionally take the generic emotion term tohUngU 'feeling; emotion; thought' as subject of a sentence. Thus sentences in (16), (17) and (18) are practically synonymous:

(16) *Mi'o sop'o co tohUng*
Aux-1st.sg relaxed Nom feeling-my Conj Aux
"I feel relaxed after the exams are over."

(17) *Mi'o ma'sosop'o ho micu aepUngU siken.*
Aux-1st.sg relaxed Conj Aux finish exam
"I feel really relaxed when I think about the fact that the exams are over."

(18) *Mi'o ma'sosop'o co tohUngU'u ho micu aepUngU*
Aux-1st.sg relaxed Nom feeling-my Conj Aux finish
siken.
exam

"I feel really relaxed when I think about the fact that the exams are over."

In (16), the simple emotion verb *sop'o "relaxed"* takes the subject NP *co tohUngU* "the feeling", where *co* is the nominative case marker for invisible or abstract objects. In (17), the complex emotion verb *ma'sosop'o* stands on its own, and there is no need for it to take the subject NP *co tohUngU*, but it can if it chooses to, as in (18).

To summarize briefly what we have established thus far, it is instructive to observe that the interpretations for the three types of prefixed emotion expressions we have examined basically follow one of two patterns: while with the prefixes for perception (*buh-*, *tma-*) and for thinking (*ma'-* (AF)/*ta'-* (PF)), the perceptual events or acts of thinking precipitate emotional reactions; with the prefixes for bodily actions, actions and emotions are often seen as concurrent events, or at least intimately interconnected and the point of the prefixed lexicalized emotion expressions is to underscore the concurrent, interconnected nature of actions and emotions. More fine-grained semantic distinctions are possible in the language. We have demonstrated above, for example, that with some prefixes for bodily actions, such as *o-/ou-* 'to eat', *pe-/peu-* "to drink" and *ti-/tiu-* "to play with hand", Tsou makes a fine distinction between interpretations where bodily actions precede and (indirectly) cause the onset of emotion and interpretations where emotions precede and lead to bodily actions. Further research may yet turn up further prefix pairs of this nature. Table 1 summarizes the findings in this and the previous sections.

Table 1 about here

Are there differences in the way emotions are conceptualized in Tsou and in English? It is difficult to make definitive statements on this score, since a full-blown account of the folk theories of specific emotions and the generic category of emotion must be based on a fair amount of detailed knowledge of the conventionalized expressions in the language. At this stage of our research, our limited corpus does not contain enough conventionalized expressions in the emotion domain, nor does it tell us very much about the frequency with which the various emotion expressions and linguistic strategies are used. Nevertheless, based on the analysis presented in the preceding sections, the following tentative conclusions seem warranted:

(a) While English is a satellite-framed language, Tsou is a type of "verb-framed" language in the sense that the antecedent causal event prior to the onset of emotion is conceptualized as an integral part of the lexicalized emotion verb concept. This is the preferred strategy for Tsou.

(b) Given that (a) holds, the conceptual structure of emotions in Tsou depends to a certain extent on metonymies, rather than metaphors, to elaborate perceived bodily experiences.

(c) Given that the preferred strategy for encoding emotion concepts is the prefixation strategy, Tsou has resources only to make a limited use of conceptual metaphors for emotions, due partly to the fact the system of ontological metaphor for emotion concepts, and possibly for other concepts as well, is largely absent from the language, making the elaboration of emotional experience through conceptual metaphors a dispreferred strategy.

The grammatical prefixation strategy in Tsou makes it possible, indeed necessary, to conceptualize actions and emotions as more intimately intertwined, part of an integrated emotion concept, in a way that a satellite-framed language seems inherently less capable of. One might even venture the claim that the core of an emotion, to Tsou speakers, is not simply a psychological state or process, but a readiness to act in a certain way, the acts being coded in the language with the prefixes for bodily actions.

The conceptual metonymies built into the prefixation strategy refer only to behavioral responses, namely, bodily actions, but never to physiological effects. This does not mean, of course, that physiological effects play no role in the emotional experience of Tsou speakers. They do, since there are expressions like *teonanac'o*

"sad-looking (from the way one's eyes look)", where *teo-* comes from *teolu* "to eye", or *fuhhuhngoya* "shy; blushing", where f*uhngoya* means "red-faced".

By contrast, the scope of conceptual metonymies used in the structuring of emotion concepts in Chinese is far more extensive, covering not only behavioral responses, but also fairly detailed aspects of physiological effects, including physical agitation and disturbances for communicating negative emotions or emotional distress (see King 1989 and the references cited therein).

Summarizing briefly, the present findings as well as those of other emotion researchers suggest the following cross-linguistic differences in the way emotion concepts are conceptualized in Tsou, English and Chinese:

(a) While Tsou is a verb-framed language, both English and Chinese are satellite-framed languages. The psychological implications of these two types of languages for language production have been explored in a series of papers by Slobin (1996, 1997) in relation to spatial understanding, and should easily be extendible to the domain of emotion experiences.

(b) While Tsou makes minimal use of conceptual metaphors, especially ontological metaphors, the conceptual structure of the emotions in English depends to a considerable extent on the use of metaphor models and to a lesser extent on the use of metonym models.

(c) The strategy of using grammatical models involving prefixation in Tsou makes it far more sensitive to the co-presence of emotions and behavioral responses at the expense of physiological effects in emotional experiences. Chinese, on the other hand, embraces both behavioral reactions and physiological effects, both in considerable detail, in its folk models of emotional experience.

Needless to say, the kind of research undertaken here has its limitations and I have emphasized its preliminary nature at several points in the paper. A full account of the Tsou conceptualization of emotion need to be complemented by an investigation of the cultural models of emotion that filter, screen, amplify or mute primary or core affects in interaction or communication. Cross-culture comparisons have shown that there are differences in emotional life in different cultures, in the elicitors and interpretations of emotion, in display rules and in the social functions of emotion. In some cultures some emotions are hypercognized while others are

hypocognized (see, for example, Lutz 1988; Mesquita & Frijda 1992; Wierzbicka 1993, 1994). In short, what is sorely needed is a thick description of the cultural models of emotion in Tsou, but that would be a project worthy of a book-length treatment in its own right.

Table 1 Prefixes for Bodily Actions and Their Co-occurrence with some Emotion Words

		tma-	o-	ou-	pei-	tiu-	pe-	bohi-	e-
kaebU ‘happy’	AF	tma-kaebU	o-kaebU	ou-kaebU	pei-kaebU	tiu-kaebU	pe-kaebU	bohi-kaebU	e-kaebU
	PF	ta-kaebUva	o-kaebUva	ou-kaebUva	pei-kaebUva	tiu-kaebUva	pe-kaebUva	bohi-kaebUva	e-kaebUva
sU’no ‘angry’	AF	tma-sU’no	o-sU’no	ou-sU’no	pei-sU’no	tiu-sU’no	pe-sU’no	bohi-sU’no	e-sU’no
	PF	ta-sU’nova	o-sU’nova	ou-sU’nova	pei-sU’nova	tiu-sU’nova	pe-sU’nova	bohi-sU’nova	e-sU’nova
smoeo ‘afraid’	AF	tma-smoeo	o-smoeo	ou-smoeo	pei-smoeo	tiu-smoeo	pe-smoeo	bohi-smoeo	e-smoeo
	PF	ta-smoeoa	o-smoeoa	ou-smoeoa	pei-smoeoa	tiu-smoeoa	pe-smoeoa	bohi-smoeoa	e-smoeoa
nac’o ‘sad’	AF	tma-nac’o	o-nac’o	ou-nac’o	pei-nac’o	tiu-nac’o	pe-nac’o	bohi-nac’o	e-nac’o
	PF	ta-nac’ova	o-nac’ova	ou-nac’ova	pei-nac’ova	tiu-nac’ova	pe-nac’ova	bohi-nac’ova	e-nac’ova

Notes

1. The research reported in this paper is part of a long-term project on language and cognition in Formosan languages, Austronesian languages spoken in Taiwan. My grateful thanks are due to Mo'o e'Peongsi and Tibusungu e'Peongsi for their astute native intuition. I thank John Bowden, Frank Lichtenberk, Lily Su, Josef Szakos, Jim Tai, for discussions on points raised in the paper, and Sandy Thompson for constructive comments on an earlier version of the paper, which has been instrumental in bringing forth the best that this paper has to offer. All errors of interpretation are my own responsibility.
2. The use of the term 'subject' in Austronesian linguistics has been controversial. Here by 'subject' I simply mean the noun phrase that bears nominative case marking and is roughly equivalent to what is elsewhere referred to as 'topic' or 'trigger' (cf. Cumming et al. 1987).
3. Much of the data cited in this paper is based on a corpus of conversations and narratives collected during fieldwork trips, during October 1999 and March 2000, to the Tapangu village in Southwest Taiwan where Tsou is spoken. The following abbreviations are used in glossing the Tsou data: AF = agent focus; Aux = auxiliary verb (tense and aspect); BF = benefactive focus; Comp=complementizer; Conj=conjunction; Nom = nominative case marker; Obl = oblique case marker; PF = patient focus; PN=proper name; '(raised comma) = glottal stop.

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Yeh, Yuting

In progress. *Em*

7

A preliminary study of the structure of emotion expressions in Squliq

1. Introduction

How human beings understand emotions is an issue that has attracted the attention of researchers across a number of academic fields. Psychologists Johnson-Laird and Oatley (1987 & 1989) examine English words referring to emotions and set up 5 modes and 7 categories. Based on its semantic features, each emotional term can be classified into some mode and category.

In this paper, we adopt Johnson-Laird et al.'s approach to analyze the language of emotions in Squliq, the major dialect of Atayal language. We classify all Squliq emotion verbs (abbreviated as EmVs henceforth) on the account of their semantic features primarily. Then, we may examine whether any obvious distinction exists between findings in the two languages; if it did, we may judge which factor may bring forth this difference. We make our assumption at first, of course, based on Squliq's specific linguistic behavior: a complex word-formation system either derivationally or inflectionally possibly influences the result of the classification of EmVs, especially on the result of which category an emotional term should be classified into. Relying on the assumption, we will mainly provide a detailed description on some important word-formation devices of Squliq EmVs in this paper.

The paper is organized as follows. Section 2 is a classification on EmVs based on Johnson-Laird et al.'s method. In Section 3, finding any possible device forming EmVs in Squliq is worth discussing in detail. We describe briefly other EmVs formation devices in Section 4. Section 5 is a conclusion in this paper.

2. A Classification on Squliq EmVs

Johnson-Laird and Oatley (1989) propose an approach to classify all EmVs of English. Within this approach, there are five modes and seven categories. Five modes are happiness, sadness, fear, anger and disgust. Seven categories include generic, basic, relational, caused, causative, goal and complex emotions. Any emotional item devolving on its corresponding mode or category is motivated by its semantic features.

In this section, we apply this approach, with 5 modes and 7 categories, to the analysis of EmVs in Squliq. As shown in Appendix I, we list all Squliq emotional items collected in our fieldwork. Including derivational and inflectional forms, total number of emotional items is 242 conjugating from 89 emotional words with distinct meanings. Take an overview on these 242 emotional items, except for the caused EmVs, the occurrence of the causative EmVs is the highest with the frequency of 30%. The second high one is relational EmVs with the number of 64 (25.6%).

However, as a result of not denying errors possibly exist, these figures in Appendix I are in need to be examined in further studies. Therefore, except for the figures, in this section, we aim to discuss Squliq EmVs in each category.

2.1 Generic Emotion Words

As proposed by Johnson-Laird et al., some terms can be used to denote general concept about emotion, such as “emotion” and “passion” in English. In Squliq, the similar words are *qsilq*, *qsahuy* and *inlugan*; the former two terms may reflect a person’s inner feeling, whereas, the latter is used to describe the outward appearance of a person like his disposition, attitude or character.

As for the distinction between *qsilq* and *qsahuy, qsilq* may be interpreted as ‘passion’ and it is also a verb form glossed as ‘love’; *qsahuy* in Squliq and heart in English are alike. Among these three generic terms, *inlugan* is used mainly in Squliq;

after all, people often judge whether a person is happy or sad from his appearance. The function of *inlugan* may reduce the risk from people's subjective judgements.

2.2 Basic Emotion

Terms denote feelings that can be experienced without knowing their cause or their object belong to the category of basic emotions. There are many basic EmVs in our data. These EmVs may denote a person's disposition or character such as *helaw*, *mhoman*, *mzimu'*, etc. As a result of only describing a person's disposition or character, the AF form is the only conjugation of these EmVs in Squliq. In Appendix I, most basic EmVs support our expectation, except for, *k<ú>wan* and *t<ú>wan*, both suffixed by a LF marker, *-an*. Morphological evidence of these two words is beyond our expectation; nonetheless, syntactic evidence proves that these two words are used in an AF construction as shown below:

(1). *k<ú>wan/ t<ú>wan* saku' /*maku'. [NB3: 25]

timid 1SN 1SG

"I am timid."

In example (1), the subject here is a nominative; a genitive is unacceptable. We can't explain the gap between morphological and syntactic behaviours in this example. But an AF construction with *k<ú>wan* or *t<ú>wan* as its predicate is a formula in Squliq. Hence, we still regard *k<ú>wan* or *t<ú>wan* as an AF verb.

2.3 Caused Emotion

In contrast to the basic emotion, caused emotion denotes that an emotion must have a known cause. For instance, 'happy' in English is a basic emotion term, whereas, 'glad' is viewed as a caused one. In Squliq, *m-tluhin* and *m-qas* as caused

EmVs are respectively in contrast to *m-hmut* and *m-zimu'* in the category of basic EmVs. As for the definition of caused EmVs, excluding EmVs denoting a person's disposition or character, in Appendix I, others are caused EmVs. Therefore, as we have mentioned in the beginning of this section, the amount of caused EmVs is ranked first in this language.

2.4 Causative Emotion

Causative emotions express the relation between the cause of an emotion and the person who experiences it. In Squliq, except for caused EmVs, causative EmVs occur with a high frequency as shown in Appendix I. Additionally, the formation of some causative EmVs is regular. That is, excluding those EmVs whose semantic meaning is causative but morphological form is unpredictable such as *mgnaw* and *innkux,* it remains that some causative EmVs are formed by specific morphemes, *s-* and *p-*, e.g., *s-blaq*, *s-helaw*, *p-tqehan*, *p-qasun*, etc. This issue in the focus in this paper; we may discuss it in Section 3.

2.5 Relation Emotion

Emotions concerning for someone or something are relational ones. In Squliq, there are many EmVs in this category. Both AF and NAF forms are acceptable here like ɯ *u* ɯ *u* and *k* ɯ *-un* respectively.

2.6 Goal Emotion

Emotions with motives to achieve goals are goal EmVs. Within this category, there are two subsets: those achieving a goal may produce happiness such as *m-lokah* and *s-m-oya'*; conversely, feelings similar to sadness, anger and disgust originate from goal unfulfilled (e.g. *m-* ɯ *lon*, *sramat*, *tboyak*). In Appendix, the number of this category is low.

2.7 Complex Emotion

Complex emotions are used to denote those emotions with a propositional content reflecting the high-level cognitive evaluation depending on the self. Embarrassment and shame are examples in English. In Squliq, *m-c'is*, *m-sayux* and *m-cagaw* are those EmVs relying upon a high self-evaluation. Both AF and NAF forms are also acceptable here.

3. Important Devices Constructing Causative EmVs in Squliq

To decipher EmVs in Squliq, an analysis on word formation is absolutely requisite. In Appendix I, we observe that some EmVs within the same category are formed by the same morpheme, especially those in causative category. The highly repeating morpheme is '*s*-'. However, in most Formosan languages, there is a specfic derivational morpheme, '*p*-', '*pa*-', or '*poa*-', denoting the causative relation in a sentence. As a result of it, '*p*-', '*pa*-', or '*poa*-' is assumed to occur in not only causative construction of dynamic verbs in Squliq but also in the category of causative EmVs. However, as we have mentioned, '*p*-' etc. is not used in most causative EmVs in this language, but the '*s*-' is. In addition, most linguists studying in Austronesian languages treat '*s*-' as an inflectional marker. The status of '*s*-' here really confuses us.

Hence, in this section, we aim to examine the linguistic status of '*s*-' in causative EmVs. We will examine the prefix by means of similar treatments in previous related studies from 3.1 to 3.2.4.

3.1 'p-' with a low frequency in Causative EmVs

According to previous studies, the marker, *'p-'*, *'pa-'* or *'poa-'*, prefixed to a verb stem or root is the most popular device to denote a causative relation in most Formosan languages. The case in Squliq isn't beyond our expectation. The instance,

pkusai misu' ma' translated in English as 'let me dress you', exposes the causative relation between arguments by means of prefixing '*p-'* to the verb- *kusai*, the imperative patient focus form stemming from *lukus* 'dress, wear clothes'. In sum, *p-* causativizing a dynamic verb is a very popular linguistic phenomenon in the dialect.

Hence, when discussing the causative emotions, that '*p-'* added to an emotional item might be an assumptive device to judge whether the emotion verb is a causative one. This is true! The same morphological device occurs in the causative EmVs of the dialect. An example is:

(2). [MYCH: 180-185]
180. … (1.5) nanu_yasa_qu,_
therefore
181. … (2.2) *p-qas-un* balay ni',_
Cau-happy-PF really Gen
182. … Hakaw kin,_
Com
183. .. Batu',_
184. … pinsqunan qa [/na],_
the:event:of:bein:together Gen
185. .. laqi' naha qani'.\
child 3PL Det

'Therefore, the event of being together of the children caused Hakaw and Batu' to be really happy.'

The example (2) is an excerpt from one narrative in our data. In the example, '*p-*' in *pqasun* is the causative marker, meanwhile, '*-un'* is the PF marker; that is, *pqasun* as a passive causative form of *qas* 'happy'. Hence, by means of *p-* in the EmV, we find that the causative relation clearly between the causer, *pinsqunan na laqi' naha qani'* 'the event of being together of the children', and the causee, *Hakaw kin Batu'*. The following example also shown the same morphological device:

(3). *p-tyaqeh* inlugan squliq qu yumin. [NB2: 94e]
[Cau-bad mood people Nom Yumin]
'Yumin made people feel bad. (literal meaning)
Yumin made people sad.'

(4). *p-tqeh-an* ni' tali' i' yumin kin watan. [NB2: 147c]
[Cau-become:bad-NAF Gen Tali' Nom Yumin Com Watan]
'Tali' alienated Yumin and Watan.'

Similarly, the EmV with '*p*-' prefixed, *p-tyaqeh*, in (3), also denotes the causative relation between the causer and the causee: the causer is Yumin, the causee, squliq. The instance here is an AF realis construction. In example (4), *p-tqeh-an* is a NAF verb.

Except for *p-qasun*, *p-t-lequn* and *p-sqru'* 'enchant', in our data, unfortunately, we don't find other EmVs making use of the *p*- as a device to denote the causative relation. The remaining '*p*-' prefixed to EmVs is an inflectional marker denoting the future tense. Even though, however, nor can we conclude that there isn't other causative EmVs constructed by '*p*-' in Squliq. We believe there are some more, of course. It is in need of being examined further.

In spite of it, the dialect makes use of other device to denote the causative relation between participants of an EmV. The device is that an EmV is prefixed by 's-'.

3.2. '*s*-' as the most widespread marker in Squliq EmVs

In most of our data, the type of causative EmVs initiated by '*s*-' is highly frequent. Generally speaking, lexical semantics of those stems which '*s*-' attaching to is metaphorically adjectival; in other words, the adjective in Squliq, even in most other Formosan languages, syntactically is more dynamic than the one in English like

happy or in Chinese such as *kuailede*. After all, the issue whether the syntactic category, the adjective, exists in Formosan languages remains controversial and isn't our focus here. What we concern here is how and why '*s*-' in an EmV verb denotes the relation that a causer did something that made his (or her) corresponding experiencer release a turbulent state in the mood negatively or positively. Therefore, we aim to set forth those causative EmVs with '*s*-' prefixing in this section in detail.

Before we offer our explanation, we should take an overview on the previous treatments on 's-' in this language.

3.2.1 Previous Treatments on '*s*-'

Once dealing with the verb initiated by '*s*-', viewing the prefix as a RF (referential focus) marker is our first reaction. Those examples listed in previous studies can prove that the statement is correct.

An example from Atayal (Huang, 1991: 38) is:

(5). s'agan mu qulih tali. [Huang 1991: 38(4a)]
[S-take 1SG fish Tali]
"I'll catch a fish for Tali."

Here, 's-' in *s'agan* functions to denote that the focused argument is the beneficiary-sort, Tali; hence, Huang defines '*s*-' here as a beneficiary marker.

Besides the beneficiary, '*s*-' is also recognized as an instrumental marker as in:

(6). s-'agan-mu qulih sqari' qani. [Huang 1993: 14(16a)]
[s-take-1SG fish net this]
"I used this net to catch the fish."

As indicated above, '*s*-' may also denote the appearance of the other argument taking the role of an instrument; the focused participant is *sqari'qani* 'this net'.

The remaining semantic meaning of '*s*-' in RF is GF (goal focus) (Huang et al.,

1998: 116).

Both Huang (1991 & 1993) and Huang et al. (1998) classify the '*s*-', as the same as LF and PF, into the NAF which is in contrast to the AF. In other words, the focused argument of '*s*-' in NAF is the non-agent argument.

3.2.2 's-' as a RF marker in two EmVs

Based on the same treatment of Huang (1991 & 1993) and Huang et al. (1998) applied to our data, we get two EmVs denoted by the RF marker include *s-lon* glossed in English as "have regard for one's feeling" and *s-galu'* 'sympathize with'; our examples as shown below:

(7). s-*lon* ciwas yumin. [NB3: 53a]
[RF- have:regard:for Ciwas Yumin]
'Ciwas has regard for Yumin's feeling.'

(8). *s-galu'* batu' ciwas. [NB3: 4b]
[RF-sympathize Batu' Ciwas]
'Batu' sympathizes with Ciwas.'

In (7), Yumin's feeling is taken into consideration by Ciwas. Yumin is a benefactive. In (8), Ciwas is the target whom Batu' sympathizes with. Both the focused arguments in two examples above are beneficiary one.

Except for these two EmVs, we don't find other EmV initialized by the RF marker in our data. On the contrary, other EmVs prefixed by '*s*-' can be AF or NAF form such as *s(m)u u* 'frighten' or s *wan* 'frighten' respectively. In other words, '*s*-' in most EmVs in Squliq isn't a referential marker. We may propose our explanation in the following section.

3.2.3 Rau's Explanation

In Atayal, there is the other treatment about the '*s*-' proposed by Rau (1992). Rau

(1992: 104) indicates that '*s*-' prefixed to noun or adjectival roots can form verbal stems. We list one of her examples that the stem happened to be adjectival as shown below:

(9). *s*-blaq simu' balay rwa. [Rau, G22]
[ACT-Sv-good 2PN very you:know]
'You love each other very much.'

In the sentence above, the stem, *blaq*, is comprehended as an adjective (i.e. metaphorically) like 'good' in English. Squliq makes *blaq* 'good' more dynamic with the morpheme, '*s*-'; then, it illustrates clearly the relation between participants the speaker mentioned.

In other section of Rau's 1992, she also refers to 's-' as an transitive marker:

> *s- can be prefixed to noun or adjectival roots to form verbal stems to which the active primary affix -m- can be added to the active forms…*(Rau, 1992: 109)

The excerpt above sets forth that '*sm*-' added to the roots leads an item to transitive as '*s-m-qas*' *celebrate* from the root, '*qas*' *happy*.

To sum up, the statement that '*s*-' based on Rau's treatment which views it as a transitive marker is helpful for us to comprehend those emotion verbs with '*s*-' prefixed.

Not only Rau, Huang (1993: 27) also indicates the same function of '*s*-': increasing its transitivity semantically.

3.2.4 Our Explanation

According to previous discussion, we think that 's-' as a transitive marker, as the same as Rau's treatment, is the most suitable definition for 's-' in most causative EmVs in Squliq.

As for the relation between causative and transitivity, Palmer (1994) defines causative function as to covert an intransitive structure into a transitive one. Like the case in Squliq EmVs, those stems which are prefixed by '*s*-' are intransitive such as *blaq* 'good', *helaw* 'outgoing', *hmut* 'angry', *sayux* 'shy', etc. We explain these words and also their respective transitive (i.e. causative) forms as shown in the following:

(10) a. *s-blaq* inlugan nya'. [NB2: 123a]
[S-good feeling/mood 3rd.SG]
'Make his emotion good.'

b. *blaq* inlugan nya'. [NB2: 123b]
[good feeling/good 3rd.SG]
'His emotion is good.'

(11). a. *s-in-syaux* misu' balay. [NB3: 53g]
[S-Re-shy 1st.SG + 2nd.SN really]
'You really made me ashamed.'

b. *syaux* yen ku'. [NB3: 53h]
[shy very 1st.NG]
'I am very shy.'

blaq in (10b) and *sayux* in (11b) are intransitive AF verbs; after prefixed by '*s*-', these two EmVs become transitive ones such *s-blaq* in the imperative sentence, (10a) and *s-in-sayux* in (11b). Coincidentally, meanings of these EmVs deriving from their respective intransitive forms are easily predictable. Other pairs include *lokah/s-lokah, yuhom/s-yuhom, tltu'/s-tltu'*, and so on.

Based on explanation above, we can conclude that '*s*-' is an affective causative marker in most Squliq causative EmVs.

4. Other Devices Constructing EmVs in Squliq

Besides the '*s-*' in causative EmVs, there are word structures related to the word formation of EmVs in this language such as '*t-*' and '*maki' inlugan*'. '*t-*' is the affixation part like '*s-*'; '*maki' inlugan*' is a compound. In this section, we intend to depict functions of these devices.

4.1 The distinction between t- and non t- in some EmVs

In our data, we have observed that there are some emotion verbs that can have two forms, the stem only and the form, a '*t-'* prefixed to the stem. As shown in Appendix I, *helaw/t-helaw, hmut/ t-hmut* and *lequn/t-lequn* are three pairs of those words. We give the pair, *helaw/t-helaw*, as an example to set forth the distinction.

(12) a. isu musa. mutux su *t-helaw/ *helaw* isu. [NB3: 67a]
[2SN go as:a:result 2SN become-optimistic 2SN]
"You go! As a result of it, you would become optimistic."

b. *(m-)helaw/ *t-helaw* balay su. [NB3: 67b]
[optimistic really 2SN]
"You are really optimistic."

c. cyux *t-helaw/ *helaw* seta' lz ay. [NB3: 67i]
[Asp become-optimistic Seta' Part SP.Part]
"Seta' has become optimistic!"

T-helaw used in example (12a) functions to depict the change of state; that is, the argument here isn't usually optimistic; the speaker suggests him (or her) going to a party or something else in order to change the normal state of his (or hers). On the contrary, *helaw* can't occur in (12a). The EmV, *helaw* (or *m-helaw*) purely describes the normal state of a person. As indicated in (12b), the speaker intends to illustrate the general disposition of the argument; therefore, only *helaw* is suitable in the sentence.

Example (12c) is used to make a statement of the change of Seta''s disposition that differs from her condition before.

Based on discussion here, we observe that there is a proposition within each sentence whose predicate is a EmV with 't-' prefixed; that is, the change of emotional state of a person. The proposition, coincidentally, corresponds to the prerequisite of caused EmVs. Therefore, we can view 't-' as a prefix denoting caused EmVs in Squlqi. The remaining pairs are like *hmut/ t-hmut* 'be furious/become furious' and *lequn/t-lequn* 'be mad / become mad'. The number of such pairs is high.

4.2 Compounding in Squliq EmVs

In our data, as shown in Appendix I, there are many EmVs compounds. We list some examples below:

Compounds in EmVs	Literal meaning	Connotation
blaq inlugan	good mood	be happy
cigay inlugan	many feelings	be amorous
hotaw inlugan	emotion falls down	be disappointed
koye' inlugan	emotion is down	be downhearted
kmtux inlugan	emotion is bitter	be sad
sbin inlugan	emotion is sweet	be happy
tehok inlugan	emotion arrives	be contented
tltu' qsahuy	emotion is cold	be heartbroken

EmVs in table above are verb-object compounds composed of a verb and a generic emotional term. As we have discussed in Section 2.1, there are three generic emotional items in Squliq: *qsahuy, inlugan* and *qsliq*. The function of these compound EmVs is used to compensate for the lack of other emotional expressions not occurring in this language but in other languages. Like 'be disappointed' in English or '*shiuang*' in Chinese, Squliq lacks its corresponding expression but creates '*hotaw inlugan*'. The word structure is productive.

Additionally, we find that verbs in these compounds are either dynamic or

sensory like *tehok* and *sbin* respectively. The composition of a dynamic/active or sensory verb plus a generic is interpretable. First, an EmV is used to denote an abstract aspect of a person; there is no need to use an emotional term plus a generic term to refer to a person's inner feeling; that is why Squliq use a dynamic or sensory verb in EmVs.

Second, because of the concrete feature of a dynamic verb, an added generic term can reinforce its stative value of an EmV. Therefore, we believe that the number of verb-object EmV compounds will increase in order to meet the demand currently.

5. Conclusion

In this paper, we discuss the language of emotions in Squliq. There are two issues here: a classification of EmVs relying on Johnson-Laird et al.'s approach and a discussion on interesting word-formation devices of Emvs.

As for the classification of EmVs, there is a list of all EmVs we collect in Appendix I. We classify all emotional terms we collected into 5 modes and 7 categories by means of the term's semantic features. We find that except for the caused EmVs, the frequency of causative EmVs is high.

The second issue is our focus in this paper. First, we discuss a controversial morpheme, 's-' in causative EmVs. Previous studies discuss the same form, 's-', in an inflectional aspect. We may, at first, also treat 's-' in this category as a RF marker, an inflectional marker; additionally, 'p-' is a general marker denoting a causative relation. These previous beliefs confuse us in the discussion of 's-'. However, we offer our explanations to prove that 's-' is indeed an affective causative marker, even though 'p-' is also a causative marker in this category but appears only in two EmVs, *pqasun* and *pcqehan*.

In Section 4, we continuously provide other devices of EmV word structure. We

find that the existence of '*t-*' can distinguish caused emotions from basic emotion verbs; in other words, the prefix is a marker denoting caused EmVs in Squliq. Besides '*t-*', we list some compounds in EmVs. The formation of these verb-object compounds is interpretable and productive. Compounds EmVs are *cigay inlugan*, *hotaw inlugan*, *kmtux inlugan* etc.

Except for these findings discussed in this paper, we can't deny that there are some dimensions worth discussing further in this field such as word formation of 'k-' or the other 's-' and conventionalized languages of EmVs in Squliq. We will also discuss these issues in our sequential study.

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Appendix I

Part 1. A Corpus of Emotional Words in Squliq

Stem	EmV in Squliq	Gloss in English	Classification
Abas	*s*-abas	make sb . feel jealous	CA-AF
[Di]	*s*-abs-*un*	make sb. feel jealous	CA-NAF
	s-*in*-bas-*un*	made sb. feel jealous	CA-NAF-Re
Blaq	*blaq inlugan*	be in a good mood, good	BA/CD-AF
[Ha]		disposition	
	s-blaq	make sb. feel good	CA-AF
	s-*blaq inlugan*	make sb. feel good	CA-AF
	s-bleq-*an*	make sb. feel good	CA-NAF
	s-bleq-*un*	will make sb. feel good	CA-NAF-Re
	qsilq	love	RE-NAF
		mind	Generic
	m-qsilq	love each other	RE-AF
	p-qsilq	will love each other	RE-AF-Rec
Cagaw	*m*-cagaw	be proud of	CO-AF
[Ha]	*s*-*p*-cagaw	make sb. proud	CA/CO-AF
	m-*in*-cagaw	was proud of	CO-AF-Re
	p-cagaw		CO-AF-Fut
C-in-binax	c-in-binax	be ungrateful	CO-AF
(non-stem)			
[Di]			
Ciqan	ciqan	be wretch	CD-AF
[Sa]			
Cigay	*cigay inlugan*	be amorous	GO-AF
[Ha]			
Cqeli’	cqeli’	humiliate	RE-AF
[Di]	cqely-*an*	humiliate	RE-NAF
C’is	*m*-c’is	be humble	CO-AF
[Ha]	*p*-c’is	be humble	CO-AF-Fut

Galu’	*m*-galu’	sympathize with each other	RE-AF-Rec
[Ha]		sympathize	
	g-*m*-alu’	sympathize	RE-AF
	m-alu’	sympathize	RE-AF
	s-galu’	will sympathize with each	RE-RF
	p-galu’	other	RE-AF-Rec/Imp
Gnaw	*m*-gnaw	tease	CA-AF
[An]	gnaw-*un*		CA-NAF
	nog-*un*		CA-NAF-Irre
	nog-*i’*		CA-NAF-Imp
Helaw	*(m)*-helaw	be outgoing	BA-AF
[Ha]	*(m)t*-healw	become outgoing	CD-AF
	s-helaw	buck up	CA-AF
	s-hlaw-an	buck up	CA-NAF
Hliq	hliq	pity	RE-AF
[Sa]	*k*--hliq-*un*	pity	RE-NAF
	k-*in*-hliq-*un*	pity	RE-NAF-Re
Hmut	*m*-hmut	be furious or cross	BA-AF
[An]	*m*-*in*-hmut	was furious or cross	BA-AF-Re
	s-hmut	make sb. angry	CA-AF
	s-*in*-hmut	make sb. angry	CA-Re
Hmut	hmut	be at will	GO-AF
[Ha]	*p*-*in*-hmut	being at will	GO-AF-Prog
	p-hmut	will be at will	GO-AF-Fut
	hmut-*un*	will be at will	GO-AF-Fut
	hmc-*i’*	be at will	GO-AF-Imp
Homan	*m*-homan	be grouchy	BA-AF
[An]	*t*-homan	become grouchy	BA-AF
	s(e)-homan	tease	CA-AF
Hotaw	*hotaw inlugan*	feel disappointed	BA-AF
[Sa]			
Hú yas-un	hú yas-*un*	have a distaste for	RE-NAF
(non-stem)			
[Di]			
Inlugan	*inlugan*	Disposition, feeling, character	Generic

Kelaɬ	*m*-qelaɬ	feel lonely	BA/CD-AF
[Sa]			
Koye’	koye’	downhearted	CD-AF
[Sa]	*koye’inlugan*	downhearted	CD-AF
	k-koye’	downhearted (intensely)	CD-AF
Kshun	kshun	be in awe of sb.	RE-NAF
(non-stem)	kshi’		RE-NAF-Imp
[Fe]			
Ktux	*kmtux inlugan*	sad	CD-AF
[Sa]			
sknuc’	skzinut	outrage	RE-AF
(non-stem)	sknut-*an*	outrage	RE-NAF
[Di]	sknuc’	outrage	RE-NAF-Imp
Kux	*m*-kux	be sacred of	BA-AF
[An]	*n*-kux	be sacred of	BA-AF
	m-*n*-kux	be sacred of	BA-AF
	kox-*un*	be sacred of	RE-NAF
	s-*n*-kux	scare	CA-AF
	s-*m*-*n*-kux	scare	CA-AF
	in-kox-*an*	frighten	CA- NAF-Re
	in-kox-*un*	frighten	CA- NAF-Re
	in-*n*-kux	frighten	CA- AF-Re
	kox-*i’*	frighten	CA-NAF-Imp
	p-*n*-*kux*	frighten	CA-AF-Fut
Lequn	*m*-lequn	be mad	CD-AF
[An]	ɬ -lequn	be mad	CD-AF
	t-lequn	become mad	CD-AF
	s-*t*-lequn	make sb. mad	CA-AF
	p-*t*-lequn	will become mad	CD-AF-Fut
Lhaw	*s*-lhaw	console	CA-AF
[Ha]	*s*-*in*-lhaw	console	CA-AF-Re
	p-*s*-lhaw	will console	CA-AF-Fut
Lhbun	*s*-lhbun	frighten	CA-AF
[Fe]	*s*-*in*-lhbun	frightened	CA-AF-Re
Lipon	*m*-lipon	be afraid	CD-AF
[Fe]	*t*-lipon	become afraid	CD-AF

Lokah	*m*-lokah	'be stiff'	GO-AF
[Ha]	*s*-lokah	encourage	CA-AF
	s-kah-*an*	encourage	CA-NAF
	s-*in*-lokah	encourage	CA-AF-Irre
Maki'	*maki' inlugan*	be confident	CO-AF
[Ha]			
Mhan	*mhan inlugan*	feel painful in the mood	CD-AF
(non-stem)			
[Sa]			
Mqhut	*mqhut inlugan*	be nervous	CD-AF
(non-stem)			
[Fe]			
Mshun	*mshun*	dislike	RE-AF
(non-stem)			
[Di]			
Mtlom	*m*-t-lom	be angry	CD-AF
(non-stem)			
[An]			
Mtqwox	m-t-qwox	be nervous	CD-AF
(non-stem)			
[Fe]			
ú isi'	ú is-*an*	treasure, cherish	RE-NAF
(non-stem)	ú is-*un*	treasure, cherish	RE-NAF
[Ha]	ú is-*i'*	treasure, cherish	RE-NAF
ú lon	*m*-ú lon	miss	GO-AF
[Sa]	*s*-ú lon	have regard for one's	RE- RF
	luú -*un*	feeling	GO-NAF
	k-*in*-luú -*un*	miss	GO-NAF
		desire	
ú uú u	*m*-ú uú u	fear	RE-AF
[Fe]	k-ú -*un*	fear	RE-NAF
	k-ú o-i'	fear	RE-NAF-Imp
	s-(m)-ú uú u	make sb. fear	CA-AF
	s-ú ú w-*an*	make sb. fear	CA-NAF
	s-ú ú w-*ay*	make sb. fear	CA-NAF-Imp
	p- ú uú u	will fear	RE-AF-Fut
	t-ú ú w-*an*	timid	BA-NAF
	k-ú ú w-*an*	timid	BA-NAF

Plhnyuɯ (non-stem) [Ha]	plhny-uɯ	dote on	RE-NAF
Qsqru’ (non-stem) [Ha]	*p-sqru’*	enchant	CA-AF
Qas	*m*-qas	be glad	CD-AF
[Ha]	*p*-qas-*un*	make sb. happy	CA- NAF
Qehun	*p*-qehun	will be reluctant	GO- Fut
[Di]	*m*-qehun	be reluctant	GO- AF
Qaniq [Di]	q-*m*-aniq	be reluctant	GO- AF
Qɯ yet	qɯ yet	be earnest or enthusiastic	GO-AF
[Ha]	qɯ yat-*un*		GO-NAF
Qala’ [Ha]	qala’	outgoing	BA-AF
Qelaɯ	*s*-qelaɯ	Buck up	CA-AF
[An]	*s*-qlaɯ -un	Buck up	CA-NAF
Qolu’	*m*-qolu’	covet, lust, libidinous	GO-AF
[Ha]	*s*-qolu’	make sb. covet	CA-AF
	s-qlw-*an*	make sb. covet	CA-NAF
Qqala’ (non-stem) [Fe]	qqala’	nervous	BA-AF
Qsahuy	qsahuy	inner feeling, passion, heart	Generic
S’a’ris	*m-(k)*-s’a’ris	be greedy	GO-AF
[Ha]	s’a’ris	be greedy	GO-AF-Imp
	p-s’a’ris	will be greedy	GO-AF-Fut
Sasa	sasa	flaunt sth. to sb.	RE-NAF
[Ha]	*p*-sasa	will flaunt sth. to sb.	RE- NAF-Fut
Sayux	sayux	feel embarrassed/shy	CO-AF
[Di]	*m*-sayux	feel embarrassed/shy	CO-AF
	s-sayux	make sb. shy	CA- AF
	s-in-sayux	make sb. shy	CA-AF-Re
	k-sayux	shame	CA-NAF
	p-sayux	feel embarrassed/shy	CO-AF-Fut

Sbin	*sbin inlugan*	be cheerful	CD-AF
[Ha]			
Sgsu’	sgsu’	console	CA-AF
(non-stem)	s-in-gsu’	console	CA-AF-Re
(Ha)			
Si’	*si’ inlugan*	concern for	RE-AF
(Ha)	*siyen inlugan*		RE-NAF
Snos	snos	impulse	GO-AF
[Ha]	s-in-nos		GO-AF-Re
(S)khakas	(s)khakas	dote on	RE-NAF
[Ha]	(s)k-*in*-hakas		RE-NAF-Re
(S)klakaw	(s)klakaw	dote on	RE-NAF
[Ha]	(s)k-*in*-lakaw		RE-NAF-Re
Skubeh	(*m)*-skubeh	stiff, crossgrained,	GO-AF
[An]		unfulfilled	
Sl’us	sl’us	be disgusted at/with	RE-AF
[Di]	s-*in*-l’us	was disgusted at/with	RE-AF-Re
	(s)k’us-*un*	be disgusted at/with	RE-NAF
Soya’	soya’	like, covet	RE/CO-AF
[Ha]	*m*-soya’	like each other	RE-AF
	s-*m*-oya’	desire	GO-AF
	szy-*u*	like	RE-NAF
	p-soya’	will like, covet	RE-AF-Fut
	p-sy-*u*	will like, covet	RE-NAF-Fut
	s’zey	like	RE-NAF-Neg
Snhi’	snh-un	be confident	CO-NAF
[Ha]	snh-i’		CO-NAF-Imp
Sqru’	sqru’	disfavor	RE-AF
[Di]	sqrg-*an*		RE-NAF
	sqrg-*i’*		RE-NAF-Imp
Sramat	sramat	feel nostalgic	GO-AF
[Sa]	s-*in*-ramat	felt nostalgic	GO-AF-Re
	p-sramat	will feel nostalgic	GO-AF-Fut
	sramat-un	feel nostalgic	GO-NAF
(S)trahu	(s)trahu’	appraise	RE-NAF
[Ha]	(s)-*in*-trahu’	appraised	RE-NAF-Re
	p-strahu’	will appraise	RE-NAF-Fut

Swalan	swal-*an*	be sympathetic toward	RE-NAF
(non-stem)			
[Sd]	swal-*i'*		RE-NAF
Syak	*m*-syak	sneer at	RE-AF
[Di]	syak-*an*	sneer at	RE-NAF
	p-syak-*an*	sneer at	RE-NAF-Fut
Szx-an	szx-an	be embarrassed	CO-NAF
(non-stem)	p-szx-an	will be embarrassed	CO-NAF-Fut
[Di]			
S'inu'	s-*m*-'inu'	miss	RE-AF
[Sa]	s'n-*un*	miss	RE-AF
S'su'	*m*-s'su'	craven	BA-AF
[Fe]			
Tama'	*p*-*s*-tama'	delight	CA-AF
[Ha]			
Tboyak	tboyak	struggle	GO-AF
(non-stem)			
[Sa]			
Tehok	*tehok inlugan*	be contented	CO-AF
[Ha]			
Thazi'	thazi'	tease	CA-AF
[An]	thy-*un*	tease	CA-AF
Thway	thway	be tender	BA-AF
(non-stem)			
[Ha]			
Tlhyal	(s)tlhyal	be scary	CD-AF
	p-tlhyal	will be scary	CD-AF-Fut
Tlapa'	*m*-tlapa'	be huffy	CD-AF
[An]	*s*-tlapa'	make sb. huffy	CA-AF
	p-*s*-tlapa'	will make sb. huffy	CD-AF-Fut
Tluhin	tluhin	be sullen	CD-AF
[An]	*m*-tluhin	be sullen	CD-AF
	s-tluhin	make sb. sullen	CA-AF
	p-tluhin	will be sullen	CD-AF-Fut
	p-*s*-tluhin	will make sb. sullen	CA-AF-Fut

Tltu’	*tltu’qsahuy*	be heartbroken	CD-AF
[Sa]	*m*-tltu’	be heartbroken	CD-AF
	s-tltu’	make sb. heartbroken	CA-AF
	p-tltu’	will be heartbroken	CD-AF-Fut
	p-s-tltu’	will make sb. heartbroken	CA-AF-Fut
Tqleh	tqleh	annoy	CA-AF
[An]	t-in-qleh		CA-AF-Re
	tqlih-*an*		CA-AF-NAF
Tqɬa’	tqɬa’	bother	CA-AF
[An]	tqɬ-ay		CA-AF-Imp
	tqɬan		CA-NAF
Tunux	*s*-tunux	annoy	CA-AF
[An]	*s-in*-tunux	annoyed	CA-AF-Fut
	s-tux-*an*	annoy	CA-NAF
T’uqu’	t’uqu’	be sulky	CD/BA-AF
[An]	*m*-t’uqu’	be sulky	CD/BA-AF
	t’q-*un*	be sulky	CD/BA-NAF
	s-t’uqu’	make sb. sulky	CA-AF
	s-t’q-*un*	make sb. sulky	CA-NAF
	p-t’uqu’	will be sulky	CD/BA-AF-Fut
Yaba’	*yaba’inlugan*	Light-hearted	BA-AF
[Ha]			
Yaqeh	*yaqeh inlugan*	be in a bad mood	Generic
[Sa/Di]	*m-s*-yaqeh	hate each other	RE-AF-Reci
	s-yaqeh	make sb. feel good	CA/RE-AF
	s-qeh-*an*	hate	RE-NAF
	t-m-yaqeh	turn into hate	RE-AF
	p-s-yaqeh	will hate each other	RE-AF-Fut/Rec i
	p-t-yaqeh	make sb. become sad	CA-NAF
	p-t-qeh-an	make sb. become sad	CA-NAF
Yuhom	yuhom	be choleric	BA-AF
[An]	*m*-yuhom	be choleric	BA-AF
	s-(p)-yuhom	make sb. choleric	CA-AF
	s-in-yuhom	make sb. choleric	CA-AF-Fut
	p-yuhom	will be choleric	BA-AF-Fut

Zimu’	*m*-zimu’	be joyful	BA-AF
[Ha]	*k*-zimu’	be joyful	BA-AF-Imp
	p-zimu’	be joyful	BA-AF-Fut
	zm-*un*	be joyful	CA-NAF
	t-zimu’	console	CA-AF
	mimu’	console	CA-AF
z ’uy	*m*-z ’uy	careworn	BA-AF
[Fe/An]	*s*-z ’uy	trouble/bother	CA-AF

Part 2. Abbreviations in Appendix I

An-Anger	BA-Basic EmVs	AF-Agent Focus
Di-Disgust	CA-Causative EmVs	NAF-Non-agent Focus
Ha-Happiness	CD-Caused EmVs	RF-Referential Focus
Sa- Sadness	CO-Complex EmVs	Prog-Progressive
Fe- Fear	GO-Goal EmVs	Imp-Imperative
	RE-Relational EmVs	Reci-Reciprocal
	Generic-Generic	Neg-Negation
	Emotional Term	Fut-Future Tense
		Irre-Irrealis
		Re-Realis
		Non-stem- The form isn’t a stem

Appendix II

Abbreviation Conventions Used in Examples

AF	Agent Focus	RF	Referential Focus
Asp	Aspectual Marker	SP.Part	Speech Act Particle
Cau	Causative Marker	Top	Topic
Com	Comitative Marker	1SG	1st Person Singular Genitive Pronoun

Det	Determiner	1SN	1st Person Singular Nominative Pronoun
Gen	Genitive Marker	2SG	2nd Person Singular Genitive Pronoun
Neg	Negation	3PG	3rd Person Plural Genitive Pronoun
Part	Particle	3SG	3rd Person Singular Genitive Pronoun
PF	Patient Focus	3SN	3rd Person Singular Nominative Pronoun
Poss	Possessive Marker		

8

Spatial Representation in Saisiyat

0. Introduction

The recent linguistic space studies (Talmy 1983, 2000; Bloom et al. 1996) suggest that the relation between space and motion in language is a window on the human conceptualization of the world. Much research is about space in English (Leech 1969; Bennett 1975; Herskovits 1975; O'Keefe 1996), some in Austronesian languages (Utsurikawa 1993; Senft 1997). However, the spatial representations in Saisiyat, an Austronesian language in Taiwan, have not been thoroughly studied. Utsurikawa (1993) has suggested that in Saisiyat, the orientations of the east and of the north relate to the motion of sun as well as to the direction of the chilly wind. Nevertheless, the rest of the spatial concepts in Saisiyat remain unknown.

In this chapter, we aim to describe the spatial system in Saisiyat from both the semantic and the syntactic perspectives, including semantic changes of spatial terms, common properties of location terms, locative synonyms and case markers, as well as the syntactic patterns of expressions related to spatial concepts, which typically involves motion events.

We start with defining the motion events proposed by Talmy (2000) in Section 1. In Section 2, we focus on static motions. In Section 2.1, we introduce spatial terms in Saisiyat. In Section 2.2, we briefly compare the differences between Saisiyat spatial terms with other languages. In Section 2.3, we discuss the synonyms of *lang'i* 'side' and *kabih* 'side.' In Section 3, we focus on the locative markers. In the first part, we introduce in Section 3.1 the general case marker *ray*, and in the second part, in Section 3.2, we introduce the habitual locative marker *kasray*. In Section 4, we illustrate the syntactic limitations resulting in ellipsis of

spatial morphemes. In Section 5, we discuss the syntactic patterns of static spatial expressions. In Section 6, we narrow down our focus from sentences to the word order of locative NP, directionals, and the static spatial terms. Furthermore, locating Saisiyat on the continuum between a satellite-framed language and a verb-framed language (Talmy 1983, 1985, 1991, 2000a, b) is also a central issue that we pursue. We discuss in Section 7 the locative focus of Saisiyat and in Section 8 dynamic motions. In Section 9, we also investigate the characteristic way of Saisiyat in depicting motion by examining narrative data, the Pear Story (cf. Chafe 1980). Finally, we conclude this chapter in Section 10.

1. Motion Events

According to Talmy, there are four basic components of a Motion event: Figure, Ground, Path, and Motion. In his definition (2000b: 25), the component of Path "is the path followed or site occupied by the Figure object with respect to the Ground object," and Motion denotes "the presence *per se* of motion or locatedness in the event." The familiar but crucial distinction between Figure and Ground is also pointed out in Talmy (2000a: 184) as follows:

> The Figure is a moving or conceptually movable entity whose site, path, or orientation is conceived as a variable the particular value of which is the relevant issue.
>
> The Ground is a reference entity, one that has a stationary setting relative to a reference frame, with respect to which the Figure's site, path, or orientation is characterized.

This conceptual contrast between the focal object and the reference object provides us with a cognitive tool for understanding various linguistic expressions, even those non-spatial ones. Nevertheless, in this chapter, we deal only with the motion events in

space.

2. Static Motion Events

2.1 Spatial Terms

Blust divides spatial system into systems of "macro-orientation" and "micro-orientation" (Blust 1997:39-40). According to his definition, the "macro-orientation" refers to the directional system, and the "micro-orientation" refers to the system of location. Examples for the "macro-orientation" are the cardinal directions such as "north/south/west/east," as well as the directional terms such as "left/right"; examples for the "micro-orientation" are notions of "inside/outside/above" and "below." These systems differ because "macro-orientation may be sensitive to gross environmental differences," whereas "no such expectation holds for systems of micro-orientation" (Blust 1997:40).

Our collected data of spatial terms in Saisiyat (see Table 1) partially correspond to Blust's classifications of spatial system in that the semantic changes of cardinal directional terms has much to do with the source domains of the sun (the orientations of east and west) and of the wind or the seasons (the orientations of south and north), but the directional terms such as "left/right" are derived from the body part relations.

In Utsurikawa (1993), the orientation of the east in Saisiyat derives from the motion of the sun. The north derives from the direction of the chilly wind. The word *kapayhahila'an* "east" comes from the stem *hahila*, which is the "sun." In our explanation, "the sun" added with a locative focus *-an* becomes a verb. Then this verb becomes a noun by adding a prefix *pay* and a gerundive tense prefix *ka-*. Similarly, *kap'na'amiSan* "north" comes from the stem *amiS*, which means the chilly wind, with gerundive prefix *ka-* and the locative focus *-an*. This cardinal orientation from the sun and the wind is similar to many languages of mountainous surroundings (cf. Heine,

Claudi, and Hünnemeyer 1991; Utsurikawa 1993; Svorou 1994; Blust 1997).

We display in Table 1 the spatial terms that are usually involved in spatial expressions:

Table 1. Spatial Terms in Saisiyat

Saisiyat	**Glossed in English**
babaw	top region of object; above; over; on
raya’	higher region (of the mountain)
hahoer	bottom region of object; under
kamasal	lower region (of the mountain)
kati’aela’(-an)	front region of object
hikor	back; behind
‘izo’	interior region of object; inward
‘i’izo’	deep
‘oehaz	exterior region of some object; outward
aboe’	indoor region; inside
latar	outdoor region; outside
lang’i	vicinity of object; beside; edge
kabih	side
wazwaz	middle region; between; center
katiaelae	front
hinirowai	circle
siwsiwazay	branch roads
Sepa’ siwsiwazay	crossroads (four branch roads)
ra:an	road
loehoe	a straight road
tone’ ; rolaw’an	pond
wasal	lake
kis(na)ray ; inaray	from
pingi’	beneath
Imahinkalaw; imahinkiyo	corner
ka’anal	right hand; right
kayri	left hand; left
kapayhahila’an	east
kaheban	west
kap’naba’an	south

kap’na’amiSan	north

These spatial terms are mostly locative nouns derived from either body part relations (i.e., *hikor* “back; behind,” *ka’anal* “right hand; right,” and *kayri* “left hand; left”). *hikor* means the back of the body; it also refers to the spatial relationship of “behind.” *ka’anal* is the right hand; it is also the right side. Similarly, *kayri* is the left hand as well as the left side.

2.2 A comparison with English and Chinese – *babaw*, *hahoer,* and *wazwaz*

Among these spatial morphemes, *babaw*, *hahoer,* and *wazwaz*, we find that Saisiyat is very different from English and Chinese but similar to Proto-Malayo-Polynesian languages (Blust 1997). It uses only one word *babaw* to represent the spatial concept of an upper or a surface region, such as above, up, high, and so on. Symmetrically, it uses *hahoer* to represent the space that is in the lower region, such as concepts of below, down, and under. Besides these two words, *wazwaz* indicates the middle position in a situation where things are lined up in a row. It also means the center of a two-dimensional circle or of a three-dimensional ball. When indicating the center, *wazwaz* is not restricted to circular or round things; it can point to the center of a square room. As for objects with irregular edges, such as humans, mountains, or fish, *wazwaz* means the trunk of the human body extending from the armpits to the waist, the hillside of a mountain range, or the middle part of a fish ranging from the gill split to the part before the caudal fin.

2.3 Synonyms – *lang’i* versus *kabih*

In Saisiyat, both *lang’i* and *kabih* have the meaning of “side” or “beside.” However, they do display different syntactic patterns. (1a) and (1b) show that it is

correct to say *kabih ho kabih* "here and there," but it is incorrect to say *lang'i ho lang'i*.

(1a) ray ka-ba:iw-an ka haehoeway kabih ho kabih
Loc buy-LF Nom shoes here and here
"(You can) buy shoes here and there." (Fieldnotes)

(1b) ray ka-ba:iw-an ka haehoeway *lang'i ho *lang'i
Loc buy-LF Nom shoes here and here (Constructed)

In addition, (2a) and (2b) show that it is acceptable to say *kakabih* when referring to the motion of going along the edges, while *ka lalang'i* is unacceptable. However, if the first syllable of the word *kabih* is not reduplicated, the sentence is acceptable with the implication that the "edge" is wide.

(2a) may isaza ka la-lang'i
pass that Acc Red-edge
"To go along the edge (of the pond)." (Fieldnotes)

(2b) may isaza (ka) *ka-kabih
pass that Acc Red-edge (Constructed)

(2c) may isaza kabih
pass that edge
"To go along the (wide) edge."

To differentiate *lang'i* and *kabih*, we asked our informant to place the two words together in a sentence as in (3a) and (3b) for us to see what the sentence means.

(3a) ray lang'i kabih
Loc side side
"the edge of the side." (Fieldnotes)

(3b) * ray kabih lang'i

Loc side side (Constructed)

(3b) is incorrect whereas (3a) is correct. This differentiates *kabih* from *lang'i* in that *lang'i* indicates a narrower scope than *kabih*. Moreover, if there are three objects in a row, the Saisiyat speaker uses only *lang'i* to refer to the object that lies at the side. The examples are in (4a) and (4b).

(4a) wazwaz lang'i hayza ka boway
middle side have Nom fruit
"Beside the middle is the fruit." (Fieldnotes)

(4b) wazwaz *kabih hayza ka boway
middle side have Nom fruit
"Beside the middle is the fruit." (Constructed)

Concluding from the examples above, *lang'i* refers to an edge that is narrower than *kabih*. In addition, *lang'i* is used in the situation where things lie in a row as well as in the situation where people move along the edge, while *kabih* has less interaction with other objects and is not used with a moving motion.

3. Locative Case Marker

3.1 General Locative Case Marker – *ray*

The static motion is expressed by the locative case marker *ray* between the Figure and the Ground and sometimes when exact location needs to be specified, the *ray* phrases are used with the above spatial terms. Here are some instances below:

(5) korkoring ray taw'an.
child Loc house
"The child is at home." (Fieldnotes)

(6) zozo inaskan ray powawan.

kiwi put Loc bowl
"A kiwi is put in the bowl." (Fieldnotes)

(7) ka tatango ray kinma'iaehan (babaw).
Nom mosquito Loc face above
"The mosquito is on the face." (Fieldnotes)

(8) kabkabaha ray kahoey babaw.
bird Loc tree above
"The bird is on the tree." (Fieldnotes)

(9) zozo inaskan ray ima 'i'izo' powawan.
kiwi put Loc Prog deep bowl
"A kiwi is put in a deep bowl." (Fieldnotes)

(10) 'aehae' ahoe' ray kapapama'an kabih.
one dog Loc car side
"One dog is beside the car." (Fieldnotes)

In examples (5) and (6), since the reference objects, *taw'an* "house" and *bowawan* "bowl," have a defined boundary, and the actual spatial relation (containment) between its focal object and this object is easily inferred in everyday interactions with such locations. Thus, it might be the reason why the Saisiyat speakers leave the detailed relationships in such spatial scenes linguistically unspecified. It is the case with example (7). Explicit information about the locatedness of the mosquito with respect to the face can be imaged quite easily and the spatial term *babaw* "above" expressing the configuration of the physical contact then can be optional. While in examples (8) and (9), *babaw* and *'i'izo'* are less likely to be omitted, for they not only contribute to the understanding of the spatial relation but also can disambiguate other possible relations between a bird and a tree or a kiwi and a bowl. While the canonical relation between such Figure and Ground is "on," *babaw* in this example can still be omitted in some contexts for Saisiyat speakers. The spatial term *kabih* "beside,"

however, is obligatory in example (10) because there seems to be no characteristic relation between the focal object, namely, a dog, and a reference object, like, a car.

This adposition-like use of spatial terms serving as "the search domain" (Huang 1998) in a spatial relation is also evidenced in many other languages, even in generically unrelated languages. For example, the locative phrase in Mandarin, has much in common with Saisiyat *ray* phrase. First, the *ray* phrase in Saisiyat, like the *zai* phrase in Mandarin, can by itself denote a static motion in a clause. The difference is that *zai* in Mandarin acquires the reading of a spatial predicate when there is no other verbal element. But since Saisiyat is an inflected language, the *ray* phrase is taken more like an equational PP (Yeh 2000: 105). Second, in Mandarin, the locative phrase may appear in the initial position, particularly when it performs a presentative function and cooccurs with the existential verb *you* (Li and Tompson 1981). Like Mandarin, the *ray* phrase of Saisiyat can occur in the same position and has a presentative function. Example (11) is an inverted version of example (8), but has a distinct discourse function:

(11) ray kapapama'an kabih (hayza) 'aehae' ahoe'.
Loc car side exist-AF one dog
"There is a dog beside the car." (Fieldnotes)

Another way of expressing static motion concerning persons as locations involves the exploitation of the Saisiyat locative case marker (i.e., *kan* or *kala*) for personal proper names or pronouns in locative forms. Look at the following expressions:

(12) So'o kanman lang'i.
2nd-Nom 2nd-Loc vicinity
"You are beside me." (Fieldnotes)

(13) So'o ray kati'aela' ma'an.
2nd-Nom Loc front 1st-Gen
"You are in front of me." (Fieldnotes)

We can find in example (12) that even in a projected spatial situation like this, the presence of the search domain *lang'i* is still necessary for specifying the detailed relation between the Figure and the Ground. In addition, this projected relation can also be indicated by constructions containing *ray* and the genitive pronoun as in example (13). What is intriguing in this example is the different syntactic positions of the search domain with respect to the Ground rather than persons. By this, we mean that when *ray* is to denote non-person locations the sequence of constituents is as follows:

(14) ray kapapama'an kati'aela'
Loc car front
"in front of the car" (Fieldnotes)

The expression *ray ma'an kati'aela'*, on the other hand, does not appear to be a colloquial use for Saisiyat speakers. Nevertheless, cognitively, these constructions have close relation to the notion of "possession," and can be reinterpreted as a case of locatedness.

3.2 Habitual Locative Marker – *kasray*

ray, which was introduced in the previous section, refers to a contingent location, whereas *kasray* refers to a habitual location. The differences can be shown in the following examples:

(15) kabkabaeha kasray kahoey babaw
bird Loc tree up
"Birds are on the trees." (Fieldnotes)

(16) alow kasray ralom
fish Loc water
“Fish are in the water.” (Fieldnotes)

Example (15) contrasts with (8). Here (15) refers to the bird’s habit of always staying in the trees, while (8) refers to a contingent moment that the bird happens to be on the tree. Sentence (16) means that the fish stays especially in the water. It also implies that fish will die if they are on the land. The two examples show clearly that the prefix *kas-* indicates a habitual location, which differentiates it from the locative marker *ray*.

4. Syntactic Limitation Resulting in Ellipsis of Spatial Morphemes

We found that Saisiyat is very different from English and Chinese in the sense that it does not allow two directional terms to co-occur in the same sentence. Therefore, it does not have expressions such as upper right, upper left, lower right, or lower left. Given the assuption above, how does a Saisiyat speaker express the spatial relation between objects? Our first attempt to solve the problem was to ask our informant to describe the classroom where he sat in for us. The descriptions are in (17) and (18).

(17) ray kakita'an ka hahila haehoer hayza ka kasa:engan.
Loc clock under have Nom chair
“(There is) a chair under the clock.” (Fieldnotes)

(18) ray ka kasa:engan langi hayza ka inohas.
Loc Acc chair beside have Nom window
“Beside the chair, there is a window.” (Fieldnotes)

The informant used two sentences to describe the relationship between a chair, a window, and a clock. What was more interesting is that our informant refused to use “left/right” with “under/beside” in describing the relationship between these objects.

He only used *haehoer* “below” and *lang'i* “beside.”

The ellipsis of the left or right expression also occurred when we asked the informant to describe a map for us. In order to understand how Saisiyat directionals and spatial terms are used, we drew a map. We made up a story about somebody going from *Oka*’s house to *Bowa*’s house, and then we asked the informant to tell this person how to get to *Bowa*’s house with the aid of the map. The map was designed as follows: The person has to start from *Oka*’s house, make a left turn, and then go straight until he sees a tree. Then he turns right and goes straight till he reaches a crossroad. There he has to enter a shoe store on the right side in the front to buy a pair of shoes for *Bowa*. After buying the shoes, he has to walk along the edge of a pond until he comes to two-branch raods. The person has to choose the road on the right that leads to a hospital. He goes through the hospital to the road at the back of the hospital. On that road, the second house on the right is *Bowa*’s house.

When narrating the instructions by looking at the map, the four of our informants did not use more than one directional term within one utterance. When they described the crossroads where they had to remind the protagonist of the story to go to the store on the right side to buy shoes, most of them simply skipped the description of the crossroads and only told the protagonist in the story to buy shoes at that crossroad. Only one subject attempted to describe the location of the shoe store, which is the number 3 shoes store in Figure 1. The description is in (19) below.

(19) rima ray ka’anal ray kaliokan ‘aehae’ ka ka-paiw-an
go Loc right Loc the edge one Acc sell-LF
"Go to the store on the right side on the side." (kao map)

However, the description is still not clear. Therefore, we asked all the informants to describe the crossroads for us agin after they finished the narration. One nformant

split the instructions into two parts. He first instructed the protagonist to look at the left, and then in the second step, he told the protagonist to look at the front where he saw a shoe store. The other informant refused to use any spatial instructions. He only told the protagonist to buy shoes at the crossroads because, in his words, one will know where to buy shoes by looking for the shoe store. Since we needed to test how spatial expressions are used in Saisiyat, we then modified the crossroads shown in Figure 1, where the four corners of the crossroads were shoe stores. Example (20) to (21) are illustrations from different subjects. The number in front of the sentence indicates the number of shoe store that the infromant describes.

(20) (Fong map)

1. ray ka-pai:w-an ka haehoeway ray kayri kabih
   Loc buy-LF Acc shoe Loc left side
   "At the shoe store to the left side."
2. ray ka-pai:w-an ka haehoeway ray kayri
   Loc buy-LF Acc shoe Loc left
   "At the shoe store to the left."
3. ray ka-pai:w-an ka haehoeway ray ka'anal kabih
   Loc buy-LF Acc shoe Loc right side
   "At the shoe store to the right side."
4. ray ka-pai:w-an ka haehoeway ray ka'anal
   Loc buy-LF Acc shoe Loc right
   "At the shoe store to the right."

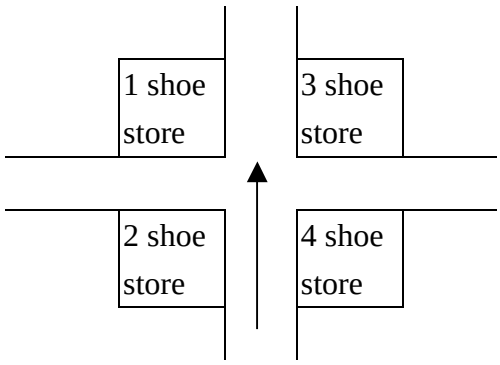


Figure 1. Map of crossroads with shoe stores.

(21) (Chu map)

rosa' taw'an katil-haehoeway'-an
two house sell-shoe-LF
"There are two shoe sores."

hinibih ray kayri
turn Loc left
"Turn left."

2. 'aehae' ray kayri
one Loc left
"The one on the left."

1. 'aehae' ray ka'anal
one Loc right
"The one on the right."

hinibih ray ka'anal
turn Loc right
"Turn right."

3. 'aehae' ray kayri
one Loc left
"The one on the left."

4. 'aehae' ray ka'anal
Loc Loc right
"The one on the right."

The differences between instructions in (20) are at the end of each sentence. The special part is that instead of saying "right-front" as Chinese speakers do, the informant says "right" plus "side" when describing the store in the front This again is an evidence that the directional terms are not allowed to co-occur in Saisiyat. Another interesting finding is that when we take off number 2 shoe store, which is on the left side of the road, the informant labeled number 1 shoe store as *ray kayri "*left" instead

of *ray kayri kabih* "left side." The reason is, according to the informant, that saying so will not cause any confusion since there was only one shoe store on the left. As a result, the word *kabih* needs not be specified. It seems that the infromant did not like the expression of *ray kayri kabih* "left plus side"; he only uses such expression when it is necessary.

As in (21), the informant also shows difficulties in describing the four shoe stores. It is shown that the informant still does not juxtapose two directional temrs such as "front" with "left/right" in the same utterance. However, there is still one informant who uses both the directionals of "front" and "left/right" in the same utterance, as shown in (22) below:

(22) (kao map)

1. kabih ray ka kahoeway
   side Loc Acc shoe
   "The shoe store on that side."

2. kati'ala ray ka kahoeway
   front Loc Acc shoe
   "The shoe store in the front."

3. kabih ray ka'anal
   side Loc right
   "On that side to the right."

4. ray kati'aela ka'anal
   Loc front right
   "To the right in the front."

Since the other three informants did not juxtapose two directional terms in one utterance and they all seem to encounter difficuties in describing the crossroads, we assume that the exspression in (22) is not natural.

The narrations of the map story show a unified dynamic spatial expression as in

the following:

(23) lososoi ka-bai:w-an ka hahoeway ray ka'anal / kayri'.
go_straight buy-LF Acc shoe Loc right / left
"Go along the road and turn right/left to buy shoes." (Fieldnotes)

(24) lososoi yo ray ka'anal
to_straight Loc right
"Go straight and turn right." (Fieldnotes)

Sentences (23) and (24) show a pattern in the telling of the map story, wherein the VP is followed by a locative predicate, which is composed of "*ray* + left/right." The only verb that is allowed to precede the locative predicate is *inkiyo* "turn." Concluding from the examples above, we suggest that direction morphemes cannot co-occur with other verbs except *inkiyo*.

5. Syntactic Patterns of Static Expressions

In this subsection, we examine five Pear Story narrations (Pear 1-5), six Frog Story narrations (Frog 1-5, Frog 7), one flood story narration, and two Conversation texts (Life, Election). From these data, we obtain a total of 109 sentences that have location terms (LT), such as *babaw* "above/over/on," *'izo'* "inside," *hahoer* "under," *hikor* "back," and so on. Then from these sentences, we obtain some syntactic patterns of static expressions, which are shown in the following together with examples:

General Pattern:

(S) VP (*hao*) (Loc) (NP) LT (VP)
S (*hiza*) (Loc) (NP) LT VP
(*hini*)
(*hani*)

This general pattern is the most pervasive, which can generate many other

examples, such as (25) and (26). The pattern in (25) is: S VP *hao* LT VP; in (26): S *hao* Loc NP LT VP. In addition, *hao* refers to a far-away "there"; *hiza* means "there"; and *hini* equals "that."

(25) isahiza ka tatini' rima ta-'itol ila ha:o babaw o:
thatNom old_man go-AF move_up-AF Pfv there above

r-om-okrok ka boway
pick-AF Acc fruit
"The old man went up the tree to pick fruits there." (Pear 1:28-31)

(26) tatini' ha:o ray kahoey babaw 'okay sa-sahoeroei
old_man there Loc tree above Neg Red-see-AF
"(Because) the old man was up in the tree (and) didn't see." (Pear 1:54-55)

Another pattern is the existential clause pattern. There is one example found in our data for each pattern, as in (27) and (28).

Existential Pattern 1:

Loc NP *hao/hiza/hini/hani* LT VP Exist NP

(27) ray 'aehae' kahoey ima hao 'izo' kita'-en hayza takem
Loc one tree there inside see-PF Exist frog
"Inside one tree, there is a frog." (Frog 3:147-150)

Existential Pattern 2:

NP Exist *hao/hiza/hini/hani* LT

(28) takem witi' ma= hayza ilahani 'izo'
frog [Hak] Exist there inside
"There is a frog inside there." (Frog 4:47)

There is one sentence that uses the following pattern when the narrator imitates the protagonist in the story calling for the lost frog. Sentence (28) is a sample sentence.

Vocative Pattern:

NP ProN *hao/hiza/hini/hani* Loc LT

(29) hiza ‘-oem-oe’oe ila takem So’o hani ray ‘izo’
there call-AF Pfv frog 2nd here Loc inside
“(He) calls toward there, ‘frog, you are inside here.” (Frog 4:48-49)

There are four sentences that have *kis(na)ray* or *in’aray* “from.” They show the following pattern, and (30) is an example.

“From” Pattern:
kis(na)ray / in’aray NP LT (VP)

(30) ‘in’aray binbinisitan ‘izo’ kasna’itol ila
from container inside move_up Pfv
“The frog inside the container (jumped) out.” (Frog 1: 9-10)

6. Word Order of Demonstrative Pronouns, Loc Np, and Location Terms

We have shown in the previous section that many sentences in our corpus co-occur with demonstrative pronouns, such as *hao/hiza* “there,” and location terms. Therefore, we will look closely at the word order of “there/here” and LTs. The data in Table 2 is obtained from our corpus showing the pattern of demonstrative pronouns, Loc Noun, and LTs:

Table 2. Word Order of Demonstrative Pronouns, Loc NP, and LT.

Word Order	Position 1	Position 2	Position 3
Pattern 1	*hao/hiza*	Loc NP	LT
Pattern 2	Loc NP	*hao/hiza*	LT
Pattern 3	Loc NP	LT	*hao/hiza*

As shown in Table 2, the word order of DP, Loc NP, and LT is free. However, Pattern 2 and Pattern 3 occur only six times in our corpus. Compared with the 103 occurances

of Pattern 1, the use of Pattern 2 and 3 is relatively low. In addition, our informants always give us sentences corresponding to Pattern 1 when they provide us elicited data. Based on their intuition, though Pattern 2 and 3 are acceptable, our informants prefer Pattern 1 when we double-checked the corpus sentences with them.

7. Locative Focus in Saisiyat

Saisiyat verbs have a complicated system for marking different focuses, which is also a feature of other Formosan languages. Basically, there are four verbal focuses used in Saisiyat to semantically distinguish between Agents (AF), Patients (PF), Locations (LF), and Beneficiaries or Instruments (RF). Although these verbal focuses are attached to verbs and form an inherently dynamic meaning together with the verbal predicate, the LF verb forms are exploited by many Formosan languages as a means to indicate a location where certain action is as well relevant. Moreover, on the lexical level, many canonical locations or toponyms can be recognized by the presence of the proto Austronesian locative suffix *–*an* with nouns or even verbs. In Saisiyat, similar processes of such morphological nominalization are also very productive. Here are three such instances:

(31) pangra:an okik koza in-osa'-an.
walk Neg how_much Perf-go-LF
"(The boy) has not walked far away." (Pear 5: 61)

(32) okik koza in-osa'-an ma'an.
Neg how_much Perf-go-LF 1st-Gen
"The way I have gone is not long. (lit.)." (Fieldnotes)

(33) hini ka-osa'-an.
this KA-go-LF
"This is the destination I am going." (Fieldnotes)

In example (31), the LF verb, though serves as the complement of the dynamic verb,

walk, and actually designates a more or less static meaning: the distance/way one has gone. In example (32), the static reading is more obvious. The typical way for forming a nominalized location in Saisiyat is shown in example (33) by simultaneously attaching the stative marker KA- (Zeitoun, and Huang 2000; Yeh 2001) and the locative focus marker onto the verb. The adding of the stative marker furthers the static nature of such expressions. Due to the mixing property between static and dynamic spatial relations of such LF forms, we single out its uses in this section.

8. Dynamic Motion Events

To start with, we resume to the components in a Motion event. We list in the table below the verbs that are usually used in expressing spatial movements.

Table 3. Spatial Verbs in Saisiyat

Saisiyat	**Glossed in English**
sapi:h ; may	to pass
hinsailo’	to turn round (at the same place); rotate
rokosiza; kalkosiza	to turn (and move for a distance)
hinkosiza	to turn (without path)
hinkyo	to turn
lobih	to return
hinibih	to turn around
kaslatar	to exit (human)
kas'oehaz	to exit (animal)
kas'aboe	to enter
matira	to approach
potngol	to arrive
kasapo’	to come in
homakama	to crawl
minsatal	to go beyond
kasnakoza	to go across a river
kikosiza	to move
alibih	to move backwords

mokakaso	to go backwards

According to Talmy's cross-linguistic investigation on lexicalization patterns, a Motion event may also incorporate expressions about the supporting (Co-event) relations, Manner and Cause. Since these two elements can be left unspecified sometimes, he regards the element Path as "the core schema" that frames the relation between the translational Motion with respect to the Figure and Ground. Based on this line of research, he also classifies the languages in the world into satellite-framed languages and verb-framed languages. In a satellite-framed language, the path traversed by the Agent is expressed or mapped on to the satellites, which "are certain immediate constituents of a verb root other than inflections, auxiliaries, or nominal arguments." If the core schema is contained in verb roots of inherent directionality, such languages are characterized as verb-framed. The notion of this typological dichotomy then continues to be the foci of many linguists in subsequent cross-linguistic research concerning larger scales of motion narration (e.g., Fillmore, 1989; Berman & Slobin, 1994; Slobin, 1996; Muehleisen & Imai, 1997). Hence, we believe this distinction might be an insightful one, in spite of the fact that Tamly (2000b: 102) also points out there is indeterminacy in the internal composition of the category of "satellites." Before unfolding the following discussion, we would make a modification on the distinction between satellite-framed and verb-framed. As in a langue, there can be several conflated patterns for the same type or different types of motions, we think it is more appropriate to call this dichotomy a continuum rather than absolute opposite poles. In the rest of this section, we will examine what might be the typical way of encoding a dynamic Motion event, and see whether we can categorize Saisiyat along this continuum.

Table 4 displays Saisiyat has an inventory of Path conflated verbs for self-propelled motions.

Table 4. Path conflated motion verbs[2] in Saisiyat

[+ Deixis]		[+ Path]	
rima’	“go”	panakiS	“ascend”
wa:i’	“come”	oeha:oe	“descend”
		kas’abo	“enter”
		kaslatar	“exit”
		kas’oehaz	“out”
		sahpi:h	“pass”
		mopez[3]	“cross”
		paray/pay	“via/along/through”

The table is by no means an exhaustive list of Saisiyat path verbs; there are other verbs that are inherently directed: *lososo:i* “proceed,” *hinbaat* “move along the horizontal axis,” *sasiwazay* “part,” and so on. The purpose here is to demonstrate that Saisiyat is capable of expressing the spatial movements by these verb roots with different focuses rather than by satellite-like elements such as the particle in English. The reason why we treat the two deictic verbs distinctly is that we agree on Choi’s (1991: 86) point that “Deixis often patterns differently from other kinds of Paths.” In Saisiyat, these two verbs can precede other non-spatial verbs and get some meaning erosion in their motion content, but we will not deal with this development in the present discussion. In addition to these Path verbs, Saisiyat also has motion verbs conflating Manner, such as *ae’ae’aw* “run,” *aloron* “float,” and so on, and motion verbs encoding Cause, like *’osa* “throw.” The Saisiyat verb *kasra:i’* “down” is

[2] These verbs are listed in their dependent forms, that is, forms used in imperative sentence.

[3] The status of this verb as a dependent form is not sure because of the lack of more fieldnotes. Besides, its “cross” meaning here in only related to medium such as road. There is another word *kasnakoraeh* for crossing streams or bridges. Hence, whether these two verbs belong to Path verbs requires further investigation.

actually one instance mentioned by Talmy as the rare conflating pattern: Motion + Ground. In fact, there are also many motion verbs in Saisiyat that conflate the Figure with Motion as in the pattern in Atsugewi (Talmy 2000b: 59). Motion events with body parts or garments as the Figure are expressed by transforming the nominal forms into verbs e.g., *ma-ngabas* (AF+ mouth) "open mouth," and *hahoeway* (shoes) "put on shoes."

Thus, in order to observe the major conflating pattern in Saisiyat, we make use of the data collected by making informants retell the famous Pear film, which abounds in motion depictions. There are 419 intonation units in the five Pear narratives. Total types of the motion verbs are 33. In order to focus on Path expression in spatial motions, we count only motions that involve physical movements as instances. As a consequence, the "self-contained Motion" (Talmy 2000b: 35), which leads to no overall change in an object's location will not be tackled here. Posture motions, like *hinibih* "(body) turn around," *sakosiza* "look around," *sanabih* "(head) turn back," and some dynamic actions like *bilis* "touch," *tono'* "bump into," *ti:is* "wipe," and so on are then excluded in the 33 types. Before giving an account on the conflating pattern, we provide the information about the average verb types and the number of intonation units in each Saisiyat narrator in Table 5 and check if there are any radical individual differences:

Table 5. Verb types and length in each Pear narration

Pear Story	Types of motion verbs (T)	Num. of intonation units (IU)	T/IU
Speaker 1	13	126	0.10
Speaker 2	8	48	0.17
Speaker 3	20	50	0.40
Speaker 4	24	89	0.27
Speaker 5	14	106	0.13

Average	15.8	83.8	

From this table, we see that Speaker 3 and 4 seem to prefer picking up spatial scenes that concern directional movements of objects, and may be able to add higher degree of dynamism to the narrations with a variety of motion verbs. In Table 6, we give a compositional analysis on the 33 types. Each type is illustrated in the form of the bare verb root (i.e., dependent form), but in fact may contain instances with possible focus marking.

Table6. Conflating elements in the 168 occurrences

[+ Deixis]	**Num.**	**[+ Path]**	**Num.**	**[+ Manner]**	**Num.**
rima’ “go”	24	sahpi:h “pass”	2	pangra:an “walk”	7
wa:i’ “come”	19	sahae “fall”	4	ngizo’ “tumble”	1
		oeha:o “descend”	1	kolobikol “trip”	1
		panakiS “ascend”	1	ae’ae’aw “run”	2
		kalben “fall down”	8	ta’itol/kasna’itol[4] “climb”	4
		lobih “return”	3	ronay “rotate”	1
		lososo:i “proceed”	2	saah/losaah “spill”	6
		sasiwazy “part”	5		
		ra:iw “leave”	3		
		osa’ “go”	1		
		ila “to”	5		
		pay “via”	7		
		rorol “follow”	2		
Total types 2		**13**		**7**	
% 6.06		**39.39**		**21.21**	
Total tokens	**43**		**44**		**22**
%	**25.59**		**26.19**		**13.09**
[+ Cause]	**Num.**	**[+ Figure]**	**Num.**	**[+ Ground]**	**Num.**
askan “put”	12	hangaw “set ladder”	1	kasra:i’ “down”	5

[4] The verb “climb”, in fact, has inherent directionality UP, but compared with the pure Path verb “ascend,” “climb” still manifests in the Manner aspect. Therefore, we categorize it as motion conflating Manner. Besides, even though we think the two forms for “climb” here have derivational relationship, we list both of them for reference. So is the case with the verb “spill.”

tabe "fill in"	2				
mari' "take/get"	6				
aras "bring/take"	8				
hoehoe "pull"	7				
sisil "lift"	6				
si-til'itol "lift"	1				
pama' "ride"	9				
sarak[5] "stomp"	2				
Total types 9		**1**		**1**	
27.27		**3.03**		**3.03**	
Total tokens	**53**		**1**		**5**
	32.54		**0.59**		**2.97**

We can discover that Saisiyat speakers are inclined to express translational motions with Path conflated verbs because Deictic verbs and other Path verbs constitute 15 of these 33 types (or 45.45%). More than 50 percent (51.78%) of spatial motions express the core schema by directed verbs rather than other satellite elements. At the same time we can notice that deictic verbs, though with very restricted types, have widespread usages and high token frequency (almost amounting to the sum of all 13 types of other Path verbs). In addition, Saisiyat speakers also frequently introduce the Co-events (i.e., Manner and Cause) to the dynamic spatial relations. The reason why there is a large portion of motions conflating Cause might be related to the nature of the film. Unlike the Frog stories probed into by Berman and Slobin (1994), the Pear film seems to contain more caused scenes involving agents displacing moving objects, such as fallen pears or bikes, to different locations.

In sum, for a directed motion, Saisiyat speakers typically describe it with a Path verb, and Saisiyat may be closer to the pole as a verb-frame language. However, it

[5] At first glance, one may consider the verb "stomp" should be a motion verb, conflating Manner. But in the context it is used, the verb "stomp" functions as a transitive verb and exerts a cause to make the bike go. This is the reason why it is put in this category.

still differs from more canonical verb-framed languages such as Spanish in the respect of conflating Co-events. It also frequently incorporates Manner or Cause in motion events, like some canonical satellite-framed languages.

9. Event Conflation and Detailed Path in Saisiyat Narration

Continuing our research on the spatial motions in Saisiyat Pear stories, we proceed to look for detailed descriptions of motion events and investigate whether there are specific properties of narrating motion events in Saisiyat. We have known from the above section that Saisiyat may commonly indicate Manner or Cause in a directed motion, as in example (34) and (35).

(34) ...(2.2) korkoring o: ... k-om-inwa'is ila ma
child with_effort-AF Pfv
...(1.4) rima' .. **ae'ae'aw** **ila** **rima**.\
go-AF run-AF Pfv go-AF
"The child (rode his bike) with all his might and ran away." (Pear 1: 76-78)

(35) ...(1.1) ma'iaeh ima **h-oem-oehoe'** **ka** **siri'**
person IMA pull-AF Acc goat
... **may** **hiza**.
via-AF there
"The man pulling a goat passed by this way." (Pear 3: 10-11)

Apart from including Co-event in motion events, Saisiyat also has linguistic means to depict complex trajectory of the Figure. The starting point can be typically indicated by the verb *(m-)in'alay* "start," which may or may not cooccur with the case marker *ray*. This starting point can also be marked by the preposition-like word *inay*. The end point of a path is usually the location following Path verbs like *rima'* "go," *ila* "to," or *potngor* "arrive." Sometimes, there might be a milestone or subgoal in the

path (i.e., the medial path windowing in Tamly's conceptual structure), which are typically expressed in Saisiyat by the two Path verbs *pay* and *paray*. Generally speaking, nearly all *ray* phrases with respect to dynamic motions can indicate the Ground. Whether it designates the reading of a starting point, end point, or milestone is decided according to which kinds of motion events are performed, and can encompass meanings such as from/into/at/to/along/through.

We sketch the Ground descriptions in the five Pear stories by calculating the Ground expressions in motion events per se and in those Minus-Ground. The result is displayed in Table 7.

Table 7. Ground expressions in Pear stories

	Source (A)	Goal (B)	Milestone (C)	A+B	A+C	B+C	A+B+C	Minus-Ground
Speaker 1	1	9	0	1	0	0	0	12
Speaker 2	0	5	0	0	0	0	0	9
Speaker 3	0	5	0	2	0	1	1	16
Speaker 4	0	5	3	0	0	0	0	30
Speaker 5	0	4	2	0	0	0	0	19
Tokens	1	28	5	3	0	1	1	86
Total	45 (A=5; B=33; C=7)							86

It seems that Saisiyat pays more attention to the final location (with Goal reference) with respect to the moving object than the starting point or the milestone of a trajectory. Furthermore, it seems that Saisiyat speakers do not usually depict detailed paths of translational motions. It is also obvious from Table 5 that the frequent usage of Path verbs of Saisiyat speakers leads them to leave Ground elements not instantiated in overt expressions, for the information about the path has already been supplied. What else deserves note is that the *ray* phrases in these Pears not only are related to the dynamic expressions, but also are used to indicate static setting (23 tokens) in these motion events.

10. Conclusion

In this chapter, we have had a close examination on the semantics and syntax of location terms. Besides differentiating these morphemes, we also discussed their collocations and syntactic patterns. We found that unless confusion arises, Saisiyat usually does not specify left and right as well as the locative marker *ray*. We also distinguish synonyms such as *lang'i* vs. *kabih* and *ray* vs. *kasray*, in that *lang'i* refers to a narrower edge and *kasray* refers to especially habitual locations. Then we compare the word order within locative predicates obtained from our corpus with our fieldnotes. We found that our informants have an intuitive word order, whereas the corpus shows a larger variety of syntactic word orders.

Furthermore, with careful corpus examination of the lexicalization patterns in Saisiyat Pear stories, now it might be reasonable for us to classify Saisiyat as a verb-framed language. Perhaps it is this property that creates the particular texture in Saisiyat narratives, interwoven with verbs conflating Path, Manner, or Cause and static background for a spatial event.

9

The Structure of Motion Events in Chinese, Tsou, and Saisiyat

----------A Cross-linguistic Study

1. Introduction: semantic typology of grammars of space

Semantic typology has now emerged as an exciting field. Recent research into the semantic typology of grammars of space and motion has shown that the domain of space is an ideal arena for the Whorf hypothesis. Much of the research has yielded results that suggest striking typological determinism and therefore Whorfian effects. The preferred construction type in a language predisposes speakers to deal differently with motion events encoded in the construction. Some of the most convincing

findings demonstrating some degree of linguistic determinism have come from research conducted at the Max Planck Institute for Psycholinguistics in Nijmegen and at Berkeley. Levinson and his collaborators at MPI distinguish between languages that describe spatial relations in terms of the body (front/back, left/right) and those that orient to the compass points (like north/south/east/west in Australian languages). In a language of the second type one would refer , for example, to ‘ your east hand, or ‘ the person sitting at the north end of the table’. In order to speak this type of language, you always have to know where you are with respect to the compass points. Levison and his group have shown, based on extensive cross-linguistic studies, that this is indeed the case. An ‘absolute’ speaker always know where north is and predicts accurate dead-reckoning. Slobin and his research group at Berkeley, working within an online thinking-for-speaking paradigm and its extensions thereof, have shown that the preferred construction type in a language predisposes speakers to deal differently with motion events encoded in the construction. Slobin(2000),for example, in comparing texts in the domain of motion in various types of discourse in two types of language, verifies that the domain of manner –of-motion is highly codable in Satellite-framed languages (henceforth S-languages) and, therefore, in terms of thinking for speaking and for writing, is also more available, in comparison with Verb-framed languages(V-languages).

Motion involves a number of ontologically distinguishable components: figure, the object in motion; path (or direction), the trajectory of motion; source, the origin of motion; goal, the destination of motion; manner, the way motion is carried out; instrument, the means by which motion is carried out; site and medium, the location of motion, and, finally agent, the cause of motion.

A number of research questions have been topics of recent intense investigation, e.g. the semantic notions of path and motion itself; the typology of lexical packaging of motion components in the verb; the way in which various components of a motion trajectory are suppressed, inferred or expressed. Research into the way motion is conceptualized cross-linguistically suggests striking cross-linguistic variability of the very concept of motion. There are at least three different styles of conceptualization involved in the coding of motion events (Levinson 200l, LSA linguistic Institute class lectures) In one type of motion conceptualization, translocational motion is a durative event that passes through a series of points in space over time. In the second type, motion is thought of solely as a change of state/location without transitional phases: at time $t_{1,}$ figure F is at the source S, at $t_{2,}$ F is no longer at S. Or at $t_{1,}$ F is not yet at goal G, at t_{2}, F is not at G. Languages of this type forbid simultaneous occurrence of both source and goal expressions in a single clause. Yukatec is such a language (cf. Bohnemeyer 200l). In the third type of language, it is not necessary for a

motion verb to code change of location; all that is required is a change of locative relation. At t_1, figure F is in locative relation R_1, at t_2, F is in locative relation R_2. Thus suppose a man is shown walking into a room from various angles. This is contrasted with the scenes in which the man dissolves outside the room and reappears inside the room. In this situation, English speakers will avoid the 'going in' or 'entering' locutions, since the actual trajectory is unseen. Japanese speakers find 'enter ' locutions fine (cf. Kita(1999)).

(picture here)

Languages also differ in how motion event components are lexicalized or distributed over a clause. In an insightful decision, Talmy (1985, 1991, 2000) has identified two broad types of language according to how 'core schema'--- in the present case, path information--- is encoded by the main verb of a clause or some other element. In verb-framed languages, path is encoded inside the main verb and manner appears outside the verb, as an adjunct. Included among such languages are Romance, Semitic, Japanese, Tamil, Polynesian, most Bantu, most Mayan and Caddo. All natural sign languages are believed to be also verb-framed languages (Slobin and Hoiting 1994). In satellite-framed languages, path is encoded outside the main verb in a satellite, or in a preposition. The verb itself indicates the fact of motion and often the manner of motion.. Included among such languages are Indo-European (minus Romance), Finno-Ugric, Chinese, Ojibwa and Walpiri (Talmy 1991:486*). Satellite* is the grammatical category of any constituent other than a nominal or preposition phrase complement that is in a sister relation to the verb root. The satellite, which can be a bound affix, or a free word, encompasses the following grammatical forms: English verb particles(e.g. over in start over), verbal prefixes (e.g. mis- in misfire) German verb prefixes, Russian verb prefixes, Chinese verb complements, Atsugewi polysynthetic affixes around the verb root. One justification for recognizing the satellite as a grammatical category is that for one typological category of languages it is the characteristic site for the expression of the core schema (path, or more generally path plus the ground) (Talmy 2000:102). Some languages have full systems of satellites, while other languages have virtually no satellites. One effect of this crosslinguistic difference appears in the representation of boundaries. Aske (1989) shows that a boundary plays a crucial role in a verb-framed language like Spanish since if crossing a boundary results in a new configuration or state, path description can continue only via a new clause with its verbs. In English, a satellite-framed language, boundaries are not singled out but are treated as just further path segments to be coded as satellites.[1] Talmy (2000:102) is careful to note that there is some indeterminacy as to exactly what kinds of constituents found in construction with a

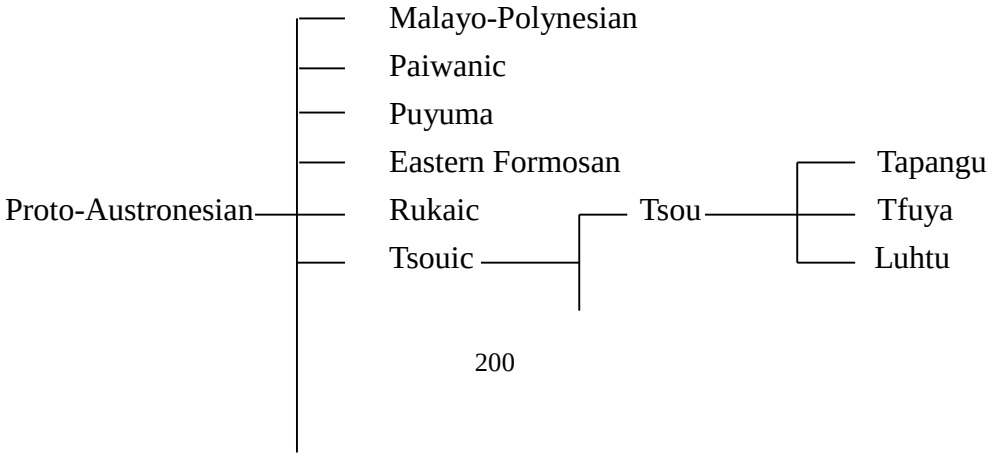
verb root merit satellite designation.

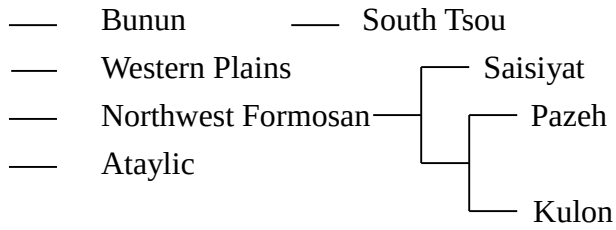
Much of the recent research on motion events has focused primarily on these two language types represented by English(Germanic)and Spanish(Romance). These two languages express manner and path in the verb and in a non-verbal constituent, but simply do so in opposite ways. Yet there are languages whose structure of motion event sentences looks even on the surface to be strikingly different from either of these two languages and they need to be examined in some depth before we arrive at a sound typology of the structure of motion events.

Tsou and Saisiyat (and Austronesian languages in general) lack the syntactic category of prepositions and there is in these languages no syntactic distinction between finite and non-finite verb forms. How is path information packaged lexically and distributed over a clause in these languages? One would surely expect them to exhibit considerable structural difference in the lexicalization of motion events from each other and also from familiar languages such as English or Spanish where there is a syntactic category of prepositions. I will present evidence that strongly suggests that the current two-way typology of languages needed to be considerably revised to accommodate the data one finds in these languages.

The research reported here proposes to look at the lexicalization and macro-event behavior of Chinese, Saisiyat and Tsou. Saisiyat and Tsou are both primary branch Austronesian languages and both lack the syntactic category of prepositions. I claim that these two languages behave in ways strikingly different from Talmy's characterization of either a verb-framed or a satellite-framed language, and a new typology will be suggested. Specifically, it will be shown that Saisiyat is neither a verb-framed nor a satellite-framed language, since a motion macro-event in Saisiyat is typically expressed by a complex sentence involving two or more verb (phrases). (a complex verb-framed language)Tsou represents a language where the characteristic pattern motion event descriptions is to use lexicalized compounv verbs comprised of a manner verbal prefix and a path verb suffix. There is this no justification for a satellite category for motion event sentences (a macro-event language).

4. Genetic affiliation of Tsou and Saisiyat (based on Blust 1999; see Starosta 1995 for a dissenting view)





4. Ethnographic notes

a. Saisiyat: -- Saisiyat, along with Pazeh, constitutes the Northwest branch of Austronesian language family;

-- Spoken on the highlands of northern Taiwan;

--- The dialect studied is the Southern (Tonghe) dialect, with a population of 4000; Saisiyat has a total population of 7000.

-- Moderately endangered; government effort to 'save' the language now underway;

-- Many speakers trilingual (Saisiyat, Hakka, Mandarin) or quadrilingual (Saisiyat, Hakka,, Mandarin, Japanese)

b. Tsou: -- A major language of the Tsouic branch of the Austronesian language family

-- Spoken on the highlands of SW Taiwan;

-- The dialect studied is the Tfuya dialect; Tsou speakers total about 4500;

-- Also moderately endangered; many speakers also trilingual or quadrilingual.

5. Linguistic characteristics

a) Both Saisiyat and Tsou have a Philippine-style focus system. Of the two languages, Saisiyat is the more conservative in focus morphology (reflects reconstructed Pan affixes, PF *-un*, LF *-an*, RF *Si-*). PF, LF and RF are collectively known as NAF.

b) Saisiyat is strongly AVO in AF clauses, but VAO in NAF clauses ; Tsou is predominantly VOA in transitive AF clauses and VAO in NAF clauses.

c) Word stress is entirely predictable (final stress for Saisiyat and penultimate stress for Tsou).

d) Saisiyat has the usual complement of case markers, with a distinction made between whether the referent is a proper noun or common noun: the nominative hi/*ka* ; the accusative *hi/ka*; the genitive *ni/noka* ;the dative *ini/no*; the locative *kan/ray.*

e) Tsou has an elaborate system of case marking, with a set of nominative markers indicating 'subject', depending on the visibility and/or the psychological

distance of the subject NP in relation to the speaker, and another set of oblique markers indicating non-subjects and genitive NPs (For details see Huang, in progress).

6. Basic spatial constructions and the lack of prepositions

-- In a basic spatial construction, a focal object is coded as an NP and a reference object is coded as an NP. The relation between the figure and the reference object is expressed by a generic spatial predicate *waga* 'be located' in Seediq and *eon* in Tsou. Sometimes a specific locative noun is needed to specify *a search domain* with respect to the reference object, as in S2 and T2. Preliminary analyses show that the use of a specific locative noun is the marked strategy reserved for the situation where the spatial location of the focal object is unusual.

S1. waga pungerah ka nasi
be located bowl SM pear
'The pear is <u>in</u> the bowl.'

T1. mo eon ta takubingi 'e nasi
AF be located Obl bowl Nom pear
'The pear is <u>in</u> the bowl.'

S2. waga pungerah turuma ka nasi
be located bowl inside SM pear
'The pear is (deep) inside the bowl.'

T2 mo nooeo ta takubingi 'o nasi
AF be inside Obl bowl Nom pear
'the (invisible) pear is inside the bowl.'

-- In Seediq & Tsou, topological relations between the figure and the reference objects are rarely specified.

S3. lunamu na ga na pusaun deheran
pick-PF Gen be located Gen put-PF ground
'What he picked was set <u>on</u> the ground.'

T3. isi sii to ceoa 'o isi toai
Aux-NAF put Obl ground Nom Aux-NAF pick-PF
'What he picked was set <u>on</u> the ground.'

S4. waga madis heiban ka Takun
Aux write-AF blackboard SM PN
'Takun is writing <u>on</u> the blackboard.'

T4. mo tmopsu ta heiban 'e Pasuya
Aux-AF write Obl blackboard Nom PN

'Pasuya is writing on the board.'

S5. waga tuguleing so kususudu ka takun
Aux hide about bush sm PN
'Takun is hiding in the bushes.'

T5. mo totoefUngU to cpucpuhu 'o Pasuya
Aux-AF hide Obl bushes Nom PN
'Pasuya is hiding in the bushes.'

7. Motion event and path categories

-- In both Tsou and Saisiyat, some path categories, especially vector paths(to, at, in,via, along) are never encoded for *motion* verbs; other path categories in Saisiyat are characteristically indicated by separate path verbs. In (S6-S8), *tana'itol*, *'* face upward', *saha'oe'* face downward', and *in'alay* ' to be from' are each a path verb.

S6. yako tana'itol komita ka kawas
1st.sg face upward see Acc sky
' I looked up at the sky '

S7. yako saha'oe komita ka va:la'
1st.sg face downward see Acc river
'I looked down at the river below."

S8. binbinisitan in'alay ray kalhib toliyab ila ray latar
bottle from Loc cave float pfvLoc outside
'The bottle floated out of the cave.'

In Tsou, path categories are always encoded by an inseparable verbal suffix or by a combination of two bound verbal affixes. In (T6), *-teufzu* 'face upward' is a verbal suffix;In (T7), *-ovcu* ' face downward' is also a verbal suffix. In (T8), *i-* ' to be from'and '*-unu*' toward' are affixes. In (T9), the verb *mea-eafo* is composed of a manner verbal prefix *mea-* 'float' and *–eafo*, a path verbal suffix meaning 'out'. I will show later that the canonical pattern of expression for motion verbs in Tsou is to use this type of compound verb composed of a manner verbal prefix and a path verbal suffix.

T6 mi'o mi-teufzu (ho baito) ta ngUca
Aux-AF-1st.sg look-upward Conj see-AF Obl sky
'I looked up at the sky.'

T7. mi'o mi-ovcu (ho baito) to va'hU
Aux-AF-1st.sg look-down Conj see-AF Obl river
'I looked down at the river below.'

T8. ho mi hin'i i'unu ne'e
Conj AF they from there
' And they went away.'

T9. mo mea-eafo to feongo 'o pania
AF float-out Obl cave Nom bottle
'The bottle floated out of the cave.'

S9 mari'' hintabo' ila hao ray kalhib
ball roll pfv reach Loc cave
'The ball rolled into the cave.'

T10 mo tmai-'aemonU to feongo si mari'
AF roll-inside Obl cave Nom ball
'The ball rolled into the cave.'

8. Lexical conflation patterns for motion verbs

According to Talmy (l985, 2000), paths are the most likely components of a motion event to be incorporated into the event in overt expression and the degree of which a language incorporates its paths is held by Talmy to be something of a yardstick by which to typologize the structural differences of languages.

Talmy (2000) has proposed three major conflation patterns for motion verbs that languages exhibit. The three types, based on which component of a motion event is expressed in the verb root (as opposed to in the satellite), are

(a) motion + path : Romance, Semitic, Polynesian, Japanese, Caddo,…
(b) motion + co-event : IE (minus Romance), Chinese, Finno- Ugric, …
(c) motion + figure : Atsugewi, Navaho,…

Talmy (2000 : 61) speculates that the different conflation types can be ranked in their prevalence, with (a) the most extensively represented, (b) next and (c) least so.
Conflation types represented by (d) and (e) are possible, but are believed by Talmy not to be found in the world's languages:

(d) motion + ground (very rare, but cf. *deplane* in English)
(e) motion + two semantic components

Talmy(2000:61) considers two subpatterns of (e), namely,

(e1) motion + ground + path: e.g. shelve (to move onto shelf); box (to move into box)
(e2) motion + figure + path: e.g. powder (move facial powder onto); scale (move scales off of)

and stresses that conflation systems of this multicomponent sort never
form a language's major system for expressing motion (or even as minor systems).

The reason, according to Talmy (2000: 60) is that such a system would need to make a relatively fine semantic distinction and would thus require an enormous lexicon since there would have to be a distinct lexical verb for each semantic combination. But this is exactly what one finds in a language like Tsou in which a conflation system of the (e) type for motion is normal, namely

(e3) motion +manner+path: eu'si-peohu 'climb down';

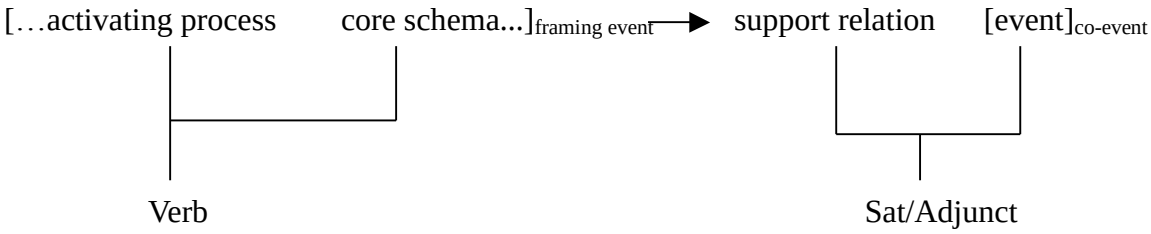
9. Macro-event and its typology

A macro-event in Talmy's (2000) typology of event integration refers to a fundamental category of complex event that is prone to conceptual integration and representation by a single clause. Two language types are distinguished by Talmy. A verb-framed language maps the core-schema into the verb. In Spanish,

(Sp1) La botella salió flotando 'The bottle floated out.'

the verb *salir* 'to exit' expresses the core-schema (the path), while the gerundive form *flotando* expresses the co-event of manner.

Fig.1



A framing event has four components: figure, ground, activating process (of figure) and an association function that sets a figure into a particular relationship with the ground.(p.221)

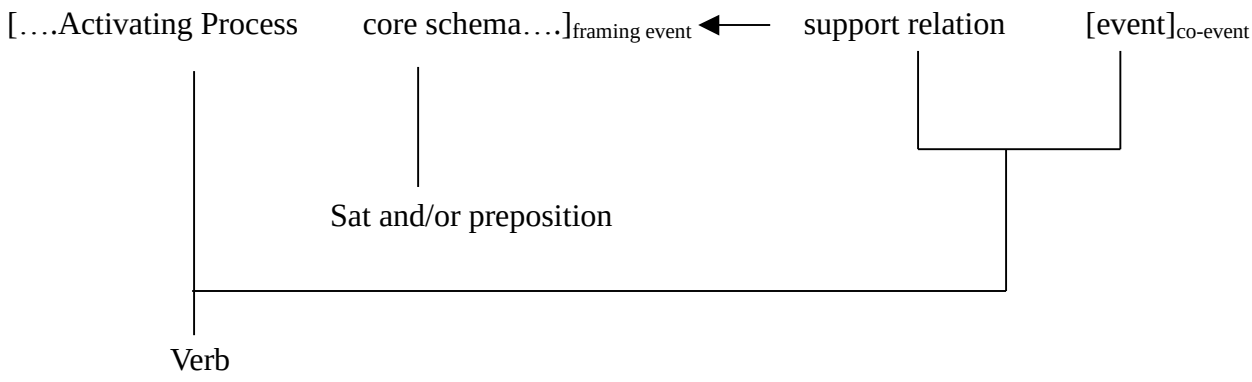
(a) Syntactic mapping of the macro-event in satellite-framed languages

Satellite-framed languages map the core-schema onto the satellite(here the satellite refers to the satellite alone, or the satellite and a preposition or a preposition alone). In English,

(E1) The bottle floated out.

The satellite out expresses the core schema, while the verb *floated* bears the support relation of manner to the framing event.

Fig. 2



Note that English has a number of verbs that incorporate path, as in the Spanish conflation type: enter, exit, ascend, descend, cross, pass, circle, advance, approach, arrive, proceed, depart, return, part, rise, leave, near. With these verbs, manner notion must be expressed in a separate constituent:

English: The rock slid past our tent.

Spanish pattern: The rock passed our tent in its slide.

(b) Syntactic mapping of the macro-event in Mandarin

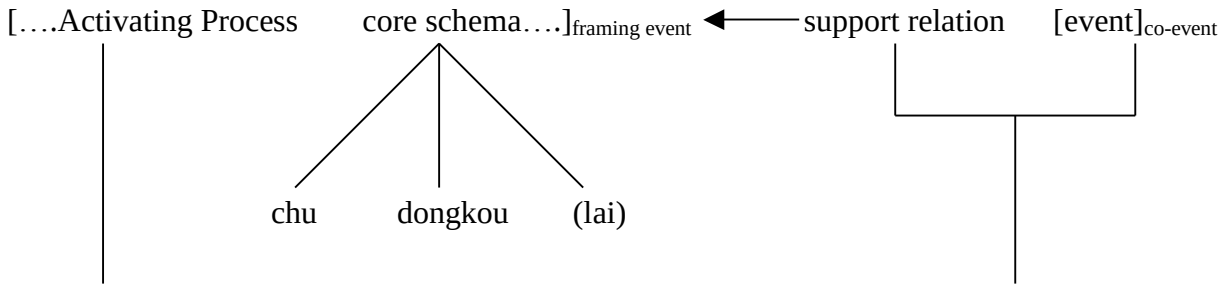
Mandarin is a strongly satellite-framed language, regularly using its satellite to specify path (Talmy 2000:272). Among the Chinese path satellites are: -shang ‘up’, -xia ‘down’, -jin ‘in’, -chu ‘out’, -guo ‘past’, -qi(lai) ‘up’, -diao ‘off; away’, -zou ‘ away’, -hui ‘ back’, kai ‘ away’. Most of the satellites can be followed by a deictic –lai ‘hither’ or –qu ‘thither’.

In a Mandarin sentence like

(M1) pingzi piao chu dongkou lai le ‘The bottle floated out of the cave’

the satellite *chu* ‘out’ expresses the core schema, while the main verb *piao* ‘float’ bears the support relation of manner to the framing event.

Fig.3



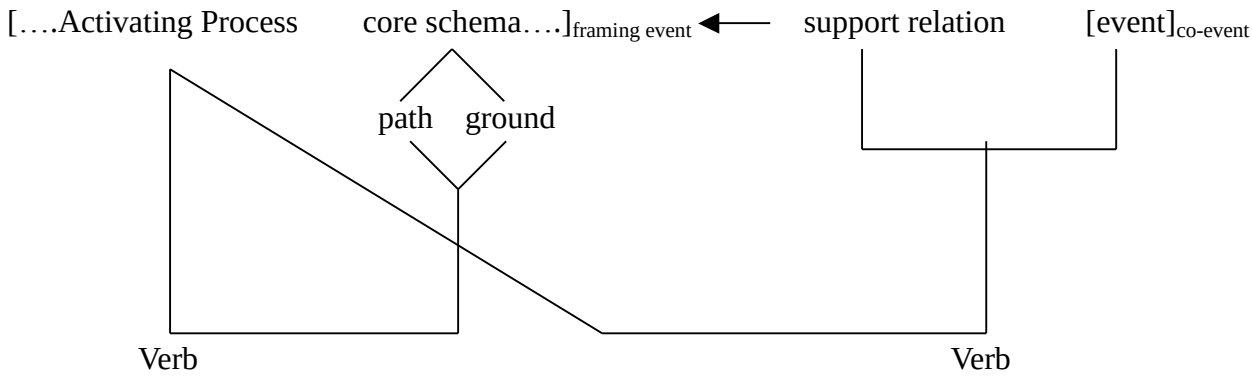
Piao

A more colloquial way of expressing the same idea is to use a preposition phrase to introduce the source expression, allowing the satellite *chu* to incorporate with a deictic, resulting in a sentence like

(M2) pingzi cong dongkou piao chulai le ‘ The bottle floated out of the cave’

(c) Syntactic mapping of the macro-event in Saisiyat

Fig. 4



(El)’s closest equivalent sentence in Saisiyat is:

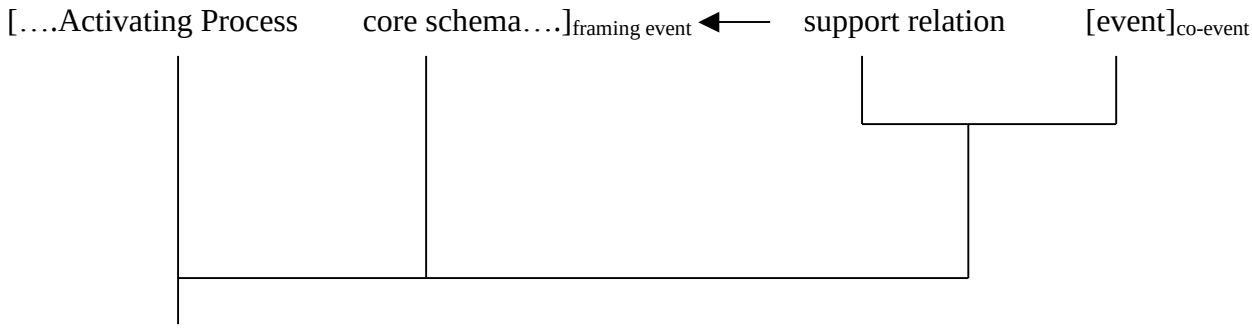
(S8) binbinisitan in’alay ray kalhib toliyap ila ray latar
bottle from Loc cave float pfvLoc outside
'The bottle floated out of the cave.'

There is a conflation of the activating process with the core schema to from the path verb and the ground *in’alay ray kalhib* ‘ to be from the cave’’; another verb *toliyab* 'float' expresses the support relation of manner to the framing event. Note that the path verb is part of the chaining serial verb complex. Both the path verb and the manner verb are full verbs in the serial verb construction and neither is in a nonfinite form with respect to the other. There is thus no justification for an independent satellite category and thus no justification for core schema for motion events. These initial results suggest that Saisiayat cannot be assimilated to the Spanish-type verb-framed language.

(more later)

(d) Syntactic mapping of the macro-event in Tsou

Fig. 4



In the equivalent Tsou sentence,

(T8) mo mea-eafo to feongo 'o Pania
Aux-AF float-out Obl cave Nom bottle
'The bottle floated out of the cave.'

The activating process co-occurs with an inseparable verbal suffix *-eafo* 'out' indicating a path satellite together with a specific co-event inseparable prefix *mea-* 'to float' to form a lexical complex that means 'to float out'.

The Tsou data suggests that

(a) The notion of the framing event need not be recognized as a significant component of cognitive-linguistic organization in the description of motion events in Tsou, though the macro-event is.

(b) Tsou is neither a verb-framed language (since the core schema is not mapped into a verb distinct from the expression of co-event), nor a satellite-framed language (since the core schema is not mapped onto a satellite distinct from the expression of co-event).

© A macro-event language: since it is the macro-event as a whole that structures the expression of motion events in the language, languages of the Tsou type will be termed macro-event languages. This would follow from (1).

(c) Motion verbs in Tsou characteristically represent a lexicalization of Motion + path + manner. That is, it is an instantiation of the conflation type (e). There is no justification for a satellite/adjunct component for motion events.

10. Other types of macro-event

The typological contrast with regard to verbs of motion is part of a large set of

macro-events analyzed by Talmy (1991, 2000), including the conceptual domain of aspect, change of state, action correlation and event realization. (cf. Huang 2001 for observations on emotion expressions in Tsou). The way a macro-event in motion in Tsou is structured parallels the way a macro-event in other domains is structured. The verbal satellite suffix expresses

(a) the path in an event of motion

T10. mo cu tmai'-aemonU si mali.
Aux Perf roll in Nom ball
'The ball rolled in.'

(b) the aspect in an event of temporal contouring

T11. mihin'i e'unu maita'e
Aux-3rd.pl talk-toward thus
'They talked on."

(c) The correlation in an event of action correlating

T12. mita pasu-ofeihini 'e pasuya
Aux-3rd.sg sing-along Nom PN
'Pasuya sang along.'

(d) The fulfillment in an event of realization

T13. mita m'sacUhU to f'koi 'o pasuya
Aux-3rd.sg step on-succeed Obl snake Nom PN
'Pasuya stepped on the snake.'

10. Motion events in the pear stories

A perspective on the differential coding of the various subevents of a motion trajectory can be had by comparing languages that have very different distribution of the subevents that are mentioned. Some languages focus on the manner of motion, others on the paths of motion. Some languages concentrate on the middle subevents, others on the initial subevents. In S-languages path is always encoded outside of the main verb, in the satellite, leaving that slot open for the expression of manner information. As a consequence, these languages have generally elaborated the domain of manner of movement. This is presumably because the main verb is a syntactically obligatory and pragmatically backgrounding constituent (Slobin 2000; Talmy 2000).

The preferred pattern in V-languages is to use the main verb to encode path or simple motion (e.g. ‘go’) as a backgrounding constituent, leaving the expression of manner in an optional and foregrounding adjunct phrase, a gerundive or an adverbial phrase. Below I will examine patterns of distribution of path and manner verbs in sentences from elicited narratives of the pear film by speakers of the three languages and then return to the theoretical implications later.

The pear narratives produced by adult speakers were collected for each of the three languages and for other Formosan languages as part of a much larger corpus data for purposes of studying the interaction between grammar and discourse. Five pear stories each from Tsou and Saisiyat and seven pear narratives for Chinese form the database of the present report.

The pear narratives from Chinese, Tsou and Saisiyat yield a total of 22, 24 and 23 manner-of-motion (and, in the case of Tsou, also manner + path and, very rarely, path + manner) distinct verb types respectively. But how is manner to be defined so that we might have clear criteria on whether to code a given verb as manner or path? Manner verbs are taken here in their broad sense to take in both verbs of spontaneous motion and all manner of verbs of caused motion. And if a verb is taken as a manner verb in Mandarin, then it is also taken as such in the other two languages. Thus although *qi* ‘ride’ is an activity verb, one can move from one place to another by riding a bike and so the verb is considered a manner of motion verb in all of the languages. The status of the ‘fall’ verb, to take another example, is controversial. It is true that it simply means to move downward without control, and so might best be treated as a path verb. On the other hand, the notion ‘without control’ is clearly a manner concept, and so it is treated as a manner verb in some studies. In the present study it is treated, somewhat arbitrarily, as a manner verb. Part of the reason for the decision is motivated by the fact that *diao* in Mandarin is always followed by a directional complement and a deictic, which suggests that the language considers it to be a manner verb. The lists of verb types in (l) then include both verbs of self-movement and caused movement .

(l3) a. Chinese(22): *ban*’move’,zou’walk’,*suaidao*’trip and fall’, *pao*’run’, *fu* ‘help (someone) up’, *jian* ‘pick up’, *na* ‘take’, *dai* ‘carry’, *diao* ‘fall’, suai(dao) ‘trip and fall’, *la* ‘pull’, *qi* ‘ride’, *fang* ‘put’, *jiaocuo* pass each other’ , *zhuang* ‘crash’, *dao* ‘fall’, *gun* ‘roll’, *zhan* ‘stand’, *shi* ‘pick up’, *pa* ‘climb’, *sa* ‘spill’, jiao ‘call’.

b. Tsou(24): *teapha* ‘put (in)’, *eu'sipeohu* ’climb down’, *sia* ‘put’, *tosvo* ‘stop’,*ta'poepza* ‘blow off’, *smoftongu* ‘crash’, *smopcuku*

‘fall down’, *supeohu* ‘fall’, *eusuhngu* ‘sit’, *sooveia* ‘put back’, *e’ohu* ‘ start off’, *eupevai* ‘ part company’,*euoveia* ‘return’, *meecunu* ‘catch up’, *smotoku* ‘bump’, *e’pueu* ‘fall’, *miuhu*’spill’ *meobango* ‘chase’, e*spopaeo* ‘appear’, *pkaako* ‘run away’ *oefU’u* ‘fall down’, *tauskopa* ‘put on’, *co’econu* ‘walk’, *toevoveia* ‘run back’

c. Saisiyat (22*): ta’itol* ‘climb’, *romoral* ‘follow’, ‘*ae’aeaw* ‘run’, *malben* ‘fall’, *sisa:ah* ‘spill’, *askanen* ‘put’, *tomono*’ ‘bump into’ *tana’amet* ‘spill’, *mintani*’ ‘ stop’, *taben* ‘fill’, *marin* ‘take’, *papyhaehae’en* ‘load’, *sanabih* ‘look back’, *hinibih* ‘turn around’, *sahpih* ‘pass’, *manra:an* ‘walk’, *sahae*’ ‘fall’ *kasna’itol* ‘climb’ *sisilin* ‘help (someone) up’, *ngizo*’ ‘trip and fall’, *losaah* ‘spill’, *sasiwazay* ‘part company’

Contrary to expectation, there is, based on the number of distinct manner verb types, no evidence of a clear-cut tendency for Chinese, presumably a satellite language, to have elaborated the domain of manner of movement. In other words, there is no evidence that speakers of Chinese make more distinctions of motor pattern (e.g. crawl), rate (e.g. hurry, dash), affect (e.g. stroll), vehicle (e.g. ride, fly, sail) and evaluation of movement (e.g. prowl, strut, shuffle), in comparison with speakers of Saisiyat, even allowing for the fact that the Chinese verb types found in the data are drawn from seven pear stories, two more than those for the other two languages. Admittedly the present data sample is too limited for us to draw a firm conclusion and further research is obviously needed.

Still it is true that Chinese uses a higher percentage of manner verbs per clause as the main verb (or as the first verb in a verb complex in the case of Saisiyat), as shown In Table 1, where path verbs refer only to elements in a sentence that function as the main verb. No ‘directional complements’ are part of the total count in the table. Comparable percentages in typical S-languages and V-languages taken from Slobin (2000) are presented in Table 2. Note that Slobin data are based on frog stories.

Table 1 Pear stories: percentages of manner and path verbs in motion clauses (numbers of verb tokens in parentheses)

	Manner verb	**Path verb**	**Manner + path verb**
Chinese	75.2%(109)	24.8%(36)	44%(manner plus dc)
Saisiyat	49.8%(56)	50.8%(57)	
Tsou	16.3%(17)	29.l%(25)	54.6%(45)

Table 2 Frog stories: Percentages of manner and path verbs (taken from Slobin (2000))

	Manner verb	Path verb
Satellite-framed		
English	32%(16)	68%(34)
German	18%(5)	82%(23)
Dutch	17% (4)	83%(19)
Russian	100%(18)	---
Verb-framed		
French	---	100%(21)
Spanish	---	100%(64)
Turkish	---	100%(53)
Hebrew	3%(1)	97%(78)

As shown in Table 1, the pattern of distribution is significantly different among the three languages and also from the languages represented in Table 2. In Mandarin, the most preferred strategy is to use manner as the main verb, followed in second place by the use of manner plus a directional complement (minus the deictic). Using path verbs alone is the least preferred pattern. In this respect, then, Chinese is unique in that it differs from other S-languages in Table 2 in giving much less attention to path information (cf. Slobin and Hoiting1994). Whether this sharp difference in the pattern of distribution between Mandarin and the S-languages shown in Table 2 is at least partly attributable to the differential nature of the pear and frog stories remain to be investigated. However, part of the explanation may be sought in the fact that, as shown in Table 1, 44% of the motion sentences in the Mandarin narratives are expressed by sequences of manner verbs followed by a directional complement, which suggests attention to path information. This is the second most preferred strategy of the language and it is precisely this strategy that has endowed Mandarin with its character of a satellite-framed language in Talmy's argumentation. On the other hand, Saisiyat is also unique, in the following way: the language uses path verbs and manner verbs for the description of motion events with roughly equal frequency, and shows little decisive preference for path verbs to describe the various motion events in the pear narratives, as would be expected if Saisiyat were a typical V-language like Spanish, French or Turkish. This result is consistent with the earlier finding that Saisiyat cannot be assimilated to the typical V-language based on the configuration of various elements of a motion event in a sentence. I have earlier called Seediq, which behaves much like Saisiyat in the structure of motion events, a

sentence-framed language; following Slobin and Hoiting(1994)'s proposal, I will henceforth term languages like Saisiyat and Seediq complex verb-framed languages.

Typical V-languages such as Spanish, French and Turkish have been shown to strongly disprefer manner verbs to describe motion events. Slobin(2000) and Talmy (2000) suggest that the optional slot for a manner expression in a V-language has some 'cost', in that it adds an element to the sentence and that manner expressions would be reserved for situations where they are unusual.

This argument has little force when applied to either the Saisiyat or Tsou data, however. In the Saisiyat data, the sequence of manner and path verbs is part of a complex serial verb construction, both function as full verbs and neither can be shown to be a nonfinite form with respect to the other. Since neither verb slot is optional, it should come as no surprise that both types of verb occur with similar frequency in the data.

It is worth noting that in the motion event descriptions in the narrative data, except for a minor construction type in Saisiyat to be noted immediately below, manner verbs always precede path verbs, which in turn precede ground expressions. In the Chinese narratives, path is often, though not invariably, followed by a deictic verb. The distribution pattern appears to be universal and can be schematized as follows (cf. Slobin and Hoiting 1994):

(14) Manner>path>(deictic)>ground

What is notable about the minor construction type in Saisiyat is that in this construction type, the path verb precedes the manner verb, rather than the more universal order shown in (14), as exemplified below.

(15)

a. isahiza ka tatini'…rima ta'itol ila ha:o babaw
that Nom old man go climb pfv reach top
' The old man climbed up the tree/the old man went up the tree by climbing'

b. o: isaza korkoring o: komilwa'es ila ma rima ae'ae'aw ila
then child with effort pfv Conj go run pfv
'And then the child (rode his bike) with all his might and ran away.

c. sakosizaen kitaen korkoring may isaza sahpi:h
look-PF see-PF child cross there pass
‘(He) looked and saw the child pass by there’

d. ila hiza ila kabih nomanra:an
go there go that side walk
‘ (He) walked away (by going there).’

Turning to the Tsou data, let us note that the overriding strategy in Tsou for encoding motion events is to use lexicalized compound motion verbs that conflate both manner and path information, as shown in Table 1. As noted above, both the manner component and the path component in a motion verb are inseparable affixes. This effectively rules out the language as either a S- or a V-language, a conclusion we have reached in an earlier section.

11. Summary and Conclusion

We now summarize the coding properties of motion sentences in Chinese, Saisiyat and Tsou as follows.

Chinese

a. Path information typically indicated in directional complements;
b. It is thus an S-language in Talmy’s typology;
c. The case for Chinese as an S-language considerably weakened since it gives much less attention to path verbs and
d. It appears to have only a smallish class of manner of motion verb types

Saisiyat

a. Path information always coded by verbs;
b. Hard to place it in the two-way typology since manner of motion is always coded by separate verbs and there is no distinction between finite and nonfinite verb forms in the language;
c. Both manner and path verbs occur with roughly equal frequency and there is no decisive preference for path verbs;
d. Has just one adposition used to encode goal information;
e. Extensive chaining of verb forms for complex motion events in which manner is followed by path verb;
f. Occasionally there is also chaining of verb forms in which path verbs precede manner verbs reminiscent of a V-language.

Tsou

a. Path always coded by verbs;
b. Neither an S-language (since the core schema is not mapped onto a satellite distinct from the expression of co-event), nor a V-language(since the core schema is not mapped into a verb distinct from the expression of co-event);
c. Moreover the preferred construction type is to use compound motion verbs composed of a manner verbal prefix and a path verbal suffix;
d. No inventory of adpositions and much of path information (esp. vector path information) must be inferred.

The cross-linguistic data examined in this paper, made possible by the use of the same stimulus material, reveal no universal conceptual representations in the motion domain, contrary to Pinkerian view that knowing a language is knowing how to translate mentalese into words and vice versa, and lends further support to linguistic determinism. Each language is shown to have a characteristic tendency; non of the languages examined fits comfortably into Talmy typology, which clearly does not apply to a world-wide sample. As more languages are researched in greater depth, our impression of the overwhelming diversity in the space domain seems to strengthen. This of course does not deny that there may be significant constraints on the diversity, perhaps of the type suggested by the cross-cultural studies on color vocabulary and folk biology.

Footnotes

l. Similar observations apply to the representation of gesture. McNeill(2000) shows, among other things, that in gesture, English speakers, including children as young as 2:6, reduce icon by breaking curvilinear paths into straight-line segments. Spanish speakers, including children as young as 3, preserve iconicity even when path is highly complex. Similarly, Spanish gestures give boundaries special emphasis, but English gestures, as in speech, assimilate boundaries to other path segments.