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# 1

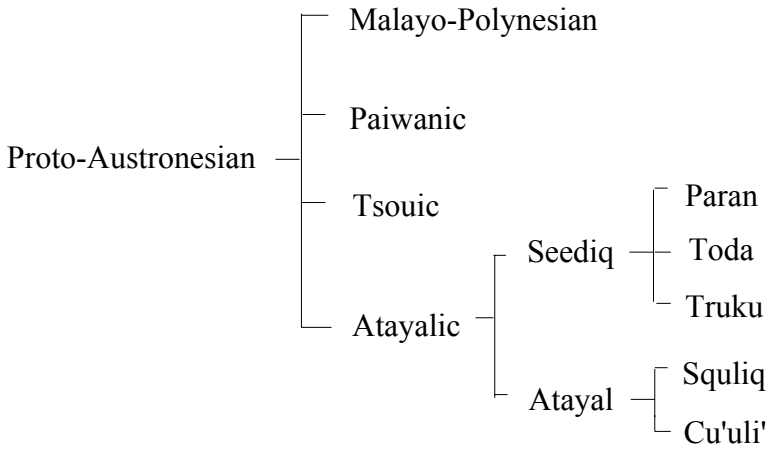
## Seediq: Spatial Representation in a Language without Prepositions


### 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-/ㄐㄧ; 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<br>'child' | na | Takun<br>PN | "Takun's child" |
| lunengo<br>'thinking' | na | Takun<br>PN | "Takun's thinking" |
| rawa<br>'basket' | na | nasi<br>'pear' | "basket of pears" |
| Papah<br>'foot' | na | laqi<br>'child' | "child's feet" |
| Hunyegan<br>'stature, looks' | na | mqedin<br>'girl' | "looks of the girl" |
| Guguwan<br>'stealing; object stolen | na | laqi<br>'child' | 'the stealing by the 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.

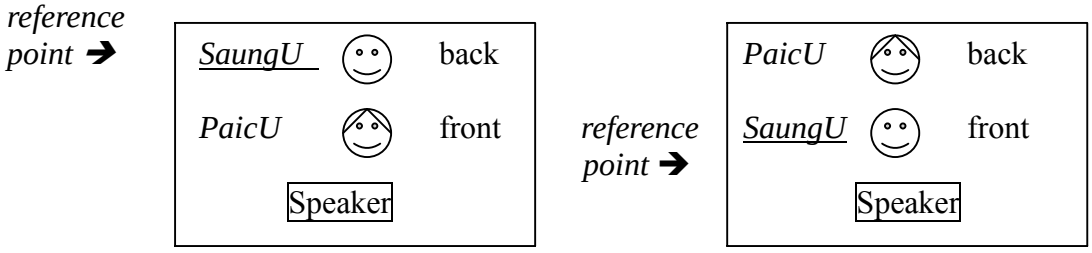
(35) mi'o eon to **tanesi** ne veiyo.
AF-1st exist Obl this side Gen Veiyo (name of a store)
"I live in the place which is in Veiyo's side." (Fieldnotes)

(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’.

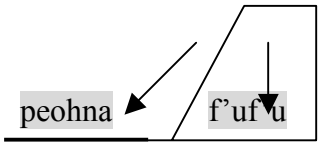
(39) pan-to mo aemo’U ta **f’uf’u** ne evi ci beahci.
Exist-Obl AF spilt Obl underside Gen tree Rl fruit
“There are fruits which are spilled under the tree.” (Fieldnotes)

(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<br>mi’unu/mi’uni | ‘to’ |
| | ~caefi | meicaefi<br>tocaefi<br>sucaefi | ‘by/cross’ |
| | ~’upu | su’upu<br>no’upu | ‘with’ |
| | ~eafo/~eafa | eueafo<br>taeafo/taeafa | ‘out’ |
| | ~ovei | meiovei<br>eovei<br>euovei<br>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<br>m’ef’uf’u | ‘underside’ |
| | skopu | m’eoskopu | ‘upside’ |
| | peohU/peohna | supeohU | ‘downside’ |
| | f’uhu | | ‘back’ |
| Reduplication | ~kikiengi | ma’kikiengi | ‘around’ |
| | ~kukuyunvu | meikukuyunvu<br>aukukuyunvu<br>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 Ɲiaw*.

| | Relation | Reference Object | | Focal Object | |
|---|---|---|---|---|---|
| (5). | cyux | zik | niqan | qutux | Niaw. |
| | [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 | biru? | nyux | qu | lalu | na | bnrwan_sota?. |
| | [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 | Niaw, | 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 |
| ska? | in the middle of |
| tanux | outside |
| lelaw | right |
| ↔zin | left |
| syaw | beside |
| beh | beside |
| binax | beside |
| lingay | beside |
| puyu | front |
| suruw | back |
| htgan wagi? | east |
| petuhan/ byagan wagi? | west |
| htgan hlaqi | north |
| bagan | south |
| qani? | here |
| qasa? | there |
| thsa? | 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 (*ska?* 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 qasa?, cyux mlaka? kya qutux kwali?.
[ 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 qasa?, 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."

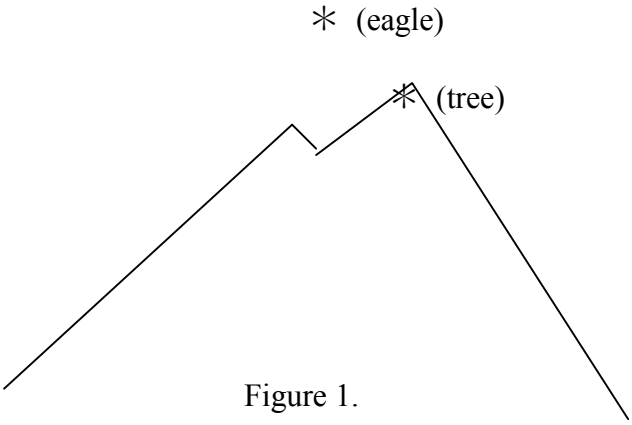


Figure 1.

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 mqalu? *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* na? hyal maku lga? hyal Tali?.
[on:the:top:of Gen estate 1st.Gen Top earth Tali?]
"Tali?'s estate is on the top of mine."

(11). A: cyux sqenu Nasal su pi?
[Asp which:one house 2nd. Gen Part]
"Which one is your house?"
B: cyux maki? *yatux* na? 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, *zik*, *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 biru?.
[Asp beneath pillow one book]
"There is a book beneath the pillow."

(14). cyux skapax yaya? *zik* niqan mziman pila?.
[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 Niaw.
[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* na? hyal maku lga? hyal Tali?.
[on:the:bottom:of Gen estate 1st. Gen Top estate Tali?]
"Tali?'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, *ska?* 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 *ska?* and *qsahuy* can be

used to indicate the interior region. Generally speaking, *ska?* 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 *ska?* 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 Tali?'s lands."

(19). cyux kian *ska?* 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* na? syasin ga? cyugan hi?. ska? ga? kun
[in Gen picture Top three body in:the:middle:of Top 1st.Nom
↔zin ga yaya? mu. lelaw ga yaba? 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 maki? *qsahuy* libu? guru?.
[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* na? chotan ga cigay pila?.
[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 *ska?*, *qsahuy* is used to indicate any point in the interior region of a reference object where object is located.

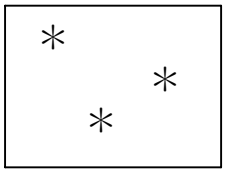


Figure 2.

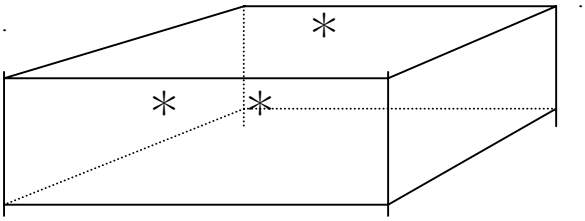


Figure 3.

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 *ska?* 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, *ska?* is the only one choice as in examples from (24) to (30) below:

(24). *ska?* na? rgyax qasa? 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 *ska?* lahuy_squliq Ume?.
[Asp dance in:the:middle:of the:crowd:of:people Ume?]
"Ume? is dancing among the people."

(26). pqwagun wagi? *ska?*/*qsahuy yulon.

[penetrate the:sun:light in:the:middle:of cloud]
"The sun light penetrates the cloud."

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

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

(29). cyux myugi? *ska?*/*qsahuy lahuy_squliq Ume?.
[Asp dance among people Ume?]
"Ume? is dancing in the crowd."

(30). cyux mizyu? ska?/*qsahuy k?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.

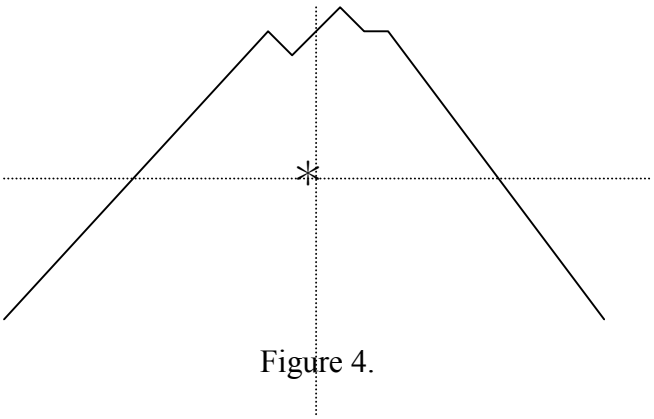


Figure 4.

In (25), the outline of a crowd of people cannot be defined. Therefore, the location of Ume? 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). ini? tehok Nasal na? Ume? ga? lima? mnaniq *tanux* la.
[Neg arrive house Gen Ume? Top already eat outside Part]
"Ume? 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* na? pqwasan qhmai yen laqi? cyux mzyu?.
[neighborhood Gen classroom many very children Asp play]
"Many children are playing near the classroom."

(34). cyux sulux *beh* yaya? nya? Tali?.
[Asp stand beside mother 3rd.Gen Tali?]
"Tali? stands beside his mother."

(35)."Yumin, laxi? sulux *syaw* na? snat qasa?. tlaga? 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.

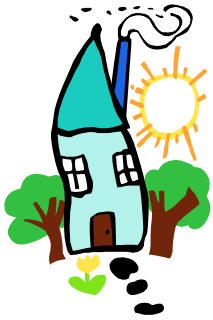


Figure 5.

(36). sazin *binax* na? Nasal mu ga? 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 cyakoN.
[Asp fly front mountain raven]
"The raven is flying in front of the mountain."

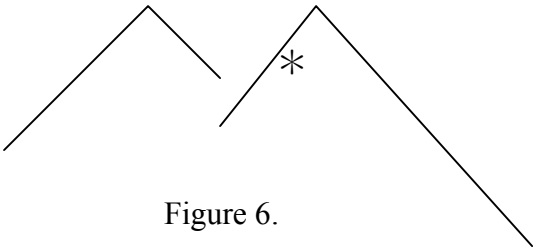


Figure 6.

*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* na? Nasal mu lga? wagi? la.
[Asp back Gen house 1st.Nom Top sun Part]
"The sun is in the back of my house."

(39). *suruw* na? rgyax qani? lga? 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 (*↔zin*) and the right (*l↔law*) hands to express the notions of left and right. The following sentences are examples.

(40). cyux *↔zin* Nasal Tali? ga? qutux qu krahuy na? kyokay.
[Asp left house Tali? Top one Nom big Gen church]
"There is a church on the left side of Tali?'s house."

(41).*l↔law* qba? ni? Ume? ga? cyux meyen qutux mari
[right hand Ume? Top Asp hold one ball/Jp]
"Ume? holds a ball on the right hand."

A detailed discussion on *↔zin* and *l↔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). wagi? ga? minariN *kogan/htgan wagi?* ru mbyaq *petuhan/byagan wagi?*.
[sun Top rise:from the east Conj set the west]
"The sun rises in the east and sets in the west."

(43). traN qmisan ga? bsiraq kahun *htgan hlaqi* mlaka?
[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 wagi?* means the place where the sun rises; both *kogan* and *htgan wagi?* indicate the east. On the contrary, *petuhan* means 'weak wind' and *byagan wagi?* 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)qani?*, *(s)qasa?*, and *thsa?* 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."

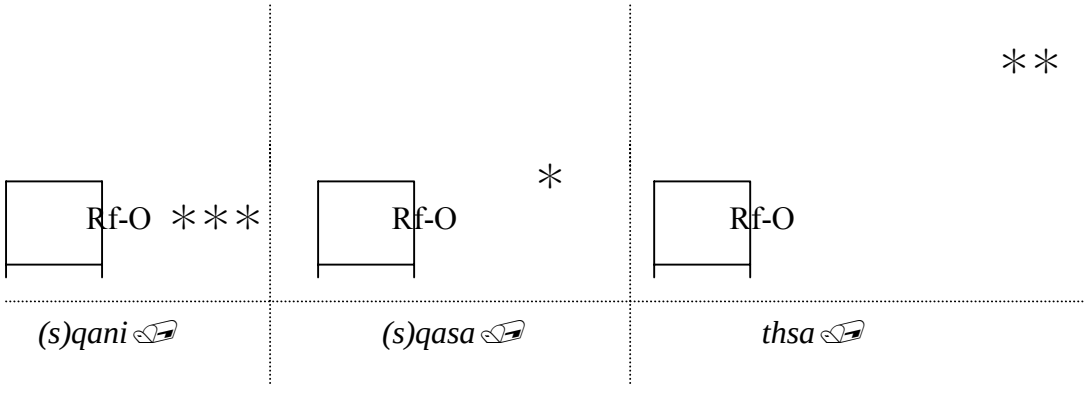


Figure. 7

*(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 |

| | |
|---|---|
| skura? | (face, go,…)<br>towards |
| msbinax | (move)<br>backwards |
| kahun | (come) from |
| ariN | (come) from |
| tehok | (arrive, reach)<br>to |
| g?mluw | (move,<br>walk,…) along |
| mbyaq | (climb) down |
| mqaraw | (climb) up |
| mhtu | (come) out |
| mzyup | (walk, go,…)<br>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 ga? *mwah* cisan qani? 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* qani? 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 ga? *musa* pqwasan Tali?.
[tomorrow Top go school Tali?]
"Tali? 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*kura?***

To express the spatial concept that the focal object is treated as moving in the direction of the reference object, Squliq uses the word, *skura?*. In other words, the face of the focal object is in the direction of the reference object. Unlike English, the part of speech of *skura?* 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).*skura?* rgyax hmouw qu Ume?.
[face:towards mountain shout Nom Ume?]
"Ume? faces towards the mountain the mountain and shouts."

(53).wayal *skura?* rgyax qu Tali?.
[go/Re be:towards mountain Nom. Tali?]
"Tali? went towards the mountain."

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

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

### 4.4. come from & reach: *kahun/ariN* & *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 *ariN* which is a stative verb. There are two examples below to distinguish the two words as in (55) and (56)/(57) respectively.

(55). Yumin ga? kahun nya? Bnqa kmuzi? turi: ru tehok Takaw.
[Yumin Top be:from 3rd.Gen Taipei drive car Conj reach:to Kaoshiung
payat nya? spoN lga? 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 *kmuzi?*. In other words, Yumin has the volition to control the action. Therefore, the starting point, *kahun nya? Bnqa*, is indicated by the action, Yumin driving the car.

(56). *ariN* zik na? rgyax ru tehok sa? babaw na? rgyax
[be:from bottom Gen mountain Conj arrive top Gen mountain
ga? ktaw yaw nya? ?
Top how long 3rd.Gen]
"How long is it from the bottom to the top of the mountain?"

(57). Yumin ga? *ariN* pira? spong mabi? ?
[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, *ariN* 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, *ariN* is a good candidate to express the starting point.

**4.5. (move) along: *gm?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, *gm?luw* such as examples below.

(58). *gm?luw* tuqi? Ume?.
[walk:along road Ume?]
"Ume? takes a walk along the road."

In (58), the focal object is Ume? 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. *gm?luw* only expresses the path of movement and its manner of movement is restricted in the context. As depicted in (59), *boq na? 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 *gm?luw* is falling.

(59). nyux *gm?luw* leqyas qu boq na? loziq.
[Asp fall:along face Nom tear Gen eye]
"Tear falls down along the face."

To sum up, the word, gm?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. aukuzkuzo'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]<br>(happy) | **nac'oa** [P]<br>(sad) | **smoeoa** [P]<br>(fear) | **sU'noa** [P]<br>(angry) | **kuzoa** [P]<br>(dislike) |
| **kaebU** [A]<br>(happy) | **nac'o** [A]<br>(sad) | **smoeo** [A]<br>(fear) | **sU'no** [A]<br>(angry) | **him-kuzo** [A]<br>(see-bad)<br>(dislike) |
| **kokakaeba** [P]<br>(very happy) | **ma'ecvUhU** [A]<br>(think-heavy)<br>(heavy-hearted) | **t'oe'Uya** [A]<br>(timid) | | |
| **kokakaebU** [A]<br>(very happy) | | | | |
| **ma'sosop'o** [A]<br>(think-light)<br>(light-hearted) | | | | |
| **ma'sosohuyu** [A]<br>(feeling comfortable)<br>(to be in good mood) | | | | |
| ***ma'kakaebU****[A]*<br>*(think-happy)* | ***ma'nac'o*** *[A]*<br>*(think-sad)* | ***ma'smoeo*** *[A]*<br>*(think-fear)* | ***ma'sU'no*** *[A]*<br>*(think-angry)* | |
| ***makakaebU****[A]*<br>*(prone-happy)*<br>*(optimistic)* | ***manac'o*** *[A]*<br>*(prone-sad)*<br>*(pessimistic)* | ***masmoeo*** *[A]*<br>*(prone-fear)*<br>*(timid)* | ***masU'no*** *[A]*<br>*(prone-angry)*<br>*(irritable)* | |
| ***tio-kaebU***<br>*(hand move-happy)* | ***tio-nac'o***<br>*(hand move-sad)* | ***tio-smoeo***<br>*(hand move-fear)* | ***tio*-sU'no**<br>*(hand move-anger)* | |
| ***peis-kaebU***<br>*(act-happy)* | ***peis-nac'o***<br>*(act-sad)* | ***peis-smoeo***<br>*(act-fear)* | ***peis*-sU'no**<br>*(act-angry)* | |
| ***o'-kaebU***<br>*(eat-happy)* | ***o'-nac'o***<br>*(eat-sad)* | ***o'-smoeo***<br>*(eat-fear)* | ***o'-sU'no***<br>*(eat-angry)* | |
| ***beu-kaebU***<br>*(drink-happy)* | ***beu-nac'o***<br>*(drink-sad)* | ***beu-smoeo***<br>*(drink-fear)* | ***beu-sU'no***<br>*(drink-angry)* | |
| ***to-kaebU***<br>*(walk-happy)* | ***to-nac'o***<br>*(walk-sad)* | ***to-smoeo***<br>*(walk-fear)* | ***to-sU'no***<br>*(walk-angry)* | |
| ***him-kaebU***<br>*(look-happy)* | ***him-nac'o***<br>*(look-sad)* | ***him-smoeo***<br>*(look-fear)* | ***him-sU'no***<br>*(look- angry)* | |
| ***buh-kaebU***<br>*(look-happy)* | ***buh-nac'o***<br>*(look-sad)* | ***buh-smosmoeo***<br>*(look-fear)* | ***buh-sU'no***<br>*(look-angry)* | |
| ***smo'eU-kaebU***<br>*(look-happy)* | ***smo'eU-nac'o***<br>*(look-sad)* | ***smo'eU-smoeo***<br>*(look-fear)* | ***smo'eU-sU'no***<br>*(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) (approve of) | | | ***beu-but'u*** *(drink-grievance)* | |
| **ta'UmUnUi** [A] (hear-like) (approve of) | | | ***to-but'u*** *(walk-grievance)* | |
| **ngohia** [P] (treasure) | | | ***him-but'u*** *(look-grievance)* | |
| ***buh-UmnU*** [A] (look-like) | | | ***buh-but'u*** *(look-grievance)* | |
| ***hu-UmnUa*** [P] (look-like) | | | ***smo'eu-but'u*** *(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 CompAux Neg come_homeNom 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]<br>(desire/adore)<br>**tata'e** [A]<br>(desire/adore)<br>**konvosa** [P]<br>(covet)<br>**konvosU** [A]<br>(covet)<br>***huhtata'ea*** [P]<br>(see-desire)<br>***buhtata'e*** [A]<br>(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]<br>(feel pity for)<br>**ma’cocoveoi** [A]<br>(feel pity for)<br>**ta’cingha** [P]<br>(empathize)<br>**ma’cinghi** [A]<br>(empathize)<br>**ta’susuaeza** [P]<br>(regret)<br>**ma’susuae** [A]<br>(regret)<br>**ta’vovea** [P]<br>(repent)<br>**ma’vovei** [A]<br>(repent) | | | **koei’ia** [P]<br>(ashamed)<br>**koei** [A]<br>(ashamed)<br>**huhfueva** [P]<br>(jealous)<br>**buhfuyo** [A]<br>(jealous)<br>***so’eU-konvosa*** [P]<br>(see-covet)(envy)<br>***smo’eu-konvosU*** [A]<br>(see-covet)(envy)<br>***so’eU-but’ua [P]***<br>*(see-grievance)(envy)*<br>***smo’eu-but’u*** [A]<br>(see-grievance)(envy)<br>***so’eU-sU’nova*** *[P]*<br>*(see-angry)(envy)*<br><br>***smo’eU-sU’no*** *[A]*<br>*(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:**<br>***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:**<br>***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 child because 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. child Nom 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

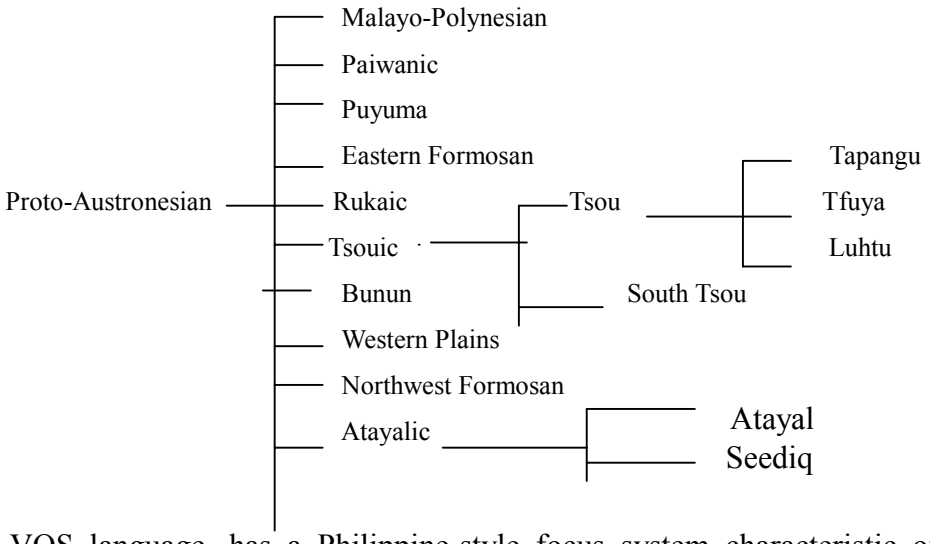
emotions in Tsou depend on behavioral reactions or bodily accompaniments commonly associated, in folk models, with the experience of emotions. Emotions in human languages are known to make use of metaphors and metonymies relating to physiological effects and behavioral reactions. Lakoff (1993) and Kövecses (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 tohUngU'u ho micu aepUngU siken*.
Aux-1st.sg relaxed Nom feeling-my Conj Aux finish exam
"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

## 6. Concluding Remarks

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, *kNNwan* and *tNNwan*, 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). *kNNwan/ tNNwan* 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 *kNNwan* or *tNNwan* as its predicate is a formula in Squliq. Hence, we still regard *kNNwan* or *tNNwan* 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 *ɴuɴu* and *kɴ-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-ɴlon*, *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-Nlon* glossed in English as "have regard for one's feeling" and *s-galu'* 'sympathize with'; our examples as shown below:

(7). s-*Nlon* 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)NuNu* 'frighten' or s*NNwan* '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' l↔ 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 disposition | BA/CD-AF |
| [Ha] | *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 (non-stem) [Di] | c-in-binax | be ungrateful | CO-AF |
| Ciqan [Sa] | ciqan | be wretch | CD-AF |
| Cigay [Ha] | *cigay inlugan* | be amorous | GO-AF |
| 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 [Sa] | *hotaw inlugan* | feel disappointed | BA-AF |
| HNyas-un (non-stem) [Di] | hNyas-*un* | have a distaste for | RE-NAF |
| Inlugan | *inlugan* | Disposition, feeling, character | Generic |
| KelaN [Sa] | *m*-qelaN | feel lonely | BA/CD-AF |
| 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 [Sa] | *kmtux inlugan* | sad | CD-AF |
| 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] | O-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] | | | |
| Nisi' | Nis-*an* | treasure, cherish | RE-NAF |
| (non-stem) | Nis-*un* | treasure, cherish | RE-NAF |
| [Ha] | Nis-*i'* | treasure, cherish | RE-NAF |
| Nlon | *m*-Nlon | miss | GO-AF |
| [Sa] | *s*-Nlon | have regard for one's | RE- RF |
| | luN-*un* | feeling | GO-NAF |
| | *k*-*in*-luN-*un* | miss<br>desire | GO-NAF |

| | | | |
|---|---|---|---|
| NuNu | *m*-NuNu | fear | RE-AF |
| [Fe] | k-N-*un* | fear | RE-NAF |
| | k-No-i’ | fear | RE-NAF-Imp |
| | *s-(m)*-NuNu | make sb. fear | CA-AF |
| | *s*-NNw-*an* | make sb. fear | CA-NAF |
| | *s*-NNw-*ay* | make sb. fear | CA-NAF-Imp |
| | *p*- NuNu | will fear | RE-AF-Fut |
| | *t*-NNw-*an* | timid | BA-NAF |
| | *k*-NNw-*an* | timid | BA-NAF |
| PlhnyuN (non-stem) [Ha] | plhny-uN | 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 |
| QNyet | qNyet | be earnest or enthusiastic | GO-AF |
| [Ha] | qNyat-*un* | | GO-NAF |
| Qala’ [Ha] | qala’ | outgoing | BA-AF |
| QelaN | *s*-qelaN | Buck up | CA-AF |
| [An] | *s*-qlaN-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 [Ha] | *sbin inlugan* | be cheerful | CD-AF |

| | | | |
|---|---|---|---|
| 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-*uN* | like | RE-NAF |
| | *p*-soya’ | will like, covet | RE-AF-Fut |
| | *p*-sy-*uN* | 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 (non-stem) [Sa] | tboyak | struggle | GO-AF |
| Tehok [Ha] | *tehok inlugan* | be contented | CO-AF |
| Thazi’ | thazi’ | tease | CA-AF |
| [An] | thy-*un* | tease | CA-AF |
| Thway (non-stem) [Ha] | thway | be tender | BA-AF |
| 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 |
| TqNa’ | tqNa’ | bother | CA-AF |
| [An] | tqN-ay | | CA-AF-Imp |
| | tqNan | | 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’ [Ha] | *yaba’ inlugan* | Light-hearted | BA-AF |

| | | | |
|---|---|---|---|
| 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 |
| ↔’uy | *m*-↔’uy | careworn | BA-AF |
| [Fe/An] | *s*-↔’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."

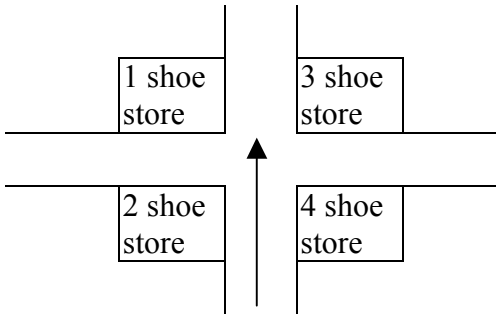


Figure 1. Map of crossroads with shoe stores.

(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*) (*hiza*) (*hini*) (*hani*) (Loc) (NP) LT (VP)
S (*hiza*) (Loc) (NP) LT VP

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:
that Nom 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" |

[2] These verbs are listed in their dependent forms, that is, forms used in imperative sentence.

| | | |
|---|---|---|
| | 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 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

[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

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 |

investigation.

| | | | | | |
|---|---|---|---|---|---|
| | | 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 |
| 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

[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.”

[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

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 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**.

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bike go. This is the reason why it is put in this category.

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

## Emotion Language in Saisiyat

**Abstract**

This study aims to provide a description of the emotion language in Saisiyat, with a particular focus on exploring the intriguing relationships between the two crucial roles in an emotion event, namely the cause and the experiencer, both with respect to the case marking system and the nature of the syntactic constructions of the language.

As Dirven (1997) and Radden (1998) have observed, one specific way of trying to understand the concepts of emotions in language is to investigate how a given language community has conceptualized the cause and the effect of an emotion. A cause event induces an emotion event inside the experiencer, which may or may not in turn acts as a cause further arousing physiological reaction directed toward the original cause, i.e. a target cause in Dirven's term (Dirven 1997:69)

Saisiyat displays a number of interesting properties in the way its morphological and syntactic resources are deployed to structure the cause and the experiencer of an emotion event. It is the aim of this study to examine in detail the structure and meaning of emotion expressions in Saisiyat. The experiencer is coded as the nominative argument in the AF construction, the accusative argument in the *pa*-construction, or the genitive argument in the *si*- construction, while the cause is coded as the accusative or dative argument in the AF construction, the nominative argument in *pa*- construction, or the nominative argument in the *si*- construction.

In the AF construction, the selection of the different case marker for the cause argument reflects the iconicity of the psychological or physical distance of the experiencer toward the cause. The cause coded as the nominative NP in the *si*-construction is usually an implicit or indirect cause arousing certain emotional response in the experiencer. As to the cause coded as the nominative argument in the pa- construction, it is usually the direct cause of the emotion event.

The study also found that Saisiyat, like Tsou, disprefers metaphorical and metonymic models to conceptualize emotion events. All the metaphorical expressions are related to the thinking verb and are such primary metaphors as THOUGHT IS ENTITY/OBJECT, and THOUGHT IS FOOD.

**Key words: emotion, emotion event, cause, experiencer, *si*-construction, *pa*-construction, metaphor**

## 0. Introduction

This study aims to provide a description of the emotion language in Saisiyat, with a particular focus on exploring the intriguing relationships between the two crucial roles in an emotion event, namely the cause and the experiencer, both with respect to the case marking system and the nature of the syntactic constructions of the language.

As Dirven (1997) and Radden (1998) have observed, one specific way of trying to understand the concepts of emotions in language is to investigate how a given language community has conceptualized the cause and the effect of an emotion. A folk scenario of emotion prototypically conceives of an emotion as consisting of three sub-events: a cause event, an emotion event (or state) and a physiological reaction event. Radden (l998:273) points out that our experience of emotion crucially relates to certain accompanying phenomena. In our folk understanding, emotions are typically triggered by external events and result in various bodily, mental or actional responses.

A cause event induces an emotion event inside the experiencer, which may or may not in turn acts as a cause further arousing physiological reaction directed toward the original cause, i.e. a target cause in Dirven's term (Dirven 1997:69).

Saisiyat displays a number of interesting properties in the way its morphological and syntactic resources are deployed to structure the cause and the experiencer of an emotion event. It is the aim of this study to examine in detail the structure and meaning of emotion expressions in Saisiyat.

The organization of this paper is as follows. Section 1 provides a synoptic description of the grammar of Saisiyat, focusing on the personal pronominal system, case marking system and the focus system. Section 2 deals with the Saisiyat emotion terms. Section 3 discusses the differences between the causes marked with an accusative case and those marked with the dative in the AF construction. Section 4

talks about the cause in the *si-* construction and that in the *pa-* construction. Section 5 presents the metaphorical expressions related to the Saisiyat emotion concepts. A general discussion and a couple of questions for further study will be given in Section 6.

## 1. A Brief Description of the Saisiyat Grammar

### 1.1 The Case Marking System

The case markers in Saisiyat are categorized into six cases and each can be divided into two sets: personal nouns and common nouns. Table 1 is taken from Yeh (2003:14) and Huang, Su & Sung (2003: Chapter 3).

Table 1 The Case Marking System in Saisiyat

| Noun | Nominative | Accusative | Genitive | Possessive | Dative | Locative |
|---|---|---|---|---|---|---|
| Personal name | 0<br>hi | hi | ni | ‘an-a | ‘ini’ | kan<br>kala |
| Common noun | 0<br>ka | ka | noka | ‘an noka-a | no | ray |

### 1.2 The Pronominal system

Table 2 is the Saisiyat personal pronominal system used in this study, taken from Yeh (2003:17).

| | | Nominative | Accusative | Genitive | Dative | Possessive | Locative |
|---|---|---|---|---|---|---|---|
| Sg | 1st | yako/yao | yakin/iyakin | ma’an | ‘iniman | ‘amana’a | kanman |
| | 2nd | So’o | ‘iso’on | niSo | ‘iniSo | ‘anso’o’a | kanSo |
| | 3rd | sia | hisia | nisia | ‘inisia | ‘ansiaa | kansia |
| PL | 1st Inc. | ‘ita | ‘inimita | mita’ | ‘inimita’ | ‘anmita’a | kan’ita |
| | 1st.Exc. | yami | ‘iniya’om | niya’om | ‘iniya’om | ‘anya’oma | kanyami |
| | 2nd | moyo | ‘inimon | nimon | ‘inimon | ‘anmoyoa | kanmoyo |
| | 3rd | lasia | hilasia | nasia | ‘inilasia | ‘anlasiaa | kanlasia |

### 1.3 The Focus System[6]

[6] Some Austronesian linguists (Starosta 1986; Chang 1997: Chapter 3, and many references reviewed

The focus markers can be categorized into four types: agent focus (AF), patient focus (PF), locative focus (LF), and referential focus (RF), which can be further divided into instrumental focus (IF) and benefactive focus (BF), as summarized in Table 3.

In the AF construction, the thematic role of the nominative argument can be an agent, an experiencer, or a theme, while that of the accusative argument can be a patient or a goal, for example:

1. ‘*obay* *S-om-bet* *ka* *korkoring*[7]
   ‘obay hit-AF Acc child
   “Obay hit (a/the) child(ren).”

In the PF construction, the thematic role the nominative argument is usually the patient, while that of the genitive argument is usually the agent, as in (2):

2. *ka* *korkoring* *Sebet-en* *ni* *‘obay*
   Nom child hit-PF Gen ‘obay
   ‘The child was hit by Obay.’

The LF form is usually used as a noun phrase denoting the place where an event or activity takes place, and is usually used in equational sentences.

3. *ka-si-ael-an* *hini*
   Ka-eat-LF here
   “Here (is the place) where we eat.”

The RF construction is the most illusive of any of the focus constructions in

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and cited there) suggest that these are not focus system, but rather voice system, verbal morphology indicating different voices; e.g., the actor voice (agent focus) is equivalent to actor voice and the non-actor (Patient Focus, Locative Focus & Referential Focus) is indeed non-actor voice. Some linguists (e.g., Lisa Travis, Illeana Paul 2000) studying Philippines languages name such a system as a Topic System. Since it is not the goal of this paper, we do not go into the debate here. Interested readers may refer to the above-mentioned literature. In this paper, we still use the traditional terminology for convenience sake; however, it does not mean that we totally agree on the focus analysis.

[7] Please note that Saisiyat, like Mandarin Chinese, does not specify ‘NUMBER’ in its nouns, nor does it have definite articles; therefore, *ka korkoring* can refer to ‘a child’, ‘the child’, ‘children’, or ‘the

terms of its function, though it is easily recognized by its morphological form: the verb root is prefixed with the morpheme *si-* or *sik-*. Generally speaking, the genitive argument of an RF construction is the agent, while the nominative argument may be the cause, the beneficiary, or the instrument.

4. *noka korkoring ‘oya’ si-haengih*
   Gen child mother RF-cry
   ‘The child cried for the mother’
5. *hini’ ‘alaw si-‘talek ma’an hi kizaw*
   this fish-Nom RF-cook 1S.Gen Nom kizaw
   ‘I cooked this fish for kizaw.’
6. *kahoey si-sebet ni ‘oya’ ka korkoring*
   wood-stick RF-beat Gen mother Acc child
   ‘Mother beat the child with the wood-stick.’

Table 3. The Focus System of Saisiyat

| Focus | I | II |
|---|---|---|
| Agent Focus | m-, -om-, ma-, Ø | Ø |
| Patient Focus | -en | -i |
| Locative Focus | -an | |
| Referential Focus | si- / sik- | -ani |

There are two sets of focus marking systems. one set is used with present declarative sentences or with negative sentences containing the negators *kayni*’ and *‘okik*, while the other set is used in the imperative or in negative sentences containing the negators *‘okay*, *‘izi’*, and *‘in’ini*’.

**2. The Emotion Terms in Saisiyat**

Morphologically, emotion verbs in AF constructions tend not to be affixed with any of the usual AF markers. In other types of constructions, however, some emotion terms, when affixed with a different morpheme, usually change their meanings. For

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children’. The specific interpretation relies on the contextual information.

instance, *alo'* means 'to finance or to offer substantial or moral support', but it means something else in the following sentences:

7 *'obay pak-pak-alo'-an*
Obay Red-Cau-support-LF
'Obay is pitiful'

8. *'obay si-alo' noka saboeh'*
'obay RF-support Gen all
'All the people chip in to help Obay, (because of how Obay is or of what he did)'

9. So'o ma-'alo' iyakin
2Sg.Nom AF-support 1Sg.Acc
"Lit. You support me (financially or morally). (I) thank you."

In Saisiyat, sentence (9) means "(I) thank you". The interpretation of this sentence is of course semantically transparent; literally, sentence (9) means "you support me substantially or morally", and thus, "I thank you."

Another example is *kasikar* 'be-timid, be-shy'; but *sik-kasikar* means 'to embarrass someone'.

10a. *'obay kasikar 'ini' kapinow (* ambiguous)
'obay be-shy-AF Dat young-girl
'Obay feels shy/timid with young girls.'
'Obay feels timid/shy because of the young girl.'

10b. *ni 'oya'* *'obay sik-kasikar*
Gen mother Obay RF-embarrass
'Obay was embarrassed by his mother.'

10b may be used in a situation where Obay gave a big birthday party for his mother, but his mother showed up with shabby clothes. Under the circumstances, Obay's mother may be said to have embarrassed Obay.

Almost all the emotion verbs in Saisiyat are found to be capable of inflecting for

any focus form. For instance, *siya'* may appear in the following morphological forms:

| FOCUS | VERB FORM | GLOSS |
|---|---|---|
| AF | siya | 'be happy' |
| PF | siya-en | 'be happy' |
| LF | ka-paka-siya-an | 'amusement park' |
| RF | sik-siya | 'make happy' |
| Causative | pak-siya | 'cause to feel happy' |

Except for the LF form, which is mostly used as a noun denoting the place where this activity or event takes place, all other forms are used as verbs. Moreover, they are negated by the negator *'okik*, instead of *'okay*, which is used to negate active verbs.

Johnson-Laird and Oatley (1987, 1989) classify emotions into five basic categories: *happiness*, *sadness*, *fear*, *anger*, and *disgust*. But in Saisiyat, it seems that only three basic emotion words can be justified, namely 'be-happy' (*siya*), 'be-angry' (*boe'oe*) and 'be-afraid-of' (*tikot*). For the other two basic concepts, Saisiyat either uses morphologically complex words (e.g. *soma-awhay* 'disgust, dislike or hate', which can be decomposed into *'soma-*'[8] meaning 'be-impressed', and '*awhay*' meaning 'bad' ) or phrases (e.g. *awhay ka-inazazem* 'be sad; be in bad mood'). Besides, some emotion verbs, *homses* 'be-surprised' for instance, can be used to denote both good and bad experiences: for instance, when one unexpectedly scored high on a test or when one was frightened by an unexpected event or entity.

Moreover, in Saisiyat, there is no term equivalent to "emotion", denoting the Generic Concept. Nevertheless, like other Austranesian languages (cf. Huang 2002;

[8] *Awhay* is a free morpheme means 'bad' and can be used as a verb, since pak-awhay means 'to make something become bad, to destroy'. Though soma- is not a free morpheme, it can combine with other morpheme and has a consistent meaning 'be-impressed'; for example, *soma-kayzaeh* means 'having

Palmer 2003; Yeh2002), Saisiayt uses the term of "thought", i.e., *ka inazazem,* to denote a very broad range of concepts: feeling, deposition, thought, mood and so on. Below there are *kayzaeh ka inazazem* "feeling good" and *awhay ka inazazem* "feeling bad", roughly dividing the Saisiyat emotion concepts into two general classes: positive emotions and negative emotions. But not all the emotion terms can be neatly classified into these two categories; thus, we follow Frijda et al's (1995:139ff) model and structure the Saisiyat emotion terms as 'unspecified positive emotion (the happiness/joy range)', 'unspecified negative emotion (the sadness range)', 'an emotion of strong affection (the love range), 'an emotion of threat (the fear range), and an anger-like range.

The Saisiyat emotion terms we have collected so far are listed below. As we have just alluded, different focus forms of an emotion verb, often yield different readings, and thus convey subtly different emotional concept. Moreover, as numerous anthropological and psychological emotion literature points out, a lot of emotion words in a given language cannot be neatly mapped onto the emotion words in another language; therefore, the reading of the following preliminary taxonomy we set for Saisiyat emotion terms should not be based on the translated English terms.

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good impression on somebody.'

Table 4 A Preliminary Structure of the Emotion Terms in Saisiyat

| **AWHAY KA-INAZAZEM← ---------→KAYZAEH KA-INAZAZEM** | | | | |
|---|---|---|---|---|
| **Unspecified Negative Emotion** | **Emotion of Threat** | **Anger-like Range** | **Emotion of Strong Affection** | **Unspecified Positive Emotion** |
| ***homses*** 'be surprised; be shocked; be frightened' ***azazeman*** 'be worried' ***oema-hoewis*** 'to feel sorry; to feel sad' ***kasikar*** 'be shy; be embarrassed' | ***tikot*** 'be afraid of' | ***boe'oe*** 'be angry' ***soma-awhay*** 'have bad impression; strongly dislike' ***soma-hoewis*** 'dislike, disgust' ***soma-i:i'*** 'to envy' ***somi-sikar*** 'to embarrass; to humiliate' | ***sarara*** 'like; admire' ***soma-kayzaeh*** 'have good impression' | ***siya*** 'be happy' |

Moreover, in Saisiyat, there is no lexical term that encodes the concept of 'guilt'. When they want to express "that man is guilty", they would say,

11. *hini ma'iaeh 'ima hayza ka owaw*
this person Asp have-AF Acc thing
'This person is guilty. Lit. This person now has things'

### 3. Cause in Accusative Marked Argument vs. Dative Marked Argument

Dirven's (1997) and Radden's (1989) investigations of the ways emotional causality is expressed by means of English prepositional phrases show that emotional causality in English has been shown to be strongly framed by the spatial configurations of the prepositions. They found that the main distinction between uncontrollable and controllable types of emotional causality in English is paramount

for most prepositions, and only with some prepositions is this distinction weaker or neutral.

12 a. Sheila was mad at/about her own negligence.

b. Sheila was mad at John over what he had done to her. (Dirven 1997:68)

According to Dirven, the emotional concept metaphorized in mad is the idea of "anger" or "fury". This emotion is triggered by Sheila's own negligence in (12a) and also directed at it: this is what they call a target cause, "since 'at' not only denotes the cause but also the response to it in a reflexive mental motion". (Dirven 1997:69)

Dirven(1997) also found that the conceptualization of emotional causality by means of English prepositional phrases runs along clearly delimited groups of prepositions: physiological reactions and controllable actions caused by emotion events are conceptualized by the image schemata of a container (in, out), a companion (with), or frontness (for); the stimulus event triggering the emotion or a motion image (about, over) related to a surface. (Dirven 1997:78)

Though Saisiyat does not have prepositions, similar distinctions in emotion causality are made in terms of case marking:

13 a. *yao* *tikot* *hi* *'obay*
1S.Nom be-afraid-AF Acc 'obay
'I am afraid of Obay.'

b. *yao* *tikot* *'ini'* *'obay*
1S.Nom be-afraid-AF Dat 'obay
'I am afraid of Obay.'

The two sentences denote two subtly different situations. Sentence 13a is uttered when Obay is in front of the speaker or in a place visually accessible to the speaker, while sentence 13b does not have such an implication.

14a. *yao* *tikot* *ka* *lalyu*
1S.Nom be-afraid-AF Acc earthquake
'I am afraid of earthquake.'

b. *yao* *tikot* *no* *lalyu*
1S.Nom be-afraid-AF Dat earthquake

‘I am afraid of earthquake.’

Sentence 14a is likely to be uttered when the earthquake is occurring at the time of the speech act, whereas sentence 14b is used to refers to any generic earthquake. It seems that the grammatical transitivity is iconic to the transitivity of the experiencer’s emotion directed to the target that at the same time is also the cause event that arouses the emotion.

Differences in case marking has nothing to do with the definiteness of the NP, since the following pair of sentences parallels the difference seen in (15):

15a. *yao* *tikot* *ka* *ahoe’* *ni* *‘obay*
1S.Nom be-afraid-AF Acc dog Gen ‘obay
‘I am afraid of Obay’s dog.’

b. *yao* *tikot* *no* *ahoe’* *ni* *‘obay*
1S.Nom be-afraid-AF Dat dog Gen ‘obay
‘I am afraid of Obay’s dog.’

Nor is the selection of the different cases related to the idiosyncratic valence of individual emotion terms; such contrastive pair can be found in almost all the emotion or psych verbs in Saisiyat.

16a. *yao* *siya* *atomal*
1S.Nom be-happy-AF very
‘I am very happy.’

b. *yao* *siya* *hi* *‘obay*
1S.Nom be-happy-AF Acc ‘obay
‘I am happy with Obay.’

c. *yao* *siya* *no* *‘obay*
1S.Nom be-happy-AF Dat ‘obay
‘I am happy for/ because of Obay.’

17. a. *yao* *boe’oe* *hi* *‘obay*
1.S.Nom be-angry-AF Acc ‘obay
‘I am angry at Obay.’

b. *yao* *boe’oe* *no* *‘obay*
1.S.Nom be-angry-AF Dat ‘obay

‘I am angry with Obay.’

18. a. *yao* *soma-awhay* *hi* *‘obay*
1S.Nom be-impressed-bad-AF Acc ‘obay
‘I have a bad impression of Obay.’

b. *yao* *soma-awhay* *‘ini’* *‘obay*
1S.Nom be-impressed-bad-AF Dat ‘obay
‘I have a bad impression of Obay.’

Note that such contrastive pairs marked by differences in case marking are found not only in emotion verbs, but also found in ditransitive verbs, as shown for example:

19a. *sia* *‘am* *mobay* *ka* *‘aehae’* *kaka’a’* *ka* *korkoring*
3S.Nom Asp give-AF Acc one pen/pencil Acc child
‘He is going to give a pencil to the child/children’
b. *sia* *‘am mobay* *ka* *‘aehae’* *kaka’a’* *no* *korkoring*
3S.Nom Asp give-AF Acc one pen/pencil Dat child
‘He is going to give a pencil to the child/children’

20a. *yao* *‘am* *s-om-aoe’* *ka* *k-in-aat* *ka* *korkoring*
1S.Nom Asp offer-AF Acc book Acc child
‘I will give the child/children a book (as a gift).’
b. *yao* *‘am* *s-om-aoe’* *ka* *k-in-aat* *no* *korkoring*
1S.Nom Asp offer-AF Acc book Dat child
‘I will give the child/children a book (as a gift).

In these two pairs, the how and the when the action of ‘giving or offering’ is performed affects the case the animate argument assumes. When the accusative case marker is selected, it is usually in situations where that the agent performs an action directed at the recipient, whereas the dative case marker marks only a potential beneficiary; whether there is a specific recipient that the speaker has in mind is immaterial. Therefore, the choice of the case markers can be said to reflect differences in transitivity.

In the same vein, the choice of the accusative case or the dative case as the cause of emotion verbs also reflect the transitivity of the emotion event. When the accusative is

selected, the cause is what Dirven called 'target cause', which is the cause that arouses the emotional state in the experiencer, but the emotion state is in turn a cause inducing the emotional reaction directed toward the target. On the other hand, when the dative case is selected, the cause is not necessary the target.

**4. Cause in *si-* (RF) Construction and Cause in *pa-* (Causative) Construction**

In the section, we present other grammatical strategies that the Saisiyat speakers employ to encode a conceptually different domain of emotional causality.

The nominative NP in the RF construction in Saisiyat can be used to code either a beneficiary thematic role (the so-called BF) or an instrumental thematic role (the so-called IF), for example:

21. *kahoey si-Sebet ni 'oya' hi 'obay*
wood.stick IF-hit Gen mother Acc Obay
"Mother hit Obay with a wood stick."
22. *'obay si-Sebet ni 'oya' ka ahoe'*
Obay BF-hit Gen mother Acc dog
"Mother hit the dog for Obay."

The emotion events encoded in the *si*-construction can be further sub-classified into the following sub-constructions, depending on the categorization of the main verbs. The first type is those of basic emotion verbs in Saisiyat; in this type, the nominative argument is an implicit or indirect cause arousing certain emotional response in the experiencer, which is marked in genitive case, and the cause itself may not be reciprocally affected by the emotion event:

23. *'obay sik-boe'oe ma'an*
'obay-Nom RF-be-angry 1S.Gen
'I am angry with Obay (for what he did in the past).'

The speaker uses Sentence 23 to describe his own emotional state and that this state is caused by what Obay did in the past, however the speaker is not the intended target of

what Obay did. In situations where Obay did something bad that offended the speaker, he would say things like the following sentences instead:

24a. *'obay pak-boe'oe iyakin*
obay Cau-be-angry 1S.Acc
'Obay offended me and made me angry.'

b. *ya'o pak-boe'oe-en ni 'obay*
1S.Nom Cau-be-angry-PF Gen 'obay
'I was angry for Obay did something offended me.'

Other similar examples are

25 a. *'obay sik-sawa noka korkoring*
Obay RF-laugh Gen child
'The child laughed/was laughing (when Obay was nearby).'

b. *'obay pak-sawa ka korkoring*
Obay Cau-laugh Acc child
'Obay (did something and thus) caused the child laugh.'

c. *korkoring pak-sawa-en ni 'obay*
child Cau-laugh-PF Gen Obay
'The child laughed because Obay did some funny thing in purpose to make him laugh.'

Sentence 25a is used for example in situations when Obay came home heavily drunk, shuffling his steps and mumbling incomprehensibles (with no intention to make the child laugh), the child saw this and laughed. Sentences 25b and 25c mean that Obay did something on purpose to make the child laugh.

26. a. *'obay si-haengih noka korkoring*
Obay RF-cry Gen child
'The child cried/was crying (when Obay was nearby) (because of what Obay did).'

b. *'obay pak-haengih ka korkoring*
Obay Cau-cry Acc child
'Obay (did something and thus) caused the child cry.'

c. *korkoring pak-haengih-in ni 'obay*
child Cau-cry-PF Gen Obay
'Obay (did something and thus) caused the child cry.'

26a means that when Obay was busy doing something or talking to other people, the child cried. The reasons of the child's crying may be that he was hungry, he got wet and wanted to be changed, or simply that he wanted to be cared; he cried because Obay was nearby and was supposed (by the child) to take good care of the child to meet all his needs. Nevertheless, Obay is not the direct cause that arouses the child's crying. Sentences 26b and c, on the other hand, are used in situations where Obay did something, such as beating or scolding the child, and thus made the child cry.

In the RF (*si-*) construction, there is one sub-construction where the experiencer must be in plural or collective form.

27. 'obay si-paka-boe'oe *ma'an / mita' /noka saboeh
Obay RF-paka-be-angry *1S.Gen/ 1P.Inc.Gen / Gen all
'We all are angry with Obay.'

In Saisiyat, the morpheme *makak-* has a reciprocal reading; for example, *sekela'* means 'to know', when prefixed with *makak*, *makak-sekela'* means 'to know each other'. *Pakak-* is the root form of *makak-* and is used in the imperative construction; for example, *moyo paka-siya* 'you should play together'. The *paka* construction applies to all emotion verbs.

28. *'obay si-paka-siya *ma'an / mita' / noka saboeh*
Obay RF-paka-be-happy *1S.Gen/ 1P.Inc.Gen / Gen all
'We all are happy (because of Obay).'
29. *'obay si-paka-tikot *ma'an / mita' / noka saboeh*
Obay RF-paka-be-afraid-of *1S.Gen/ 1P.Inc.Gen / Gen all
'We all are afraid of Obay.'
30. *'obay sik-paka-sawa *ma'an / mita' / noka saboeh*
Obay RF-paka-laugh *1S.Gen/ 1P.Inc.Gen / Gen all
'We all laughed (because of Obay).'
31. *'obay si-paka-haenigh *ma'an / mita' / noka saboeh*
Obay RF-paka-cry *1S.Gen/ 1P.Inc.Gen / Gen all
'We all cried (for Obay).'

There is one particular phenomenon we found in *si-* construction; please see the following pair:

32. a. *‘obay si-sa-hoewis noka minayti*
Obay RF-disgust Gen brother
The sentence says that Obay is painting and the young brother comes over and takes a crayon and doodles on the not-yet-finished painting and thus ruins the painting of Obay.

b. *‘obay si-k-sa-hoewis noka minayti*
Obay RF-k-disgust Gen brother
This sentence says that the younger brother doodles on the finished painting and thus ruins the painting of Obay.

33. a. *‘obay si-sa-i:i’ noka ma’iaeh*
Obay RF-envy Gen people
This sentence says that at the meeting, when Obay is proposing a plan, some other people stand up and interrupt him and do not let him finish his proposal. This sentence could be used in the situation where Obay asked those people to teach him something he doesn’t know but was rejected.

b. *‘obay si-k-sa-i:i’ noka ma’iaeh*
Obay RF-envy Gen people
This sentence says that people in the meeting make an objection against Obay’s proposal.

There are two things needed to be mentioned in Sentence 33. *soma-i:i’* means ‘some envies another person and thus attempts to do something bad to him’, as in 34:

34. *iban soma-i:i’ hi ‘obay*
Iban AF-envy Acc Obay
“Iban envies Obay”

This sentence says Iban is jealous of Obay’s ability or of what Obay has, and, thus, he would do something bad to me whenever he has got the chance. Sentence 33 says that

Obay was disrupted or hindered to do something or to learn something becasue those people fear that Obay would be better (in ability or in performance) than them. The situations denoted by these two sentences are subtly different: in the latter case, the malefactor, i.e. Obay, is in a superior position (regarding his ability, performance or what he has) and thus, is the target of envy, whereas in the former case, Obay may or may not be in a superior position (regarding his ability performance, or what he has), yet he is still a potential target of the emotion.

Second, as Li (1973) and Yeh (2000b) put it, *-k-* is a reduced form of the inchoativizer *–ka* in many Formosan languages, including Saisiyat. They report that such an incoative marker occurs in causative construction, i.e. *pa-* construction, and with stative verbs only, since it is related to the notion of "change of state". The contrastive pairs of Sentence 33 and 34, however, cast doubt on their analysis.

## 5. Metaphor

In Saisiyat there is not a general term labeled 'emotion'. There are several basic emotion terms and quite a few varietal emotion terms; but they all can co-occur with the nominal term, *ka-in-azazem* 'thought; mood; disposition; feeling', which is derived from the term *azazem* 'the soul'.

Emotion concepts in human languages are known to make use of metaphors and metonymies relating to physiological effects and behavioral reactions. Metaphors and metonymies are fundamental types of cognitive models, both experientially motivated. But as reported in Huang's (2002) study, Tsou, another Formosan language, adopts a totally different model to conceptualize the emotion event.

Saisiyat, like Tsou, also disprefers metaphorical and metonymic models to conceptualize emotion events. Nevertheless, we still find some metaphoric expressions seemingly related to emotions. As we mention previously, there is not a

term in Saisiyat equivalent to the English *emotion*; *ka-in-azazem* denotes a very broad range of concepts: feeling, disposition, thought, mood and so on. All the metaphoric expressions we found all co-occur with *ka-in-azazem*, expressing the way of thinking instead of the way of feeling. Furthermore, all these metaphoric expressions are primary metaphor: THOUGHT IS CONTAINER, THOUGHT IS OBJECT and THOUGHT IS FOOD. We list them all below.

A. THOUGH IS CONTAINER

1. *nisia* *ka-inazazem* *mwahil*
   3S.Gen thought AF-be-wide
   'Lit. His thought stretches wide. The area he takes into consideration is wide. This can means either, 'He has a wide knowledge', or 'He has a careful and thorough thought'.

2. *nisia* *ka-inazazem* *'i'owa'S*
   3S.Gen thought AF-be-narrow
   'Lit. His thought is narrow. The area his thought go is quite narrow and limited. Therefore this expression means either, 'He is a frog in the well (with limited knowledge), or 'He does not take into consideration many factors.'

3. *sia* *'okik* *hayza* *ka-inazazem*
   3S.Nom Neg. have thought
   'Lit. He does not have thought. This expression means that 'he is able to do any planning or thinking task.'

4. *nisia* *ka-inazazem* *maray* *bowbow*
   3S.Gen thought be-at above
   'Lit. His thought is at above. This expression means that what he thinks or takes into consideration are those above the surface; he does not go into the deep to explore the facts. His thought is quite superficial.'

5. *nisia* *ka-inazazem* *kay-'i'izo*
   3S.Gen thought be-deep
   'Lit. His thought is deep. That means he has a profound thinking.'

6. *nisia* *ka-inazazem* *sil-i*’
3S.Gen thought be-heavy
‘Lit. His thought is heavy. That means he has a heavy burden in his thought and he is stressful.’

B. THOUGHT IS OBJECT/ENTITY

7. *nisia* *ka-inazazem* *‘ima* *patalay*
3S.Gen thought Asp stop-AF
‘Lit. His thought stops. *Patalay* in Saisiyat means ‘one meets an obstacle and thus is forced to stop. Therefore, this expression means that one cannot think of new methods or ideas, and his thought is forced to stop.’

9. *nisia* *ka-liboza-an* *‘es’es*
3S.Gen middle-of-the-brain be-strong
‘Lit. The middle of his brain is strong. Saisiyat speakers believes that the middle of the brain is where all the thoughts reside; if this part is strong, one can hold all his thoughts well. This expression means ‘this person has a strong memory.’

In Saisiyat, *‘es’es* is used to describe an object or an entity is physically strong, for instance, *taewan ‘es’es* means ‘the house is very strong’.

10. *nisia* *ka-liboza-an* *oloeray*
3S.Gen middle-of-the-brain be-soft/be-pliable
‘Lit. The middle of his brain is soft/pliable. That means he is poor at memorizing, or he is not good at thinking.’

11. *nisia* *ka-inazazem* *‘ima* *maSay*
3S.Gen thought Asp die
‘Lit. His thought is dead. That means. He does not know how to use his brain or thought, just like his thought is a dead stuff.’

C. THOUGHT IS FOOD

12. *nisia* *tono’* *‘ima* *‘aS’aSay*
3S.Gen head Asp be-cooked/be-mature
‘Lit. His head is mature. In Saisiyat, *‘aS’aSay* , just like *shou* “熟”, can mean either the that ‘food is well-done’, or that ‘fruit is mature’. This expression means ‘he has a mature thinking’, or ‘his head is well grown so that he is good at

thinking or planning.'

13. *nisia ka-inazazem 'ima 'aS'aSay*
3S.Gen thought Asp be-cooked/be-mature
'He is good at thinking or planning.'

## 6. Conclusions

We have investigated the structures and functions of a number of emotion constructions in Saisiyat. We began by looking at a folk taxonomy of all emotion terms in Saisiyat which is needed to delineate the complex semantic relationships of emotion concepts. Second, we investigated pairs of *si-/sik* constructions of emotion verbs. As Le (1973) and Yeh (2000b) put it, *-k-* is a reduced form of the inchoativizer *ka-* in many Formosan languages, including Saisiyat. Such an inchoative marker, however, as they report in their studies, occurs in causative construction i.e. *pa-* construction, and with stative verbs only, since it is related to the notion of "change of state". Why does it co-occur with the RF construction here? And third, we have tried to identify the various cause roles of the nominative argument in the RF (*si-*) construction, tough much remains to be clarified.

S. Huang (2002) proposes three cultural models concerning how people talk about or think about their emotions; the three models are the metaphorical model, the metonymic model and the grammatical model. Saisiyat, like Tsou, disprefers the first two models, but unlike Tsou, the grammatical model it employs focuses on the various ways of conceptualizing emotional causality, while Tsou prefers to specify the bodily experience of emotions.

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# 10

## Reference to motion events in Six Western Austronesian languages

----- A semantic typology

### 1. Introduction: semantic typology of the grammars of motion event descriptions

Space is a domain that can be construed in quite different ways in different languages. Speakers of typologically different languages vary in their linguistic construal of spatial and motion events across a wide range of situations of language use. Diversity in linguistic coding provides the basic data for speculations about relativity and habitual use of linguistic forms. Talmy's (l985) pioneering two-way semantic typology of motion events has since inspired researchers worldwide to grapple with the implications of spatial language and cognition. A number of research groups have been formed to attempt a careful comparative study of the range of variation in the linguistic treatment of the spatial domain and to draw out implications of this emerging typology of variation for the disciplines in cognitive sciences. Much of the research has yielded results that suggest striking typological differences, which have in turn spawned a large number of investigations of how language interfaces thought. Two lines of research are particularly noteworthy: Levinson and his collaborators (e.g. Levinson, S. 1996; Pederson et al. 1998; Levinson, S., S. Kita et al. 2002) distinguish between languages that describe spatial relations in terms of the body (front/back, left/right) [the relative system] and those that orient to fixed points in the environment (like north/south/east/west) [the absolute system]. 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.' Levinson's group has shown that this is indeed the case. An 'absolute' speaker always knows where north is and predicts accurate dead-reckoning. Levinson (2003) shows that language seems to have clear transformative power on how we think, memorize and reason about spatial relations and directions (see Munnich et al. 2001; Gennari et al. 2002 for dissenting views). In the spatial topological domain, they investigate how topological notions are coded cross-linguistically in spatial adpositions and conclude that notions like IN/ON/UNDER are not primitive holistic concepts, since many languages seem to make alternative kinds of distinctions, which are learned just as early, and that these topological notions form an implicational scale, akin to Berlin and Kay's (l969) proposal for basic color terms, whereby a general locative adposition is successively fractionated (for further details, see Levinson, S., S. Meira et al. 2003).

Slobin and his research associates have shown that the preferred construction type in a language predisposes speakers to deal differently with motion events encoded in the construction and 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). The research question then is to identify the 'preferred construction type' for each language.

2. In an important first step in the typology of form-function relations for motion verbs, Talmy (1985, 1991, 2000) provides a cross-linguistic schema in which motion is analyzed into a set of semantic components and languages are compared and grouped according to how they package these into linguistic forms.

Motion involves a number of ontologically distinguishable components:

(a) A moving object, called the 'figure', the object in motion;
(b) A reference object, called the 'ground', as in 'the dog fell down to the pool,' where 'the pool' is the ground; Ground covers Source, Goal, and Landmark;
(c) Path (or direction), the trajectory of motion;
(d) Source, the origin of motion;
(e) Goal, the destination of motion;
(f) Landmark, the location that the Figure passes in its motion;
(g) Path (or direction), the trajectory of motion;
(h) Manner, the way motion is carried out;
(I) Agent, the cause of motion.

According to Talmy, each given language has a characteristic way of packaging such motion-event components. His two-way typology of languages is based on the observation that paths are the most likely components of a motion event to be incorporated into the event in overt expression. Languages vary as to whether path or manner is coded as the head of the verb phrase, and which is coded as a verbal dependent, which Talmy calls a satellite. Talmy describes English as a manner-incorporating language and Spanish as a path-incorporating language. Talmy has more recently generalized this typological classification into a distinction between verb-framing and satellite-framing. Framing refers to concepts such as path, aspect, existence etc. that delimit the verbal event. Some languages systematically encode framing elements in the verb (verb-framing) or in a satellite (satellite-framing). In motion event descriptions, a language is 'satellite-framed' or 'verb-framed', depending on how the 'core schema'--path component is packaged. Verb-framed languages are those where path information is coded in the main verb, as in Romance, Semitic, Japanese, Tamil, and Polynesian. All natural sign languages are believed to be also verb-framed languages (Slobin and Hoiting 1994). Satellite-framed languages

are those whose path information is coded in the satellite, as in Indo-European (minus Romance), Finno-Ugric, Ojibwa, and Walpiri, and manner information is coded within the verb itself. *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., o*ver* 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 cross-linguistic difference appears in the representation of boundaries in motion events. 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. 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.

Manner and how it is presented is a second important difference between the S- and V-language types. In contrast to path, manner in an S-language is encoded in the main verb. With V-languages such as Spanish, path is encoded in the main verb, while manner is introduced outside the verb, in a gerund or a separate clause. Such crosslinguistic differences in motion verb conflation have the potential to reveal much about the human mind and experience. Choi and Bowerman (1991) show that young children first talk about paths of motion rather than their manners. Naigles et al. (1998) show that there is a stronger propensity of English speakers than Spanish speakers to choose manner interpretations of novel motion verbs. Berman and Slobin (1994:118-119) first propose that S-languages and V-languages have distinct narrative styles. S-languages allow for detailed description of paths within a clause and tend towards greater specification of manner. In V-languages, such elaboration is more of a ’luxury,’ since path and manner are elaborated in separate clauses, which are generally optional, and less compact in form. Slobin (2000) further shows that the domain of manner–of-motion is highly codable in S-languages, producing many ‘manner’ verbs such as *walk*, r*ush*, *dive*, *clamber*, and *saunter* and, therefore, in terms of thinking for speaking and for writing, is also more available, in comparison with V-languages.

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.

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, trans-locational 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. Yukatek 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 (Kita 1999).

Talmy's typological classification of motion events has been quite influential. However, it requires modification and extension to accommodate the strategies found in Western Austronesian languages. Huang (2001) has earlier argued, based on a corpus of pear narratives, that Tsou represents a macro-event language where the characteristic pattern for motion event descriptions is to use compound verbs comprised of a manner prefix and a path verb root, taking the term macro-event in the sense of Talmy (2000) to mean a fundamental category of complex event that is prone to conceptual integration and representation by a single clause. In the case of motion events, a macro-event is a structure that combines motion, path and manner into a

clause. [endnote 1] However, combinations of manner and goal components in Tsou must be expressed by a coordinate strategy. Other languages use still other strategies. Croft (1991: 222-223) notes that Spanish, Russian, and other Slavic languages use a double coding strategy for the path component: in Russian, the path is expressed as both a prefix compounded with the manner verb and as a preposition and in Spanish, path is expressed as both a path verb and a path adverb.

Thus path and manner are encoded in at least four distinct patterns (constituents are ignored):

(A) Satellite-framed language: Path satellite + Manner verb

(B) Verb-framed language: Path verb + Manner adjunct

(C) Macro-event language: [Manner prefix + Path root] verb

(D) Serial verb language:

D1: Path verb#Manner verb

D2: Manner verb#Path verb

In the following analysis, MP will be used to represent the pattern found in (c), P#M the pattern in D1, and M#P the pattern in D2. There is also in addition the coordinate strategy that is found in some of the Western Austronesian languages being investigated here, and this will be introduced later in the paper.

We have so far primarily considered individual forms, such as verbs, affixes, prepositions and particles. But in fact spatial relational concepts are expressed by a variety of word types, both lexical and grammatical. Construction types can also distinguish aspects of spatial meaning. To take a trivial example, an English preposition like *down* indicates a downward trajectory in motion. In many Western Austronesian languages where the set of prepositions or locative particles is either null (e.g., Tsou, Atayal, Seediq), or at most one (e.g. Saisiyat, Tagalog, Cebuano), preposition concepts like *down* are either suppressed, inferred, or expressed by means of verb selection and construction type. Motion event sentences in these languages require understanding of the meanings of all of the linguistic elements, including those that describe the background settings, in order to build up the appropriate mental image of the event. Sinha and Kuteva (1995) have introduced the term *distributed spatial semantics* for the balance between different parts of the linguistic systems in expressing spatial notions.

Despite the findings summarized above, we still lack cross-linguistic research on such issues as lexicalization pattern and characteristic narrative styles for motion events in Austronesian languages. [endnote 2] This paper is a cross-linguistic investigation of all the elements that express spatial relationships in motion events in six Western Austronesian (WA) languages: Tsou, Saisiyat, Squliq Atayal, Tagalog, Cebuano, and Malay. We will show that there is great diversity across languages in the

level of granularity in path or manner expression, in the number and position of cuts on the semantic continua, in the type of semantic components employed and in the balance between different parts of the language system in expressing spatial notions. We will argue for a modification and extension of the existing typology.

4. Database and methodology

The present study is based on a corpus of narratives of the Frog story by adult native speakers of six Western Austronesian (WA) languages Tsou, Saisiyat, Squliq Atayal, Tagalog, Cebuano, and Malay. Corpus data from a seventh language, Mandarin Chinese, is also examined for purposes of comparison. The narrators, who were in their twenties to sixties, were asked individually to recount the story in a wordless picture book, *Frog, where are you?* (Mayer, 1969). After recording, their narrations were transcribed into intonation units based on Du Bois (l993). [endnote 3] Using the same stimulus material, we are able to control for semantic content and plot structure in doing cross-linguistic investigations.

Collecting the Frog narratives is part of a larger project of ours to study the interaction between grammar and discourse in Austronesian languages. The Frog story is about the adventures of a frog that a boy keeps in his jar. One night the frog gets out and leaves the room and the boy wakes up the next morning to find it gone. The boy and his dog then head out to the woods to look for the frog. On the way they first run into a mouse and a beehive on the top of a tree. The dog shakes the tree and the bees turn loose and start chasing the dog. The boy gets to the top of a tree and looks into a hole. An owl emerges from the hole and the boy is scared, falls off the tree and lands on his back. The boy tries to get away from the owl. He gets on top of a rock. He reaches to grabs branches of a tree, which turn out to be the antlers of a deer. The deer rises up, carries the boy on its head and starts to run toward a cliff. The deer stops at the edge of the cliff, throws off the boy, and he and also the dog fall into a body of water below. The boy and the dog swim to a tree trunk with a hole in it. They peek through the hole and see their frog and a bunch of other frogs together. The boy picks up his frog and heads back home, waving goodbye to the other frogs.

Before we get to the analysis itself, first some brief remarks on the linguistic characteristics of the six WA languages are in order.

Many of the WA languages lack the syntactic category of locative particles or adpositions altogether (Squliq, Tsou); the number of locative case particles in Saisiyat, Tagalog and Cebuano is exactly one. As a result, topological relations and other spatial relations between the figure and the ground in Squliq, Tsou are rarely specified. For example,

(1) Saisiyat

*to:lah ila m-alben ila ray ra:i*

crash Pfv AF-fall Pfv Loc ground
'(The two bikes) crashed and fell *to* the ground.'

(2) Saisiyat
*askan-en hini ka boway ray kala'*
put-PF this Nom fruit Loc basket
'(He) put the pears *in* the basket.'

(3) Tagalog
*ang palaka ay l-um-abas sa kanya-ng garapon*
ANG frog AY AF-exit Loc 3rd-Lk container
'The frog went out *from* its container.'

(4) Tagalog
*h-in-anap nila ito sa mga butas*
look.for-PF 3Pl this Loc Pl hole
'They looked for it *in* the (tree)holes.'

(5) Cebuano
*na-hulog ang iro' ug ang bata' sa tubig*
AF-fall ANG dog and ANG child Loc water
'The dog and the child fell *into* the water.'

(6) Cebuano
nag-kalat iya-ng t-shirt sa salug
AF-scatter 3S.Poss-Lnk shirt Loc floor
'His shirts were scattered *on* the floor.'

(7) Tsou
*isi sii to ceoa 'o isi toai*
Aux.NAF put Obl ground Nom Aux.NAF pick.PF
'What he picked was set *on* the ground.'

(8) Tsou
*mo tmopsu ta heiban 'e Pasuya*
Aux.AF write.AF Obl blackboard Nom PN
'Pasuya is writing *on* the board.'

(9) Tsou
*mo totoefUngU to cpucpuhu 'o Pasuya*
Aux.AF hide.AF Obl bushes Nom PN
'Pasuya is hiding *in* the bushes.'

In both Tsou and Squliq, some path categories, especially vector paths (to, at, in, via, along) are never encoded for *motion* verbs; other path categories (vertically oriented and source of motion) in Saisiyat are characteristically indicated by separate path verbs. In (10), (11), and (12) *tana'itol,* 'face upward,' *saha'oe* 'face downward,' and *in'aray* 'to be from' are each a path verb.

(10) Saisiyat

| *yako* | *tana'itol* | *k-om-ita* | *ka* | *kawas* |
|---|---|---|---|---|
| 1S | face.upward | see-AF | Acc | sky |

'I looked up at the sky.'

(11) Saisiyat

| *yako* | *saha'oe* | *k-om-ita* | *ka* | *ba:la'* |
|---|---|---|---|---|
| 1S | face.downward | see-AF | Acc | river |

'I looked down at the river below.'

(12) Saisiyat

| binbinisitan | in'aray | ray | kalhib | toliyab | ila | ray | latar |
|---|---|---|---|---|---|---|---|
| bottle | from | Loc | cave | float | Pfv | Loc | outside |

'The bottle floated out of the cave.'

Saisiyat, a moderately endangered language, constitutes, along with Pazeh, the Northwest branch of the Austronesian language family, and is spoken on the highlands of northern Taiwan by a population of about 4,000 distributed between two major dialects. The dialect studied here is the Southern (Tonghe) dialect. Most speakers are trilingual (Saisiyat, Hakka, Mandarin) or quadrilingual (Saisiyat, Hakka, Mandarin, Japanese). Saisiyat is conservative in focus morphology, reflecting reconstructed Pan affixes, PF *-un*, LF *-an*, RF *Si-*). PF, LF, and RF will be collectively referred to as NAF. Saisiyat is strongly AVO in agent focus (AF) clauses, but VAO in non-agent focus (NAF) clauses and has developed accusative case marking and a passive-like voice system. Saisiyat has a single locative case particle *ray* that covers the functions of source, goal, and location. 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.* The locative particle *ray* covers the functions of source, goal, and location.

Tsou, a major language of the Tsouic branch of the Austronesian language family, is spoken on the highlands of SW Taiwan; Tsou speakers total about 4,500. The dialect studied is the Tfuya dialect. Tsou is also moderately endangered; many speakers are also trilingual or quadrilingual. Tsou is a rigid verb-initial language, and has no locative particles. 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.

Squliq is a dialect of Atayal spoken by about 60,000 speakers (1993 figure). It is a verb-initial language with a similar focus system as Saisiyat and, like Tsou, has no locative case particles.

Tagalog and Cebuano, verb-initial languages belonging to the Meso-Philippine language family (Mosley and Asher 1994), are the two major languages in the Philippines, each spoken as a first language by approximately a fifth of the total population. Tagalog is mainly used in the Southern Tagalog provinces but not in Palawan, and in the southern provinces of the Central Luzon region, as well as along the coastal areas on the island of Mindoro. It is also spoken as a second language in the rest of Luzon and the rest of the country. Cebuano is spoken on the central Visayan islands of Cebu, Bohol, Negros, Leyte, and on the northeastern half of Mindanao as their native language and by the rest of the population of the Visayas and Mindanao areas as their second language. Both languages are characterized by a highly developed focus system, common in Philippine-type languages.

Malay is spoken in Indonesia, Malaysia, Brunei, and southern Thailand, who form a community of more than 250 million speakers. The data collected for this study belong to the Malay variety spoken in Malaysia. The word order of active clauses in Malay is rather fixed S-V-O, while passive clauses are notable for their variety of orders. Malay has prepositions, which are used to mark times, locations, and a variety of oblique case-marking functions. Case prepositions include *kepada* 'to' (dative), *untuk* 'for' (benefactive), and *dengan* 'with' (comitative). The three "basic" locational prepositions include *di* 'at,' *ke* 'to,' and *dari* 'from' (Cumming 1991).

9. 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

(13) Tsou

(a) the path in an event of motion

*mo cu tmai'-aemonU si mali*

Aux Perf roll.in.AF Nom ball
'The ball rolled in.'

(b) the aspect in an event of temporal contouring

*mihin'i* *e'unu* *maita'e*
Aux.3P talk.toward thus
'They talked on.'

(c) the correlation in an event of action correlating

*mita* *pasu-ofeihini* *'e* *pasuya*
Aux.3P sing-along Nom PN
'Pasuya sang along.'

(d) the fulfillment in an event of realization

*mita* *m'sacUhU* *to* *f'koi* *'o* *pasuya*
Aux.3S step.on-succeed Obl snake Nom PN
'Pasuya stepped on the snake.'

10. Motion events in the Frog stories

In this section we will look at the structure of motion event descriptions in natural discourse. Languages differ in the way various components of motion events are coded. In the following we show the motion event structure of the six languages by looking at (l) the distribution of path and manner components; (2) the narrations of the 'owl's' exit in the Frog stories; (3) the Ground constructions of the narrative, especially those of downward movement; and (4) Path segments in the narration of the 'cliff scene.'

Recall that in S-languages, path is always encoded outside of the main verb, in the satellite, leaving that slot open for the expression of manner. As a consequence, these languages have generally elaborated the domain of manner of movement. The preferred pattern in V-languages is to use the main verb to encode path or simple motion (e.g., 'go'), leaving the expression of manner in an optional and foregrounding adjunct phrase, a gerundive or an adverbial phrase or in a separate clause. In the following tables, MP represents compound verbs formed of a manner prefix and a path verb root; M#P is a serial verb construction in which the manner verb precedes the path verb; if a deictic verb follows the sequence, it will be represented as M#P#D. Note that in the present study we include action verbs (or caused movements) such as the equivalents of *pick*, t*ake*, *carry*, *put* etc. in the category of Manner verbs. The reason we did this is that these verbs usually involve an ensuing trajectory of the moving object and express path information implicitly. By contrast, purely action verbs like *hold* or posture verbs like *stand*, *sit*, *crouch* do not necessarily initiate a subsequent change in the object's location and are excluded from the present study.

In this study we make the assumption that path or directionality of motion does not conflate with manner into a single verb root, an assumption that has not been contradicted by the present corpus data. Whenever there is a conflation of path and manner, two verb roots are needed to encode the conflation. Based on this assumption, a verb like *climb* is treated as a manner verb, meaning something like 'to crawl on a vertical surface, typically upward, but does not semantically entail an upward motion. Saying of someone that she climbed down is not a contradiction. The assumption appears to be challenged by the equivalent 'climb' verb in many V-languages, e.g., *akyat* in Tagalog, *katkat* in Cebuano, and *panjat* in Malay. In these languages the 'climb' verb, a parade example in the literature on the prototype semantics of lexical items, seems to be used only for upward motion in a grasping manner, a point urged in Slobin (2003). Thus in Turkish *tirmanmak* 'climb' is used only to mean 'clamber upward,' conflating both manner and path, while in reference to 'clambering downward,' one can only have recourse to a downward path verb. Similarly, in Squliq, according to our informants, the equivalent of the Turkish *tirmanmak*, is *mkaraw,* but one must use a simple downward path verb *mbzyaq* 'descend' to mean 'climb down.' In Tsou, *capo* conflates manner and upward motion, but *eu'si-peohU* 'climb down' is a compound verb formed of two verb roots *eu'si-* 'use hands and feet' and *supeohU* 'move down.' However, there is some difficulty with Slobin (2003)'s analysis. Since we typically climb upward rather than downward, just as we typically walk forward instead of backward, there is little linguistic need to stress the upward motion component associated with climbing. This is why in both Squliq and Tsou only the single verb roots (*mkaraw* and *capo*) are used to encode upward climbing, while the more unusual climbing downward is iconically coded with a compound verb, as in *eu'sipeohU*, or the manner component is ignored altogether, as in Squliq *mbzyaq* 'to move down.' Note that in the Squliq narratives, one narrator in fact used *mkaraw* to mean 'to climb outside (of the bottle),' in reference to the frog climbing out of the bottle, suggesting that upward motion is not a necessary component of the verb. The present assumption is not embarrassed by data like this, while Slobin's analysis would be.

It is of interest to note that verbs of caused motion (e.g., *put, carry*) and those of spontaneous motion (e.g., *fall)* are about equally prone to taking path adjuncts: For example, 80% of verbs of caused motion in Tsou in the corpus data and 77% in Saisiyat take a path adjunct, while the corresponding figures for spontaneous motion verbs are 78% and 77% respectively. Verbs like *put* are analyzed in the literature as a three-argument verb, and *fall* as one-argument.

Table 1 presents the distribution of the motion components in the WA and in Mandarin.

Table 1 Percentage of the motion components in the Frog story

| | Manner | Path | MP | P#M | M#P | M#P#D |
|---|---|---|---|---|---|---|
| Saisiyat | 26 | 63.6 | 8.4 | 0.4 | 1.6 | 0 |
| Squliq | 42.1 | 57.1 | 0 | 0.4 | 0.4 | 0 |
| Tsou | 22.3 | 42.3 | 35.4 | 0 | 0 | 0 |
| Tagalog | 27.8 | 72.2 | 0 | 0 | 0 | 0 |
| Cebuano | 39.3 | 60.7 | 0 | 0 | 0 | 0 |
| Malay | 31.6 | 53.8 | 14.5 | 0 | 0 | 0 |
| Mandarin | 40.5 | 6.5 | 0 | 0 | 5.6 | 48.4 |

As Table 1 clearly shows, the differences between the WA languages and Mandarin are dramatic; similarly, the differences between Tsou and the other four WA languages are just as striking. Mandarin is a highly verb serializing language where the most preferred strategy is to use combinations of manner as the main verb with a directional complement composed of a path verb and a deictic motion verb, a culture-specific verb serializing strategy that focuses on the deictic component (+/- toward speaker). Talmy (1985, 2000) considers Chinese as strongly satellite-framed, like English, although other researchers have placed it on a continuum somewhere between English and Spanish (Slobin and Hoiting 1994). Slobin (2003) now considers it a serial verb language, in basic agreement with the present analysis.

In Tsou, there are two equally overriding strategies for encoding motion events: the use of path verbs alone and the use of lexicalized compound motion verbs that conflate both manner and path. Moreover, both manner and path components in compound motion verbs are bound elements, which effectively rules out the language as either an S- or V-language. Tsou thus represents a distinct language type and will be categorized as a Macro-event language, as noted above, though it also has features of a V-language in having a high use of path verbs alone. There are no significant differences between the remaining four WA languages (with the exception of Saisiyat and Malay, discussed below). Each of these languages exemplifies a V-language characterized by a high use of path verbs and a low use of manner verbs.

Saisiyat and Malay seem to exhibit incipient structural features intermediate between a V-language and Macro-event language in having acquired MP compound verbs for motion events, though on a continuum of path vs. manner salience they are

certainly clearly V-language.

We can condense Talmy's two-way typology model into a grid, with the horizontal axis representing the S-languages, the other representing the V-languages. It is likely that most of the world's languages fall somewhere in the middle, with characteristics of both language types in their linguistic makeup. But what about the far corners of this grid? Is there such a thing as a pure embodiment of either type? Extrapolating Slobin (2000)'s data below in Table 2, we suggest that Russian is the extreme S-language. Mandarin, with nearly half (48.4%) of the motion event clauses coded as M#P#D, should certainly be placed right in the middle of the two axes, and Tsou, with a significant percentage of MP compound verbs will be placed next to Mandarin, but slightly toward the corner of the V-language axis., while French, Spanish, Turkish, and Hebrew seem much more pure embodiment of the V-language type than any of the WA languages. Tagalog, of all of the WA languages, no doubt most approximates a pure V-language type.

Table 2 Frog stories: Percentages of manner and path verbs (taken from Özçaliskan and Slobin 1999)

| % | Manner verbs | Path verbs |
|---|---|---|
| English | 52 | 15 |
| Turkish | 26 | 25 |
| Spanish | 25 | 21 |

It is important for us to have established the above initial categorization of the six WA languages and Mandarin into three distinct language types, since this categorization will now be used to predict a number of other interesting linguistic characteristics such as the distribution of path and manner in a clause, the frequency of ground components, size of the manner verb lexicon, and narrative style, to which we now turn in the following sections.

Slobin (2003) surveys expressions used to describe the emergence of the owl in the frog story in languages categorized by Talmy as either V- or S-languages. In V-languages, narrators consistently use a single path verb to describe the emergence of the owl. By contrast, many S-language narrators use a manner verb together with a path satellite to describe the same motion event. Similarly, most Tsou narrators use M#P compound verbs for the expression of the motion. [endnote 4] As shown in Table 3, all of the WA languages (except Tsou) exhibit a similar preference for path verbs like speakers of other V-languages such as Spanish and Turkish. Saisiyat, Squlig, Tagalog, and Cebuano narrators use the path verb 'to come out.' There is no instance where a Manner verb with or without a satellite such as 'fly (out)' is used in these languages to introduce the owl. In cases where a path verb is not used, an existential

construction is used instead of a Manner verb.

Table 3. The owl's exit in the Frog story: Percentages of Manner and Path verbs*

| | Manner verb | Path verb |
|---|---|---|
| Satellite-framed | | |
| Russian | 100% | --- |
| English | 32% | 68% |
| German | 18% | 82% |
| Dutch | 17% | 83% |
| Serial Verb Language | | |
| Mandarin | 83.4% | 16.6% |
| Macro-event Language | | |
| Tsou | 83.4% | 16.6% |
| Verb-framed | | |
| French | --- | 100% |
| Spanish | --- | 100% |
| Turkish | --- | 100% |
| Hebrew | 3% | 97% |
| Saisiyat | --- | 100% |
| Squliq Atayal | --- | 100% |
| Tagalog | --- | 100% |
| Cebuano | --- | 100% |
| Malay | --- | 100% |

*Percentage figures for Spanish, English, Russian and German are based on Slobin (2003).
**Manner in this table refers collectively to MP verbs for Tsou and Malay and M#P or M#P#D for Mandarin.

For example,

(14) Saisiyat:

| *'in'aray* | *kahoey* | *babaw* | *'i'izo'* | *m-wa:i`* | *ila* | *ka* | *oewi'* |
|---|---|---|---|---|---|---|---|
| from | tree | above | inside | AF-come | Pfv | Nom | owl |

'An owl came (out) from inside the tree above.'

(15) Squliq:

| *m-htuw* | *qutux* | *qu* | *a* | *pu'puk* |
|---|---|---|---|---|
| AF-come.out | one | Nom | Par | owl |

'An owl came out.'

(16) Tagalog:

| *bigla-ng* | *l-um-abas* | *ang* | *kuwago* | *sa* | *loob* | *ng* | *kahoy* |
|---|---|---|---|---|---|---|---|
| suddenly-Lk | AF-exit | ANG | owl | Loc | inside | of | tree |

'Suddenly, the owl came out from inside the tree.'

(17) Cebuano:

| *unya* | *ang* | *owl* | *ni-gawas* | *from the tree* |
|---|---|---|---|---|
| then | ANG | owl | AF-move.out | from the tree |

'Then the owl came out from the tree.'

(18) Malay:

| *burung* | *hantu* | *keluar* | *daripada* | *lubang* | *pokok* | *itu* |
|---|---|---|---|---|---|---|
| one-CLASS | bird.ghost | come.out | from | hole | tree | that |

'An owl came out from the tree hole.'

In Table 1 Chinese is shown to make a very high use of a culturally specific serial verb construction of the type M#P#D for motion event descriptions. The five WA languages in general allow for no use of either this type of verb serialization, or the simpler type M#P. This follows from the fact that the five WA languages, with the exception of Tsou, are V-languages and thus any verb serialization must take a path verb as the first verb, given that in V-languages, path is obligatory and manner optional. What these WA languages do make use of is verb serialization of the type P#M in which a path verb (including deictic motion verbs) precedes a manner verb, as will be discussed below.

Verb serialization is a diverse phenomenon and appears in a variety of morpho-syntactic forms. It is a resource that allows a compact rendering of many sub-events in single clauses and the grounds of many of these sub-events are thus suppressed. In the following discussion, we will operate with the intuitive notion that verb serialization is two or more verbs acting as one verb and that it is used to describe as single events what in a non-serializing language is achieved by the use of a clause built around a single verb. Restricting our attention for purposes of the present discussion to just motion events, the major functions of verb serialization may be said to add path of motion to deictic center of motion (D#P), manner of motion to motion (P#M), a source or goal component to path (P#P), or an event or activity verb to path (P#A), manner of motion to path (M#P) or verb subordination (see below) depending on the type of language involved. [5] For example,

(A) D#P: adding path to deictic center of motion

(19) Saisiyat:

| *m-wai'* | *kas'oehaz* | *ka* | *takem* |
|---|---|---|---|
| AF-come | move.out | Nom | frog |

'The frog comes out.'

Squliq: NA

Tagalog: NA

Cebuano: NA

Malay: NA

(B) D/P#M: adding manner of motion to deictic motion or path

(20) Saisiyat:

*boya'* *m-wai'* *h-oem-ayap* *ray* *korkoring**ki*** *ahoe'*
bee AF-come AF- fly Loc child and dog
'The bees come flying toward the child and the dog.'

(21) Squliq:
m-ge: m-laka' qu nguyaq qasa la
AF-leave AF-fly Nom owl that Par
'The owl flies away.' (Frog 4:197-198)

Tagalog: NA

Cebuano: NA

Malay: NA

(C) P#G: adding ground expression (source or goal) to path

(22) Saisiyat:
*'ahoe* *ki* *ma'iaeh* *sahae'* *ila* *ila* *hao* *ray* *'atas*
dog and man fall Pfv reach there Loc cliff
'The dog and the boy fell off the cliff to (the ground) there.' (Frog 7:86)

(23) Squliq:
*m-htuw* *kahul* *squ* *bling* *na* *qhoniq* *qu* *nguziq* *lga.*
AF-move.out be.from Loc hole Gen tree Nom owl Par
'The owl comes/goes out of the treehole.'

Tagalog: NA

Cebuano:NA

Malay: NA

(D) P#A: specifying an event to path

(24) Saisiyat:
*tingo:o'* *k-om-ita*
look.down AF-see
'look down'

Squliq: ?????

Tagalog:NA

Cebuano:NA

Malay: NA

The four types of verb serialization construction above show symptoms of lexicalization in the data. This can be observed by noting that the set of path verbs is itself relatively fixed and that the path verb taking the first position is even more fixed.

The only verb that appears in patterns (A) and (B) in the Saisiyat data is *mwai*' 'come.' Thus these patterns are relatively accessible to the speaker, which in turn contribute to their lexicalization. The production data also indicate that narrators produced these utterances with relative ease, there being no pause or repair, in marked contrast to the production of coordinate sentences discussed below.

(E) M#P: The status of this type of verb serialization in the WA languages remains at this stage of our research somewhat unclear. [endnote 6] In a language like Spanish path is expressible outside the main manner verb only if paths are not boundary-crossing. Thus *running to/toward/across the street* are possible, but not *running outside/inside the building* (Aske 1989). The present corpus data do not permit us to draw such a firm conclusion, but do suggest that this type of verb serializing must be a distinctly dispreferred type in the WA languages, with the possible exception of Saisiyat, as can be observed from Table 1. [endnote 7] Of the 183 motion event clauses in the Saisiyat corpus, a total of three tokens spoken by two different narrators belong to this type, and two of which are given below. (27) is an elicited sentence:

(25) Saisiyat

| *wae'ae'* | *ae'aeaew* | *ila* -- | *ila* | *hiza* | *ray* | *ima* | *mwahil* |
|---|---|---|---|---|---|---|---|
| deer | run | Pfv | go | there | Loc | Asp | wide |
| | [Manner] | | [Path] | | | | |

'The deer ran away toward an open space there.' (Frog 5:190)

(26) Saisiyat

| *korkoring* | *homses*--- | *maykonkonai* | *sahae'* | *ray* | *ra;i'* |
|---|---|---|---|---|---|
| child | scared | roll | fall | Loc | ground |
| | | [Manner] | [Path] | | |

'The boy was scared and fell down rolling.' (Frog 8:43)

(27) Saisiyat

| *yako* | *'ae'aeaw* | *kaslatar* |
|---|---|---|
| 1S | run | move.out |
| | [Manner] | [Path] |

'I ran out.' (Elicited)

In (25), *'ae'aeaew* is a manner verb and *ila* 'go; reach,' a path verb, is restricted to occurring only following a motion verb and functions more like a direction particle. [endnote 8] In (26) *maykonkonai* is a manner verb and *sahae'* a path verb. Note that we have shown earlier that Saisiyat has begun to acquire a sizable number of MP compound verbs and that it is only reasonable for us to expect it to also utilize the M#P verb serialization as a strategy. (27) is an M#P verb serial sentence where *'ae'aeaw* is a manner verb and *kaslatar* a boundary-crossing path verb. The existence

of (27) may suggest the boundary crossing constraint, in its pure form, does not operate in Saisiyat. On the other hand, a stronger constraint against any verb serialization of the form M#P regardless of whether P is boundary crossing or not may have been the primary factor for the Squliq Atayal narrator in (28) below to repair and shift to a verb serial construction of the P#M type *mge: mlaka'* 'lit., leave fly' at line 197 when she could have said *mlaka' mge:* 'fly away' at line 196 and meant what she had in mind. [endnote 9]

(28) Squliq

| | | | | | |
|---|---|---|---|---|---|
| 196 .. | *wal* | *m-laka'* | *qu*, | | |
| | Asp | AF-fly | Nom | | |
| 197 … | *m-ge:* | *m-laka'* | *qu* | *ka*, | |
| | AF-leave | AF-fly | Nom | KA | |
| 198 … (1.1) | *nguyaq* | *qasa* | *la*, | | |
| | owl | that | Part | | |

'(The owl) flew (out). The owl flew away.'

The Tsou narrative data present some puzzle: the M#P verb serialization pattern is not attested in the language and yet the pervasive MP compounding strategy in Tsou we saw in Table 1, referred to in the literature as 'compound' serial verbs must be a strategy that results from reductions and lexicalizations of the more general M#P verb serialization. Thus the total absence of M#P verb serialization as a strategy in the Tsou Frog narratives remains to be accounted for.

(F) Verb subordination: Both Tagalog and Cebuano apparently do not allow multiple verbs in clauses, unlike Saisiyat, Squliq, or Tsou. If manner is coded as the main verb, path must be subordinated to form a $V_{manner}$ + *pa*-Path construction, as in (29). It is also possible to use a path verb while subordinating the manner component, as in (30). Of the two sentence types, native speakers find (29) to be the more preferred type, suggesting that the universally preferred word order is for manner verbs to precede path verbs, even in V-languages.

(29a) Cebuano

| | | | | | | |
|---|---|---|---|---|---|---|
| *unya* | *ni-lakaw* | *ang* | *deer* | *pa'ingon* | *didto* | *sa* *bangin* |
| then | AF-walk | Top | deer | pa-go | there | Loc cliff |
| | [Manner] | | | [Path] | | |

'Then the deer walked toward the cliff.' ( Cebuano Frog 2:79-80)

(29b) Tagalog

| | | | | | |
|---|---|---|---|---|---|
| *l-um-utang* | *ang* | *bote* | *pa-labas* | *ng* | *kuweba* |
| AF-float | TOP | bottle | pa-out | Loc | cave |
| [Manner] | | | [Path] | | |

'The bottle floated out of the cave.' (Tagalog, Elicited)

(29c) Tagalog

| *ang* | *bote* | *ay* | *l-um-utang* | *pa-labas* | *ng* | *kuweba* |
|---|---|---|---|---|---|---|
| Top | bottle | AY | AF-float | pa-out | Loc | cave |

'The bottle floated out of the cave.' ( Tagalog, AY construction)

(30a) Cebuano

| unya | ni-paingon | ang | deer | didto | sa | bangin | nga | nag-lakaw |
|---|---|---|---|---|---|---|---|---|
| then | AF-go | Top | deer | there | Loc | cliff | Rel | AF-walk |
| | [Path] | | | | | | | [Manner] |

'Then the deer went toward the cliff walking.' (Cebuano, Elicited)

(30b) Tagalog

| l-um-abas | ang | bote | na | palutang | galling | sa | kuweba |
|---|---|---|---|---|---|---|---|
| AF-out | TOP | bottle | Rel | pa-float | from | Loc | cave |
| [Path] | | | | [Manner] | | | |

'The bottle floated out of the cave.' (Tagalog, Elicited)

(G) Coordinate strategy: Verbs in a series are considered to constitute a coordinate construction if the verbs have separate scope for tense or aspect or if they are interpretable as two independent events. In a bi-clausal coordinate strategy, manner verbs are much freer to either precede or follow path verbs (represented as M##P and P##M respectively), each occurring in a separate clause, without doing violence to what is considered a normal event sequence type, while serial verb constructions are much more constrained in terms of what constitutes a salient event type. Thus, for example, both jumping and leaving and leaving and jumping are possible event sequences and no languages have probably ever found it necessary to codify one but not the other as a significant event type. Both M##P and P##M are indeed attested in Saisiyat, Squliq, Tsou, and Cebuano. In both Saisiyat and Squliq, clauses are conjoined without using an overt connective; in Tsou, they are usually marked with a connective *ho* except when the first verb is *hafa* 'carry-PF,' in which case, *hafa* and the path verb in a second clause are conjoined without the use of a connective. In the Cebuano sentence below, *lakaw* is both a manner verb 'to walk' and a path verb 'to leave.' Attested coordinate constructions are illustrated below.

(G1)M##P:

(31) Saisiyat:

| *si-mari'* | *'aehae'* | *ka* | *takem* | *ila* | *hao* |
|---|---|---|---|---|---|
| RF- take | one | Nom | frog | go | there |

'(The boy) takes one frog and goes there.' (Frog 1:118)

(32) Squliq:

| *m-stopu* | *wal* | *m-ge:* | *qu* | *qpatong* | *qa.* |
|---|---|---|---|---|---|
| AF-jump | Asp | AF-leave | Nom | frog | this |

'The frog jumped (out of the jar) and left.'

(33) Tsou:

| *te'o* | *mo-ftii* | *ho* | *su'* | *ta* | *ceoa* |
|---|---|---|---|---|---|
| Aux.1S | AF-jump | Conj | fall | Obl | ground |

'I'm jumping to the ground.' (Field notes)

(34) Tsou:

| *isi* | *cu* | *elUa* | *'o* | *fo'kunge;* | *isi* | *cu* | *hafa maine'e* |
|---|---|---|---|---|---|---|---|
| Aux.3S | Par | PF.find | Nom | frog | Aux.3S | Part | carry home |

'He found the frog and took it (and went) home.'

(35) Cebuano:

| *nang-lakaw* | *dayon* | *sila* | *ni-'adto* | *sila* | *sa* | *kagubatan* |
|---|---|---|---|---|---|---|
| AF-walk | DM | 3P | AF-go | 3P | Loc | woods |

'Then they left; they went into the woods.' (Frog 4:44)

(36) Tagalog:

| *lumabas* | *sila* | *ng* | *bahay* |
|---|---|---|---|
| AF-exit | 3rd Pl | Acc | house |

| …(0.8)*nag-punta* | *ng* | *kaparangan* | *upang* | *hanap-in* | *ang* | *palaka* |
|---|---|---|---|---|---|---|
| AF-go | Acc | forest | so | find-PF | ANG | frog |

'(They) left the house and went into the woods to look for the frog.'

(37) Malay

| *katak* | *itu* | *keluar* | *melangkah* | *menuju* | *ke* | *pintu* |
|---|---|---|---|---|---|---|
| frog | that | go | step.toward | toward | Loc | door |

'The frog came out and walked toward the door.'

4. Ground expressions across the languages

V-languages, by comparison with S-languages, Macro-event languages and Serial verb languages, are characterized by occurrence of fewer Ground elements per clause. Slobin (l996: 201) argues that English allows for the quite elaborated use of satellites to specify path with a single verb with regard to verbs of motion in narratives. Table 4 below displays the percentages of clauses with ground adjuncts and those without ground adjuncts in motion event descriptions. Less than half of the motion event clauses include at lest one ground adjunct encoding location, source or goal (Plus-ground clauses), while over half consist of only bare verbs, providing no elaboration of path beyond the inherent directionality of the verb itself (Minus-ground clauses). Since the downward motion verb is the most frequent path of motion mentioned by the narrators in the narrative corpus, it behooves us to examine how this verb behaves in the narratives. Table 5 shows the percentages of downward motion descriptions with bare verbs. The Saisiyat data show that the downward motion verb *sahae'* 'fall (down)' occurs alone, without any kind of ground expressions 27.3% of the time, slightly lower than Spanish. By comparison, other WA languages Squliq, Tagalog, and Cebuano show a much stronger tendency to use just a bare verb to

express descending motion.

Table 4. Percentages of minus-ground and plus-ground clauses

| | Minus-ground | Plus-ground |
|---|---|---|
| V-languages | | |
| Saisiyat | 61% | 39% |
| Squliq | 64% | 36% |
| Tagalog | 55% | 45% |
| Cebuano | 59% | 41% |
| Malay | 43% | 57% |
| Spanish* | 37% | 63% |
| S-languages | | |
| English* | 18% | 82% |
| Macro-event languages | | |
| Tsou | 52% | 48% |
| Serial verb languages | | |
| Mandarin | 43% | 57% |

*Percentage figures for Spanish and English are taken from Slobin (l996).

Table 5. Percentages of downward motion descriptions with bare verbs

| | Bare verbs |
|---|---|
| V-languages | |
| Saisiyat | 27.3% |
| Squliq | 52.2% |
| Tagalog | 62.5% |
| Cebuano | 62.9% |
| Malay | 26.9% |
| Spanish | 36% |
| S-languages | |
| English | 15% |
| Macro-event languages | |
| Tsou | 55.6% |
| Serial verb languages | |
| Mandarin | 41.9% |

The results in Table 3 can be seen to be in basic accord with those shown in Table 4, with the exception of Saisiyat and Malay, discussed below. V-languages tend to use bare motion verbs alone and to provide no elaboration of path in terms of specifying ground information, the WA languages much more so than Spanish, while S-languages tend to provide in addition at least ground adjuncts that code for location, source or goal. Although it is now well known that our cognitive attention focuses

primarily on the initial or especially the final phase of paths (termed 'path windowing' in Talmy 1996), it is only by looking at the discourse data can we come to appreciate the dramatic differences exhibited here between the two types of language in the way ground information is provided or suppressed. In this motion domain, Tsou, a Macro-event language, appears to align more with the V-languages, but it also shows a distinctly more balanced distribution between Plus-ground and Minus-ground expressions, as would be expected of a Macro-event language. In Mandarin, its persistent attention to the deictic center of motion associated with the M#P#D strategy already goes some way toward specifying or at least making it possible for the hearer to infer the ground information, and thus its showing in Table 4 must be understood in this light. While Saisiyat in general behaves much like the other V-languages in providing minimal specification of ground information, as shown in Table 3, its downward motion verb *sahae'* is lexically unique in nearly always doing the opposite of providing some kind of ground information.

The question that interests us here is why there is less coding of ground in V-languages. Ultimately path and ground specification may be a gradation: if path is already predictable from the manner of motion verb, and if ground is already projectable from the motion verb, then there is obviously less need to specify ground expressions. Gong (2003), in a quantitative analysis of MI (mutual information) values of Mandarin motion verbs based on the Academia Sinica Balanced Corpus (corpus size: 9529233 words) has shown that directionality of path is highly predictable from manner of motion. In general when the MI value is greater than 2, it means that the co-occurrence between a manner verb and its path of motion is not random, but highly expectable. What Gong's data shows is that the MI values between manner verbs and path verbs in Mandarin average greater than 6, suggesting that many of the manner verbs and their path complements have become lexicalized and are stored and accessed as units. This mutual predictability between manner and path account for, at least in part, why there is generally less coding of ground in Mandarin and Tsou, the two languages which have a high use of combinations of manner and path verbs. A peculiar feature in the syntax of Squliq motion and certain activity verbs that take an oblique adjunct headed by the oblique case marker *squ'* or, less frequently, *sa* is that the NP following the oblique case marker is often elided, resulting in sequences like $V_{motion/activity}$ + squ'/sa, as in *mkaraw squ', ktannya' qutux bling na qhoniq* '(He) climbed and saw a hole in the tree.' This suggests that there is in Squliq a tighter constituency between the motion verb and the oblique case marker than that between the case marker and the following NP specifying the ground. This in turn suggests that there is also mutual predictability between motion verbs and the following ground expressions in Squliq and perhaps in V-languages generally.

The low percentage of ground expressions in Saisiyat turns out to be somewhat unexpected. Saisiyat, the only WA language in the sample with both locative and accusative case markers, marks its goal phrases with a locative or occasionally accusative case on nouns and so we would expect it to use a higher percentage of plus-ground expressions. The fact that it does not remains to be accounted for.

Tagalog

Frog 2:84-96

84 .. t-um-akbo ang usa
run-AF ANG deer

85 … si Bantay din na-gulat
SI PN also AF-surprised

86 .. t-um-akbo kasama nung usa
run-AF with that deer

87 … a@@ yon pala ang tatakbu-han nila-ng dalawa
that ANG run-LF 3rdPl-Lk two
ay gilid na ng=
AY rim Pfv Gen

88 …(0.8) bangin
cliff

"The deer ran. Bantay was also surprised and ran with the deer. They did not know that they were heading toward a cliff."

89 … e- ang usa yata alam na= gilid ng bangin yon so
ANG deer know Lk rim Gen cliff that

90 … indi siya nag-tuloytuloy
Neg 3rd AF-move_on

"The deer knew that it was a cliff and stopped running."

91 .. ang na-hulog lang sa= bangin ay si=
ANG AF-fall only Loc cliff AY SI

92 …(0.8) Allen at si Bantay
PN and SI PN

93 … ang nahulog-an pala nila Ban-
ANG fall-LF 3rdPl

94 .. nila Allen at ni Bantay
3rdPl PN and Gen PN

95 … e=

96 … ano ng tubig
what Gen water
"Only Allen and Bantay fell into a body of water."

Frog 4:129-138

129…(1.2) kaya-t t-um-akbo ito nangt-um-akbo
so-and run-AF this Asp run-AF

130…(0.9) h-um-abol ang-
chase-AF

131…(1.2) ang kanya-ng ang- ba=
ANG 3rd-Lk ANG

132… alaga-ng aso ng bata
pet-Lk dog Gen child
"The deer ran away, while the dog chased it."

133…(1.1) t-um-akbo ang usa nasa ibabaw ang bata
run-AF ANG deer Loc above ANG child

134…(0.9) t-um-akbo ito nangmatulin
run-AF this Asp fast

135…(1.0) at ini-hulog
and PF-fall

136… ang bata ng usa
ANG child Gen deer

137… sa isa-ng putik-an
Loc one-Lk mud-Loc

138…(1.3) kasabay ang kanya-ng alaga-ng aso
with ANG 3rd-Lk pet-Lk dog
"The deer ran with the boy on top of it and it threw the boy into the mud with the dog."

Cebuano

Frog 1:64-69

64 … naka-sakay siya sa=-
AF-ride 3rdNom SA

65 ulo sa-
head SA

66 deer
deer
"Then he was seated on top of the deer's head."

67 … dayon/
DM

68 …(0.8) na-hulog ..ang iro’ ug ang bata’
AF-fall ANG dog and ANG child

69 …(2.6) sa= tubig
SA water
“Then the dog and the child fell into the water.”

Frog 4:61-73

61 …(1.1) unya ni-dagan ang usa’
then AF-run ANG deer
“The deer ran away.”

62 …(1.2) nawa’ a= ang bata’ na’a diay sa u=sa usa’
ANG child Exist SA deer

63 …(1.2) sigi-ng dagan nag-
keep_on-Lk run

64 … kuyog sa iro’
together SA dog
“The deer kept on running, and the dog was running too.”

65 …(2.2) a= pag-’abot kay
PAG-reach because

66 .. na’a na man diri sa-
Exist Pfv here SA

67 … mora mag-
like

68 …(0.9) unsa-y ngaan ani ma-hagbong sila
what-Lk name this AF-fall 3rd

dunay mora-g pangpang
Exist like-Lk cliff
“When they reached the wachamaccalit they fell and there was a cliff.”

69 … na-hagbong ang iro’ ug ..ang bata’
AF-fall ANG dog and ANG child
“The child and the dog fell.”

70 …(1.5) unya’ diri sa kahoy
then here SA tree

71 …(0.8) a= mao man diay ni siya

this 3rd

72 …(0.9) na-hagbong ang bata’
AF-fall ANG child

73 …(0.8) pagka-human na’a may tubig
PAGKA-finish Exist water
“There was a body of water where the child fell.”

Another contributing factor that so far seems to have escaped the attention of researchers in the language of motion events is that what looks like simple manner verbs on the surface in many languages, perhaps more so in V-languages than in non-V-languages, when used either in combination with another motion or activity verb, or more to the point, when used alone, actually often pragmatically implies a path, suggesting that a path interpretation can be readily coerced in both spontaneous and caused motions in certain contexts. An examination of the data shows that manner verbs that involve motor activities (e.g. *run, walk, fly, climb*) are most likely to do so. Thus the equivalent of English *fly,* for example, in the V-languages is not just ‘fly’, but *flying around/ up/out*; *run* is not just ‘run’, but *run away; jump* is not just ‘jump’, but *jump out* etc.. Interestingly, these motor pattern manner verbs are also the most frequent manner verbs that occur in the M#P#D construction in Mandarin. The flying away of the owl in the Frog story was expressed by three Saisiyat narrators as *oewi*’ *hoemayap ila* ‘The owl flies away (lit., the owl flies).’ [endnote 10] This pragmatically implicated meaning of ‘oriented path,’ if recurrent enough, may in time become lexicalized as part of the lexical coded meaning of the verb. Thus in Cebuano the verb *lakaw* ‘walk,’ exactly as in Mandarin, originally a manner verb, has developed an additional path verb meaning of ‘to leave; to go away.’ This observation may partly explain the very low percentage figures for WA languages shown in Table 1. A native speaker of Squliq Atayal, when asked to translate the following motion expressions in the corpus, adds a path phrase or path satellite to the motion verbs, as in

(38) Squliq
*memaw mlaka’ m-ong squ’ hngyan na hozil*
even AF.fly AF-hear Obl sound Gen dog
‘Even the bees flew *out* to hear the dog’s voice.’ (Frog 1:98-100)

(39) Squliq
*mlaka’ yaya’-nya’*
AF.fly bee-3S
‘The bees are flying *around*.’

(40) Squliq
*hnyal m-stopu’ qutux qu qoli’ ru m-n-kux kya la*

Asp AF-jump one Nom mouse Conj AF-Pfv-frighten there Part
'A mouse jumped *out* and frightened him.' (Frog 2:105-106)

(41) Cebuano
*dayon ang owl ning-lupad*
then ANG owl AF-fly
'Then the owl flew *away*.' (Frog 1:46-48)

(42) Cebuano
*gi-kuha niya ang usa ka baki'*
PF-take 3rd ANG one Lk frog
*ug ni-lakaw na sila*
and AF-walk Pfv 3rd
'They took one frog and walked *away*." (Frog 6:89-91)

(43) Tagalog
*tumakbo ito nang matulin at inihulog*
run-AF this Asp fast and PF-fall
*ang bata ng usa sa isang putikan*
ANG child Acc deer Loc one-Lk muddy_place
'The deer ran *away* fast and tossed the child into the mud. (Frog 4:134-137)

(44) Malay
*katak itu keluar dari botol dan melarikan diri*
frog that come.out from bottle and run self
'The frog came out from the bottle and ran away.' (Frog 6:5-6)

Percentage of M=P

| % | tokens/motion | tokens/manner v |
|---|---|---|
| Squliq | 10 | 34.1 |
| Saisiyat | 6.3 | 24.2 |
| Tagalog | 5.2 | 18.5 |
| Cebuano | 11.9 | 30.2 |
| Malay | 17.2 | 43.5 |

Slobin (2000:132) has suggested that V-language narratives are more concerned with establishing the physical and emotional settings in which people move, thus allowing manner and path to be inferred, whereas S-language narratives attend to both manner of movement and successive path segments, making it difficult to have a mental image of one without the other. If this observation is true, then comparable motion events will be described with fewer path segments in V-languages than in S-languages. The 'cliff scene' in the Frog story provides an illustration. The 'cliff scene' in the Frog story showing the appearance of the deer and how it led to the fall of the boy into the water below is divided into four path segments (Slobin 1997):

l. change of location: deer rises up, runs, arrives at cliff
2. negative change of location: deer stops at cliff
3. cause change of location: deer throw boy, makes boy/dog fall
4. change of location: boy/dog fall into water

Slobin (l997) calculated the number of event segments mentioned by each narrator and came up with higher averages of event segments per narrator in S-languages than in V-languages. The corresponding averages for the languages in the present study, are presented in Table 6 below.

Table 6. Average number of event segments and percentage of narrators mentioning more than three segments in the 'cliff scene'

| V-languages | | | S-languages | | |
|---|---|---|---|---|---|
| Romance | 2.1 | 30% | Germanic | 3.0 | 86% |
| Semitic | 2.0 | 30% | Slavic | 2.8 | 76% |
| Saisiyat | 3.0 | 50% | Macro-event languages | | |
| Squliq | 3.6 | 100% | Tsou | 3.1 | 83% |
| Tagalog | 1.8 | 17% | Serial verb languages | | |
| Cebuano | 2.2 | 33% | Mandarin | 3.0 | 100% |
| Malay | 2.5 | 50% | | | |

Results in Table 6 show that Saisiyat and especially Squliq Atayal behave, somewhat unexpectedly, more like Germanic languages. There is no evidence that the WA language speakers attend more to physical settings of the motion events in the frog narratives. A check through all the event sequences in the cliff scene in all of the narrative data clearly indicates that only one, a Saisiyat speaker, out of a total of 35 narrators alluded to there being a body of water somewhere under the cliff prior to their saying that both the boy and the dog fall (into the water). So the question is why the otherwise apparently typical V-languages such as Squliq and Saisiyat have turned out to behave like S-languages in this respect.

The unusually high percentage figures for Squliq Atayal in Table 6 call for some explanation. All of the five Squliq narrators were obviously enjoying their chances at the storytelling and their narratives were unusually detailed, emotionally involved, saturated with lots of cultural framing (such as giving tribal names to the boy and the dog, thinking that they get along very well, guessing that they probably can't swim after they get thrown off the cliff into a body of water etc.). The lengthy narratives average 350 IUs (intonation units) per narrator, which is much more than the overall average of 98 IUs (summed across all of the other four languages) per narrator. This

greater amount of dwelling on details makes it possible for the narrators to tap their potential linguistic resources, which may thus have been largely responsible for pulling the percentage average up toward the S-language end, although Squliq has been shown to behave pretty much like a typical V-language in other respects. However, to say a language like Squliq is a typical V-language is simply to say that the verb in the language usually encodes the direction of motion, while the manner information is (optionally) encoded in adjunct phrases. It is a typical but not an exclusionary way of encoding motion events within a language, and typical ways of saying things can be overridden, given the appropriate circumstances.

We have shown that Tsou, as a Macro-event language, makes a high use of MP compound verbs. Saisiyat and Malay have begun to also acquire the compounding strategy of the type MP. Similarly, the overriding strategy of Mandarin is the use of M#P#D to describe motion events. As one consequence, speakers of these languages attend to combinations of manner and path as conceptual wholes and may thus allow for their speakers to attend to event segments more readily. The effects of these linguistic representations on off-line memories for events show up clearly in Table 6. The results in Table 6 show that Tsou, as predicted, is distinct from other WA languages and aligns more readily with S-languages. However, we remain puzzled by the high percentage figures for Saisiyat in Table 6, beyond noting that it has begun to also acquire the compounding strategy of the type MP characteristic of Tsou.

Table 7 below summarizes the status of each language based on the criteria discussed above.

Table 7. Summary of the results on the diagnostic tests for V-languages

| | Owl's exit | Ground expression | Downward motion | Narrative style |
|---|---|---|---|---|
| Tsou | X | V | V | X |
| Saisiyat | V | V | X | X |
| Squliq Atayal | V | V | V | X |
| Tagalog | V | V | V | V |
| Cebuano | V | V | V | V |
| Malay | V | V | X | V |

Based on the results in Table 6, Tagalog and Cebuano are seen to be strongly verb-framed, while the four Formosan languages fail in at least one of the tests. Both Tsou and Saisiyat fail in two of the four tests, marking them unfit to be categorized as pure V-languages. Tsou, as a Macro-event language, has features of a V-language in having a high use of path verbs alone for motion event descriptions, while Saisiyat shows incipient characteristics of a Macro-event language like Tsou, as noted above. The typology of the WA languages established on the basis of the results given in

Table 1 clearly shows that the languages each have a characteristic tendency in one direction or the other, thus necessarily tolerating a few exceptional features when one tries to work within a strictly two-way Talmyan typology.

We next turn to the question of how the four languages differ from each other and from other V-languages, especially with respect to the expression of manner and path.

6. Languages mind their manners differently

It seems that V-language speakers build mental images of physical scenes with minimal focus on manner of movement. As a consequence, in normal instances, V-language speakers tend to omit manner verbs or manner adjuncts (Slobin 2000:108) and ground elements (see Tables 3 and 4). For example, it would be usually sufficient to say in French *Il est entre* in lieu of the more complex *Il lest entre dans la maison en courant* 'He entered the house by running.' Manner will be expressed only if it is exceptional; otherwise translational motion takes precedence. As confirmed by our Saisiyat informants, (45) is the more natural expression than (46). In other words, it seems more natural for Saisiyat native speakers to perceive the bird as 'coming out' of the tree hole than to visualize it as 'flying' out of it.

(45) Saisiyat

| *hiza* | *ray* | *hoeroe'* | *oewi'* | *kas'oehaz* | *ila* |
|---|---|---|---|---|---|
| that | Loc | hole | owl | move.out | Pfv |

'The owl came out from the hole.' (Saisiyat Frog 1: 47-48)

(46) Saisiyat

| *hiza* | *ray* | *hoeroe'* | *oewi'* | *h-oem-ayap* | *kas'oehaz* | *ila* |
|---|---|---|---|---|---|---|
| that | Loc | hole | owl | AF-fly | move.out | Pfv |

'The owl flew out from the hole.' (Constructed)

In Cebuano, only either one component, usually the Path, is expressed in a single motion event clause, just like Saisiyat. Clauses such as (29a), repeated as (47) below, incorporating both Path and Manner verbs, occur only twice in the data. Thus it is more appropriate to say that Cebuano clauses can accommodate only one main verb, with the other verb forms downgraded to subordinate clauses.

(47) Cebuano

| *unya* | *ni-lakaw* | *ang* | *deer* | *pa'ingon* | *didto* | *sa* | *bangin* |
|---|---|---|---|---|---|---|---|
| then | AF-walk | Top | deer | pa-go | there | Loc | cliff |
| | [Manner] | | | [Path] | | | |

'Then the deer walked toward the cliff.' (Cebuano Frog 2: 79-80)

In an interesting illustration of the constraint that normally only one component is expressed in a single clause, (48) from the Cebuano Frog narratives shows that when both Path and Manner are available for on-line production, Cebuano speakers

have a choice between the two. In this case, the narrator uses a Manner verb to repair a Path verb, given that Cebuano does not allow two verbs to occur in a single clause. Note that in (48) Path and Manner verbs are uttered in different intonation units, as indicated by different upper-case numbers.

(48) Cebuano

| [25] *na-naog* | [26] *ni-ambak* | *ang* | *'iro'* |
|---|---|---|---|
| AF-down | AF-jump | Top | dog |
| [Path] | [Manner] | | |

'The dog went down= jumped.' (Cebuano Frog 5:25-26)

Tagalog clauses show the same characteristics as those in Cebuano in restricting the number of verbs that can occur in a single clause. Although we were able to elicit clauses such as (29b), (29c) and (30b), these do not show up in our corpus data, confirming that just as in Cebuano, these represent at best a dispreferred strategy in the language.

Now if path is an obligatory component in motion event descriptions and if V-languages tend to omit manner expressions, the degree of manner salience must be a significant parameter along which languages can differ. In Satellite-framed or serial verb languages, Manner is encoded in the verb. In Macro-event languages, Manner is coded as an affix in the main verb. In Verb-framed languages, Manner is often expressed as an adjunct. In addition, it has been observed that Manner is expressed in gestures in many languages. Slobin (2000), based in part on McNeill and Duncan (2000), reports that S-language speakers use gestures that combine path and manner to augment the lexical expression of manner, or they gesture path alone. By contrast, V-language speakers use gestures to accompany path verbs and manner verbs and these gestures depict only path or only manner.

In Tagalog and Cebuano Manner is coded as the verb or as an adjunct. Manner verbs serve the function of providing descriptive information to help identify a referent being introduced into discourse, as shown in the two extracts below. In both extracts, a Path verb (49) or an existential construction (50) is used to introduce a new referent. The manner information of 'flying' at line 35 in (49) and at line 87 in (50) is used as an identifying description.

(49) Tagalog

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 27 | … | *pero-ng* | *l-um-abas* | | | | | | |
| | | but-ANG | AF-move.out | | | | | | |
| 28 | | .. *yong* | *mga=* | <P | *ano* | | *ba* | *ito* | P> |
| | | that | Pl | | what | Q | this | | |
| 29 | .. | *naku* | *ano* | *ba* | *ito* | | | | |
| | | Interj | what | Q | this | | | | |

‘But what came out were- what are these? Oh what were these?”

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 | … (1.1) | *m=* | | | | | | | | |
| 31 | … (1.9) | *di* | *ko* | *alam* | *ano-ng* | *tawag* | *diyan* | | | |
| | | Neg | 1S | know | what-Lk | call | there | | | |
| 32 | … | *sa* | *tagalog* | | | | | | | |
| | | SA | PN | | | | | | | |

‘I don’t know how to call these in Tagalog. These (creatures) flying.”

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 33 | … (1.7) | *o= di* | *hala* | *sige* | *hanap* | *pa* | *rin* | *sila* | *nang* | *hanap* |
| | | so | Interj | find | still | also | still | 3P | Asp | find |
| 34 | … | *da-* | *nandyan* | *pa* | *rin* | *yong* | *mga=* | *ano* | *mga=* | |
| | | there | | still | also | that | Pl | PF | Pl | |
| 35 → | .. | XXX | *basta* | *may* | *mga* | *lumilipad* | | | | |
| | | | | Exist | Pl | AF-fly | | | | |

‘Anyway, they kept on looking, but those flying creatures were still there.’ (Tagalog Frog 1: 27-35)

(50) Cebuano

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 84 | … (0.8) | *ang* | *sulod* | | | | | |
| | | ANG | inside | | | | | |
| 85 | … | *usa* | *ka* | *bukaw* | | | | |
| | | one | KA | owl | | | | |
| 86 | … | *ang* | *langgam* | *nga* | *dako-g* | *mata* | | |
| | | ANG | bird | Rel | big-Lk | eye | | |
| 87 | → | *nga* | *sa* | *gabi’i* | *lang* | *mu-lopad* | *maka-kita’* | *ma’ayo* |
| | | Rel | SA | night | only | AF-fly | AF-see | well |

‘Inside the tree hole was an owl with large eyes, the kind of bird that can only fly and has good vision at night.”

If we consider the percentages of path verbs used in the narratives in all of the languages being studied (see Table 7), we can see that they fall within a fairly narrow range, the spread between the high and the low being no more than 16%. On the other hand, the differences in the percentages of manner verbs used in the narratives between the languages were considerable. As shown in Table 8, percentages of manner verbs are uniformly low in the four V-languages. On the non-V language side, Tsou has a higher use and Mandarin, a highly verb serializing language where nine out of ten clauses use a manner verb, has the highest use of manner verbs. These findings are not really surprising since they are already foreshadowed by the results in Tables 1 and 3. Across the S-languages there is also wide variation in the percentage of manner verbs used in the Frog narratives, from a low of 17% for Dutch to a high of 100% for Russian (these are figures for owl’s exit only) (Slobin 2000). Taken everything together, these results suggest that it is apparently more appropriate to say languages differ not so much in whether some focus more on path than others, but in how much they focus on manner as a component of motion event descriptions.

Table 8. Percentage of Path expressions in the Frog story

| | Path | MP | P#M | M#P | M=P | M#P#D | Total |
|---|---|---|---|---|---|---|---|
| Saisiyat | 63.6 | 8.4 | 0.4 | 1.6 | 6.3 | 0 | 80.3 |
| Squliq | 57.1 | 0 | 0.4 | 0.4 | 10 | 0 | 67.8 |
| Tsou | 39 | 35 | 0 | 0 | 0 | 0 | 74 |
| Tagalog | 72.2 | 0 | 0 | 0 | 5.2 | 0 | 77.4 |
| Cebuano | 60.7 | 0 | 0 | 0 | 11.9 | 0 | 72.6 |
| Malay | 53.8 | 14.5 | 0 | 0 | 17.2 | 0 | 85.5 |
| Mandarin | 6.5 | 0 | 0 | 5.6 | M#P#D 48.4 | 48.4 | 60.6 |

Table 9. Percentage of Manner expressions in the Frog story

| | Manner | MP | P#M | M#P | M=P | M#P#D | Total |
|---|---|---|---|---|---|---|---|
| Saisiyat | 19.7 | 8.4 | 0.4 | 1.6 | 6.3 | 0 | 36.4 |
| Squliq | 32.1 | 0 | 0.4 | 0.4 | 10 | 0 | 42.9 |
| Tsou | 25.6 | 35 | 0 | 0 | 0 | 0 | 60.6 |
| Tagalog | 34.4 | 0 | 0 | 0 | 5.2 | 0 | 39.6 |
| Cebuano | 27.4 | 0 | 0 | 0 | 11.9 | 0 | 39.3 |
| Malay | 14.4 | 14.5 | 0 | 0 | 17.2 | 0 | 46.1 |
| Mandarin | 36.3 | 0 | 0 | 5.6 | M#P#D 48.4 | 48.4 | 90.3 |

In terms of types of Manner verbs, the Tagalog narrators use the fewest number of Manner verb types, while Squliq and Tsou narrators utilize the most, as shown in Table 10. There is no evidence of a clear-cut tendency for Chinese, a verb serializing language, to have elaborated the domain of manner of movement.

Table 10. Manner verb types used in the Frog narratives in the five languages

| Squliq | Saisiyat | Cebuano | Tagalog | Tsou | Malay | Gloss |
|---|---|---|---|---|---|---|
| pknyan | manra:an | lakaw | lakad | co'econu | menjalan | walk |
| qzinah | 'ae'aeaew | dalagan | takbo | | lari | run |
| hyagun | somowaw | habol | habol | peobanga | dikejar | chase |
| mtakay | malben | | | oefU'U | | stumble |
| mstopu' | tomkaw | ambak | talon | | | jump |

| | | | | | | |
|---|---|---|---|---|---|---|
| lmuyaw | omakama’ | | | | | crawl |
| mlaka’ | hoemayap | lupad | lipad | | | fly |
| qluy | | | | measkoskopu | | float |
| lmngiq | langoy | langoy | | yuhnguzu | | swim |
| snyan | askan/inleb | butang | lagay | sia/teapha | letak | put |
| tpanga | maras | | dala | hafa | | carry |
| galun | | | | | | |
| pstpak | | | | ciha | | hurl |
| mkaraw | | | | capo | | climb |
| | | | | tuop’opa | | spill |
| | | | | smopayo | | ride |
| | | | | smeha’o | melangkali | tiptoe |
| | | | | aemo’u | | scatter |
| | pataboe’/muit | | | yuoeva | | burrow |
| | tanisowaw | | | | | folow |
| tmrok/kinslip | mintani’ | | | tosvo | | stop |
| | maykonkonai | | | | terguling | roll |
| | | | | | membawa | bring |
| | | | | | mengambil | take |

There is also a dramatic difference in the number of distinct path verb types in spontaneous motion in the languages studied. Of the four WA languages, Saisiyat has the greatest number of distinct path verb types (19), followed by Cebuano and Tagalog (17 and 15 respectively), as compared with a low of 7 for Mandarin (not shown in Table 10).

Table 11. Path verb types found in the Frog narratives

| Squliq | Saisiyat | Cebuano | Tagalog | Tsou | Malay | Gloss |
|---|---|---|---|---|---|---|
| Mhtuw | kas’oehaz | gawas | labas | yuyafo | keluar | move out |
| Mzyup | | sulod | lusob/pasok | | masuk | enter |
| mkhoyaw | mohae’oe | kana’og | baba’ | | | descend |
| | tai’itol | saka | akyat | | bangun | ascend |
| mhotaw | sahae’ | hulog | hulog | supeohU | jatuh | fall |
| | | hagbong/tumba | bagsak/tumba | su’ | tumbang | fall |
| musa | osa’ | adto/padulong | punta | (uh) | pergi | go |
| wayal | rima’ | pa-ingon | tungo | | | go |
| mzinas | lobih | | balik | yuoevei | balik | return |
| | | uli’ | uwi | | pulang | return |
| mge: | ra:iw | hawa’/lakaw | alis | mongoi | tinggal | leave |
| | | takas | takas | pkaako | | escape |
| | | | palayo | | | go far |
| | maray/may | agi | | | | pass by |
| | | dulog | | | | go sleep |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | by the side of |
| kahul | in'aray | | | i'ima | | from |
| mtuliq | min'itol | | | yU'cU | | arise |
| mwah | mwa:i | | | (uh) | | come |
| tehok | potngor | abot | | esmi | | arrive |
| | | | | | menyeberangi | cross |
| | ila | | | | | move to |
| | | | | mi'usnu | | toward |
| | sanabih | | | | | look around |
| | hinkosizaeh | | | | | look toward |
| | mokakaso | | | | | step back |
| | kas'oemaeh | | | | | to land |
| | | | | mo'usnu | menghampiri | go toward |
| | | | | maine'e | | go home |

Conclusion

The cross-linguistic data examined in this paper, made possible by the use of the same stimulus material, reveal the following coding properties for the languages investigated in this study. Each language is shown to have a characteristic tendency and only Tagalog and Cebuano can be said to fits readily into Talmyan typology, which clearly does not apply to a world-wide language sample. As more languages are researched in greater depth, our impression of overwhelming diversity in the space domain seems to strengthen. This of course does not deny that there may be a significant constraint on the diversity, perhaps of the type suggested by cross-cultural studies on color lexicon and folk biology.

In Mandarin, the most preferred strategy is to use combinations of manner with a directional verb and a deictic verb and it is precisely this preferred pattern that has prompted Talmy to endow Mandarin with character of a satellite-framed language. Using path verbs alone is for Mandarin the least preferred pattern. In this respect, then, Chinese is unique in that it differs from S-languages and from V-languages in giving less attention to path information (cf. Slobin and Hoiting 1994).

Malay and Saisiyat are less of a straightforward V-language since on one or two counts they fail the test of a V-language. They have developed a minor strategy of using compound combinations of manner and path (MP) for the description of motion

events. Saisiyat is also unusual in having both chaining of verb forms for complex motion events in which manner is followed by path verbs (M#P), apparently the more universal word order pattern, or path verbs precede manner verbs (P#M), with the instantiations of the former pattern more numerous, consistent with its having acquired the minor pattern of MP verb compounding.

Tsou, a Macro-event language, has no adpositions and much of the path information, especially vector path, must be inferred. The language is unique in having two equally overriding strategies for encoding motion events: a high use of path verbs alone as the main verbs and a high use of lexicalized compound motion verbs that conflate both manner and path components (MP). This characteristic effectively rules out the language as either an S- or V-language.

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Endnotes:

1. 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 emotion, 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.
2. Slobin (2003) categorizes Austronesian languages as serial verb languages. We will show this is a far from accurate characterization. As a first approximation, we will simply note here that it is true that verb juxtapositions are frequent in Sqiliq and Saisiyat, ( but not in Tsou, Tagalog and Cebuano ???????), but they are actually coordinate strategies without an overt connective used to connect two clauses, or serial verb constructions used mainly to describe activities, and rarely used to depict motion events, which is the central focus of Slobin ‘s paper.
3. The following collaborators have assisted in the gathering of narratives: Squliq Atayal: Maya Yeh; Saisiyat, Cebuano, and Tagalog: Michael Tanangkingsing; and Malay: Siaw-fong Chung.
4. In another scene, the exit of the frog from the jar, 100% of the Tsou narrators chose to use only path verbs to describe the exit of the frog. As shown in Table 1, Tsou speakers also operate with a narrative style in which path verbs alone serve as main verbs.
5. We thus exclude from the present study verb serialization of the type ‘come and ---,’ or ‘go and ---. ’ This type of verb serialization usually has a purpose reading and is used principally to describe activities and thus falls outside the purview of the present concern.
6. We have chosen not to consider the causative sense of the Referential focus (RF)

marker as a subtype of manner. If we had done otherwise, the percentage figure of MP compound verbs for Saisiyat would have increased considerably. Note that Talmy (2000: 114-116) considers Cause to be on a par with Manner and recognizes both of them as types of satellite. It is of some interest to observe that the RF marker *s-* in Squliq occurs only with activity verbs, but not with motion verbs, at least in the Frog data.

7. M in M#P is here taken in its narrower sense to mean only spontaneous manner of motion verbs (e.g. *run*), but not causative motion verbs like *put,* which are counted as manner verbs in Table 1, for reasons explained earlier. There are numerous instances of M#P verb serialization where M is construed broadly found in the corpus. One such instance in Saisiyat is the following:

   | *mari-in* | *ila* | *'al-al'oehaz-en* | *ila* | *ka=* | *ta'oeloeh* | *noka* | *ahoe'* |
   |---|---|---|---|---|---|---|---|
   | take-PF | Pfv | Red-take.out-PF | Pfv | Nom | head | Gen | dog |

   'The dog tried to pull out its head (from the container).' ( Frog 2:30)

8. *ila* is also a perfective particle.
9. Lee (2003) investigates the structure of motion event sentences in Kavalan, a nearly distinct language spoken by fewer than 100 natives on the northeast coast of Taiwan and concludes that it is also a V-language. Among her corpus data is a serial verb sentence of the P#M type:

   | *wasu* | *'nay* | *nani* | *wiyati* | *me-RaRiw* |
   |---|---|---|---|---|
   | dog | that | DM | leave | AF-run |

   'Then the dog ran away.'

   This coupled with the evidence from Saisiyat and Squliq leads us to assume that typical V-languages prefer verb serialization of the P#M type to the M# P type, at least in the WA languages.

10. This event was described by two Tsou narrators as the owl *smoyafo* 'rush out' and *meiavovei* 'fly around', both of which are MP compound verbs.

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