

## Language and Gesture on Ishigaki Island<sup>1</sup>

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### 0. Introduction

Based on the results of many years of cross-linguistic research in a number of field sites where non-Indo-European languages are spoken, a functional typology of linguistic encoding of space was presented and three spatial frames of reference were identified: Relative (ego-centric), Absolute (environmental), and Intrinsic (Pederson et al. 1998; Levinson 2003). In the relative system, referents are referred to by the spatial configurations vis-a-vis the speaker (e.g. 'right' and 'left'), as in "The man stands on my right." The spatial relation changes as the speaker's location changes. In the absolute system, the frame of reference requires fixed bearings such as 'north', 'south', 'east', and 'west,' as in "Okinawa is on the south of Tokyo." The spatial relation is stable as the orientations are based on fixed environmental features. In the intrinsic system, the frame of reference is identified in terms of the referent's own characteristics –i.e., 'front,' 'back,' 'mouth,' and 'foot,' as in "Flowers touch the mouth of the vase."<sup>2</sup>

While contemporary Japanese possesses the three types of frame of reference (hereafter, FoR), it is believed to rely overwhelmingly on the relative system, at least in the Metropolitan Tokyo area (Pederson et al. 1998). The terms *migi* ('right') and *hidari* ('left') are considered the dominant linguistic encodings of space in Japanese. However, the literature on language and space in Japan is so scarce that we can hardly validate the claim of the dominance of the relative FoR in Japanese spatial cognition. The aim of this paper is to exhibit a communicative practice based on the absolute FoR in a rural community outside the Japanese mainland. By presenting linguistic and gesture data collected on Ishigaki Island in Okinawa, this paper also argues that the choice of the FoR is not predetermined but changes according to interactional contexts.

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<sup>2</sup> Other researchers have defined these notions using different terms (See Kataoka 2002). In this paper, I will use Levinson's notions and terminology as a point of departure.

## **1. Space and communicative practice in communities outside Tokyo**

Recently, studies investigating the use of the spatial frame of reference in communities outside the Metropolitan Tokyo show that the absolute FoR is more frequently used in Japanese than has been considered.

Inoue (2002) reveals that the city of Kouchi in the Shikoku region of Japan is a community where the absolute FoR is ordinarily used. Based on interviews and questionnaires among 43 elementary school students, Inoue (2005) found several aspects of spatial cognition and language use in Kouchi. First, 8.5% of her subjects claim that they apply cardinal direction terms to body parts, as in “My north-east cavity aches.” Second, the frequency of using cardinal direction terms increases as the size of space referred to becomes larger. For example, in describing “indoor space” and “outdoor with boundaries” (e.g. gates, school buildings, and outdoor stairs), 35% and 60% of her subjects claim to use cardinal direction terms, respectively. On the contrary, in describing “big outdoors,” 70% of her subjects claim that they would use cardinal direction terms. Thus, subjects switch the FoR from relative to absolute, as the referred space becomes larger. Third, in the downtown, the common FoR has shifted from absolute to relative over time. In mountainous areas, there is an ongoing shift in the use of FoR from absolute to relative. Inoue’s studies report the changes in the use of the FoR, however, they demonstrate that the absolute FoR is still used in the community.

Hosoma (2003) examines interactions with a master of the local traditional festival, Nishiure Dengaku, in Shizuoka, Japan. As the master’s gestural description of the arrangement of items that are indispensable to the festival is always accurate to the compass, Hosoma claims that the master’s gestures are based on the absolute FoR.

Kataoka (2005) investigates the use of FoR in street signboards in outskirts of the city of Nagoya. Contrary to the claim that the relative FoR is common in Japanese spatial cognition, the absolute FoR is most frequently used in street signboards. For example, while the relative FoR is used to describe location in proximity, the absolute FoR is used to describe destination in distance. He concludes that the absolute FoR plays an equally important role as the relative FoR in Japanese wayfinding.

These studies altogether suggest that the absolute FoR is indeed observable in some geographical and interactional contexts. A careful examination of spatial cognition in various Japanese communities is necessary before we can conclude that the relative FoR is dominant in Japan. This paper thus investigates the spatial FoR in a rural community outside the Japanese mainland, Ishigaki Island.

## **2. Ishigaki Island**

Ishigaki Island is one of the Yaeyama Islands, the southernmost island group in Japan, lying 420 kilometers southwest of Naha on the Main Okinawa Island.<sup>3</sup> It

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<sup>3</sup> Ishigaki Island is located 2,200 kilometers south of Tokyo and 250 kilometers west of Taiwan.

belongs to the subtropical climate zone. The island is about 120km in circumference and surrounded by coral reefs and beaches. Every year more than seventy thousand tourists visit the island, which has a significant impact on the island's economy. Among the island's estimated population of 47,000, ninety percent lives in Ishigaki *shigaichi* (downtown), which is marked by parallel roads leading a few blocks north from the port and by crossroads running west-east along the coast (See Maps 2 & 3).

On Ishigaki Island, speakers, especially of the older generation, speak the Yaeyama dialect or varieties of the Ryukyuu Dialect in addition to Standard Japanese.<sup>4</sup> Today, many young speakers claim that they cannot speak or understand the Yaeyama dialect. But their speech contains accentual patterns and lexicons that are characteristics of the Yaeyama or the Ryukyuu dialect.

### **3. Data analysis**

This section presents data collected in several field trips to Ishigaki Island since September 2006. The analysis reveals that (1) the absolute FoR is ordinarily observed in Ishigaki speakers' speech and gesture; and (2) speakers choose the FoR according to the interlocutors' background.<sup>5</sup>

#### **3.1. Cardinal direction terms in the Yaeyama (Ishigaki) dialect**

Cardinal direction terms used on Ishigaki Island are different from those in Standard Japanese. Table 1 shows a list of cardinal direction terms relevant to this study in the Naha and the Yaeyama dialects, Standard Japanese, and English.<sup>6</sup>

Table 1: Cardinal direction terms in the Yaeyama and Naha dialects

<b>English</b>	<b>Standard Japanese</b>	<b>Naha Dialect</b>	<b>Yaeyama Dialect</b>
'east'	<i>higashi</i>	<i>Agari</i>	<i>aaru</i>
'west'	<i>nishi</i>	<i>Iri</i>	<i>iiru</i>
'south'	<i>minami</i>	<i>hai/pai</i>	<i>hai/pai</i>
'north'	<i>kita</i>	<i>nishi/nisu</i>	<i>nishi/nisu</i>

The Yaeyama dialect has its own cardinal direction terms that are slightly different from those in the Naha dialect, but no instance of the terms spoken in the Yaeyama dialect was found during my data collection. Ishigaki speakers that I

<sup>4</sup> Varieties spoken on the Yaeyama, Miyako, Okinawa, and Amami Islands are known as Ryukyuu Dialect as a whole. Since Ishigaki Island's population includes groups of settlers whose ancestors came from these and other islands, speakers of the older generation speak dialect varieties that their ancestors spoke on their home islands. However, those islands are so far apart in the Pacific Ocean that dialect varieties are often mutually unintelligible.

<sup>5</sup> Here, Ishigaki speakers refer to natives of Ishigaki Island.

<sup>6</sup> Here, the Naha dialect refers to a variety of the Ryukyuu Dialect.

encountered used cardinal direction terms not in the Yaeyama dialect but either in the Naha dialect or in Standard Japanese, as shown in the following analysis.

### 3.2. The absolute frame of reference in speech

This section examines how Ishigaki speakers describe space in their everyday speech. In naturally-occurring interaction I recorded, no speaker used cardinal direction terms in reference to body parts, unlike speakers in Kouchi in Inoue's studies. However, in reference to objects inside or near the house, Ishigaki speakers sometimes use cardinal direction terms, as in (1) and (2).

- (1) The speaker (age 80) talks to his grandson who is looking for scissors:

<i>jibun</i>	<i>no</i>	<i><u>kita</u></i>	<i>ni</i>	<i>aru</i>	<i>sa</i>
self	GEN	north	LOC	exist	SFP

‘(The scissors) are on your north.’

- (2) Standing at the entrance space, the speaker talks to her neighbor and the cat:

<i><u>iri</u></i>	<i>ni</i>	<i>mawatte</i>	<i>haitte</i>	<i>yo</i>
west	LOC	go around	enter	SFP

‘Go around (the house) to the west and come in.’

When speakers talk about local geography, they often use cardinal direction terms, as in (3) and (4). Example 3 shows a common way of conveying the locative information in downtown Ishigaki.

- (3) The speaker informs her friend about the place to meet:

<i>yuubinkyoku</i>	<i>no</i>	<i><u>agari</u></i>	<i>gawa</i>	<i>da</i>	<i>yo</i>
post office	GEN	east	side	COP	SFP

‘(We’ll) meet on the east side of the post office.’

- (4) The speaker describes a route to a stranger:

<i>soko</i>	<i>itte</i>	<i>niken</i>	<i>sanken</i>	<i>yonkenme</i>	<i>desu</i>	<i>yo</i>
there	go	second	third	fourth house	COP	SFP
<i>konkuri</i>	<i>arimasuyo</i>	<i>sono</i>	<i><u>nishi</u></i>	<i>desu</i>	<i>yo</i>	
concrete	exist.COP.SFP	the	west	COP	SFP	

‘(When you) go there and on the second, third, and fourth house, there is a concrete building. (It’s) on the west side of the building.’

Just like Inoue (2005) finds in the city of Kouchi, on Ishigaki Island, too, the larger the size of the referred space becomes, the more likely Ishigaki speakers would use cardinal direction terms. In such situations, the use of cardinal direction terms often occurs with gesture which accurately points the actual direction of the space mentioned. This point will be analyzed in 4.4. Overall, the use of cardinal direction terms is common in everyday speech among Ishigaki speakers. This,

however, does not automatically mean the dominance of the absolute FoR in Ishigaki speakers' speech. In fact, speakers on Ishigaki Island choose other spatial frames of reference depending on context, as illustrated in the next section.

### 3.3. The different frames of reference for different interlocutors

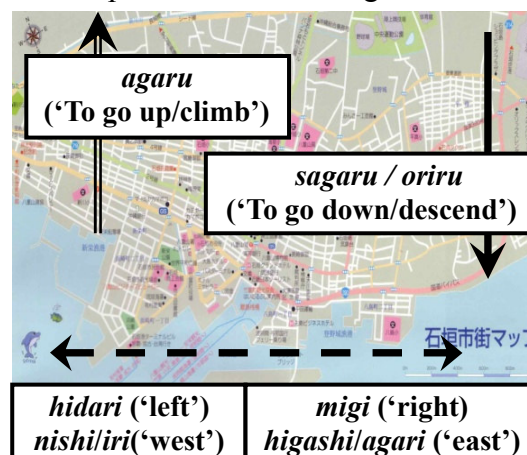
As a popular holiday resort and place for retired life, many people visit or move to the island throughout the year. To most islanders living and working in downtown Ishigaki, interaction with tourists or new settlers from other prefectures is an everyday matter. Then, what happens when local islanders and tourists from other prefectures meet and talk about space? Which FoR is chosen? This section analyzes how Ishigaki speakers in downtown Ishigaki describe a direction to non-Ishigaki speakers and examines whether or not the FoR used in Ishigaki speakers' directional descriptions remains constant across different interlocutors.

Before analyzing the data, I should introduce the local practice of describing a direction. In downtown Ishigaki, people use *agaru* ('to go up/climb') to go towards the direction of Mt. Omoto from the ocean and *sagaru/oriru* ('to go down/descend') to go towards the ocean from the direction of Mt. Omoto (Map 2). The terms are said to reflect the gentle slope leading to Mt. Omoto from the ocean. The same expressions are used in the town of Shiraho to the northwest of downtown Ishigaki, though compass directions of what *agaru* and *sagaru/oriru* point to in Shiraho and downtown Ishigaki are different (Map 1).

Map 1: Ishigaki Island<sup>7</sup>



Map 2: Downtown Ishigaki<sup>8</sup>



In downtown Ishigaki, spatial description is based on two coordinates: the south-north and east-west. To describe the south-north coordinate, as mentioned earlier, the terms *agaru* and *sagaru/oriru* are used. I heuristically consider that

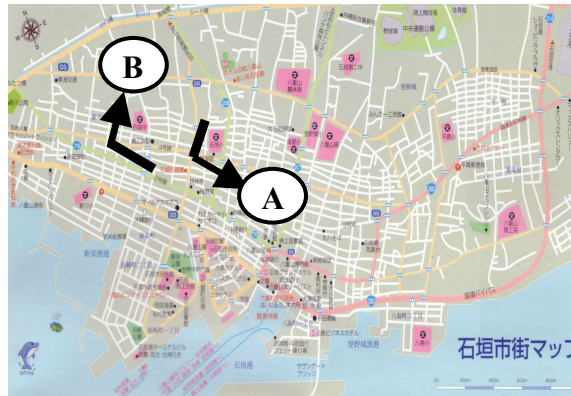
<sup>7</sup> I used the map taken from <http://wikitravel.org/en/Image:Map-ishigaki.png> and modified.

<sup>8</sup> This map is taken from <http://www.yaeyama.or.jp>. The arrows and the explanations in the boxes were added by the researcher.

these terms are based on the intrinsic FoR.<sup>9</sup> To describe the west-east coordinate along which several long roads run parallel, the terms *hidari/migi* ('left/right'), *nishi/higashi* ('west/east') of Standard Japanese, or *iri/agari* ('east/west') of the Naha dialect are used.<sup>10</sup> In downtown Ishigaki, I consider the terms left/right as using the relative FoR and the terms west/east as using the absolute FoR.

Using these frames of reference as a point of departure, I investigated which spatial FoR would be used to a pair of non-Ishigaki speakers and to a pair of native Ishigaki speakers when the two pairs separately asked for directions (to locations A and B on Map 3) from randomly-chosen subjects who are natives of Ishigaki.<sup>11</sup> Data-collecting interviews were conducted on the flat part of downtown Ishigaki, in order to avoid the geographic bias and not to influence speakers to use the terms *agaru*, *oriru*, and *sagaru* that inherently include upward and downward movements.

**Map 3: Two directions interviewed in downtown Ishigaki<sup>12</sup>**



Tables 2 and 3 below show the results of the interviews and suggest that Ishigaki speakers tend to discern the use of FoR according to interlocutors.

<sup>9</sup> This categorization is different from Levinson's (2003). Levinson would consider that these expressions show the absolute FoR that is based on the fixed geographic features such as mountains and the sea. In the case of Ishigaki Island, the same expressions *agaru*, *oriru/sagaru* are used in Shiraho to describe not the south-north but west-east coordinate, as indicated on Map 1. So the use of the terms is based on the local intrinsic characteristics rather than the absolute compass.

<sup>10</sup> Precisely speaking, the west/east distinction is not accurate to compass. It has to be north-west/south-east, but people conventionally use the terms 'west' and 'east' to describe the direction indicated in the dotted line on Map 2.

<sup>11</sup> Here, locations A and B are heuristic. The directions and routes that people described were not limited to the ones that appear on the map.

<sup>12</sup> This map again taken from <http://www.yaeyama.or.jp> includes additional information.

Table 2: The FoR to describe location A<sup>13</sup>

FoR	To non-Ishigaki Speakers	To Ishigaki Speakers
Relative	72% (13/18)	13% (2/15)
Absolute	17% (3/18)	47% (7/15)
Intrinsic	33% (6/18)	53% (8/15)

Table 3: The FoR to describe location B

To non-Ishigaki Speakers	To Ishigaki Speakers
85% (11/13)	20% (2/10)
15% (2/13)	20% (2/10)
46% (6/13)	90% (9/10)

First, let me explain the results in Table 2. The two pairs of non-Ishigaki and native-Ishigaki speakers collected descriptions of the route to location A. As shown in the left column of Table 2, most subjects used the term *hidari* ('left') when they explained the route to non-Ishigaki speakers.

- (5) *kono michi o itte X ni tsuitara shingou o hidari ni magatte...*  
 this road O go X LOC arrive.then signal O left LOC turn  
 'Go on this street and (when you) arrive at X, turn left at the signal...'

Some used the intrinsic expression *oriru* or *sagaru* combined with *hidari* as in (6).

- (6) *sugu soko o orite... hidari ni itte*  
 immediately there O go down left LOC go  
 'Go down immediately there and .... go to the left.'

Then, the pair of native Ishigaki speakers asked the same question. As appears in the right column of Table 2, subjects did not use the term *hidari* ('left') when they talked to natives. Rather, they used cardinal direction terms such as *higashi* and *agari* or/and the intrinsic expression *oriru*, as in (7) and (8).

- (7) *Zya no kado o orite agari sa*  
 Zstore NOM corner O descend east SFP  
 'Go down at the corner of Store Z and it's on the east.'

- (8) *asuko o orite Zya de higashi ni iku to*  
 there O descend Zstore LOC east LOC go and  
 'Go down there and go to the east at the Z store.'

Among native Ishigaki speakers, subjects prefer to use the intrinsic and absolute frames of reference rather than the relative FoR. Thus, whether or not interlocutors are native Ishigaki speakers seems to make a difference in subjects'

<sup>13</sup> The total percentage in the columns is over 100%, because some speakers use more than one FoR in one turn.

choice of the FoR in spatial descriptions of downtown Ishigaki.

Next, the same pairs of speakers asked a totally different set of subjects to describe the route to location B as appeared on Map 3. The majority of the new subjects used the relative FoR to the pair of non-Ishigaki speakers, as in (9).

- (9) *gasorinsutando*      *o*      *migi*      *ni*      *magatte*  
      gas station          O      right      LOC      turn  
      ‘Turn right at the gas station.’

Half of the subjects combined the relative FoR with the intrinsic expression such as *agaru*, as in (10).

- (10) *gasorinsutando*      *o*      *migi*      *ni*      *agatte*  
      gas station          O      right      LOC      go up  
      ‘Go up to the right at the gas station.’

On the other hand, when native Ishigaki speakers talked to each other, the majority of the subjects only used the intrinsic expression, *agaru*, as in (11).

- (11) *gasorinsutando*      *no*      *kado*      *o*      *agatte*  
      gas station          NOM      corner      O      go up  
      ‘Go up at the corner of the gas station.’

Without using expressions based on the relative FoR, native Ishigaki speakers can understand which way to turn by the expression *agaru*. Furthermore, only 20% of the subjects used the term *kita* (‘north’) to indicate the direction of the turn, although their descriptions also included the intrinsic expression *agaru*. Thus, unlike the east-west grid, the north-south grid was not described by cardinal direction terms in downtown Ishigaki. Having the intrinsic expressions such as *agaru* and *sagaru/oriru* seems to suffice, which results in no need to use the cardinal direction terms for the north-south grid.

The results show that speakers in downtown Ishigaki commonly use the three types of FoR in their spatial description but discern the use of FoR depending on interlocutors. In talking to non-Ishigaki speakers, they tend to use the relative FoR, while preferring the intrinsic or/and absolute FoR among the locals. I also found that those who used the absolute FoR to non-Ishigaki speakers had limited contact with non-Ishigaki speakers, such as dry cleaning company’s workers, fish-market wholesalers, shoppers of the older generations, compared to those in service industries who routinely interact with tourists in their everyday lives. Those with frequent contact with tourists and outsiders tend to switch their FoR depending on interlocutors, whereas those with limited contact with tourists and outsiders tend to maintain their routine practice of using the intrinsic FoR among locals, which was also observed in interaction with non-Ishigaki speakers. This is, however, my



informal observation and requires more careful examination.

### 3.4. The use of gesture

This section analyzes the use of gesture in Ishigaki speakers' speech. The description of cardinal directions in Ishigaki speakers' speech is often matched by a parallel directional precision in their gesture.<sup>14</sup>

When the names of cities, islands, and countries are mentioned, co-occurring gesture tends to point to the cardinal direction of the locations mentioned. In (12), the speaker (S), who is a taxi driver, was aware of cardinal direction when he mentioned cities and islands outside Ishigaki Island, even in a house that he visited for the first time. The pictures below show that his hands moved to and accurately pointed to the geographic location of Okinawa (Naha) and Yonaguni Island with respect to his location.

(12) The speaker talks about how people on different islands in Okinawa Prefecture refer to the islands differently.

S: *boku nanka wa ne okinawahontou naha ni iku*  
 I sort SUB SFP Okinawa Island Naha LOC go  
*tokini wa ne Okinawa ni iku tte iu*  
 when SUB SFP Okinawa LOC go Q say  
 'When I visit Main Okinawa Island or Naha, I'd say "(I) go to Okinawa,"'

#### Pictures 1 & 2: His right hand points to Okinawa

Okinawa  
 ↙

(...)



*de ano yonaguni nanka wa ne*  
 then well Yonaguni sort SUB SFP

*kocchi ni kuru tte iu no o shika ni iku*  
 here LOC come Q say NOM o Shika LOC go  
 'On Yonaguni Island, when they come to Ishigaki, they'd say "(I) go to Shika.'"

<sup>14</sup> I must add, though, that compared to Guugu Yimithirr's use of gesture as illustrated in Haviland's studies (1993, 1998, 2000), Ishigaki speakers' gesture is much less salient and accurate to the compass.

**Pictures 3-5: His left hand shows the trip from Yonaguni to Ishigaki**



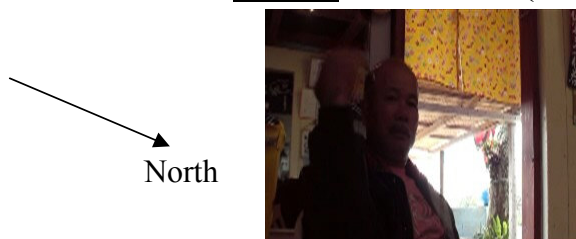
As he mentions locative nouns such as the Main Okinawa Island, the city of Naha, and Yonaguni Island, his co-occurring gestures almost accurately point to the directions of the locations. But when the same speaker drives his taxi and talks to passengers who are both islanders and outsiders, he almost only uses the terms ‘right’ and ‘left’ to explain the local geography. In other words, the relative FoR is preferred when things are visible and passing by quickly through car windows, while the absolute FoR is used when things are not visible and unmovable. For example, when he communicates with the taxi company’s staff through radio contact so that he could pick up passengers waiting at some specific place, both he and the staff use the cardinal direction terms and describe the meeting place. Visibility seems to be one of the factors that can help speakers to decide which FoR to use.

The next example shows that gesture was accurate to cardinal direction more than speech. In (13), the fisherman (T) talked to his friend (M) about the typhoon that hit Ishigaki in September 2006. T was sitting facing north. When M asked T from which direction the typhoon wind blew in Ibaruma where the fisherman’s family lives (see Map 1), T’s right hand pointed to the ‘east’ and made a gesture indicating the wind from the east as in Picture 6, even though he said that the wind blew from the ‘south.’ Then he corrected his speech immediately and said ‘east,’ and made a gesture indicating the wind from the east as in Pictures 7 and 8.

(13) M: *are wa umi kara no kaze ka?*  
 that TOP ocean from GEN wind Q  
 ‘Was the wind coming from the ocean?’

T: *sou minami kara no kaze*  
 yes south from GEN wind  
 ‘Yes, it was the wind from the south.’

**Picture 6: Minami kara no kaze (‘Wind from the south’)**

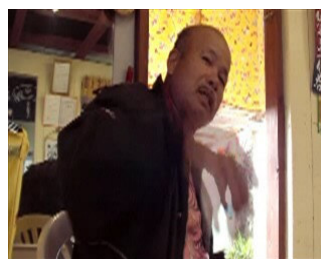
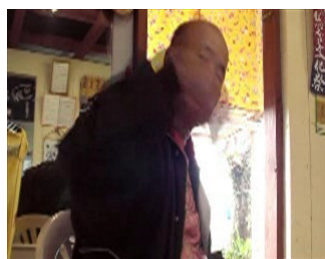


## *Language and gesture on Ishigaki Island*

M: *minami kara no kaze ka*  
south from GEN wind SFP  
'Oh, it was the wind from the south.'

T: *iya minami janai higashi*  
no south NEG east  
'No, not from the south, (it was from) the east.'

**Pictures 7 & 8: *Minami janai higashi* ('Not from the south, but from the east.')**



These examples demonstrate a high level of compass-based use of directional expressions in speech and gesture among Ishigaki speakers. The gestural practices of Ishigaki speakers are reinforced by the frequent use of cardinal directional terms in speech. Furthermore, living environments on Ishigaki Island seem to be related to directional accuracy in Ishigaki speakers' speech and gesture. For instance, on this small island surrounded by the sea, the direction of the sea and the south towards which the entrance of residences face serve as crucial reference points for people's lives. Ishigaki speakers' perceiving and expressing direction in terms of the compass will need further investigation.

## **6. Conclusions**

This paper has demonstrated that the absolute FoR is commonly used in Ishigaki speakers' interaction together with the relative and intrinsic frames of reference. Unlike some studies that tend to argue for a one-to-one correspondence between a variety of language and the use of a certain FoR, the results obtained in this research thus far suggest that Ishigaki speakers discern the use of the special FoR according to interactional contexts. However, this study is just a beginning. More detailed studies on Ishigaki Island or in other island communities are necessary for an understanding of space in speech and gesture.

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