

# Frames of Spatial Reference in Paiwan\*

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## 1. Introduction

A great deal of effort has been made on the spatial reference in Austronesian and Papuan languages. However, only few attempts have so far been made at the spatial language in Formosan languages. Thus, the aim of this paper is to fill the gap of the few research works in Formosan languages. Here we are not concerned with the physical dynamic spatial concept, namely, the spatial Motion events. In this paper we will focus on the frames of spatial reference in Paiwan based on the following question: How does Paiwan use various spatial frames of reference to describe their surrounding environment?

In this paper we will show that in Paiwan speakers use the static locative predicate *i* ‘be located’ to express the spatial relationship between the primary object (i.e. Figure) and the secondary object (i.e. Ground). Second, we find that the Paiwan speakers use the Projector-based Reference Frame to describe their micro-oriented environment. For example, the spatial term *viri* stands for the left while *naval* stands for the right. Third, there exist two deictic locative terms *maza* ‘here’ and *zua* ‘there’ to express the guidepost-based spatial frame. Fourth, the Paiwan speakers also make use of two field-based spatial terms (i.e. the East and the West) to describe to their macro-oriented environment. However, Paiwan has no corresponding spatial terms to the notion of North and of South like some Indo-European languages. The Paiwan speakers employ the projector-based spatial frame ‘left & right’ to substitute for the so-called field-based spatial terms ‘North & South’.

Moreover, it is observed that the ‘seeming’ dynamic motion event *pasa* is

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Abbreviations in the Paiwan examples are shown as follows: 1: first person, 2: second person, 3: third person, Ca: Ca-reduplication, Caus: Causative, AF: Actor focus, COS: Change of state, Gen: Genitive, Imp: Imperative, Irr: Irrealis, LF: Location focus, Lnk: Linker, Loc: Location, Nmlz: Nominalizer, Nom: Nominative, Obl: Oblique, P-: non-common noun prefix, Perf: Perfective, PF: Patient focus, Pl: Plural, Red: Reduplication, S: Singular.

employed in the frames of spatial reference in Paiwan: a static predicate can be morphologically decomposed into a locative verbal root (i.e. *i* ‘be located’) plus a motion affix (i.e. *-pasa-* ‘go toward’). Thus, a question may arise: why is the motion event *pasa* employed to express such a static concept in Paiwan? We argue that this syntactic pattern is cognition-motivated. Following the spirit of Talmy (1996, 2000), we propose that the motion affix *-pasa-* ‘go toward’ provides a fictive path between the primary Reference object (i.e. the Primary Ground) and the secondary Reference object (i.e. the Secondary Ground). The fictivity in human’s cognition accounts for why such a motion prefix *-pasa-* ‘go toward’ can express a static situation.

The rest of this paper proceeds in the following order. Section 2 introduces a theoretical framework to account for the spatial reference frames in Paiwan. In Section 3 we will show the spatial frame of reference in Paiwan. In Section 4 we will show that Paiwan employs the fictive motion events to express a static geometric situation. Finally Section 5 is the conclusion.

## **2. Theoretical framework**

### **2.1 Figure and Ground**

Talmy (1983) argues that one’s conceptualization of space exhibits two subsystems. One is the matrix subsystem of space and the other is the material subsystem of space. The former comprises static concepts (e.g. region and location) and dynamic concepts (e.g. path and placement) while the latter consists of an object or a mass. Within a spatial scene, language marks out a focal portion bearing certain spatial relations to the second (even third) portion. The focal portion of the spatial scene is called the primary object (i.e. Figure) while the second portion is called the secondary object (Ground). The spatial relations in which the primary object bears to the secondary object are geometric and asymmetric. Their asymmetric spatial relations are given in (1) and illustrated in (2).

- (1) The general conceptualization of Figure and Ground in language
  - a. 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.
  - b. 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.
- (2)
  - a. The bike is near the house.
  - b. The house is near the bike.

One may expect that the sentences in (2a) and (2b) represent an inverse and symmetric spatial relation. However, we could notice that sentence (2a) reads like an acceptable one while (2b) sounds quite odd. Talmy (1983) argues that this contrast comes from the asymmetric spatial relation between the primary object and the secondary object. In (2a) the house is recognized as a fixed and larger reference object by which the movable and smaller object, i.e. the bike is characterized. On the contrary, in (2b), the bike (i.e. a movable, simpler, and smaller object) is used to be a reference object by which the house is described. The roles of the primary object and the secondary object correspond to the notions of “Figure” and “Ground”, which are introduced by the Gestalt psychology and latter applied to cognitive linguistics by Talmy (1975). The role of *bike* in (2a) is viewed as “Figure” and that of *house* is viewed as “Ground”.

## 2.2 Frames of reference

Talmy (1983) proposes that one conceptualizes space by characterizing a Figure’s site, path, or orientation (i.e. the spatial disposition) on basis of not only a single reference object but also of two reference objects. Among the two reference objects, a “PRIMARY REFERENCE OBJECT” (PRO) can be further discriminated from a “SECONDARY REFERENCE OBJECT” (SRO). Therefore, at least two types of conceptualization of the spatial structure operate through a Figure’s asymmetric relations to different reference objects. One type is the simplest one involving only a single reference object, making appeal to the geometric properties of the Ground object alone. The other is a more complex one that partitions off two reference objects in a spatial scene. Talmy (1983) therefore proposes that the simplest type of reference frames is termed as the GROUND-BASED REFERENCE FRAME, as illustrated in (3).

(3) The bike is in the church.

In (3) the bike’s site is characterized by the preposition *in* with respect to the church’s location and geometric properties (e.g. its interior). The Figure object (i.e. the bike) is characterized by means of the single Ground object (i.e. the church) rather than in terms of more than one Ground object. This type of spatial reference frames illustrated in (3) is therefore called as GROUND-BASED REFERENCE FRAME.

The second type of spatial reference frames can further be partitioned into some subparts, involving a primary Reference object and a secondary Reference object and a focal object, namely a Figure object. The focal object is to “encompass” a primary Reference object and a secondary Reference object, as illustrated in (4).

(4) The bike is on the east side of the church.

In (4) the Figure object, i.e. the bike is localized in a region that is adjacent to the primary Reference object, the church. This region bears a certain spatial direction to the church. This directional relation is characterized in terms of a secondary Reference object, that is, the earth. The example (4) given above is field/earth-based and therefore this subtype is termed as FIELD-BASED REFERENCE FRAME.

The third type involves a secondary Reference object wholly outside the primary Reference object, to which the secondary Reference object bears non-asymmetric relations. The secondary Reference object functions like a geometric point to mark out the portion/region nearest to or further from the Primary Reference object. It is illustrated in (5).

(5) The bike is on this side of the church toward the cemetery.

In (5) the cemetery (i.e. the SRO) serves as a guide-pointing Ground object and the church (i.e. the PRO) functions as a Ground object. The bike (i.e. the Figure) is located in the region that is singled out as a neighborhood of the church. Moreover, the region is further identified as one that is in the direction of the cemetery (i.e. a geometric point-like Ground object). The SRO here functions like a point-like Ground objects. This subtype therefore is termed as GUIDEPOST-BASED REFERENCE FRAME since the SRO functions like a geometric point.

The final type involves a special case of the external secondary Reference object. Unlike the Guidepost-based Reference Frame, this type of spatial reference frame holds a projective SRO extending an asymmetric relation over the PRO. It is illustrated in (6).

(6) The bike is to the left of the silo.

In (6) the speaker projects (i.e. SRO) his intrinsic right-left axis onto the silo (i.e. PRO) and thus the bike is localized in a place or region with respect to the lateral axis of the silo. This subtype therefore is termed as PROJECTOR-BASED REFERENCE FRAME. To summarize, one conceptualizes space via localizing the Figure object on the basis of the above types of the Reference Objects. Now the summary is given in the following Table 1.

Table 1: Types of spatial reference frames

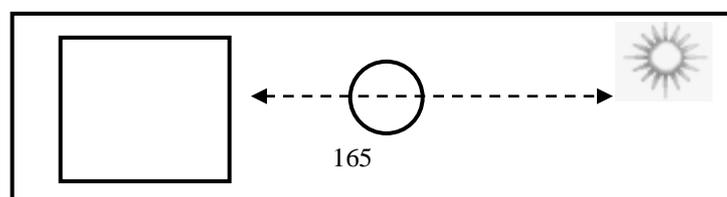
Frames of Reference	Primary Reference object (PRO)		Ground-based Reference Frame	
	Secondary Reference object (SRO)	Encompassive		Field-based Reference Frame
		External	Non-projective	Guidepost-based Reference Frame
			Projective	Projector-based Reference Frame

Finally, it is worthwhile to point out that Talmy (2000) argues that there exists a Figure-encountering path, which is used to localize a Figure by means of a Secondary Reference object. This axis is equivalent to the ‘fictive access path’ (Talmy 1996) or to the ‘subjective axis’ (Langacker 1986, 1987). Let us consider the fictive paths in the Field-based Reference Frame and the Projector-based Reference Frame, as illustrated in (7) and (8).

- (7) The bike is on the east side of the church.
- (8) The bakery is this way from the church.

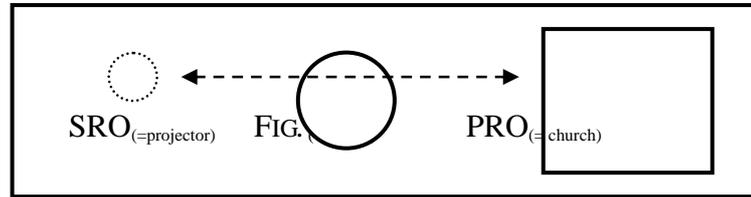
Talmy (2000) argues that the example (7) describes the location of the Figure object, (i.e. the bike) by means of a fictive path from the Secondary Reference object, namely the East, encountering the Figure object, finally arriving at the Primary Reference object, the church. Similarly, the example (8) delineates the location of the bakery in characteristic of a fictive path that begins from the church and goes through the bakery and finally ends with the conceptualizer. It is clear that the bike in (7) and the bakery in (8) are not movable objects and that they do not move through physical space. However, they are described in terms of fictive paths that may move in the conceptualizer’s mental space, as illustrated in Figure 1 and Figure 2. The fictive movement, that is, the conceptualizer’s attention shift in the mind is viewed as FICTIVE MOTION (Talmy 1996, 2000) or ABSTRACT MOTION (Langacker 1986, 1987, 1991).

Figure 1



PRO<sub>(=church)</sub>    FIG<sub>(=bike)</sub>    SRO<sub>(=earth)</sub>

Figure 2



### 3. Frames of reference in Paiwan

#### 3.1 Ground-based Reference Frame in Paiwan

##### 3.1.1 Inside vs. outside

Unlike Indo-European languages, Paiwan distinguishes the inner three-dimensional bulk of a house/building from that of a container. For example, the English preposition *into* expresses both the inner volume of a container and of a building, as illustrated in (9).

- (9) a. John put the money *into* the box.  
 b. John ran *into* the house.

As shown in (9a), the preposition *into* indicates the enclosed space of the container (i.e. the box). The preposition *into* in (9b) is also used to refer to the inner enclosed space of the building (i.e. the house). However, in Paiwan the spatial term *tjuma* 'inside' is only used for the inner space of a house or building. It is illustrated in (10). In (10a) and (10b) the spatial noun *tjuma* 'inside' is associated with the object *uma* 'house' in Paiwan.

- (10) a. i-tjuma'                    i-tjukay                    timadju a    c-em-ungal.  
           be.located-inside    be.located-church    3S.Nom Lnk kneel-AF  
           'He knelt in the church.'  
 b. t-em-elar            a            i-tjuma'.  
           light-AF            Lnk            be.located-inside  
           'The light shined into the house.'

As shown in (10) the spatial site of the Figure object is specified with respect to the Ground object's geometric property. In (10a) the location of the agent (i.e. *timadju* 'he') is sited in the inner three-dimensional space of a building (i.e. *tjukay* 'church'). In (10b), the Figure object *telar* 'light' moves into the enclosed space of a house (i.e.

*uma* ‘house’). It is observed that the inner three-dimensional space is deeply involved with the categories of the Ground object, i.e. a house-like building. Therefore the notion HOUSE could be an important conceptual content in Paiwan speakers’ conceptual system.

Now let us consider the outer two-dimensional space of a house in Paiwan. The outer unbounded region (i.e. *casaw* ‘outside’) is characterized with respect to the inner bounded three-dimensional space of a house. Consider the following examples:

- (11) a. ‘utjal’-utjal-an      a            i-casaw    tucu.  
rain-Red-AN          Nom      P-outside now  
‘It is raining outside.’
- b. lalje’el            a            i-casaw.  
cold(AF)          Nom      P-outside  
‘It is cold outside.’

In (11a) the nominal predicate *‘utja’utjalan* ‘the place where it is raining’ denotes the outer planar region of a house (i.e. *casaw* ‘outside’). In (11b) the predicate *lalje’el* ‘be cold’ describes the situation occurring outside the outer region of a house. According to our informant, the speakers in (11a-b) usually are sited inside the house to describe the situations occurring outside the house. The notion OUTSIDE in Paiwan is opposite to the notion INSIDE THE HOUSE in Paiwan.

### 3.1.2 Interiority

Now we see another subtype of the Ground-based Reference Frame in Paiwan. This type of frame of reference describes the inner three-dimensional space of an enclosed entity except a house or building. Now consider the following examples:

- (12) a. p-in-i-taljatj                            tua kiljasi    a            hung.  
Caus-PF-be.located-inside    Obl drawer    Nom      book  
‘The book was put into the drawer.’
- b. pele-pel-en    nimadju a            kava    (a) pa-sa-taljatj  
stuff-Red-PF    3S.Gen    Nom      clothes    Lnk Caus-go.to-inside  
tua    tansu.  
Obl wardrobe  
‘He stuffed the clothes into the wardrobe.’

As shown in (12a), the verbal predicate comprises a prefix *p-* ‘causative’, an infix *-in-* ‘perfective’, a locative predicate *i* ‘be located’, and a locative nominal *taljatj* ‘inside’.



geometric property of the Ground object is not exactly enclosed and three-dimensional but rather more planar and surface. Therefore the locative nominal *taljatj* ‘inside’ seems to extend to apply to more peripheral image-schemas.

Compared with the inherent geometric properties (i.e. inner vs. outer) of a house/building, the geometric property of a container does not inherit the outer geometric property. It can be illustrated in (14).

- (14) a. su-alap-u            a            kuli        i            tua kupu.  
 remove-take-Imp    Nom        ice.cube    be.located    Obl cup  
 ‘Take the ice cube out of the cup!’
- b. ?su-alap-u            a            kuli        i        tua kupu        a  
 remove-take-Imp    Nom        ice.cube    in    Obl cup        Lnk  
 pa-sa-casaw  
 Caus-go.to-outside  
 ‘Take the ice cube (out of the cup) and take it out of the house!’

In (14a) the outside of the Figure object (i.e. *kuli* ‘ice cube’) is implied by the pragmatic inference in Paiwan while in (14b) the final destination of the Figure object is changed to the outside of the house indicated by the nominal *casaw* ‘outside’. That is, the locative nominal *casaw* does not act as the exterior region of a container in Paiwan. Now the spatial geometric contrast between IN and ON with respect to different Ground objects is illustrated in Table 2.

Table 2: IN/OUT contrast with respect to different Ground objects

	HOUSE	CONTAINER
IN	<i>tjuma</i> ‘inside the house’	<i>taljatj</i> ‘interiority’
OUT	<i>casaw</i> ‘outside the house’	*

## 3.2 Field-based Reference Frame in Paiwan

### 3.2.1 East vs. west

Now we will see the first subtype of the Field-based Reference Frame in Paiwan. This subtype is involved with the East and the West, as illustrated in (15).

- (15) a. a            za    i-hualien        i-pasa-ka-cedas  
 Nom        that P-Hualien        be.located-go.toward- KA-sun.peep  
 tjay i-taiwan.  
 Obl P-Taiwan

‘Hualien lies in the east of Taiwan.’

- b. nu i-vavaw-sun ta kisa  
 if be.located-the.top-2S.Nom Obl train  
 k-em-asi-takau patje-tayhuku, uri-pacun-sun tua  
 come.from-AF-Kaohsiung arrive-Taipei Irr-see-2S.Nom Obl  
 i-pasa-ka-cedas gade-gade'-an sakamaya.  
 be.located-go.toward-KA-sun.peep mountain-Red-Loc emphasis  
 ‘If you leave Kaohsiung for Taipei by train, you will see the mountains  
 in the east.’

As shown in (15a), the place *Hualien* (i.e. the Figure object) serves as part of Taiwan (i.e. the primary Reference object). Moreover, it is further specified through the horizontal East-West axis of the earth (i.e. the encompassive secondary Reference object). In (15b) the site of the Figure object (i.e. the hearer) is also delineated through the earth-based East-West axis with respect to the primary Reference object (i.e. *gadegade'an* ‘mountains’). Here we argue that this earth-based East-West axis is based on the path of the sun. That the locative nominal *kacedas* ‘the East’ is derived from the verb *cedas* ‘the peeping of the sun’ can prove this argument. It is illustrated in (16).

- (16) a. c-em-eda-cedas a 'ataw tucu.  
 peep-AF-Red Nom sun now  
 ‘The sun is peeping now.’
- b. ngua-ngua'-aravac a k-in-a-cedas-an nua 'ataw.  
 beautiful-Red-very Nom P-nmlz-peep-nmlz Gen sun  
 ‘The first ray of the (morning) sun is very beautiful.’

In (16a) the predicate *cemedacedas* ‘peep’ is used to describe the rise of the morning sun. In (16b) the result nominal *kinacedasan* ‘the first ray’ is composed of the verbal root *cedas* ‘peep’ and the nominalizing affixation *kina-...-an*, expressing the [+ vision] property of a result nominal (Tang 2002).

Now we turn to another case of the locative nominal *kacedas* ‘the East’. Consider the example illustrated in (17).

- (17) na-pasa-ka-cedas a paling na nia-uma'.  
 Perf-go.toward-KA-sun.peep Nom door Gen 1S.Gen-house  
 ‘The door of our house has faced the East.’

As shown in (17), the Figure object (i.e. *paling* ‘door’) is localized as part of the primary Reference object (i.e. *uma* ‘house’) and further orientated through the East-West axis of the secondary Reference object (i.e. the sun). In (17) the orientation of the Figure objects, i.e. *paling* ‘door’, is toward the place where the sun peeps. It is worth noting that the orientation of the door is expressed by the fictive motion affix *-pasa-* ‘go toward’. We will explain it in the latter section.

Now we will see another case of the first subtype of Field-based Reference Frame in Paiwan, that is, the West. We will first show the relevant verbal predicate and result nominal with respect to the locative nominal *kaletjep* ‘the West’. They are illustrated in (18).

- (18) a. l-em-etjep-aken tua zaljum.  
 dive-AF-1S.Nom Obl water  
 ‘I dive into the water.’
- b. ngua-ngua’-aravac a k-in-a-letjep-an nua ‘ataw.  
 beautiful-Red-very Nom P-nmlz-dive-nmlz Gen sun  
 ‘The sunset is very beautiful.’

In (18a) the predicate *lemetjep* ‘dive’ is used to describe the diving into the water. In (18b) the result nominal *kinaletjepan* ‘the sunset’ is composed of the verbal root *letjep* ‘dive’ and the nominalizing affixation *kina-...-an*, expressing the [+ vision] property of a result nominal. It is therefore obvious that the locative nominal *kaletjep* ‘the West’ is derived from the verbal stem *letjep* ‘dive’, which is similar with the case of *kacedas* ‘the East’.

One may wonder why the eastward direction is related with the activity of diving. As we point out above, the East-West axis is based on the path of the sun in Paiwan. Thus, the westward direction must be correlated with the setting of the sun. It would be reasonable if one gets the whole picture of the geographical distribution of the (Northern) Paiwan. The Paiwan aborigines dwell in the western part of Taiwan; therefore their eastward part faces the Central Mountain Range and their westward part faces Taiwan Strait. Thus, when the sun sets, it dives into the Taiwan Strait. No wonder the Paiwan speakers realize that the westward direction is involved with the diving of the sun.

Next we will exhibit some more examples of this subtype of reference frame, as illustrated in (19).

- (19) a. nukatiatiaw ma-sule-sulem a pacun tua ‘ataw  
 every.day AF-evening-Red Lnk see(AF) Obl sun  
 i-pasa-ka-letjep i tua ilanan.  
 be.located-go.toward-KA-dive be.located Obl village  
 ‘Every evening (someone) sees the sun on the east side of the village.’
- b. a (i)-pasa-ka-letjep i-untuziu  
 Nom (be.located)-go.toward-KA-dive be.located-schoolyard  
 turuvu a situ a na-ma-lingetjel.  
 many Nom student Lnk Perf-AF-stand  
 ‘Many students have stood in the east side of the school yard.’

In (19a) the site of the sun is characterized with respect to the village through the direction toward the West. In (19b) the students are localized by the westward direction with reference to the schoolyard. It is worth noting that in both cases the motion event *pasa* ‘go toward’ is used to describe the static locative scene. We will discuss it in the latter section.

Next we will discuss the spatial notions ‘North’ and ‘South’ in Paiwan. Here we show that the two notions are related with the Guidepost-based or Projector-based Reference Frames rather than the Field-based Reference Frame. First, the Northern Paiwan speakers point out that there exist no unmarked spatial terms for the two notions ‘North’ and ‘South’. They point out that the primary strategy expressing the notions ‘North’ & ‘South’ is to use the representative locality, such as the Taipei city and the Kaohsiung city, to refer to the North and the South, as illustrated in (20).

- (20) setjala-utjal i-pasa-tayhuku; setjala-ka-cengelaw  
 often-rain be.located-go.toward-Taipei often-KA-(the.sun).shine  
 i-pasa-takau.  
 be.located-go.toward-Kaohsiung  
 ‘It often rains north; the sun often shines south.’

In (20) the two cities, i.e. Taipei and Kaohsiung are the representative localities for the northern and southern regions of Taiwan. Here the Figure objects (i.e. the northern and southern regions) are described as those encountering a fictive path from the external secondary Reference object (e.g. the speaker) toward the point-like primary Reference objects (i.e. *tayhuku* ‘Taipei’ and *takau* ‘Kaohsiung’).

Moreover, the other strategy the Northern Paiwan speakers adopt is to substitute the asymmetric notions ‘left’ and ‘right’ for the spatial notions ‘North’ and ‘South’. It

is illustrated in (21).

- (21) a. a i-gilung i-viri-viri-an-anga i-taiwan.  
 Nom P-Keelung be.located-the.left-Red-Loc-COS P-Taiwan  
 ‘Keelung lies in the most northern part of Taiwan.’
- b. a i-taiwan a pasa-naval i-takau  
 Nom be.located-Taiwan Lnk go.toward-the.right P-Kaohsiung  
 tjala-p-en-era-perav-an.  
 most-merry-AF-Red-most  
 ‘Kaohsiung is the most bustling city in Taiwan.’

It is shown that in (21a) the locative nominal *viri* ‘left’ is used to stand for the notion ‘North’ and in (21b) the locative nominal *naval* ‘right’ is used to substitute for the notion ‘South’. The Paiwan speakers adopt the observer-centric viewpoint to conceptualize the so-called environment-centric spatial relation. Here a question may arise: is this substitution arbitrary or reasonable? We propose that this substitution of the observer-centric viewpoint for the environment-centric one is not arbitrary. Recall the geographical distribution of the Northern Paiwan aborigines. Their eastward region is to the Central Mountain Range, the region where the morning sun rises. If one turns his body to face the Central Mountain Range, his left-hand side will be toward the North while his right-hand side will be toward the South. The Paiwan speakers may adopt this perspective to conceptualize the notions ‘North’ and ‘South’. Here we see again that the region where the sun raises even deeply influences the ego-centric conceptualization of the macro-environment.

### 3.2.2 Upside vs. downside

Now we turn to see the second subtype of the Field-based Reference Frame in Paiwan. This subtype is involved with the up-down axis of the earth. Some examples are illustrated in (22).

- (22) a. p-in-i-vavaw tua cukui a za  
 Caus-Perf(PF)-be.located-the.top Obl table Nom that  
 pu-hana-(a)n.  
 put-flower-Loc  
 ‘That flower vase was put on (the top of) the table.’











‘Write down your name on the most left part of the paper.’

- b. ka kacimari mavan tjay tjelu ta viri-viri-an  
 when line.up just.so Obl three Obl the.left-Red-Loc  
 ti uku.  
 Nom Uku

‘Uku is the third one from the most left part of the line.’

In (32a) it is clear that the primary Reference object (i.e. *suljat* ‘paper’) has no intrinsic lateral right-left distinction. It is the speaker or hearer whose intrinsic right/left radiates out and defines a frame of reference by which the Figure object (i.e. *ngadan* ‘name’) is localized with respect to the primary Reference object. In (32b) the primary Reference object (e.g. a row) also has no inherent lateral right-left geometry. It is the speaker or hearer that radiates out his intrinsic lateral axis onto the primary Reference object and therefore defines a spatial frame of reference by which the Figure object is orientated.

### 3.4 Guidepost-based Reference Frame in Paiwan

Now we will see the final type of frame of reference in Paiwan. Consider the following examples:

- (33) a. ‘ivu a za a aljak “kina, aku-tjen a  
 said Nom that Lnk child Mother why-1Pl.Nom Lnk  
 i-maza i-ceme-cemel”  
 be.located-here be.located-mountain-Red  
 ‘Mother, why are we in the mountain here?’ said the child.’ (Chuang 2002)
- b. a za vatu ma-kelu a k-em-asi-maza  
 Nom that dog AF-fall Lnk come.from-AF-here  
 i-‘ezung a s-em-a-teku  
 be.located-window Lnk go.to-AF-underneath  
 ‘The dog fell down from this side of the window.’

In (33) we can see that the Figure objects (e.g. *vatu* ‘dog’) are localized with respect to a particular region of the primary Reference objects (e.g. ‘*ezung* ‘window’). The secondary Reference objects (e.g. the speaker) function like a guidepost to single out the particular portion of the primary Reference objects. This particular region is near to the secondary Reference object and therefore is expressed as *maza* ‘here’. Moreover, this particular region can be far away from the secondary Reference object,

as illustrated in (34). This further region which is away from the primary Reference object is realized as *zua* ‘there’.

- (34) a. turuvu a cawcaw i-zua i-pana  
 many Nom person be.located-there be.located-river  
 a ma-nadi-nadip.  
 Lnk AF-fish-Red  
 ‘Many people are fishing in that side of the river.’
- b. a za kinsa pa-seka’umal-en a pa-sa-zua  
 Nom that food Caus-move-PF Lnk Caus-go.to-there  
 i-tja-i-kama nimadju.  
 be.located-more-be.located-father 3S.Gen  
 ‘He moved the food to (his) father.’

#### 4. Fictive motion in spatial reference frames

In this section we will focus on the fictive motion event in Paiwan. We argue that its occurrence is not arbitrary but rather cognition-based. We find that they systematically occur in three types of spatial frames of reference in Paiwan: the Guidepost-based Reference Frame, the Projector-based Reference Frame, and the Field-based Reference Frame. Now we will first consider the Guidepost-based Reference Frame in Paiwan, as illustrated in (35).

- (35) a            icu a    tjikeza    k-em-asi-maza            a    pasa  
 Nom    this Lnk bridge    come.from-AF-here    Lnk go.toward  
 tja-i-zua-zua.<sup>1</sup>  
 more-be.located-there-Red  
 ‘This bridge, (it) stretches across from here to there.’

It is clear that the bridge is a static location; however, in (35) it seems to behave like a movable object (i.e. the Figure object), moving across a Reference object (e.g. a river). Here the ‘seeming’ dynamic motion *pasa* is used to describe such a static scene. We

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<sup>1</sup> One may wonder why the gloss of the fictive motion *pasa* in (35) is different from that of the causative motion *pasa* in (12b). We argue that the fictive motion *pasa* is different from the causative motin *pasa* with respect to the PF construction. The following serves as an example:

- (i) a. pa-sa-pana            ti    kina            tjay camak.  
 Caus-go.to-river Nom Mother    Obl Camak  
 ‘Mother took Camak to the river.’  
 b. p-in-a-sa-pana            ni    kina            ti    camak.  
 Caus-PF-go.to-river    Gen Mother    Nom Camak  
 ‘Mother took Camak to the river.’

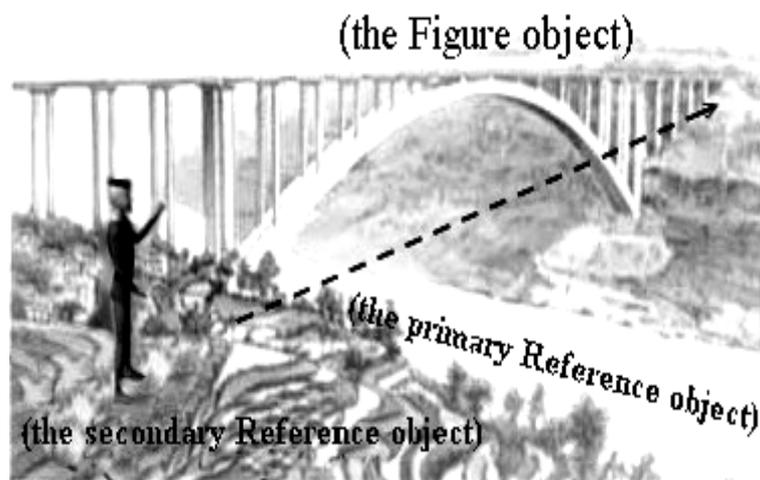
As we can see, the examples (ia) and (ib) are thematically synonymous. The causative motion *pasa* in (i) can occur in the AF construction or the PF construction, as other two-argument or three-argument verbs do. However, the fictive motion *pasa* does not behave the same with the causative motion *pasa*, as illustrated in (ii).

- (ii) a. pasa-ka-letjep            a    za    ‘ezung.  
 go.toward-KA-dive    Nom that wndow  
 ‘The window faces toward the West.’  
 #‘The window caused (someone/something) to the West.’  
 b. \*p-in-asa-ka-letjep            nua za    ‘ezung.  
 go.toward-Perf(PF)-KA-dive    Gen that window  
 ‘The window faces toward the West.’

In (iia) the fictive motion *pasa* can occur in the AF construction; however, it cannot occur in the PF construction, as shown in (iib). Now it is clear that only the causative *pasa* can occur in the PF constructio while the fictive *pasa* cannot. Thus, the PF diagnostic distinguishes the causative motion *pasa* from the fictive motion *pasa* in Paiwan.

argue that it is because that the conceptualizer moves his attention along a mental (fictive) path to arrive at the final focal object. In (35) the Paiwan speaker (i.e. the secondary Reference object) moves his attention along the fictive path from where is nearest to the speaker toward some place where is further away from the speaker. The fictive motion (i.e. the scanning of the frame of attention) plus the fictive path (i.e. the axis provided by the secondary Reference object) is incorporated into the fictive motion affix *pasa-*, as illustrated in (37). The fictive path can be depicted as the following dotted line in Figure 3.

Figure 3: The Guidepost-based spatial frame of reference in Paiwan



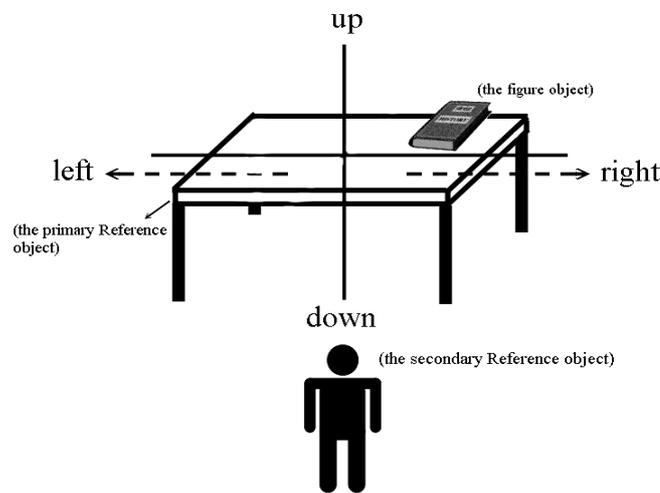
Next let us consider the Projector-based Reference Frame, as illustrated in (36).

- (36) liaw      a            hung      i-vavaw                    tua    cukui  
       many    Nom      book     be.located-the.above    Obl table  
       i-pasa-naval  
       be.located-toward-the.right  
       ‘There are many books on the left (part) of the table.’

The specific site of the Figure object (i.e. *hung* ‘book’) is orientated through two main axes which are projected from the secondary Reference objects: One is the vertical up-down axis, and the other is the horizontal right-left axis. Thus, the Paiwan speakers will describe the spatial site of the Figure object on the basis of the origin of the two axes. With respect to the up-down axis, the Figure object as well as the origin is located on the surface of the primary Reference object (i.e. the table), that is, there is not any distance between the Figure object and the origin with regard to the vertical direction. On the other hand, the site of the Figure object is left to the origin with

respect to the horizontal axis, that is, the Figure is at distance from the origin. This distance will be conceptualized as a fictive path in which the attention of the speaker may moves along from the origin toward the site of the Figure object. This fictive path is depicted as the following dotted arrow-headed line in Figure 4. The fictive path plus the fictive motion (i.e. the change of the cognitive attention) is realized as the motion affix *pasa-* ‘(nonveridically) go toward’. Thus, the static verb *i* can be combined with the fictive motion affix *pasa-* to refer to the static location of the Figure object in Paiwan.

Figure 4: The Projector-based Reference Frame in Paiwan



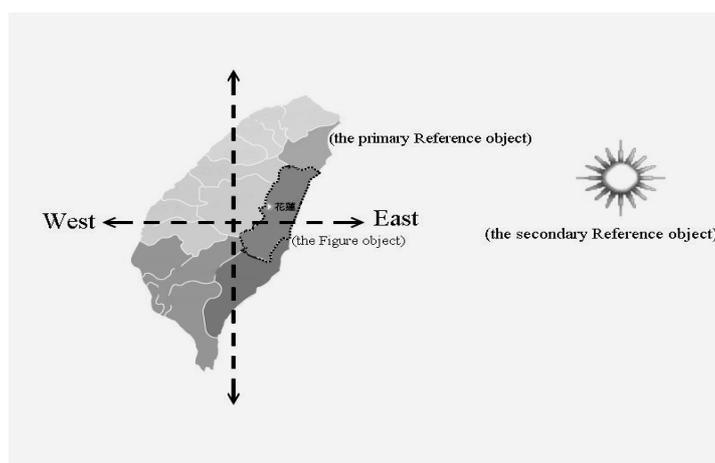
Finally, we will see the Field-based Reference Frame in Paiwan, as illustrated in (37).

- (37) a            za    i-hualien        i-pasa-ka-cedas  
 Nom        that P-Hualien        be.located-go.toward- KA-sun.peep  
 tjay i-taiwan.  
 Obl P-Taiwan  
 ‘Hualien lies on the east of the Taiwan.’

As shown in (37), the secondary Reference object (i.e. the earth) encompasses the primary Reference object (i.e. Taiwan) and therefore provides an East-West axis outside the primary Reference object (i.e. Taiwan). The Figure object (i.e. Hualien) is delineated not only with respect to the primary Reference object but also through the East-West axis. Hualien serves as part of Taiwan and lies more near the eastward direction (i.e. the direction of the sunrise), as shown in Figure 4. The East-West axis

could provide the Paiwan speaker a fictive path (expressed as the dotted line in Figure 5) with regard to his conceptualization of the Figure object's approaching toward the sun. Thus, the fictive path plus the fictive movement (i.e. Hualien's being close to the sun) is lexicalized into the fictive motion affix *pasa* 'fictively go toward'.

Figure 5: The Field-based Reference Frame in Paiwan



## 5. Conclusion

In this chapter according to Talmy's (1983) proposed reference frames, we explore the static spatial representations in Paiwan. We find that the Paiwan speakers show the spatial contrast: *tjuma* 'inside (the house)' and *casaw* 'outside (the house)'. However, there exists no spatial notion 'exteriority' in Paiwan. Second, we find that the Paiwan speakers use the Projector-based Reference Frame to orientate their micro-oriented environment. For example, the spatial term *viri* stands for the left while *naval* stands for the right. Third, the Paiwan speakers also make use of three types of the Field-based Reference Frames to describe to their macro-oriented environment: (a) the East vs. the West, (b) upside vs. downside, and (c) uphill vs. downhill. However, Paiwan has no unmarked corresponding spatial terms to the notions 'North and South' as some Indo-European languages do. The primary strategy the Paiwan speakers employ to present the notions 'North' and 'South' is the local strategy. The secondary strategy is to use the projector-based spatial frame 'left & right' to substitute for the so-called field-based spatial terms 'North & South'. Fourth, there exist two deictic locative terms *maza* 'here' and *zua* 'there' to express the Guidepost-based Reference Frame.

It should be worth pointing out that Paiwan employs the fictive motion event as a means of representing a spatial static situation. Morphologically, a static predicate can be decomposed into a locative verbal root (i.e. *i* 'be at/in/on') plus a motion affix (i.e.

*pasa* ‘go toward’). We, following Talmy (1996), propose that the motion prefix *pasa* ‘go toward’ results from the fictive path which is the spatial relation the secondary reference object bears to the primary reference object. The fictivity in human’s cognition accounts for why such a motion prefix *pasa* ‘(fictively) go toward’ can express a static situation.

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