The system of spatial reference in Kadorih

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In this paper, I will describe the system of spatial reference in Kadorih (West Kalimantan). This language has a number of spatial indicators such as relative part or region, relative orientation, and exophoric demonstratives. I will discuss how relative part, region and direction are semantically and morpho-syntactically related to one another and conclude that the relative part/region indicators in Kadorih are distinct from the relative orientation indicators. Moreover, I will show that each exophoric demonstrative in Kadorih is used depending on the degree of distance and visibility of the referents.

1. Introduction

The aim of this paper is to describe the system of spatial reference in Kadorih by illustrating spatial indicators and by discussing their semantics. Kadorih is a dialect of Dohoi (or Ot Danum), an Austronesian language belonging to the West Barito subgroup of Malayo-Polynesian languages. It is spoken by approximately 11,000 people in the upper reaches of Kahayan River in Central Kalimantan, Indonesia. Spatial reference systems in Barito languages have hardly been discussed to date. This paper investigates the spatial reference system in one of the languages.

This paper has three main sections, that is, section 2 deals with relative part/region, section 3 with relative orientation, and section 4, with exophoric demonstratives.

Words in the class of 'relative part/region' denote delimited portions of objects, while those in the class of 'relative orientation' denote spatial orientation. On the other hand, exophoric demonstratives have deictic meanings, and words in this class imply locations and/or visibilities of things within relevant deictic dimensions.

The language name *Ot danum* [waterhead water/river] 'head waters' is an example of a relative part, that is, *ot* 'source (of a stream)' is part of a river. In Kadorih, body-part terms (e.g. 'mouth', 'back (anat.)') and relational nouns (e.g. 'inside', 'end/tip') are commonly used in order to express an intrinsic part or the relative region of an object. In contrast, in order to express relative orientation, adjectives, relational nouns, prepositions, and verbs can be used. There are four orientational parameters in Kadorih: upstream-downstream, upland-downland, up-down, and right-left.

This paper mainly discusses the properties of the exophoric demonstratives in Kadorih.[1] Proximal *ih-* 'this' and distal *a-* 'that' are used to refer to objects only within immediate sight or reach. However, when referring to objects or locations out of sight or reach, locational demonstratives must be used instead.

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[1] The dialect name Kadorih or Kodorih 'like that' is in itself a kind of manner demonstrative with anaphoric function.

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2. Relative parts or regions

In Kadorih, body-part terms or relational nouns are used to denote delimited portions of an object. These spatial indicators of relative parts or regions are crucial to understand how Kadorih people organize their space.

In Kadorih, possessive constructions are frequently used to express the relative parts or regions of an object. There exists no inalienable vs. alienable grammatical distinction, so that there is only one type of encoding for possessive constructions. A spatial indicator of relative parts or regions usually occurs in the possessee slot within a noun phrase as shown in (1a). The juxtaposed noun construction in (1a) consists of a possessee and a possessor, whereas that in (1b) consists of a noun and an attribute.

(1) a. possessee: ***lihkut** sahpak* [**back(anat.)** thigh] 'the **back** part of a thigh'
    b. attribute: *sahpak **lihkut*** [thigh **back(anat.)**] '**hind** legs of quadrupeds'

The phrase in (1a) is an example of a noun phrase in which both the possessee (*lihkut*) and the possessor (*sahpak*) are explicitly encoded. However, especially in indefinite or generic referring expressions in which referents are not uniquely identified, possessors may not necessarily be expressed when they are contextually accessible.

Relative part/region indicators themselves cannot occur in the possessor slot but in the attribute slot within a noun phrase as shown in (1b). The phrase *sahpak **lihkut*** in (1b) is not an expression which refers to the part of thigh, but rather it is a technical term referring to a particular body part of animals.

2.1 Body-part terms

According to Svorou (1993: 70–89, 249–252), the spatial relation of 'FRONT-REGION' in languages of the world tends to be synchronically and diachronically derived from body-part terms such as 'face, mouth, breast/chest, forehead, eye, head', while 'BACK-REGION' spatial relation tends to come from terms for 'back, buttocks/bottom, anus, loin, bone'.

In Kadorih, FRONT-REGION and BACK-REGION can be denoted by *bau* 'mouth' and *lihkut* 'back (anat.)' respectively.[2]

(2) a. *bau-n   lohpou*
       mouth-LINK   house

       'the entrance of a house' or 'the front region of a house'

    b. *bau-n   tukang   lohpou*
       mouth-LINK entrance house

       'the entrance of a house'

The phrase *baun lohpou* in (2a) can mean both 'the mouth (=entrance) of a house' and 'the front region of a house (i.e. the region on the side closer to the street)' depending on the context in which it occurs. On the other hand, *baun tukang lohpou* in (2b) always means 'the entrance of a house'. Therefore, *baun tukang lohpou* is significantly better defined than *baun lohpou*. In addition, another better defined term *husuk (lohpou)* [surface (house)] for 'the front region (only for houses)' will be used in order to

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[2] Body-part terms for 'face' (*mahta bau*), 'breast/chest' (*tusu/usuk*), 'forehead' (*likou*), 'eye' (*mahta*), 'head' (*kuhung*), 'buttocks' (*puhpuh*), 'anus' (*luwang pulus*), 'loin' (*kahang*), 'bone' (*tulang*) are not commonly used to denote FRONT and BACK.

disambiguate polysemous *baun lohpou* independently of the context of speech. The notion 'FRONT' denoted by *bau* is only a small part of its meaning.

The blade or edge of knives can be indicated by *bau* 'mouth' in contrast to *lihkut* 'back (anat.)' which indicates the spine part of knives. However, these spatial indicators no longer denote the REGION near a knife, but rather the intrinsic PART of a knife.

(3) a. *bau-n pisou*   [mouth-LINK chopper]   'the blade of a knife'
     b. *lihkut pisou*   [back chopper]   'the spine of a knife'
     c. **bau-n kahtam*   [mouth-LINK plane(tool)]   (*'the blade of a plane')
     d. **bau-n otak*   [mouth-LINK adze]   (*'the blade of an adze')
     e. *jola pisou/kahtam/otak*   [tongue chopper/plane/adze]   'the blade of a knife/plane/adze'

Of edged tools, only knives have the *bau*-part in their body. *Bau* cannot be used for the blade or edge of planes or adzes (=3c, 3d). This is because only knives have a spine that is long enough to fit the *lihkut* metaphor (=3b). However, there is a better defined term *jola* 'tongue' to refer to the blade parts of these tools (=3d).

Any objects with a large enough surface can possess metaphorical *lihkut* as their BACK-PART. For instance, it is completely natural to say *lihkut talawang* [back shield] 'the back of a shield' and *baun talawang* 'the front of a shield'.

Furthermore, *lihkut* can be construed on the basis of the proper placement of a human body in relation to an object such as a garment or a vehicle. It is interesting to note that the FRONT-PART of clothes or vehicles can be expressed by *bau* even though clothes and vehicles have a 'mouth' which connects the interior with exterior of these objects.

(4) a. *bau-n kalambi*   [mouth-LINK shirt]   'the front of a shirt'
         lihkut kalambi   [back shirt]   'the back of a shirt'

     b. *bau-n salawar*   [mouth-LINK trousers]   'the front of trousers'
         lihkut salawar   [back trousers]   'the back of trousers'

     c. *amun tomasang*   *umba   jo   **bau**-n   nokuh   hila   **lihkut**,*
         TOP   be.put.on   with   REL mouth-LINK   toward   direction back
         'If it (=garment) is put on backwards,'

(5) a. *bau-n mobil*   [mouth-link car]   'the front of a car'
         lihkut mobil   [back car]   'the back of a car'
     b. **bau-n alut*   [mouth-link boat]   (*'the front of a boat')
         **lihkut alut*   [back boat]   (*'the back of a boat')
     c. *urung alut*   [nose boat]   'the front of a boat'
         lai alut   [end boat]   'the back of a boat'

The front and back of a car are usually indicated by *bau* and *lihkut* respectively, but front and back of a boat must be expressed by the conventionalized technical terms *urung* 'nose' and *lai* 'end' respectively as in (5c).[3]

The back-part or region of *kursi* 'chair' is also fixed relative to the proper placement of human body (or based on the large enough surface for its 'back'). This is the reason why the *baun kursi* 'in front of a chair, the front part of a chair' must be the opposite

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[3] The FRONT- and BACK-PART of a boat are determined on the basis of the shape of a boat. On the other hand, the parts of a raft (*lating*) are defined by the direction of the flow. The FRONT-PART of a raft is the upstream side and the BACK-PART of it is the downstream side.

side to its BACK-PART or REGION. In Kadorih, the FRONT-PART or REGION of an object is frequently recognized depending on its BACK-PART or REGION.

(6) If an object has a FRONT, then it is the direct opposite side of a well-defined BACK of the object.

The phrase *lihkut balanga* in (7a) can become well-defined if *balanga* is placed near a wall-like object. For instance, if *balanga* is placed at 30cm distance from a wall, the space between the wall and *balanga*, or its own part facing the wall can be referred to as its BACK-PART or REGION (=7a), and the side opposite to the back can be regarded as the FRONT-PART or REGION (=7b). In contrast, if *balanga* is placed in the center of a room far enough away from the walls, it turns out not to have a BACK-PART or REGION, and consequently no specific space can be regarded as its FRONT REGION. In this situation, the phrase *baun balanga* in (7b) would only refer to the mouth of the cooking pot.

(7) a. *lihkut balanga* [back cooking.pot]   'back part or region of a cooking pot'
     b. *bau-n balanga* [mouth-link cooking.pot] 'front part or region of a cooking pot'
                                                    or 'the mouth of a cooking pot'

As is often the case, spatial expressions in Kadorih are directly translated into Indonesian even though Indonesian does not have exactly the same spatial reference system as Kadorih, as in the following example.

(8)   *Hutan ini sangat menyeramkan, letaknya di udik sungai Suling; di belakang kampung Pongondian dan Kosondihan Tanah Kayangan.*

      'This forest was quite terrifying, located in the upper reaches of Suling river, at the back of Pongondian and Kosondihan village of the Kayangan region'(Ceritera Rakyat Daerah Kalimantan Tengah 1979, ch.4, p.31)

The phrase *di belakang kampung Pongondian…* in Indonesian corresponds to or overlaps with the phrase *aang lihkut lowu Pongondian…* [at/in/on back village PLN…] 'at the upland area outside the villages Pongondian…' in Kadorih, which means more than just *di belakang kampung* 'at the back of villages'. See section 3.2 for more details on 'upland'.

In sum, the general conventions in Kadorih for expressing FRONT and BACK by means of body-part terms are as follows.

(9)
   a. Of body-part terms in Kadorih, only *bau* 'mouth' and *lihkut* 'back (anat.)' can frequently be used to motivate spatial construals of front and back parts or regions.
   b. Synchronically, there are polysemies of part and region in the meanings of *bau* and *lihkut* respectively.
   c. The construal of front-region is, in many cases, marked in that it will be only determined if the existence of back-part or region of an object is well-defined.

The other spatial indicators of body-part terms are *balihkat* 'side of the body' (=10a) and *pasihku* 'corner' (from *sihku* 'elbow'). The meaning of *balihkat* is particularly marked since it depends on the well-defined FRONT and BACK-PART or REGION of an object. The phrase *balihkat termos* [side thermos] in (10b) will be construed in the same way as *lihkut baun balanga* in (7).

(10) a. *poros balihkat*   [ache side]   'pain in one's side'

  b. *ngonin ahka-k=ku sepatu Widi aang   balihkat termos atuh.*
    bring   for-me=me shoes PSN at/in/on side   thermos that
    'Bring me Widi's shoes beside (=at the side of) that thermos.'

2.2 Relational nouns

Relational nouns usually occur in the possessee slot within a possessive construction as shown in (11a). As is the case with body-part terms described in the previous subsection, they can also occur in the attribute slot within a noun phrase as in (11b). Whereas the noun phrase *tohun iking* in (11a) denotes the part of a finger, *iking tohun* in (11b) denotes one of the parts of a hand.

(11) a. possessee: ***tohun*** *iking* [**center** finger] 'the center part of a finger'
    b. attribute: *iking **tohun*** [finger **center**] 'middle finger'

Entities which can be visually perceived (and conceptualized) have spatial characteristics such as shape, size, and positional information. Many of these spatial characteristics of, in particular, inanimate entities in Kadorih are usually encoded by means of relational nouns. The 'tip/blade', 'center', and 'root' of tongue are, for example, expressed respectively by *lai-n jola* [tip/end-LINK tongue] or *tapahkan jola* [tip/end tongue], *behteng jola* [middle tongue], and *puu-n jola* [base-LINK tongue]. Here, *lai* 'tip/end', *tapahkan* 'tip/end', *behteng* 'middle', and *puu* 'base' are all relational nouns.

The first one is 'end/tip' which is indicated by *tapahkan* (or *topahkan*) as in (12).

(12) *harun=to   nohtok **tapahkan** sarupih   jo=hinda   urung=ah=rih.*
    newly=1PL.IN cut.off end/tip   (boat)plank REL=part/side nose=3sg.POSS=ANAPH
    'Now we cut off the front **end** of that boat plank.'

The word *lai* and *tapahkan* both indicate the tip/end-part of an object, but they must be used only when there exists a well-defined 'base' for the object. For instance, *balou* 'hair' and *kacu* 'wood' in *lai-n balou* [tip/end-LINK hair] 'the tip of a hair' and *lai-n kacu* [tip/end-LINK wood] 'the tip of a tree' have their base (*puu* 'base, root'). The difference between *lai* and *tapahkan* is that *lai* implies the existence of the 'base'-part, while *tapahkan* does not. Moreover, *lai* can be replaced by *tapahkan*, but the opposite is not always true. Thus, *tapahkan* is a more neutral or unmarked relational noun than *lai*.

'Planted' objects have their bases that come into contact with the 'ground'. Accordingly, entities such as hair, tree, liana, pillar, and even finger, thigh, ear, ladder, hill and mountain, can be construed as having a *puu* 'base, root', so that they can have a *lai*-part as their intrinsic part.

There are two different words which indicate 'side': a relational noun *saran* '(be)side, edge' and a body-part term *balihkat* 'side'. The sentences in (13) describe some of the differences between these words.

(13)

  a. *ya=taa-i,   ahku nyuhu=ko ngomin ahka-k=ku termos*
    NEG=know-3SG I   request=you bring   for-me=me thermos

    *"aang   **balihkat** dinding otuh", eam, "aang   **saran** dinding atuh".*
    at/in/on side   wall   that   NEG at/in/on beside wall   that

'It is impossible that I ask you to bring me the thermos (being <u>inside the house</u>) "at the side of the wall", no, (what exactly is) "beside the wall".'

b. *amun   unuk=ku,   eam   aang   **saran**   karahtak,*
   TOP   place=my   NEG   at/in/on beside   road

   *tahpi   aang   **balihkat**=ndai,   mahcu   isut.*
   but   at/in/on   side=PFV   far   a.little

   'As for my house, (it is) not (built) beside the road, rather, (built) at the side of the road, (it is built) <u>a little way off</u> (the road).'

(13a) says that the notion of 'beside the inner wall' cannot indicated by *balihkat dinding* and that, on the contrary, it is indicated by *saran dinding*. In fact, *balihkat lohpou* [side house] refers to 'the outer wall' or 'space near the house'. (13b) says that *balihkat karahtak* denotes the space at a little distance away from the road, while *saran karahtak* denotes the space just beside the road. Taking into account also the discussion about the examples in (12) above, there are at least two differences between them: (i) *balihkat* 'side' is construed relative to a bodied object, but *saran* 'beside' is not; (ii) *balihkat* covers a larger region than *saran* does.

There is no relational noun for 'outside' in Kadorih other than *luar* 'outside', a loanword from Indonesian. The issue of why Kadorih has no word for 'outside' will require a detailed survey, but one of the possible reasons may be that there are some relative region indicators (e.g. *balihkat* 'side' and *lihkut* 'back') which already have the outside regions of objects in their scope.

Interestingly, in contrast, there are two relational nouns for 'inside' in Kadorih, *luwang* in (14) and *huang* in (15).

(14) *luwang* 'inside'

   a. *ihto   aang   **luwang**   lohpou.*
      1PL.IN   at/in/on   inside   house
      'We are inside a house.'

   b. *io   ngoni-u   nokuh   **luwang**   alut.*
      3SG   bring-3OBJ   toward   inside   boat
      'He brought it inside a boat.'

   c. *io   baas   ngomin   ngomin   luhku   tahkan   **luwang**   salehpang=ah.*
      3SG   strong   take   take   cigarette   from   inside   pocket=3SG.POSS
      'He_i habitually steals/takes cigarettes from his_j pocket.'

(15) *huang* 'inside, intend to'

   a. *ukur   io   tame   tame   nokuh   **huang**.*
      so.as.to 3SG   go.into   go.into   toward   inside
      'So that it (=putty for filling) may go inside.'

   b. *io   **huang**   buli   tanggal   duo   pulu.*
      3SG   intend.to   return   date   two   ten
      'He is going to go home on the 20th (of this month)'

Luwang can be combined with different prepositions which indicate location or direction: with *aang* 'at/in/on' in (14a), *nokuh* 'to(ward)' in (14b), and *tahkan* 'from' in

(14c). On the other hand, *huang* is less frequent, and as shown in (15b), it is used more generally as a modal auxiliary.

The next pair of relational nouns is *bumbung* 'top/peak' and *puhkang* 'bottom'.

(16) a. *ihto   jadi aang   **bumbung**=ndai.*
         1PL.IN   PF   at/in/on top/peak=PFV

         'We have been at the top (of the mountain).'

     b. *lacat   palanduk   ngadiling* **puhkang**=ah.*
         strayed mouse-deer circle   bottom=3SG.POSS

         'The mouse-deer strayed and twirled around at the bottom of it (=huge pannier).'

Whereas another word for 'peak', *pupung*, is only used for mountains, *bumbung* in (16a) also refers to the top-part of other objects, for example, *bumbung ahpui* 'the tip of the flame'.

3. Relative orientation

Relative orientation indicators are semantically and morpho-syntactically different from the relative part/region indicators described in section 2. Spatial indicators of relative orientation such as *juoi* 'upstream', *diang* 'upland', *kotouu* 'right' or *kamuloi* (or *komuloi*) 'left' cannot denote PARTs of objects but only denote REGIONs or DIRECTIONs relative to objects. In contrast, the relative part/region indicators themselves cannot denote DIRECTIONs without being combined with the word *hila* 'direction/region'. The example in (4c) is repeated in (17).

(17) *amun   tomasang   umba jo   **bau**-n   nokuh   **hila**   **lihkut**,*
        TOP   be.put.on   with   REL   mouth-LINK toward direction/region back

        'If it (=garment) is put on backwards,'

In this sentence, the relative part/region indicators *bau* and *lihkut* function differently. *Bau* only refers to the part (of garment), while the phrase *hila lihkut* 'backwards' can refer to the direction (relative to the body) because the word *hila* contributes to a relative part/region indicator denoting the orientation relative to an object.

There is a pair of *hila* phrases showing the direction of the sun, as shown in (18).

(18) a. *hila pomolum*
        hila   *pVN-polum*
        direction/region   PERFORMER-living   '(the direction of) sunrise'

     b. *hila pomolop*
        hila   *pVN-polop*
        direction/region PERFORMER-extinct   '(the direction of) sunset'

However, these phrases are mainly used when working the field or finding one's way in the jungle. For instance, vines or lianas such as long beans put forth their buds, start to coil around tree trunks and finally climb up after finding sunshine. Based on this knowledge or the sun/shadow direction, Kadorih people plant vegetables in the field or orient themselves when wandering in the jungle.

Hila is polysemous in that it refers to both direction and region. Because of this polysemy, it may function as a locative preposition which contrasts with a dedicated locative preposition *aang* 'at/in/on', as explained by my consultant (=19).

(19) *tou=ka*   *"aang"*,   *tou=ka*   *"hila"*.   *jadi,*   *kadang-kadang*   *sama*
      can=also   **AANG**   can=also   **HILA**   so   sometimes   same

      tou=ka   *"uut*   *Kahacan*   *mahtoi*   **hila**   *Komiting"*.   […]
      can=also   waterhead   PLN   die   **HILA**   PLN

      sebenarah   *eam*   *arah=ka.*   […]   *jo=sabujur=ah,*
      actually   NEG   direction=also   REL=it.would.be.best=3SG

      "mahtoi   **aang**   *puruk*   *Komiting"*.   *tahpi,*   *kadang-kadang*   *ulun*
      die   **AANG**   mountain   PLN   but   sometimes   people

      mander   *"hila"*,   *"hila*   *Komiting"*.
      say   **HILA**   **HILA**   PLN

‘It can be said as both "**aang**" and "**hila**". So, they are often the same. It can be said, "the waterhead of Kahayan river ends at the direction of (=**hila**) Mt. Komiting". […] In fact, it is not the **direction**. […] It would be best to say, "ends at (=**aang**) Mt. Komiting". However, people sometimes say "**hila** (=at the direction of) Komiting".’

The relative orientation indicator *hila* is synchronically related to the relative part/ region indicator *sila* 'side'. It is completely natural to say *sila pomolum* '(the side of) sunrise' and *sila pomolop* '(the side of) sunset' instead of the phrases in (18).

3.1 Upstream and downstream

Unlike sailing in the ocean, traveling on land or along rivers involves a rich variety of landscape features to recognize locations, directions or trajectories. Kadorih is spoken in landlocked areas of Borneo, and people travel only on land or along rivers. The navigation terms for locating positions in Kadorih are land-based.

One of the most frequent directional axes in Kadorih is upstream versus downstream. In daily life, whenever Kadorih people see anyone walking outside a house, they usually greet the person in reference to the upstream-downstream axis as demonstrated in (20).

(20) A: *ku=moh*   *ko=rih?*   (=*(no)kuh (a)moh (ih)ko rih?*)
          toward=where you=ANAPH
          ‘Where are you going?’
     B: *ku=juoi.*   *ku=booi.*
          toward=upstream   or   toward=downstream
          ‘Going upstream.’   ‘Going downstream.’

There are deictic motion verbs *murik* 'to go upstream (by boats, cars, airplanes, etc.)' and *sohu* 'to go downstream' which semantically correspond to *juoi* 'upstream' and *booi* 'downstream' respectively. However, these deictic motion verbs cannot be the answers to A's question in (20) if B will move just within the village or move far away to another river area. In the case of leaving the river far behind, *bolua* 'to go out', *soluka* 'to go out the area', or *nyoa* 'to cross over a drainage divide' must be used.

The relative orientation indicators *juoi* 'upriver' and *booi* 'downriver' cannot denote a PART of some region or area, but only a REGION or DIRECTION relative to objects. Because of this semantic restriction, they cannot occur in the possessee slot.

(21) a. *aang* [_{NP} *Kahacan   juoi*]
        at/in/on RIVER.NAME upstream
        'in the upper reaches of the Kahayan River'

     a'. **aang* [_{NP} *juoi Kahacan*]

     b. *aang* [_{NP} *juoi   ibukota   Kabupaten*]
        at/in/on upstream capital.city regency
        '(along the Kahayan River) above the capital city of the regency'

     b'. **aang* [_{NP} *juoi Kabupaten*]

In (21a), *juoi* does not function as the possessor of *Kahacan* '(river name)' but as the attribute of *Kahacan*.

In (21a'), on the other hand, the phrase **juoi Kahacan* is ungrammatical. The slot where *Kahacan* occurs may be analyzed as the possessor or attribute slot. Although rivers can actually be regarded as having the upstream as their intrinsic part, *juoi* cannot be grammatically possessed by *Kahacan*. Moreover, the word *juoi* cannot be modified by *Kahacan* (=the point of reference).

In (21b), the noun phrase *juoi ibukota Kabupaten* is completely grammatical because *juoi* functions as the head of this phrase and denotes the upstream REGION relative to the reference point indicated by the attribute *ibukota Kabupaten* 'the capital city of the regency'.

In (21b'), on the other hand, the area of *Kabupaten* is too big to be recognized as a reference point and therefore cannot modify the head *juoi*. And again, although *Kabupaten* actually can be regarded as having the upstream region as its intrinsic part, *juoi* cannot be grammatically possessed by it.

In (21), *juoi* syntactically behaves like a noun. It should be noted that, unlike relative part/region indicators, relative orientation indicators such as *juoi* and *booi* 'downstream' show the same morphological distribution as adjectives. They can be prefixed by *poko-* [SUPER] or *toko-* [SUPER] to yield the superlative forms, as in (22).

(22) *amun*   *lohpou* *Tarisman* *topahkan=nai,* *topahkan* *lowu.*   *"amoh* *unuk*
       TOP   house   PSN   end/tip=there   end/tip   village where   place

      Tarisman *mohcon?",* *"poko-juoi=nai,* *io*   *orih*   *lohpou* *ijo*
      PSN   live   SUPER-**JUOI**=there 3SG ANAPH house   REL

      poko-juoi=nai",   *atawa*   *"toko-juoi",*   *atawa*   *"paling*   *juoi"*
      SUPER-**JUOI**=there   or   SUPER-**JUOI**   or   SUPER   JUOI

      hion   *ulun.*
      QUOT people
      'Tarisman's house is at the end of the village. (If we ask) "where does Tarisman live?", people will answer "the most (=*poko*) upstream one, it is the most (=*poko*) upstream house", "the most (=*toko*) upstream one", or "the most (=*paling*) upstream one".'

On the other hand, relative part/region indicators such as *topahkan* in (22) do not occur with these superlative prefixes.

3.2 Up and down

The other directional axes in Kadorih are upland versus downland and up versus down.

(23) a. *diang* '(elevation) upland, upward, over, above'
     b. *polih* '(elevation) downland, downward'
     c. *isung* '(vertical) on, up, above, high'
     d. *pinda* '(vertical) under, down, beneath, below, low', and '(elevation) downland'

Pinda (=23d) is polysemous in that it may replace *polih* (=23b) without changing the meaning of a sentence. In contrast, the word *polih* cannot always replace *pinda*. Thus, *polih lohpou* 'downland direction or region outside a house' can be replaced by *pinda lohpou* 'under (or downland) a house' but not vice versa.

Villages in the upper reaches of Kahayan River are located along the river. In a village, *polih*, *pinda* and *diang* indicate the directions or regions relative to the river as shown in (24). Any location in a village can be described by means of upstream-downstream and upland-downland axes.

(24) 'Upland' and 'downland' in a village
   a. *diang*   'in the opposite direction of the river'   (≈ upland)
   b. *polih/pinda*   'in the direction of the river'   (≈ downland)

It should be noted that, in a village, lower-altitude regions can still be described as *diang* as long as they are located away from the river, and higher-altitude regions can still be regarded as *polih/pinda* as long as they are located nearer the river.

Houses in a village must be built facing the road, in other words, the front or door of a house faces the road. In addition, houses are basically bulit facing the river, so that the forward direction of a house is usually *polih/pinda* and backward one is *diang*. The back of a house can then be generalized as indicating the back of the village. Therefore, *lihkut lowu* 'the back of a village' can denote the upland area outside a village just as *diang lowu* 'upland direction/region outside village' does.

Under a broader view of the relation between referents and reference points, *diang* is distinct from *isung* in terms of the elevation/vertical dimension.

(25)   a.   *mahtan ondou=nai hila*   **diang**   *lowu=ndai,*   *diang=ndai.*
          sun=there   direction/region **upland**   village=PFV   upland=PFV
          'The sun is already going down in **upland** direction.'

    b.   *tohun*   *ondou,*   *pas*   ***isung***   *lowu.*
          center   day   exact   **above**   village
          'In the daytime, (the sun is) right **above** the village.'

In contrast, under a smaller view, *diang* is distinct from *isung* in terms of whether referents are located in contact with reference points as shown in (26).

(26) a. ***diang*** *sahpou* [**above** roof] 'above a roof'
    b. ***isung*** *sahpou* [**on** roof]   'on a roof'
    c. ***diang*** *kursi*   [**above** chair] 'above a chair'
    d. ***isung*** *kursi*   [**on** chair]   'on a chair'

4. Exophoric demonstratives

Kadorih exophoric (or spatial) demonstratives indicate two-way distance contrast, that is, proximal versus distal system which basically distinguishes two physical domains in relation to the position of the speaker.

There are exophoric demonstratives for THING, FOCUSED THING and MANNER, which are semantically and formally related each other. All exophoric demonstratives have a string *tuh* as their final syllable. Among them, proximal demonstratives are characterized to have a string *ih* (***ih****tuh* 'this', ***jih****tuh* 'this (not the other)' and *kol**ih****tuh* 'like this') whereas distal demonstratives contain *a* (***a****tuh* 'that', ***ja****tuh* 'that (not the other)' and *kol**a****tuh* 'like that'). In addition, Kadorih also has nonspatial (or anaphoric) demonstratives for THING, FOCUSED THING and MANNER such as ***orih*** 'that', ***jorih*** 'that (not the other)' and *kod**orih*** 'like that'.

THING demonstratives are formally unmarked, FOCUSED THING demonstratives are characterized to have *j* (*jihtuh, jatuh* and *jorih* are contracted forms of *ijo* [relativizer] + *ihtuh/atuh/orih*), and MANNER demonstratives have *kol* or *kod* (***kol****ihtuh,* ***kol****atuh* and ***kod****orih* are contracted forms of *kolou* 'like' + *ihtuh/atuh/orih*).

Table 1 shows the paradigm of demonstratives in Kadorih.

	spatial (+*tuh*)		nonspatial (+*orih*)
	proximal (*ih-*)	distal (*a-*)	
THING	*ihtuh*	*atuh* *(ihi)*	*orih*
FOCUSED THING [*j-*]	*jihtuh*	*jatuh* *(jihi)*	*jorih*
MANNER [*kol-~kod-*]	*kolihtuh*	*kolatuh*	*kodorih*

Table 1. Demonstratives in Kadorih

In Kadorih, the concept 'distance' is necessary to distinguish proximal and distal demonstratives. On the other hand, the concept of 'height' has nothing to do with the paradigm or uses of exophoric demonstratives.

4.1 Thing

Things within immediate sight or reach can be encoded by spatial or exophoric demonstratives *(j)ihtuh* or *(j)atuh*. On the other hand, the nonspatial demonstrative *(j)orih* is basically used to pick out something previously mentioned in a context (=anaphoric use). Moreover, it is used for situations which resulted in successful (=27) or for memory-tracking (=28). (27) shows the examples of situations and each acceptability of the demonstratives for THING. Each sentence in (27) consists of a demonstrative and the 3rd person singular pronoun *io* which refers to a situation at hand.

(27)   **situations**   **spatial**   **nonspatial**
    a. having switched on a complex equipment   *(j)ihtuh io*, *(j)atuh io*   *orih io*
    b. having passed a thread through the eye of a needle *(j)ihtuh io*, *(j)atuh io* *orih io*
    c. when fish hits the line   *(j)ihtuh io*, *(j)atuh io* *orih io*

In such situations, an ideal outcome for the speaker (27a: activation of the equipment, 27b: completion of preparation for sewing, 27c. achievement of the previous stage to pull the fish) must be referred to by nonspatial demonstratives *orih*. In contrast, ideal outcomes cannot be referred to by spatial demonstratives since they exist just in speakers' minds, not in immediate sight or reach.

The utterance in (28) is an example of memory-tracking.

(28)   ***(j)orih***   *nih=poh,*   *jo=tohko*   *musik*   *aang*   *anan=nih,*
    (FOC)ANAPH   PTCL=PTCL   REL=there.be music at/in/on DEM.LOC=PTCL

    inon *ara-i=nih?"*
    what name-3SG.POSS=PTCL

    'That one, the one having music inside there, what's the name?'

If the speaker of this sentence says "*ihtuh nih poh*" or "*atuh nih poh*" instead of "*(j)orih nih poh*" in (28), then there must be the thing in question in the immediate sight or reach of the speaker.

Spatial demonstratives for THING give information about the locations of things relative to the deictic center. There are three main locations when answering to a person who asked to show or give something.

(29) answer   implies
    a. *"tuh"*   the speaker is holding it in his or her hand
    b. *"ihtuh"*   the speaker is not holding it, but pointing it while it is at arm's length
    c. *"atuh"*   the speaker is not holding it, but pointing it from a distance

If the thing in question is invisible, for example, it is behind the speaker's back, the use of spatial demonstratives depends on the speaker's state of knowledge. If the speaker does not know where the thing is located, then he or she cannot use spatial demonstratives *(j)ihtuh* or *(j)atuh*. In contrast, if the speaker knows that the thing is located behind *his or her own back*, then he or she can point to it saying *"(j)ihtuh"* [(FOC-)this]. In addition, if the speaker knows the thing is located behind the *addressee's back*, then he or she can point to it saying *"atuh, aang anan"* [that, at/in/on DEM.LOC].

4.2 Location

Whereas things in immediate sight are encoded by the THING demonstratives (*(j)ihtuh* and *(j)atuh*) as described in section 4.1, things out of immediate sight are encoded by means of locational demonstratives *ohtoi* 'here', *ahi* 'there (far)', *anai* 'there (far afield)' and *anan* 'there'. Locational demonstratives do not behave syntactically like adverbs, but like locational nouns, they occur after prepositions such as *aang* 'at/in/on', *nokuh* 'to(ward)' or *tahkan* 'from', as well as in the attribute slot of a noun phrase (but not in the possessee slot).

The distal demonstrative for THING *atuh* cannot be used to refer to the house out of immediate sight as in the situation depicted in (30).

(30) When referring to Tarisman's house which is located about 50 meters away
  a. *atuh   [that]
  b. *lohpou aang ahi*   [house at/in/on there.far]
  c. *lohpou aang anai* [house at/in/on there.far.afield]

Such a house out of immediate sight is usually referred to by means of the construction of [house + at/in/on + locational demonstrative] as shown in (30b, c). It should be noted that locational demonstratives themselves cannot directly indicate things (e.g. boat, house, or village) because their essential function is not to refer to a thing, but to refer to a location.

The distinction between 'spatial' and 'nonspatial' among demonstratives shown in Table 1 also holds for locational demonstratives. Whereas *ohtoi*, *ahi* and *anai* are always used as spatial demonstratives, *anan* is basically nonspatial, but can still refer to a spatial location. Moreover, 'visibility' may be indirectly related to this spatial vs. nonspatial contrast in LOCATION demonstratives, and it is also important to understand individual uses of demonstratives in Kadorih.

If the thing in question is out of the immediate sight of the speaker but only the speaker knows that the thing is near the deictic center, then *aang anan* is frequently used to refer to the thing in question.

(31) *"yo, ihko ngomi-u*   **aang**   **anan**".
    OK you bring-3OBJ at/in/on DEM.LOC

    'OK, get it (=knife) from there (=the back kitchen).'

However, native speakers' intuition about the demonstratives for LOCATION tends to be based only on the distance from the speaker (not from the addressee). According to this intuition, locational demonstratives can also be glossed as *ohtoi* [here], *anan* [there.near], *ahi* [there.far], and *anai* [there.far.afield]. The distance between the location referred to and the speaker is more relevant to the choice of a locational demonstrative.

(32) a. *nain=ku nokuh* **anan**.
     later=I   toward DEM.LOC

    'Later, I will go there.'

    b. *(koro sombang aang) unuk=mu* **ahi**=*ih*.
      we.two meet   at/in/on place=your there.far=just

    '(Let's meet) just at your house away from here.'

The sentence in (32a) can mean 'later, I will come to *your house*' (via phone conversation). Thus, both *anan* in (32a) and *ahi* in (32b) can be used to refer to the addressee's house. Both (32a) and (32b) can be uttered at a little or large distance from the addressee. Therefore, the occurrence of a locational demonstrative is not restricted by the distance between the location referred to and the addressee, but by the distance between that location and the speaker.

5. Conclusion

This paper exploited the core part of the spatial reference system in Kadorih by describing spatial indicators such as relative part or region, relative orientation, and exophoric demonstratives. For our understanding of the organization of space in an individual language, it is important to recognize how relative part, region and direction are related to one another. In Kadorih, the relative part/region indicators are distinct,

both semantically and morpho-syntactically, from the relative orientation indicators. In the description of exophoric demonstratives, it was clarified that referents within or outside of one's immediate sight or reach (that is to say, referents with different degree of visibility or distance) must be encoded differently in Kadorih.

References

Ceritera Rakyat Daerah Kalimantan Tengah. 1979. Proyek Penelitian dan Pencatatan Kebudayaan Daerah. [Palangkaraya]: Departemen Pendidikan dan Kebudayaan.

Svorou, Soteria. 1993. *The Grammar of Space. Typological Studies in Language* 25. Amsterdam/Philadelphia: John Benjamins.