

ON GRAMMATICALIZATION OF MOTION VERB IN PAIWAN

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This paper aims to study the grammaticalization of motion verbs in Paiwan, an Austronesian language spoken in Southern Taiwan. Our discussion will focus on two pairs of motion verbs, i.e. the GO form verbs and the PASS form verbs and show their grammaticalization paths: First, the causative motion verb *pasa* ‘cause to go to’ grammaticalized as: the self-propelled motion verb > abstract motion verb > irrealis clitic > scale-measure prefix. Second, the self-propelled motion verb *sa* ‘go to’ also has shifted as the instrument verb > desire clitic > quality prefix. Third, the motion verb *paka* ‘cause to go via’ has the following grammaticalization path: the causative motion verb > self-propelled motion verb; causative instrument verb > instrument verbs. Fourth, the self-propelled motion verb *maka* ‘go via’ grammaticalized as: the time-spanning and event completion verb > ability verb. Fifth, the verbal root *ka* ‘go via’ follows the paths: comitative coordinator > past time particle > past time prefix. We argue that the causative prefix *pa-* ‘cause’ was grammaticalized as a motion prefix in Paiwan. Moreover, in the case study of motion verb *pasa* ‘cause to go to’, we argue that the grammaticalization patterns in Paiwan are motivated by the (a) reanalysis and (b) analogy mechanisms and that their semantic shift is also motivated by the cognitive subjectification.

1. Introduction

A considerable number of cross-linguistic researches have been made on the grammaticalization of motion verbs; however, few efforts on the study of grammaticalization in Formosan languages have been made so far. This paper aims to study the grammaticalization of motion verbs in Paiwan, a Formosan language spoken in southern Taiwan. We especially concentrate on the grammaticalization of two pairs of motion verbs: (1) *pasa* ‘cause to go to’ vs. *sa* ‘go to’ and (2) *paka* ‘cause to go via’ vs. *maka* ‘go via’ vs. *ka* ‘go via’.

First of all, the motion verb *pasa* undergoes the grammaticalization process: causative motion verb > self-propelled motion verb > abstract motion verb > irrealis

clitic > scale-measure prefix. Moreover, the motion verb *sa* also has semantic shift: self-propelled motion verb > manner verb > desire clitic > quality prefix. On a par with *pasa*, the motion verb *paka* also undergoes the similar path: causative motion > self-propelled motion verb, and causative instrument verb > instrument verb. Furthermore, the motion verb *maka* also has the following shift: self-propelled motion verb > time-spanning verb, event completion verb > ability verb. Finally, the motion verbal root *ka* ‘go via’ serves as the following functions: comitative coordinator > past time subordinator > past time prefix.

It is worth noting that when the verb *sa* serves as coordinator and honorific particle and *ka* as NP coordinator, their semantic contents are most weakened; nevertheless, they are grammatical words rather than affixes. Thus, the semantic shift does not parallel the decategorization perfectly.

We argue that the morphosyntactic changes of motion verbs can be motivated by the generally accepted mechanisms and pragmatic factors. Take the motion verb *pasa* for example: the development of the causative motion *pasa* into the self-propelled motion *pasa* can be motivated by the structure reanalysis and the metonymic explanation. Moreover, the semantic shift of the physical motion into the abstract motion, temporal change-of-state, and even degree scale can be attributed to the analogical process and metaphorical transferring. The semantic bleaching of the various functions can be explained by the cognitive subjectification (Traugott 1989, 1995).

The rest of this paper proceeds in the following order. Section 2 reviews the cross-linguistic studies of the grammaticalization of motion verbs. Section 3 shows the different patterns of *pasa* and *sa*. Section 4 shows the grammaticalization patterns of motion verbs *paka*, *maka*, and *ka*. In Section 5 we will offer the explanations for the grammaticalization of motion verbs in Paiwan. Finally, Section 6 is the conclusion.

2. Cross-linguistic studies

In the following sections we will review some cross-linguistic research work on the grammaticalization of motion verbs. Section 2.1 involves the research on Austronesian languages and Section 2.2 involves with the studies on East Asian languages.

2.1. Austronesian languages

Lichtenberk (1991) argues that in Oceanic languages, the directional motion verbs, e.g. the motion verb *GO*, undergo the grammaticalization processes. For example, Ta'aba'ita has the *GO* forms (i.e. *laalae* 'go') with (a) persistent, (b) sequencing, (c) temporal, and (d) conditional functions; Manam has the *GO* forms (i.e. *la'o* 'go') with the (a) andative directional, (b) spatial distance, and (c) temporal distance functions. Moreover, in Oceanic languages the other directional motion verbs, i.e. the motion verb *COME*, also undergo the grammaticalization processes. For example, Fijian employs the *COME* forms (i.e. *mai* 'come') to mark (a) venitive directionality, (b) location away from the deictic center, (c) spatial sources, (d) agents of passives, (f) standards in comparisons of inequality, and (g) ingressives. For the limitation of space, we just take the motion verb *lae* 'go' in To'aba'ita for examples:

(1) Lichtenberk (1991: 483&492)

- a. roo wela na'i ki laa-lae keka ba'ita na'a...
two child this PL RED-GO they.SEQ be.big PERF
'Eventually, the two children grew up, and ...'

- b. fitararait halo baa lio mai, ...

Fitararait halo that look *COME*

‘Fitararait halo looked [toward them]...’ (He looked in the direction of two other characters who are the focus of attention.)

The motion verb *lae* ‘go’ in (3a) has grammaticalized as a sequencing marker. When it is used in the sentence-initial position, it denotes that the event of its own clause occurs after a prior event and thus functions as sequencer meaning ‘later or eventually’. In (3b) the motion verb *mai* ‘come’ has grammaticalized as a venitive marker, indicating direction to the deictic center. It is worth noting that the event marked for venitive directionality need not be physical, as illustrated in (3b). It can serve to mark the directionality of human cognitive attention. In the later section we will show that in Paiwan the verb *pasa* ‘face toward’ also has the same interpretation. Lichtenberk (1991) argues that human conceptualization (e.g. metaphor and metonymy) motivates these developments and that these semantic changes also support for the viewpoint of meaning as not only complex-structured but also subjective and open-ended.

Moreover, Lu (2003) argues that in Saisiyat, a Formosan language, the *ARRIVE* forms (i.e. *ila* ‘arrive’) have some functional extensions: (motion) verb > perfective aspect > current relevant state. An example is illustrated in (4).

(2) Lu (2003:147&148)

a. obey *il-ila* hao walo’.

Obey *RED-go to* there Walo

‘Obey often goes to Walo.’

b. ...m-alben *ila* ngizo’ *ila*

fall.down-AF PFV fall.down-AF PVF

‘(The boy) fell down...’

In (4a) the motion verb *ila* ‘arrive’ expresses the physical movement with the reduplicative form denoting the repetitive occurrence of the activity. However, in (4b) it is grammaticalized as a perfective marker, denoting the completion of an event rather than physical movement. Similar to Lichtenberk (1991), Lu (2003) proposes that it is the human subjectivity that motivates the semantic change of *ila* ‘arrive’.

Furthermore, Zeitoun et al. (1996) argue that in Wulai Atayal the motion verb *musa* ‘go’ has grammaticalized into an aspectual auxiliary that indicates an immediate future. Chang (2000) argues that the motion verbs *maha* ‘go’ and *wada* ‘go’ in Seediq has also been grammaticalized into aspectual auxiliaries. The former can occur in the future context and co-occur with the future prefix *mu-*. The latter has two uses: one is used to express perfectivity, which therefore cannot occur with the adverbs indicating present and future time; the other is used to express the inchoativeness of an activity.

2.2. East Asian languages

Rhee (2002, 2003) argues that Korean has six movement [motion] verbs grammaticalized into ten adpositions. The motion verbs have such functional extensions: (a) adhere > from, (b) follow > according to, (c) draw near > to, (d) touch > to, (e) follow > even [NPI], and (f) follow > on (unexpectedly). Take *ttala* ‘follow’ example:

(3) Rhee (2003:17)

- a. ku-nun na-lul *ttala*-ss-ta.
 he-TOP I-ACC *follow*-PST-DEC
 ‘He followed/liked me.’
- b. ku nal-*ttala* mopsi chwu(p)-ess-ta.
 the day-on(CE) very cold-PST-DEC
 ‘It was very cold that day (of so many days to pick).’

Rhee (2003) argues that the postpositional particle *-ttala* ‘on’ is derived from the motion verb *ttaluta* ‘follow’. The grammaticalized particle occurs only with temporal nouns, such as today, yesterday, that time, etc. and expresses the speaker’s unexpectation. Particularly it can co-occur with the wh-phrase *way haphilimyen* ‘why’ as if protesting the unfortunate association of a particular time and event. Section 4.5 will show that the verb *pasa* in Paiwan also expresses the speaker’s counter-expectation voice. Like Rhee (2002, 2003) propose that the developments of speakers’ attitudes (i.e. negative un-expectation and counter-expectation) from the motion domains result from human conceptual subjectification.

Moreover, Wu (2003) investigates the grammaticalization paths of the *PASS* forms in Mandarin. The motion verb *guo* ‘pass; go across’ has some functional extensions: (a) motion verb > spatial (motion) verb suffix, (b) temporal verb > experiential aspect marker, (c) causative verb > abstract standard verb, verbal affix, or noun > resultative verbal suffix. For instance:

- (4) a. san guo jia men er bu ru.
 three pass home door but NEG enter
 ‘No entering three times when passing (his) house.’
- b. guo wu bu shi.

1S.GEN-CAUS<PVF[PF]>go.to-outside NOM cup

‘I took the cup out.’

As shown in (5) the causative predicate *pasataljatjen* ‘cause something to move into some place’ selects three NP arguments, i.e. the Causer argument, the Theme argument, and the Location argument, and each of them are marked with the genitive, nominative, and oblique case marker respectively. Similarly, in (6) the main predicate *kupinasacasaw* ‘I cause something to go to the outside’ also selects three NP arguments: (a) the Actor argument is assigned with a genitive case and therefore realized as a genitive bounded pronoun *ku-* ‘I’, (b) the Theme argument marked with a nominative case, serving as the grammatical subject, and (c) the Location argument (i.e. *-casaw* ‘the outside’) is incorporated into the causative predicate *pasa*. In Paiwan the verb *pasa* is a three-place predicate.

3.1.2. Self-propelled *pasa*

Second, we will show the self-propelled motion *pasa* constructions. For instance:

- (7) a. pa-sa-gaku timadju.
PA-go.to-school 3SG.NOM
‘He went to school.’
- b. sa-gaku timadju.
go.to<AF>school 3S.NOM
‘He went to school.’

As shown in (7a), the motion verb *pasa* ‘go to’ takes only two NP arguments, i.e. the nominative NP argument *timadju* ‘he’ and the incorporated NP argument *gaku* ‘school’

¹. Unlike the causative *pasa* ‘cause to go to’, the self-propelled *pasa* ‘go to’ in (7a) does not take an extra Causer argument. It is supported by the fact that in Paiwan the self-propelled motion verb *pasa* ‘go to’ alternates with the two-place predicate *sema* ‘go to’, as illustrated in (7b).

Moreover, the self-propelled *pasa* cannot be inflected for a PF marker as the causative *pasa* does. Consider the following examples:

(8) a. pa-sa-pana-aken tjay camak.

¹ In Paiwan the NP arguments assigned the location role (even plus the oblique case marker *tua*) are often incorporated into the Motion verbs, as illustrated in (i) and (ii).

- (i) a. sepasere-ser a zua a kakeDian a sa tua ceva.
 slide[AF]-RED NOM that LNK child LNK go.to-AF OBL precipice
 ‘That child slid to the precipice.’
- b. sepasere-ser a zua a kakeDian a sa-ceva.
 slide[AF]-RED NOM that LNK child LNK go.to-AF -precipice
 ‘That child slid to the precipice.’ (=ia)
- (ii) a. sa-gaku-u!
 go.to-school-IMP
 ‘Go to school!’
- b. sa-tua-gaku-u!
 go.to-OBL-school-IMP
 ‘Go to school!’ (=iia)

As shown in (ia), the oblique case marker *tua* is used to mark the NP argument with the location role, i.e. *ceva* ‘precipice’. In ib the oblique case marker *tua* can be deleted and the NP argument *ceva* ‘precipice’ is attached onto the Motion verb *sema* ‘go to’. However, our informants point out that the propositional meanings of (ia) and (ib) do not change at all. As shown in iia, in the imperative constructions the NP argument *gaku* ‘school’ is incorporated into the verbal root *sa* ‘go to’ and then the exclusive imperative suffix *-u* is attached onto the verbal stem *sa-gaku* ‘go to school’. In iib both the oblique case marker *tua* plus the NP argument *gaku* ‘school’ is incorporated onto the verbal root *sa* ‘go to’ and the exclusive imperative suffix *-u* is incorporated into the complex stem *sa-tua-gaku* ‘go to school’. The readers can be referred to Wu and Chang 2005.

CAUS-go.to-river-1S.NOM OBL Camak

‘I took Palang to the river.’

b. ku-p<in>a-sa-gaku ti palang

1S.GEN-CAUS<PVF[PF]>go.to-pana NOM Palang

‘I took Palang to the river.’

(9) a. pa-sa-pana-aken.

PA-go.to-river-1SG.NOM

‘I went to the river.’

b. *ku-p<in>a-sa-pana tiaken.

1S.GEN-CAUS<PVF[PF]>go.to-river 1SG.NOM

lit. # ‘I caused myself to go to the river.’

‘I went to the river.’

In (8) we can see that the causative motion verb *pasa* ‘cause to go to’ can be inflected for an AF marker and a PF affixes, each of which agree with the Actor nominative argument and the Patient nominative argument. However, in (9) the self-propelled motion can only be inflected for an AF marker but cannot be inflected for a PF marker. If the motion verb *pasa* in (9) is really a causative verb, which means ‘someone caused himself to go to somewhere’, then the Patient argument (i.e. the reflexive argument *myself*) in PF constructions could surface as the grammatical subject. That is, one can predict that the example (9b) should be an acceptable one. However, as shown in (9b), the Patient argument (i.e. *tiaken* ‘I’) cannot serve as the subject. It is clear that the syntactic behavior of the ‘self-propelled’ motion verb *pasa* in (9) is different from the ‘causative’ motion verb *pasa* in (8). Thus, we argue that the motion verb *pasa* in (9) should be a self-propelled verb rather than a causative one.

Furthermore, the lost of its causative function of the prefix *pa-* also appears within

other motion verbs, as shown in (10).

- (10) a. pa-le-zaya-zaya ti palang tua gade.
 PA-move.to-top.of.hill-RED NOM Palang OBL mountain
 ‘Palang is climbing up a mountain.’
 #‘Palang makes a mountain go uphill.’
- b. le-zaya-zaya ti palang tua gade.
 move.to-top.of.hill-RED NOM Palang OBL mountain
 ‘Palang is climbing up a mountain.’

As shown in (10a), the predicate *palezayazaya* ‘be climbing up a mountain’ takes only two NP arguments, i.e. an Agent argument and a Location argument. If the prefix *pa-* serves as a causative one in (10a), it will take an extra NP argument, i.e. a Actor argument. It will therefore bring forth the following odd interpretation: ‘Palang makes a mountain go uphill. However, this is not the case. In addition, it can alternate with the other self-propelled motion verb *lezayazaya* ‘be climbing up a mountain’, too.

Furthermore, the syntactic patterns of the motion verbs *pasa* in the complement construction also reveal that the causative *pasa* should be distinguished from the self-propelled *pasa* in Paiwan. Consider the following examples:

- (11) a. m-ipere-per a pa-sa-kaljeveljevan a kalakalaw.
 AF-fly-RED LNK PA-go.to-sky NOM eagle
 ‘The eagle fly (in)to the sky.’
- b. m-ipere-per a sa-kaljeveljevan a kalakalaw.

AF-fly-RED LNK go.to<AF>sky NOM eagle

‘The eagle fly (in)to the sky.’ (=28a)

(12) a. l<in>ui a za patai a pa-sa tua a’u.

fill-PF NOM that rice LNK CAUS-go.to OBL bamboo

‘(Someone) filled the rice into the bamboo.’

b. l<in>ui a za patai a sa tua a’u.

fill-PF NOM that rice LNK go.to-AF OBL bamboo

‘(Someone) used the bamboo to fill the rice into (some container).’

‘The rice, (someone) filled (it) into the bamboo.’

It is clearly observed that in (11) the embedded motion verbs *pasa* and *sema* can be substituted for each other without changing their propositional meaning, and they are thematically synonymous. However, there exists a syntactic difference concerning the alternation of the two motion verbs *pasa* and *sema* in (12). In (12) the motion verb *pasa* in the complement clauses is the only acceptable one while the other motion verb *sema* isn’t. Now a question arises: what is the reason that in (12) only the motion verb *pasa* rather than the motion verb *sema* is acceptable? We may argue that the *pasa* in (12) should be distinguished from the *pasa* in (11). That is, the *pasa* in (11) is a self-propelled motion verb while the *pasa* in (12) is a causative motion verb. We have two pieces of evidence: the first evidence involves the word order property of the motional *pasa* constructions. Li (2004) shows that the motion verb constructions in Paiwan exhibit an interesting morphosyntactic property, that is, the syntactic positions of the first and second verb can alternate each other. Consider the following examples:

(13) a. sa tua kakeDian timadju a ‘iyalan.

go.to<AF> OBL child 3SG.NOM LNK cripple<AF>

‘He hobbled to the child.’

- a. ‘iyalan timadju a sa tua kakeDian.
cripple<AF> 3SG.NOM LNK go.to<AF> OBL child

‘He hobbled to the child.’

As shown in (13), we can see that the pair examples *a* and *b* are thematically synonymous. It clearly shows that the main verb (e.g. *sema* ‘go to’) and the embedded verb (e.g. ‘*emiyalan* ‘hobble’) can alter their positions without changing any propositional meaning. Now we go ahead to consider the following examples:

- (14) a. l<in>uy ni camak a za patai a pa-sa- a’u.
fill<PF> GEN Camak NOM that rice LNK CAUS-go.to-bamboo
‘Camak filled the rice into the bamboo.’
- b. p<in>a-sa-a’u ni camak a patai a lui.
CAUS<PF>go.to-bamboo GEN Camak NOM rice LNK fill<AF>
‘Camak filled the rice into the bamboo.’

According to the above observation, we can say that the embedded verb *pasa* in (14a) can alter with the matrix verb in (14b), expressing the thematically synonymous meaning. When we look at the example (14b) more closely, we find that the matrix verb *pasa* should be a causative verb because the motion verb *pasa* in (14b) can take three arguments, namely, the Actor argument, the Theme argument, and the Location argument. Thus, the matrix verb *pasa* in (14b) is a causative motion verb. Since the matrix verb *pasa* in (14b) is a causative motion verb, according to the aforementioned observation, we will argue that the embedded verb *pasa* in (32a) should be a causative motion verb.

The second piece of evidence lies in the analogy of the motional *pasa* construction with the PERSUADE-TYPE CONTROL construction in Paiwan. We will argue that in both constructions the causative prefix *pa-* is attached onto the embedded verbs in the complement clauses. It will offer us an indirect piece of evidence that the motion verb *pasa* in (12) should be a causative motion verb rather than a self-propelled motion verb. We first show the PERSUADE-TYPE CONTROL construction in Paiwan, as illustrated in (15).

(15) Northern Paiwan (Chang 2004:107)

- a. pa’adDil ti palang_i tjay kalalu_j a [pa-kan PRO_{i/*j}]
 force[AF] NOM Palang OBL Kalalu LNK CAUS-eat
 lit. ‘Palang forced Kalalu such that he caused Kalalu to eat.’

As Chang (2004) points out, in examples (15) the oblique noun phrase *kalalu* ‘Kalalu’ cannot serve as an object-controller and therefore the embedded causative morpheme *pa-* is attached to the embedded verb *kan* ‘eat’ to introduce an Actor role in the PERSUADE-TYPE CONTROL constructions. Next let’s compare the PF PERSUADE-TYPE CONTROL construction in (16a) with the PF motion *pasa* construction in (16b).

- (16) a. pa’adDil-en ni palang ti kalalu a *pa*-kan
 force-PF GEN palang NOM kalalu LNK CAUS-eat
 ‘Palang forced Kalalu to eat.’

- b. l<in>ui ni camak a za patai a *pa*-sa
 fill<PVF[PF]> GEN Camak NOM that rice LNK CAUS-go.to

CAUS-PF-be.overburdened NOM Kalalu GEN Pailang LNK
 pa-kan.

CAUS-eat

‘Palang forced Kalalu to eat.’

- b. p<in>a-kan ti kalalu ni palang a
 CAUS<PVF[PF]>eat NOM Kalalu GEN Pailang LNK
 pa-‘aDil.

CAUS-be.overburdened

‘Palang forced Kalalu to eat.’ (=35a)

(18) The caused-motion constructions in Paiwan

- a. l<in>ui a za patai ni camak a pa-sa
 fill<PF> NOM that rice GEN Camak LNK CAUS-go.to
 tua a’u.

OBL bamboo

‘Camak filled that rice into the bamboo.’

- b. p<in>a-sa tua a’u ni camak a za patai
 CAUS<PVF[PF]>go.to OBL bamboo GEN Camak NOM that rice
 a lui.

LNK fill-AF

‘Camak filled that rice into the bamboo.’ (=36a)

Having classified the aforementioned motion *pasa* in (12) as a causative verb, we can move ahead to consider the *pasa* in (11). If the *pasa* in (11) is also viewed as a causative motion verb as well as the one in (12), it will be difficult to explain why the *pasa* in (11) can alter with the self-propelled motion *sema* while the *pasa* in (12) cannot. Thus, we argue that the motion verb *pasa* in (11) should be a self-propelled one, which

will be syntactically distinguished from the causative *pasa* in (12). In summary, based on the (a) the unacceptable PF form of the motion verb *pasa*, (b) the other similar pattern of motion verbs (e.g. *palezaya* ‘climb’) and its different syntactic behavior with the causative *pasa* in the complement construction, we argue that the motion verb *pasa*, which expresses self-propelled movement, has lost the causative function, that is, the causative prefix *pa-* has been grammaticalized.

3.1.3. Abstract *pasa*

Now we move ahead to consider the third type of *pasa*: the abstract motion *pasa* ‘be/face toward’. In Paiwan the abstract motion *pasa* expresses the spatial orientation and extension. Consider the example (19):

- (19) a. *pasa-ka-letjep* a ‘*ezung*.
 be.toward-KA-dive NOM window
 ‘The window faces toward the West.’
- b. a *paling* *nia-uma*’ *na-pasa-viri*.
 NOM door 1PL.GEN-house PVF-go.toward-left[North]
 ‘The door of our house, (it) used to face toward the North.’

As shown in (19), the abstract motion *pasa* ‘be toward’ is used to describe the static spatial situation. In (19a) the Figure object (i.e. ‘*ezung* ‘window’) is orientated in characteristic of the West where the sun sets. Similarly, in (19b) the location of the Figure object (i.e. *paling* ‘door’) is characteristic of two Reference objects: the Primary Reference object (i.e. *uma* ‘house’) and the Secondary Reference object, i.e. the North. Consider more examples:

- (20) a. a icu a tjikeza kasi-maza a
 NOM this LNK bridge be.from<AF>here LNK
 pasa-tja-i-zua-zua.
 go.to-more-be.at-RED-there
 ‘The bridge, (it) sketches across from here to there.’
- b. a icu a ka-keDi-an kasi-mza a
 NOM this LNK NMLZ-small-NMAL come.from<AF>here LNK
 pasa-tja-i-zua-zua.
 go.to-more-be.at-RED.there
 ‘The child, (he/she) moves here to there.’
- c. *a icu a tjikeza kasi-maza a
 NOM this LNK bridge come.from<AF>here LNK
 sa-tja-i-zua-zua.
 go.to<AF>more-be.located-there-RED
 ‘The bridge sketches across from here to there.’

The abstract motion *pasa* ‘be toward’ seems to have the same surface structure as the self-propelled motion *pasa* ‘go to’. As we can see, the syntactic structure of the abstract *pasa* is the same as the self-propelled motion *pasa* does, as shown in (20a) and (20b). However, the Figure object *tjikeza* ‘bridge’ in (a) does not move across any physical spatial region. Rather it is located within a certain region. The static situation seems to be conceived as a motion event and be represented linguistically as the motion verbs *kemasi...pasa*. But here the spatial movement never occurs. It can be supported by and contrasted with the ungrammatical permutation of the motion verb *pasa* with the self-propelled motion verb *sema*, as shown in (20c). We can see that the spatial scene is conceived as static one, but it can be linguistically expressed as the seeming dynamic

motion form. Now consider the other examples:

- (21) a. *pasa-kaljeveljevevan-u a pacun!*
go.to-sky-IMP LNK see[AF]
'Look toward the sky!'
'Go to the sky to see!'
- b. *sa-kaljeveljevevan-u a pacun!*
go.to-sky-IMP LNK see[AF]
'Go to the sky to see!'
'Look toward the sky!'

In (21a) the speaker does not order the addressee to move upward to the sky; instead, the addressee is commanded to pay his attention up to the sky. Thus, the movement in fact occurs in the addressee's mental space; that is, the attention shift constitutes a subjective path, along which the mental attention can move. However, in (21b) the speaker orders the addressee to move up to the sky in the physical world, forming a spatial movement. It is clear that the prefix *pa-* of the spatial (self-propelled) motion shown in (21b) does not occur in the imperative construction, but the prefix *pa-* in the abstract motion shown in (21a) can occur in the imperative construction and does not express any causative motion situation. Thus, we argue that the prefix *pa-* has no longer served as a causative one but been more fossilized into the morpheme *sa*.

At first glance, it seems very odd that the static situation is conceived as motion events. However, it is not a language-specific phenomenon. As Langacker (1987, 1991), and Talmy (1996, 2000) argue, English expresses the orientation type and the extension type by the dynamic spatial prepositions. Take the preposition *across* for example:

(22) Langacker (1991:217)

- a. Harvey crawled across the table.
- b. A famous movie star is sitting across the table.

(23) Talmy (1996:242)

- a. The ball rolled across the street from the bank.
- b. The bakery is across the street from the bank.

Langacker (1991) argues that in (22a) the trajector (i.e. *Harvey*) spatially successively occupies all the points along the ‘objective’ path leading from one side of its landmark (i.e. *table*) to the other. On the contrary, in (22b) the trajector (i.e. *movie star*) does not move but just stays in a static location. There is, however, a ‘subjective’ path which is conceptualized as originating from the trajector’s location to the landmark’s one. Similarly, Talmy (1996) argues that in (23a) the Figure (i.e. *ball*) is characterized as a moving object along a (spatial/objective) path via the first Ground (i.e. *street*) to the second Ground (i.e. *bank*). On the contrary, (23b) characterizes the location of the Figure (i.e. *bakery*) by a ‘fictive’ path which originates from the bank, traversing across the street, and arrives at the location of the Figure. Talmy (1996) argues that the fictive path results from the conceptualizer’s attention shift from one place to another one. Moreover, Motsumoto (1996a, 1996b) also investigate Japanese subjective [abstract] motion events. Some of them are exemplified in (24).

(24) Japanese subjective [abstract] motion event (Motsumoto 1996b:195&199)

- a. sono michi wa {nobori-/kudari-/magari-} hajime-ta.
the road TOP go.up/go.down/curve begin-PAST
‘The road began to ascend/descend/curve.’
- b. sono michi wa {massugu/kaigan ni sotte} hashitte iru.

the road TOP straight/shore along run ASP
 ‘The road runs {straight/along the shore}.’

c. *sono michi wa hashitte iru.
 the road TOP run ASP
 ‘The road runs.’

In (24a) it is clear that the Figure object, that is, the road never moves in the physical space; however, the motion verbs, e.g. *nobori* ‘ascend’, is used to describe the spatial static scene. In fact, the moving object could be the conceptualizer on the road. Motsumoto (1996b) argues that these verbs represent subjective motion, encoding some kind of (subjective) path. Similarly, in (24b) Motsumoto (1996b) argues that when the manner-of-motion verb *hashitte* ‘run’ represents as a subjective motion verb, it is restricted to the co-occurrence with the path information that can be expressed by an adverbial phrase (e.g. *kaigan ni sotte* ‘along the shore’).² Otherwise, the single occurrence of the motion verb *hashitte* ‘run’ will result in ungrammaticality, as shown in (24c).

Inspired by Langacker (1991) and Talmy (1996), we consider the motion events *pasa* in (19-20) as the abstract motion events. The directional orientation results from a subjective, fictive scanning axis in the conceptualizer’s mind. Thus, Paiwan employs the abstract motion event *pasa* to express such a subjective path. This reconstructing path in human cognition is represented as the fictive motion event *pasa* in Paiwan. In the same principle the spatial extension relation is also conceived as that the conceptualizer projects himself onto the Figure object (i.e. *tjikeza* ‘bridge’) and then reconstructs his cognitive subjective axis from the neighboring place to the further

² Similar with the ‘path information’ requirement of Japanese subjective motion events, the path-of-motion verb *pasa* ‘go to’ in Paiwan also encode the path information. .

place. This subjective axis is used to orientate the location of the Figure object. Thus, Paiwan also employs the fictive motion event *pasa* to express such a spatial extension relation.

3.1.4 Irrealis *pasa*

The fourth type we consider is the irrealis *pasa* ‘be going to’. In this type the state can be conceptualized as a figural entity with respect to another reference entity, as if a temporal transition is going to occur in the entity. Paiwan uses the irrealis *pasa* to express such a forthcoming situation. Consider the examples in (25).

- (25) a. *pasa*=*m-utja*'=*anga*=(*a*)*ken*.
 go.to=AF-spit=COS=1 sg.NOM
 ‘I am going to spit out.’
- a' **pasa*=(*a*)*ken* *a* *m-utja*'=*anga*.
 go.to=1 sg.NOM LNK AF-spit=COS
 ‘I am going to spit out.’
- b. *pasa*='elev-en-*anga* *a* *za* *paling*.
 go.to=close-PF-COS NOM that door
 ‘The door is going to be closed.’

As shown in (25a), the irrealis clitic *pasa* indicates that the pronoun subject *timadju* ‘he’ is going to enter into a new state (i.e. *mutja* ‘spit’). Similarly, in (25b) the state change event *pasa* is used to indicate an initiation of a new situation (i.e. ‘*elev* ‘close’). This state change can be metaphorized as a movement from an abstract source location (e.g. a pre-resultative state) into an abstract target location (e.g. a resultative state). In addition, the enclitic nominative pronoun =*aken* ‘I’ cannot clitic-climb onto the

morpheme *pasa*, as shown in (25a’). Therefore we argue that the irrealis *pasa* functions as a proclitic rather than a verb or an auxiliary verb in Paiwan.

Moreover, there is a subtle difference between the irrealis *uru*- ‘be going to’ and the irrealis *pasa*- ‘be going to’ in Paiwan. Consider the following examples:

- (26) a. *uru=m-acai-(y)=anga a za vavui.*
 IRR=<AF>die=COS NOM that pig
 ‘That pig is going to die.’
- b. *(uru=)pasa=m-acai-(y)=anga a za vavui.*
 (IRR=)go.to=<AF>die=COS NOM that pig
 ‘That pig is going to die (later).’

Both of the examples in (26) indicate that a new state/situation (i.e. *macai* ‘die’) will be initiated. However, there exists a subtle difference about the temporal imminence of the initiation of the new state.³ The initiation of the new state in (26a) is more imminent than that in (26b). That is, the speaker conceptualizes that the new state in (26a) occurs in the more immediate future than the one in (26b) does.

³ Rama has the similar grammaticalization pattern of the motion verb **bang* ‘go’ also’, as shown in (i).

- (i) a. *Tiskama ni-tanang-bang.*
 baby I-look-at-ASP
 ‘I am going to look at the baby.’
- b. *Tiskama ni-sung-bang taak-i.*
 baby I-see-SUB go-TNS
 ‘I am going in order to see the baby.’ (Craig 1991: 457)

Craig (1991) argues that while it may associate with futural mood in (ia), the GO form *bang* may be grammaticalized into either a purposive marker or into a temporal marker of imminence, as illustrated in (ib).

Moreover, the degree of the uncertainty in a contextual situation may distinguish the usage of the irrealis *uru* from that of the change-of-state *pasa*. Consider the following pair examples:

- (27) a. *uru-vaik-anga-(a)mun?*
IRR-leave[AF]-COS-2PL.NOM
'Are you going to leave (now)?'
- b. *pasa-vaik-anga-(a)mun?*
go.to-leave[AF]-COS-2PL.NOM
'Are you going to leave?'
- c. *ma-tura vaik-anga-(a)mun?*
AF-seem leave[AF]-COS-2PL.NOM
'Are you going to leave?'

According to our informants, the use of the example (27a) may occur in such a scene: the speaker has seen the addressee's preparatory activities of departing and thus asks him the question (27a) to confirm his departure. The subtle different use of the example (27b) may be employed in such a scene: the speaker may not see the addressee's preparatory activity of departing; however, the speaker somehow gets the addressee's departure information but not ascertain the exact departure time. Thus, the speaker may employ the question (27b) to ascertain the addressee's departure. The situation in (27c) is expressed in a highly uncertainly attitude: the speaker does not know at all whether the addressee will leave or not and thus asks the addressee the question (27c). Now it is clear that the degree of the certainty from (27a) to (27c) is high to low.

3.1.5. Scale-measure *pasa*

The final type is the scale-measure *pasa* ‘extend’ in Paiwan. This type is employed to express the objects’ scale (e.g. dimension, value, physical property and etc.). For example,

- (28) a. pa-ceng-ceng-angata a icu a k<in>a-i-vavaw
 CAUS-enough-RED-exactly NOM this LNK ka<NMLZ>-be.at-above
 nua kasiw.
 GEN tree
 ‘The height of this tree is moderate.’
- b. pa-ceng-ceng-angata a icu a pasa-i-vavaw
 CAUS-enough-RED-exactly NOM this LNK extend-be.at-above
 nua kasiw.
 GEN tree
 ‘The height of this tree is moderate.’

the verb *ivavaw* ‘be high’ in (28a) is nominalized to form a NP, followed by a genitive case marker *nua* to express the tree’s height. Alternatively, it can be expressed by the prefixation of the morpheme *pasa-* ‘extend’ to show the object’s height.

Moreover, it can co-occur with the wh-words to form the question sentences: One is the dimensional interrogative constructions, which express the speaker’s inquiry of an object’s size, degree, or quantity. The other is the counter-expectation exclamatory constructions, which reveal the speaker’s counter-expectation toward some situation. Let us first show the former constructions, as illustrated in (29).

(29) Dimensional interrogative constructions in Paiwan

- a. m-ata-inu a pasa-kuDal nua su-uma’?

AF-be.like-where NOM extend-big GEN 2SG.GEN-house
 ‘How big is your house?’

- b. m-ata-inu a pasa-‘aca nimadju?
 AF-be.like-where NOM extend-long 3SG.GEN
 ‘How tall is he?’

The examples shown in (29) are the interrogative questions, expressing the wish to know a certain object’s dimension, e.g. the object’s size in (29a) and vertical extension in (29b). As we can see, the verb *matainu* ‘how’, which is an interrogative wh-word, can co-occur with the scale-measure *pasa* ‘extend’ in Paiwan.

Second, in Paiwan the exclamatory construction show the similar pattern, that is, *pasa* ‘extend’ can also co-occur with the wh-word to express the exclamatory attitude. For example:

(30) Counter-expectation exclamatory constructions in Paiwan

- a. kumanu pasa-keDi nua icu a cukui?
 how go.to-small GEN this LNK table
 ‘How big this table is!’
- b. kuda pasa-sevec nua icu a kasiv?
 how<AF> go.to-straight GEN this LNK tree
 ‘How straight this tree is!’

The exclamatory constructions shown in (30) express the speaker’s counter-expectation attitude toward a certain situation. In (30a) the speaker may expect the table to be small;

however, the real situation is out of the speaker's expectation. Similarly, in (30b) the situation in speaker's mind, for example, the tree is not so straight to some extent, is different from the real situation in the physical world. As we can see, in (30) the *pasa* can also co-occur with the wh-phrases *kumanu* 'why; how' or *kemuda* 'why; how' in Paiwan. Moreover, the wh-word (e.g. *kumanu* 'why; how') can be omitted in these interrogative constructions; however it still expresses the speaker's counter-expectation. They are illustrated in (31).

- (31) a. *pasa-kuDal nua icu a cukui!*
 go.to-big GEN this LNK table
 lit. 'The biggness of this table!'
 'The table is so big!'
- b. *pasa-sevec nua icu a kasiv!*
 go.to-straight GEN this LNK tree
 lit. 'The straightness of this tree!'
 'The tree is so straight!'

Here it is worthwhile to note that the scale-measurement *pasa* in the interrogative and counter-expectation constructions serves as a nominalizer, as illustrated in (32) and (33). That is, the scale-measure *pasa* nominalizes the following adjectival verbs to express the property/quality of the (semantic) subject NP.

- (32) a. *kuda pasa-catja-(a)nan nua i-tjukuvul?*
 How<AF> extend-far-DUR GEN P-Tjukuvul
 'How come tjukuvul is so far?'
- b. *kuda k-in-a-catja-(a)nan nua i-tjukuvul!*

How<AF> P-NMLZ-far-DUR GEN P-Tjukuvul

‘How far away Tjukuvul is!’

(33) a. m-ata-inu a pasa-‘aca nimadju?

AF-be.like-where NOM extend-long 3SG.GEN

‘How tall is he?’

b. m-ata-inu a k-in-a-‘aca-(a)n nimadju?

AF-be.like-where NOM P-NMLZ-long-NMLZ 3SG.GEN

‘How tall is he?’

In (32) and (33) the pair examples *a* and *b* both are thematically synonymous and syntactically parallel. For example, the scale-measure *pasa* in the example *a* and *b* can both follow a wh-word (e.g. *kemuda* ‘how’) and mark a semantic subject NP (e.g. *djukuvul* ‘Djukuvul’) with the same form of the Possessor. Moreover, as shown in the examples *b*, the prefix *kina-* functions a nominalizer to nominalize the adjectival verbs (e.g. ‘*aca* ‘long’), as Tang (2002) argues. On the basis of the semantic and grammatical structure parallels, we thus analogize the interrogative *pasa* with a nominalizer.

In addition to the aforementioned patterns, we will point out the subtle different syntactic behavior between the scale-measure *pasa* and the irrealis *pasa* in Paiwan. For instance:

(34) a. pasa-*(me-)keDi ti/*ni camak.

go.to-INC-small NOM/GEN Camak

‘Camak is going to become small.’

‘How come Camak became so small?’

b. pasa-keDi-anga ni camak!

go.to-small-COS GEN Camak

‘(How come) Camak became so small!’

‘Camak is going to become small.’

In (34a) the *pasa* serves as the state-change one, which denotes that a new situation will be initiated while in (34b) the *pasa* functions as the (dimensional) interrogative one, which expresses the speaker’s exclamatory attitude. Second, the ingression of a new state is expressed by the indispensable inchoative prefix *me-* ‘become’ in (34a) while the resultative state is expressed by the change-of-state suffix *-anga* ‘change of state; become’ in (34b). Third, the situation/state (i.e. *mekeDi* ‘become small’) in (34a) is going to be initiated but still not yet. On the contrast, the dimensional quality (i.e. *keDi-anga* ‘become small’) in (34b) has been achieved and the speaker wonders why it is so. Fourth, the state-change *pasa* must occur in AF construction. It is supported by the fact that the subject NP must be nominative case-marked rather than genitive case-marked. On the contrary, the interrogative *pasa* occurs in the PF constructions, which is supported by the fact that the subject NP can be marked by the genitive case marker *ni*.

Before we conclude this subsection, we will point out the counter-expectation exclamatory constructions in Paiwan are not language-specific; rather it is also available to some northwest Melanesia Oceanic languages (Ross 1998) and the languages outside Austronesian (Harris and Champbell 1995: 54-57). Ross (1998: 235) points out that in some Oceanic languages the possessive-like attributive constructions (PLACs) appear as the unusual behavior of attribute-as-head and noun-as-modifier. Among these constructions, they do occur in exclamations, as shown in (35).

(35) a. Mokilese (Central/Eastern Oceanic, Nuclear Micronesian)

peren=in woll-o

happy=CSTR man-that

D R

‘How happy that man is!’ (more literally ‘The happiness of the man!’)

(Ross 1998:268, cited from Harrison 1976: 148)

- b. Samoan (Central/Eastern Oceanic, Polynesian)

so-ʔu leaŋa...

ART-P:1S be.bad

R D

‘Aren’t I bad!’ (lit. ‘my badness’)

(Ross 1998:268, Ulrike Mosel, pers. comm.)

As shown in (35), the attributes (e.g. *peren* ‘happy’ and *leaŋa* ‘bad’) in the Oceanic PLACs are also nominalized to be the head noun. Moreover, the PLACs also express the exclamatory attitude. The exclamatory *pasa* constructions in Paiwan behave on a par with these PLACs in the Oceanic constructions. Moreover, other languages outside the Austronesian family languages, e.g. English, also have the same constructions. For example:

(36) Ross (1998: 267)

- a. The size of the house!
- b. A/The whopper of a house.

Both examples are the possessive constructions and express the exclamatory attitude. Harris and Campbell (1995:54-57) calls this type of constructions as the universally

available constructions.

In summary, the interrogative *pasa* can occur in an interrogative construction or in a counter-expectation exclamatory construction: the scale-measure *pasa* can co-occur with the wh-words in Paiwan. Moreover, the wh-words (e.g. *kumanu* ‘how’) in the counter-expectation question sentences can also be omitted but still express the speaker’s counter-expectation, like some Oceanic languages. Furthermore, the scale-measure *pasa*, patterning the same with the nominalizing prefix *kina-*, also serves as a nominalizer. In addition, the scale-measure *pasa* constructions exhibit the subtle but important syntactic difference with the state-change *pasa* constructions in Paiwan. Finally, the counter-expectation *pasa* constructions are not the language-specific ones but perhaps the universal available constructions (e.g. in some Oceanic languages and English).

3.2. Developments of *sa*

3.2.1. Self-propelled *sa*

In Paiwan the motion verb *sema* ‘go to’ denotes a spatial movement without any external force, as shown in (35).

- (35) a. na-sa-vavua-anga ti kama.
PFV-go.to<AF>-field-COSNOM father
‘Father had gone to the field.’
- b. ma-kelu a za watu a sa tua zaljum i-danku.
AF-fall NOM that dog LNK go.to<AF> OBL water be.at-pond
‘The dog fell into the pond.’

‘I will use hands to make sticky millet dumplings.’

b. ku-s<in>a-lima a ‘avay.

1SG.NOM-use<PFV[PF]>-hand LNK sticky.millet.dumpling<AF>

‘I used hands to make sticky millet dumplings.’

In (37) the NP argument that the verb *sa* ‘use’ takes is not a Location argument but rather an Instrument argument (i.e. *lima* ‘hand’). On a par with the structure of the spatial *sa*, the manner *sa* also incorporates the NP *lima* ‘hand’ because the clitic pronoun =*aken* ‘I’ does not cliticize onto the verb *sa* ‘use’ but onto the complex verb *sa-lima* ‘use-hand’. Moreover, unlike the self-propelled motion *sa* ‘go to’, the instrument *sa* ‘use’ can be inflected for a PF marker for the covert grammatical argument ‘*avay* ‘sticky millet dumplings’ can be inferred in the de-nominal verb ‘*emavay* ‘make sticky millet dumplings’.

3.2.3. Desire *sa*

The third type of the grammaticalized patterns we will show is involved with the desire prefix *sa* ‘want’ in Paiwan. Some examples are illustrated in (38).

(38) a. sa-tekel=*aken* tua vava.

want-drink<AF>-1SG.NOM OBL wine

‘I want to drink wine.’

a’. *sa-*aken* tekel tua vava.

want-1SG.NOM drink<AF> OBL wine

‘I want to drink wine.’

b. sa-*vaik*=*aken* a sa-taihuku.

want-leave[AF]-1SG.NOMLNK go.to<AF>Taipei.

‘I want to leave for Taipei.’

b'. *sa-vaik=aken a sa-taihuku.

want<AF>leave-1SG.NOM LNK go.to<AF>Taipei.

‘I want to leave for Taipei.’

As shown in (38a) the first person pronoun clitic =*aken* is suffixed and the AF marker <*em*> is infixes onto the main verb. On the contrast, the pronoun clitic can neither be cliticized onto the morpheme *sa*, as shown in (38a'). Nor can the AF marker be infixes into the morpheme *sa* within the matrix AF verb *sa-vaik* ‘want to leave’, as shown in (38b'). It tells us that the morpheme *sa* no longer serves as a verb but as a functional clitic.

Moreover, the semantic contrast of the desire *sa* with the irrealis *pasa* is illustrated in (39).

(39) a. sa-m-(p)acay=aken.
want-AF-die-1SG.NOM
‘I wanna die.’

b. pasa-m-(p)acay=aken
go.to-AF-die-1SG.NOM
‘I am going to die.’

In the above examples the morphemes *sa* and *pasa* both precede the AF verbs. However, in (39a) the desire *sa* ‘want’ is used to express the psychological desire of the speaker while in (39b) the irrealis *pasa* ‘be going to’ is employed to describe the forthcoming

- b. ti kina sena-senay sa kesa-kesa.
 NOM mother RED<AF>sing and RED<AF>cook
 ‘Mother, (she) is singing and cooking.’
- c. uduli-duli=aken sa-ku sna-senay.
 dance[AF]-RED-1 SG.NOM and-1 SG.GEN RED<AF>sing
 ‘I am dancing and singing.’
- d. sena-senay=aken sa-ku uduli-duli.
 RED<AF>sing-1 SG.NOM and-1 SG.GEN dance[AF]-RED
 ‘I am singing and dancing.’

As illustrated in the pair examples (42a) and (42b), we can clearly see that like English coordinator *and*, the particle *sa* in Paiwan is used to be a coordinating coordinator: the two verbs can freely switches without changing their propositional content. Moreover, unlike English *and*, the coordinator *sa* precedes a morpheme *ku*, which is homophonemic with the first genitive prefix *ku-* in Paiwan, and it still works as a coordinator. It is shown in (42c) and (42d). Finally, it is worth noting that the genitive pronoun affixes never co-occur with the AF verbs in Austronesian languages in Taiwan. Here we have no explanation for the morphosyntactic status of the morpheme *ku* and leave it to further study.

3.2.6. Honorific and specific particle *sa*

The final type of the morpheme *sa* is concerned with the honorific and specific usages in Paiwan. Consider the following example:

(43) Early and Whitehorn 2003: 22

- a. ti sa Pułaluyaluyan tsug a ma-rivu ka-tua valaw.

F.H H (name) like C STAT-quarrel and-OBL spouse
 ‘Pułaluyaluyan liked to quarrel with his wife.’

- b. tsua-tsuay anga ma-pu-varung ti sa Pułaluyaluyan.
 RED-like indeed STAT-have-chest F.H H (name)
 ‘After a time Pułaluyaluyan got anxious.’

According to Early and Whitehorn (2003: 22), the morpheme *sa* is employed to express the honorific interpretation. It is worth noting that in Paiwan the morpheme *sa* in (43) cannot act as a nominative marker to mark the subject NP for it can co-occur with the nominative case marker *ti*. Moreover, our fieldnotes show that the morpheme *sa* can be used in other way. For example:

- (44) a. ma-kuda a pasa-tjalatj nua icu a bua-buang.
 AF-do NOM go.to-deep GEN this LNK RED-hole
 ‘How deep this hole is!’

- b. ma-kuda sa pasa-tjalad nua icu a bua-buang
 AF-do SPEC go.to-deep GEN this LNK RED-hole
 ‘How deep this hole is!’

- (45) a. uru=pe-djamu’-anga sa ku-ulu.
 IRR-emerge-blood-COS SPEC 1SG.GEN-head
 ‘My head will bleed.’

- b. uru=pe-tjamu’-anga a ku-ulu.
 IRR-emerge-blood-COS NOM 1SG.GEN-head.
 ‘My head will bleed.’

In (44-45) we can see that the morpheme *sa* can alter with the nominative case marker *a*

in Paiwan exclamatory constructions. Given its co-occurrence with the personal nominative case marker *ti*, here we would not consider the morpheme *sa* as a nominative case marker. Instead its may be thought of as a determiner-like category, which may be like English article *the*, expressing the semantic specificity. For it cannot co-occur with the demonstratives *icu* ‘this’ and *zua* ‘that’, as shown in (46).

- (46) a. *ngua'ngua' a>(*sa) icu a kava.*
 beautiful-RED NOM/(SPEC) this LNK clothes
 ‘This clothes is beautiful.’
- b. *na-v<en>eli ti palang tu>(*tua) sa a kun.*
 PVF-buy<AF> NOM Palang OBL/(OBL) SPEC LNK skirt
 ‘Palang has bought the skirt.’
- c. *na-v<en>eli ti palang tua>(*tu) (*sa) icu a kun.*
 PVF-buy<AF> NOM Palang OBL/(OBL) SPEC this lnk skirt
 ‘Palang has bought this skirt.’

As we can see, the demonstrative *icu* ‘this’ and the determiner-like *sa* ‘the’ cannot co-occur to denote specificity. Moreover, the co-occurring oblique case markers are also in the complementary distribution. Here we view it as a determiner-like particle.

4. Grammaticalization of *paka*, *maka*, and *ka* in Paiwan

Now we come to see the second pair of motion verbs in Paiwan. This group of motion verbs essentially involves spatial movement along or via a certain Ground object. We will case the developments of the three motion verbs *paka*, *maka*, *ka* in Paiwan. We will show the developments of the causative motion verb *paka* in Section 4.1; Section 4.2 shows the developments of the self-propelled motion *maka*. Finally, in

the instrument NP should serve as the syntactic subject NP. However, it is not acceptable in Paiwan, as shown in (48b). Thus, we argue that the verb *paka* in (48) should be classified as a causative instrument verb, taking three arguments, namely, the Actor argument, the Instrument argument, and the Theme argument.

4.1.3. Self-propelled *paka*

The next grammaticalization pattern of the causative motion *paka* ‘causative to go via’ is to become the self-propelled motion verb *paka* ‘go via’. For example:

- (48) a. uru=paka-pana=(a)nga=(a)ken a vaik.
 IRR=go.via-river=COS=1SG.NOM LNK leave
 ‘I will leave via the river.’
- b. uru=m-(p)aka-pana=(a)nga=(a)ken a vaik.
 IRR=AF-go.via-river=COS=1SG.NOM LNK leave
 ‘I will leave via the river.’

On a par with the self-propelled *pasa* ‘go to’, the motion verb *paka* can alter with the self-propelled motion verb *maka* ‘go via’, as shown in (48a-b). Based on the same behavior as the self-propelled *pasa*, we will view the causative *paka* also undergoes grammaticalization to become the self-propelled one.

4.1.4. Instrument *paka*

The finally grammaticalization pattern involves the (two-place) instrument verb *paka* ‘do via, use’. For instance:

- (49) a. paka-(tua)-paliDing=aken a ki-siupay.

do.via-OBL-carriage-1SG.NOM LNK get-sundry.goods

‘I bought sundry goods via the carriage.’

b. m-(p)aka-(tua)-paliDing=aken a ki-siupay.

AF-do.via-OBL-carriage-1SG.NOM LNK get-sundry.goods

‘I bought sundry goods via the carriage.’

On a par with the self-propelled motion *paka* ‘go via’, the instrument *paka* ‘do via’ also has the free alternation of the labial stops *p-* and *m-*. Moreover, the instrument *paka* can also noun-incorporate an Instrument argument. Thus, we argue that the instrument *paka* is a grammaticalization pattern from the self-propelled (motion) *paka*. Just like the preposition *via* in English, the morpheme *paka* ‘do via’ is derived from the spatial movement usage to become the instrument usage.

4.2. Developments of *maka*

Given that we have seen the overlapped functions of the morphemes *maka* with *paka* in Paiwan, we will skip to show the other grammaticalization patterns of the motion verb *maka* ‘go via’. We will first see the temporal and aspectual functions of the morphemes *maka*, as shown in Section 4.2.1 and Section 4.2.2 respectively. Next we will show the ability verb *maka*, which is illustrated in Section 4.2.3.

4.2.1. Time-spanning *maka*

The next pattern which the motion verb *maka* ‘go via’ undergoes semantic shifts is the time-spanning *maka* ‘past (time)’. It denotes a temporal duration of an activity or a state. For example:

(50) a. m-(p)aka-tjelu-l-anga=(a)ken tu adaw a ma-seng-seng.

AF-past.time-three-L-COS-1SG.NOM PAR sun LNK AF-RED-work

‘I have worked for three days.’

b. m-(p)aka-tjela-tu-adav-anga-(a)ken a ma-seng-seng.

AF-past.time-three-PAR-sun-COS-1SG.NOM LNK AF-RED-work

‘I have worked for three days.’

(51) a. m-(p)aka-pana=aken a tjavac.

AF-go.via-river-1SG.NOM LNK walk<AF>

‘I walk via the river.’

b. m-(p)aka-tua-pana=aken a tjavac.

AF-go.via-OBL-river-1SG.NOM LNK walk<AF>

‘I walk via the river.’

As shown in (50) we can clearly see that the time-spanning *maka* is used to draw a bounded boundary of an activity in the linear time and the length of the temporal duration is exactly a span of three days. Therefore, the time-spanning *maka* in Paiwan takes the predicative quantifier *tjelu* ‘three’ to form a complex verb, and in turn the complex verb *maka-tjelu* ‘past-three’ takes the object NP *adaw* ‘sun; day’ as its argument. Moreover, the *maka* ‘past (time)’, on a par with the motion *maka* ‘go via’, can noun-incorporates a whole partitive-marked NP. Similarly, as we can see, the motion *maka* ‘go via’ in Paiwan can incorporate an oblique-marked NP, as shown in (51a) and (51b) (For noun-incorporation details the reader can be referred to Wu and Chang 2005). In the same manner, the partitive-marked NP (i.e. *adaw* ‘day’) can be incorporated into the time-spanning verb *maka*, as shown in (50b). Thus, we argue that the time-spanning *maka* should be grammaticalized from the motion *maka* in Paiwan.

4.2.2. Event-completion *maka*

Given that the spatial *maka* ‘go via’ grammaticalized into the temporal *maka* ‘past (time)’, we further argue that the temporal *maka* is grammaticalized into the event-completion *maka* ‘finish’. Consider the examples:

- (52) a. *maka-tekel-anga=(a)ken* *tua vava.*
 finish-drink-COS-1SG.NOM OBL wine
 ‘I have drunk up the wine.’
- b. *maka-ekel-anga=(a)ken a* *kin(e)-musal tua umtuziu.*
 finish-run-COS-1SG.NOM LNK KINE-two OBL playground
 ‘I have run-finished the playground twice.’
- c. *kine-musal=aken a* *m-ekel tua umtuziu.*
 KINE-two-1SG.NOM LNK AF-run OBL playground
 ‘I ran at the playground twice.’

In (52a) the aspectual verb *maka* ‘finish’ takes a bare verb *tekel* ‘drink’ to form a complex predicate. The activity verb *tekel* ‘drink’ is an atelic event type; however, the aspectual *maka* makes an aspectual coercion, which causes the event type to change from an activity to an accomplishment. Similarly, in (52b) the quantifier *kinemus* ‘twice’ is used to quantify the frequency of the telic event *maka-tekel* ‘finish running’; on the contrast, the frequency quantifier can be used to quantify the frequency of the atelic activity *mekel* ‘run’ denoting no endpoint, as shown in (52c).

Moreover, the claim that the aspectual *maka* coerces the telic reading can be reinforced by the evidence that it cannot co-occur with the durative suffix *-anan* ‘still’ in Paiwan. It is shown in (53).

- (53) *maka-tekel(*-anan)=aken* *tua vava.*

finish-drink-DUR-1SG.NOM OBL wine

‘I have drunk up the wine.’

The durative suffix *-anan* is used to denote the continuation of an activity or the continuance of a state or change-of-state in Paiwan. Therefore it co-occurs with an atelic situation. On the contrast, the aspectual *maka* is used to delimit a boundary of an event type and therefore cannot co-occur with the durative *-anan*.

4.2.3. Ability *maka*

Recall that the motion verb *maka* ‘go via’ undergoes grammaticalized to become the manner verb *maka* ‘do via’ in Section 4.1.3. Next we will show that the instrument *maka* ‘do via’ undergoes semantic shift to function as the ability *maka* ‘be able’. Consider the following examples:

- (54) a. inika=(a)ken a m-aka-pacun tua kasi-ka-cedas
NEG=1SG.NOM LNK AF-be.able-see OBL come.from<AF>-KA-sunrise
a m-ang(e)tjez a haiya.
LNK AF-approach LNK car
‘I cannot see the car which comes from the East toward (me).’
- b. m-aka-kim=amen a p<en>ulinge-linget
AF-finish-search-1PL.NOM LNK all.over<AF>RED
i-tjuma’ lakua inika=(a)men a m-aka-tjumak.
be.at-inside(house) but NEG-1PL.NOM LNK AF-be.able-find.out
‘We have searched thought the (whole) house, but we cannot find out.’

As shown in (54), the ability verb *maka* takes verbs, i.e. *pacun* ‘see’ and *tjumak* ‘find out’ to form a complex verb, expressing the capability to do something. Different from the instrument verb *maka*, the ability verb *maka* takes verbs rather than instrument nouns as its verbal complements. It is worth noting that the ability verb *maka*, different from the clitic such as the irrealis *pasa*, must take bare verbs, as illustrated in (55).

- (55) a. inika=aken a m-aka-tjumak tua zua vasa.
 NEG=1SG.NOM LNK AF-be.able-find.out OBL that taro
 ‘I cannot find the taros.’
- b. *inika=aken a m-aka-tjumak tua zua vasa.
 NEG=1SG.NOM LNK AF-be.able-find.out<AF> OBL that taro
 ‘I cannot find the taros.’

Due to its inflection for an AF marker and prohibition against taking verbal complement with an AF affix, we argue that the ability *maka* ‘be able’ should be considered as a verb.

4.3. Developments of *ka*

Now we move to see the developments of the motion verbal root *ka* ‘go via’ in Paiwan. We will see the first grammaticalization pattern, i.e. the comitative *ka* ‘with (someone)’ in Section 4.3.1. In Section 4.3.2 we will show the past time subordinating particle *ka* and the past time prefix *ka-* in Paiwan.

4.3.1. Comitative *ka*

The first grammaticalization path of the spatial *ka* ‘go via’ is involved with the

comitative particle *ka* ‘and; together with’ Consider the examples:

- (56) a. na-pa’uziap timadju tua vatu ka tua tja’urapang.
 PVF-breed 3SG.NOM OBL dog and OBL frog
 ‘He breeds a dog and a frog.’
- a’. na-pa’uziap timadju tua tja’urapang ka tua vatu .
 PVF-breed 3SG.NOM OBL frog and OBL dog
 ‘He breeds a frog and a dog.’
- b. vaik ti sangerup ka ti-pailang a sa-pana.
 leave[AF] NOM Sangerup with P-Pailang LNK go.to<AF>river
 ‘Sangerup and Pailang left for the river.’
- b’. *ka ti-pailang vaik ti sangerup a sa-pana.
 and P-Pailang leave[AF] NOM Sangerup LNK go.to<AF>river
 ‘Sangerup and Pailang left for the river.’

As we can see, the motion *ka* ‘go via’ undergoes semantic bleaching to become the comitative *ka* ‘together with’. As shown in (56a-b), the comitative *ka* behaves like a NP coordinator for the two conjunctive NPs can permute freely. Moreover, in (56b’) the conjunctive NP cannot move out the coordinating NP, which obeys the Coordinate Structure Constraint.

4.3.2. Past time subordinator and prefix *ka*

The other grammaticalization patterns of the *ka* ‘go via’ involves the past time *ka* in Paiwan. The past time *ka* can in turn be divided into the subordinator *ka* and the prefix *ka*. Each is illustrated in (57) and (58).

- (57) a. ti unu ‘aya-‘ayav-an ka kacimari.
 NOM boy RED-front-LOC when(past) queue.up
 ‘The boy, (he) was ahead when (he) queued up.’
- b. ka kacimari ‘aya-‘ayav-an ti unu.
 when(past) queue.up RED-front-LOC NOM boy
 ‘When (he) queued up, the boy was ahead.’
- (58) a. vaik=aken a pasa tua uma’ ka-tiaw.
 leave[AF]-1SG.NOM LNK go.to OBL house past-day
 ‘We left for house yesterday.’
- b. na-vaik ka-ngida timadju?
 PVF-leave[AF] past-when 3SG.NOM
 ‘When did he leave?’

In (57a) the past time *ka* introduces a subordinating temporal clause. As a adverbial clause, the temporal *ka*-clause can be fronted before the matrix clause, as shown in (57). On the other hand, the past time *ka* is more grammaticalized as a prefix, prefixed onto bound nominal stems to form an adverbial (e.g. *katiaw* ‘yesterday’) or a temporal wh-phrase, e.g. *kangida* ‘when (past), as shown in (58a-b).

5. Motivations for grammaticalization in Paiwan

5.1 Re-analysis and analogy: the case study of the causative *pasa*

In this section we will focus on the grammaticalization processes of *pasa* ‘cause to go to’ in Paiwan. We have two claims: The first is that the causative prefix *pa-* has been grammaticalized and lost its original function. The second is that the structural re-analysis and analogy motivates the grammaticalization of the causative motion verb *pasa*. We propose that the developments of the causative *pasa* have four stages, which

mechanisms are the reanalysis and analogy.

5.1.1 Stage I: the reanalysis mechanism

We argue that the grammaticalization of the causative prefix *pa-* can be explained by the reanalysis mechanism. Consider the examples:

- (59) a. p<en>ana' timadju a pa-sa tua 'ala.
arrow <AF> 3SG.NOM LNK CAUS-go.to OBL enemy
'He shot an arrow to the enemy.'
- b. cavulit-en ni kama a 'acilay a
carry on the shoulder-PF GEN Father NOM stone LNK
pa-sa-vavua.
CAUS/PA-go.to-field
'Father carried the stone on his shoulder to the field.'
- c. ekel-i a pa-sa-tjuma'.
run-IMP LNK PA-go.to-home
'Let's run to our home!'

The motion verbs in (59a) and (59c) each are causative *pasa* and self-propelled *pasa*. In (59a) the moving object must be the arrow rather than the shooter while in (59c) that moving object must be the runner. However, the moving object in (59b) could be ambiguous. The default candidate is the moved object 'acilay 'stone'; however, the Actor *kama* 'father' is also the moving object, moving with the moved object. Thus, here we argue that the surface syntactic structure undergoes reanalysis due to the overlapping dual interpretations; that is, that causative morpheme *pa-* can re-analyzed

as a motion prefix.

The morpheme *pa-* as a motion morpheme also occurs in other non-Formosan (Austronesian) languages such as Philippines languages. For example, Reid (1999) reconstruct **pa-* ‘go’ as the PAN motion morpheme. It has reflexes in Philippine languages. For instance,

(60) Ilokano

- a. n-ag-pa-Baguio ni Juan.
past-ntrn-go-Baguio Nom Juan
‘Juan went to Baguio.’
- b. pa-ngáto
go-up
‘upward’

(61) Tagalog

- a. pasa-Maynilà si Maria.
‘Mary is going/will go to Manila.’ (Panganiban 1972: 705)
- b. pa-taás
go-up
‘upward’

Moreover, Reid also takes the Formosan language Rukai as his evidence. Here Reid covertly adopts the reanalysis strategy to support his claim. Consider the example (62):

(62) Reid (1999: 19), adopted from Zeitoun (1997:329)

amo-a-}ao ma}avavoy po-va}io.
will-go-Nom.1s take wild.pig back-village
'I will go (and) take the wild pig back home.'

In (62) Reid argues that the prefix *po-* in Mantaoran Rukai is derived from the PAN reconstructed form **pa*. Reid glosses the prefix *po-* as a motion prefix. On the other hand, Reid also notes that Zeitoun (1997: 329) glosses the morpheme *po-* as a causative prefix in his footnote 12. Clearly, Reid adopts the reanalysis strategy to reconsider the status of the morpheme *po-* (< PAN **pa* 'go'). Similarly, Paiwan also has the same phenomenon in the caused-motion verb constructions

(63) a. si-veric a hung ni uku a pa-casaw.
IF-throw NOM book GEN Uku LNK CAUS-outside
'Uku threw the book out.'

b. 'elev-en nimadju a zua ru-pasaliv-an a caucau
close-PF 3SG.GEN NOM that HAB-do.wrong-NMLZ LNK person
a pa-tjuma'.
LNK CAUS-inside.house
'He shut the offender in the house.'

In (63) the default interpretation of the prefix *pa-* will be analyzed as the causative one. However, we can also follow Reid's analysis to reinterpret the causative *pa-* as the self-propelled motion prefix in this induced context. In this reanalysis strategy we can explain why the causative prefix *pa-* in Paiwan is grammaticalized as the self-propelled motion prefix. In summary, we can get the sequence of changes illustrated as follows:

- i The causative prefix *pa-* must attached on the embedded V_{path} in the caused-motion verb constructions in Paiwan.
- ii The causative prefix *pa-* can be reanalyzed as the motion prefix in a structure of the construction $V_{manner} \textit{lnk pa-}V_{path}$ in the ambiguous induced context.

5.1.2 Stage II: the analogy mechanism

We argue that the Stage II is involved with the analogy mechanism. We argue that the verbs co-occur with the motion verb *pasa* was extended analogically to new verbs which can have nothing to do with the motion, e.g. the location, cognition or utterance verbs in Paiwan. They are illustrated as follows:

- (64) a. (i-)pasa-ka-cedas a zua ‘ezung.
 be.at-be.toward-KA-sunrise NOM that window
 ‘The window faces toward the East.’
- b. pacun=aken a pasa-vavaw.
 see[AF]=1SG.NOM LNK be.toward-above
 ‘I look upwards.’
- c. zala-zala=aken a pasa-casaw.
 shout<AF>-RED-1SG.NOM LNK be.toward-outside
 ‘I am shouting outwards.’

The abstract motion verbs in (64) undergo more semantic bleaching; they are accounted as directional verbs in the subjective meaning rather than in the spatial interpretation.

Therefore, their imperative interpretation makes a crucial distinction from that of the motion verbs when each type combines with the cognition verbs such as *pacun* ‘see’. They are shown in (65).

- (65) a. *pasa-vavav-u* a *pacun!*
 be.toward-above-IMP LNK see[AF]
 ‘Look upwards!’
- b. *sa-vavav-u* a *pacun!*
 go.to-above-IMP LNK see[AF]
 ‘Go upwards to/and see!’

For the time being, we can get the following changes of the self-propelled motion verb *pasa* ‘go to’ shown in iii:

- iii The motion verb *pasa* ‘go to’ was extended analogically to be able to co-occur with the non-dynamic verbs in the Location, Cognition, Utterance constructions.

5.1.3 Stage III: the analogy and reanalysis mechanism

In the following we will point out the (locative) noun-incorporation makes a crucial contribution to the development of Stage III in Paiwan. In this stage the location NPs following the motion verb *pasa* ‘go to’ was extended analogically to the verbs. The structure in this stage was *pasa=V* ‘be going to V’:

- (66) a. *pasa=m-(p)acai=(y)aken.*
 go.to-AF-die=1SG.NOM
 ‘I am going to die.’

- b. *pasa=aken a m-(p)acai.
 go.to=1SG.NOM LNK AF-die
 ‘I am going to die.’

In (66) the verb *macai* ‘die’ which the proclitic *pasa* ‘be going to’ precedes was analogized from the Location NP which the motion *pasa* ‘go to’ takes. Because the original syntactic constraint prohibits the enclitic pronoun =*aken* ‘I’ against immediately following the motion verb *pasa* ‘go to’, the analogized syntactic structure prohibits the combination of the irrealis *pasa* with the enclitic pronoun, as shown in (66b). Therefore the verb *pasa* ‘go to’ must be immediately precede the main verb and was reanalyzed as a proclitic irrealis *pasa* ‘be going to’ in Paiwan. Just now we can know the changes of the verb *pasa*. They are illustrated as follows:

- iv The Location NP was extended analogically to the state verb to form the structure *pasa-V*
- v Due to the noun-incorporation structure constraint, the verb *pasa* was reanalyzed as a proclitic.

5.1.4 Stage IV : the reanalysis mechanism

Till Stage IV the grammaticalization patterns of the verb *pasa* occurs in the *Predicate + Subject* constructions. However, in Stage IV we can see the grammaticalized nominalization construction of the verb *pasa*. How did this pattern occur? Or does the scale-measure *pasa* is a homophonous form of the motion *pasa*? We argue that this scale-measure prefix *pasa* ‘extend’ was grammaticalized from the motion verb *pasa* ‘go to’ in Paiwan. One evidence is that the syntactic distribution of the scale-measure scale *pasa* ‘extend’ is complementary to that of the irrealis *pasa* ‘be

going to’ according to the semantic types of the following adjectival/state verbs. (Li 2006). If we consider that both the scale-measure *pasa* and irrealis *pasa* are grammaticalized forms from the motion verb *pasa*, we can easily know their distinction comes from different grammaticalization paths. The other evidence is that the counter-expectation mode derived from the grammaticalized motion verbs cross-linguistically. Similarly, Paiwan also employs the nominalization *pasa* construction to express the speaker’s counter-expectation mode. Hence, we argue that the scale-measure *pasa* is derived from the motion verb *pasa* in Paiwan.

Now if we are on the right track, we in turn have to ask how the scale-measure *pasa* ‘extend’ is grammaticalized from the motion *pasa* ‘go to’. We propose that the alternation of the nominative case marker *a* and the specific determiner-like *sa* may make a crucial contribution to the Stage IV. Before we show our proposal, let’s first consider the following examples:

- (67) a. (kuda) pasa-kuDal nua/a icu a vavuy.
 how<AF> extend-big GEN/A this LNK wild.pig
 ‘How come this wild pig is so big!’
- b. (kuda) pasa-kuDal (nu) sa vavuy.
 how<AF> extend-big PAR.NOM SPEC wild.pig
 ‘How come the wild pig is so big!’
- b’. pasa-gade a icu a vavuy.
 go.to-mountain nom this lnk wild.pig
 ‘This pig went to the mountain.’

One of the differences between (67a) and (67b) is that the former focuses on deixis but the latter on specificity. In addition, following Tang et al.’s (1998) analysis of the

marker *nu*, we observe that only the partitive nominative *nu* instead of the genitive *nua* can co-occur with the specific determiner-like *sa* and that the marker *nu* can be omitted in (67b). Third, the genitive marker *nua* and the marker *a* can alter in (67a).

Based on these observations, we propose that on a par with the steps of the irrealis *pasa*, the verb *pasa* ‘go to’ underwent first NP-to-VP (i.e. relative gradable verbs) analogy and then reanalysis of its grammatical status. In this period the nominative case marker alters with the determiner-like *sa*. Here we hypothesize that in this period the marker *nu* can act as both the partitive nominative case marker and the genitive case marker, which was inherited from the PAN genitive **nu*. Later the partitive nominative *nu* is reanalyzed as the genitive *nu* and further became as the genitive marker *nua* in Paiwan. Till now we can get the sequence of grammatical changes as follows. Finally, the all stages of the developments of *pasa* are depicted in Figure 1.

- vi The verb *pasa* ‘go to’ underwent first NP-to-VP (i.e. relative gradable verbs) analogy and then reanalysis of its grammatical status.
- vii The nominative *a* can alter with the determiner-like *sa*; the partitive nominative *nu* is reanalyzed as the genitive *nu* and further became as the genitive marker *nua* in Paiwan.

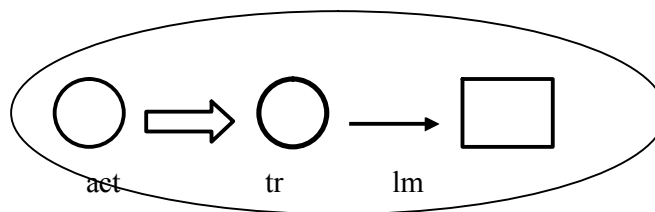
		Syntagmatic axis
		Mechanism: reanalysis
Stage I	[_{VP} [_V <i>pa-sa</i>]	tua pana]
	CAUSATIVE.MOTION	OBL Location
	[_V [_{HEAD} <i>pa-sa</i>]- <i>pana</i>]	
	CAUSATIVE.MOTION-Location	
Stage II	[_{VP} [_V <i>pasa</i>]	tua pana]
	SELF-PROPELLED.MOTION	OBL Location
	[_V [_{HEAD} <i>pa-sa</i>]- <i>pana</i>]	
	SELF-PROPELLED.MOTION-Location	

Stage III	[_{VP} [_V pasa] tua pana]	
	ABSTRACT.MOTION OBL Location	
	[_V [_{HEAD} pasa]-pana]	
	ABSTRACT.MOTION-Location	
	[_V [_{HEAD} i-pasa]-kaletjep]	
	[Be.located]-ABSTRACT.MOTION-West	
Stage IV	[_{VP} pasa-[_V macai]]	
	STATE.CHANGE-[State/Situation]	
Stage V	[_{NP} pasa-[_V keDi]]	Paradigmatic axis
	SCALE.MEASURE-[Adjectival verb]	Mechanism: analogy

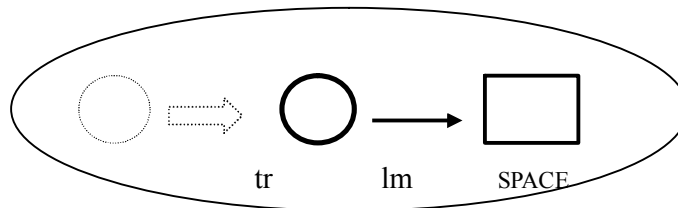
Figure 1. Schema of the developments of *pasa* in Paiwan

5.2 Pragmatic factors

Now we come to the pragmatic explanation of the grammaticalization process of *pasa* in Paiwan. We argue that the development of *pasa* can be accounted by some well accepted pragmatic factors of grammaticalization. We will argue that the semantic shift from the causative *pasa* to the self-propelled *pasa* could be motivated by profiling. The spatial motion will be illustrated in Schema 1 and Schema 2.



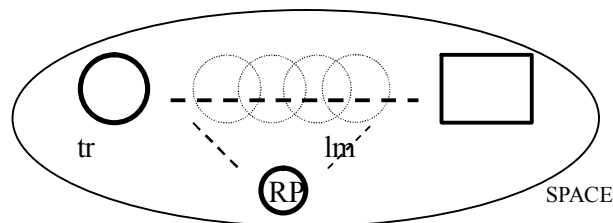
Schema 1. the causative *pasa* in Paiwan



Schema 2. the self-propelled *pasa* in Paiwan

As the above discussions show, the causative prefix *pa-* has been grammaticalized. We propose that the motivation be based on profiling. In Schema 1 the base is the whole causal chain and the scope of profiling is exactly the causal chain. That is, the participants in the causative motion domain involve the causer, the trajector [theme], and the landmark [goal/location]. On the contrary, in Schema 2 the base is still involved with the causal chain; however, the scope of profiling falls only on the second part of the causal chain. That is, the participants in the self-propelled motion domain involve only the trajector [theme] and the landmark [goal/location]. We thus propose that the focus of the causal chain in the motion domain may motivate the grammaticalization of the causative *pasa* in Paiwan.

Second, we argue that the semantic bleaching from physical motion to abstract motion could be due to the cognitive subjectivity. We argue that after the grammaticalization of the causative *pasa* into the self-propelled *pasa*, a further semantic bleaching occurs to form the abstract *pasa* in Paiwan. We argue that this motivation of the semantic shift comes from human cognitive subjectivity. It can be illustrated in the following Schema 3.

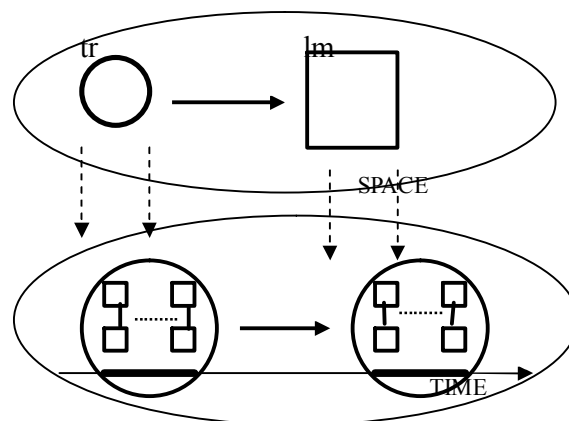


Schema 3. the abstract *pasa* in Paiwan

As we can see, the Trajector bears a certain kind of spatial axis to the Landmark in the static scene. This axis does not constitute a dynamic path for the Trajector to move along but rather a geographical axis to orientate the location of the Trajector. It is

depicted as a dotted line between the trajector and the landmark in Schema 3. The dynamic path in Schema 2 is grammaticalized into a static spatial axis in Schema 3. Moreover, there exists a conceptualizer as a reference point (RP) to conceptualize this axis. The attention shift forms a subjective movement in his mental space, as depicted as the dotted cycle in Figure 6. We propose that the subjectification mechanism motivates the shift from the ‘spatial motion’ to the ‘abstract motion’ in Paiwan.

Third, we argue that the semantic shift from spatial motion to change-of-state could be owing to the metaphorical transfer. As Heine et al. (1991) argues the metaphorical extension is a problem-solving strategy for the grammaticalization process. Following Heine et al. (1991), we argue that the development of the state-change *pasa*, like the auxiliary *be going to* in English, is motivated by the TIME IS SPACE metaphor. The mapping between the source domain (i.e. the spatial domain) and the target domain (i.e. the temporal domain) is illustrated in Figure 7.

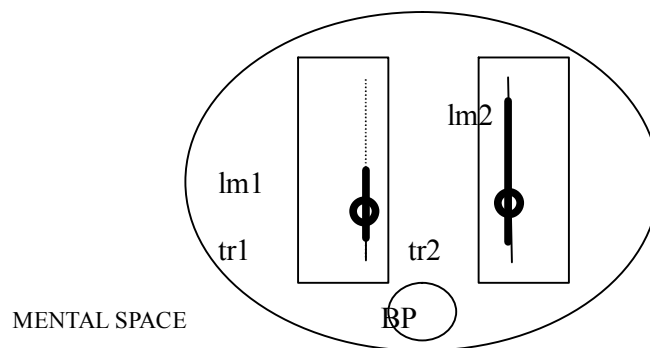


Schema 4. the irrealis *pasa* in Paiwan

As Schema 4 shows, the trajector is mapped as the old situation (e.g. a pre-resultative state) and the landmark as the new situation (e.g. a resultative state). The path is metaphorized as the passage of the moving situation into a new situation. The spatial domain (i.e. the source domain) is mapped onto the temporal domain (i.e. the target

domain). We propose that the metaphorical extension from space to time motivates the occurrence of the state-change *pasa* in Paiwan.

Finally, we argue that the development of the interrogative *pasa* results from the pragmatic inference about the gradability of adjectival verbs in Paiwan. The adjectival verbs (e.g. *keDi* ‘small’ and *kuDal* ‘big’) can be modified by the comparative prefix *tja-* ‘-er; more’ and the superlative circumfix *tjala-...-an* ‘-est; most’ in Paiwan. We argue that the co-occurrence of the interrogative *pasa* with the adjectival verbs is due to the profiling of the scalar region in the color space (see Langacker 1987) and that the quantificational and counter-expectation interrogative meanings come from the inference of the mental subjective world with the physical objective world. They are illustrated in Schema 5.



Schema 5. the scale-measure *pasa* in Paiwan

As Schema 5 shows, the speaker (i.e. RP) bears a mental color space of the degree region. When the speaker questions the quantification of the property of the object, he may infer a situation about the object’s property in his mind. This situation can be depicted in the left part of the above schema. The speaker questions to what extent the trajector (i.e. the object’s property) can move along the region of the landmark (i.e. the

gradable degree). In Paiwan the quantificational interrogative *pasa* is employed to express the ‘subjective motion’ on the scalar space (e.g. dimension space). On the other hand, when the speaker conceptualizes the real situation in the physical world, it may contrast with the suppositional situation in his mind. Thus, the counter-expectation meaning results from the mismatch between the real situation and the suppositional situation. That is, the degree of the trajector’s moving along the scalar space (e.g. color space) in the real situation is higher (or lower) than in the suppositional situation. Thus, Paiwan employs the interrogative *pasa* to express such gradability.

In summary, we can see a clear unidirectional cline of the development of the *pasa* in Paiwan: lexical content word > grammatical prefix. Moreover, the semantic shift of the *pasa* is clearly from the objective axis to the subjective axis. It accords with Traugott’s (1989, 1995) ‘subjectification’ hypothesis. For example, the semantic shift from the spatial motion *pasa* to the abstract motion *pasa* or to the irrealis *pasa* accords with the axis: objective meaning > subjective meaning. Moreover, the shift from the real world (motion and state-change) *pasa* to the mental counter-expectation *pasa* also accords with the axis: non-epistemic modality > epistemic modality.

6. Conclusion

In this paper we investigate the grammaticalization patterns of two pairs of motion verbs in Paiwan: the GO forms and the PAST forms. We show the grammaticalization paths of each motion verbs *pasa* ‘cause to go to’, *sa* ‘go to’, *paka* ‘cause to go via’, *maka* ‘go via’, and *ka* ‘go via’ in Paiwan. We have two major arguments: First, the causative prefix *pa-* systematically grammaticalized as the self-propelled motion prefix in Paiwan. Second, we show that the motivation mechanisms for the grammaticalization of motion verb *pasa* ‘cause to go to’ in Paiwan are (a) the reanalysis and analogy, and (b) the pragmatic metonymy and metaphor. Finally we also show that

the grammaticalization paths also have the tendency of unidirectionality.

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