Research Article **Open Access**

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Pointing Out Directions in Murrinhpatha

DOI 10.1515/opli-2016-0007

Received June 13, 2015; accepted February 11, 2016

Abstract: Rather than using abstract directionals, speakers of the Australian Aboriginal language Murrinhpatha make reference to locations of interest using named landmarks, demonstratives and pointing. Building on a culturally prescribed avoidance for certain placenames, this study reports on the use of demonstratives, pointing and landmarks for direction giving. Whether or not pointing will be used, and which demonstratives will be selected is determined partly by the relative epistemic incline between interlocutors and partly by whether information about a location is being sought or being provided. The reliance on pointing for the representation of spatial vectors requires a construal of language that includes the visuo-corporal modality.

Keywords: Multimodal utterances, indexical reference, name avoidance, sequence organization, gesture and pointing, collaborative reference, epistemics, demonstratives.

1 Introduction

When a particular location shouldn't be named overtly, how do interlocutors understand each other when they can't use abstract direction terms? In the Murrinhpatha language the only abstract directions within the horizontal plane represented lexically or grammatically are *ahead* and *behind*. In the absence of 'absolute' terminologies such as *north*, *south*, *east* and *west*; *upstream* and *downstream*, *windward* and *leeward*, 'relative' terminologies (such as *to the left* and *to the right*, etc.), Murrinhpatha speakers rely on landmarks, demonstratives and pointing to indicate directions of referred to locations. This study harnesses culturally specific taboos on certain placenames to shed light on how speakers identify places and speak about movement through the landscape. Of particular interest is how and when speakers use the visuo-corporal modality to achieve reference to places. In a naturalistic experiment in location identification, we demonstrate how Murrinhpatha speakers utilize landmarks and deictic devices (demonstratives and path-encoding adverbials, e.g., *hither* and *thither*, iconic gestures and pointing, and discourse anaphora) to convey the directional vectors that aren't encoded lexically.

When possible, the simplest way to make an initial reference to a landmark in social interaction is to use an appropriate placename. The utility of proper names – be they personal names or placenames – is that they convey 'recognisability', at least to somebody. When interlocutors use personal names they imply that the referent is someone that their addressee should know, or know about (if not personally, then at least by reputation), and that they should endeavour to recognise the person in question (Sacks and Schegloff 1979; Schegloff 1996; 2007a; Downing 1996; Heritage 2007; Blythe 2013). Interlocutors can utilise this connoted recognisability by using names as in-group terms so as to include in-the-know recipients and potentially exclude co-present others. Placenames are equally recognitional. Unless embedded within

Article note: Part of a special issue on place reference in conversation, edited by Lila San Roque and N.J. Enfield

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descriptive noun phrases that make them designedly non-recognitional (e.g., *a place called Mukinbudin*), the use of placenames in conversation carries the implication that targeted recipients should know at least something about the place in question, even if they haven't personally been there. Even when speakers suspect their addressees don't know about a particular person or location, they regularly insert proper names into descriptions (e.g., *my uncle John*, *a beach called Yeltjerr*) so that they can later utilise the bare names on their own (Sacks and Schegloff 1979, 19; Downing 1996, 110). Whether dealing with persons or places, proper names used as recognitionals make a beeline for the referent, thus buying interlocutors out of the need to describe the referent in other ways (Searle 1997, 591).

There are complications associated with using proper names in social interaction. Proper names are particularly prone to retrieval blockages when conversational participants suffer momentary lapses of memory (Cohen and Burke 1993; Burke et al. 1991; Burton and Bruce 1992; Semenza 2006; Brennen et al. 1990). Sometimes the social setting calls for delicacy that renders certain proper names less appropriate than titles, kinterms or role descriptions. As with all Australian Aboriginal languages, Murrinhpatha speakers observe a variety of taboos on personal names (Stanner 1937; Blythe 2009a; 2009b; 2013). The severe restrictions (e.g., name avoidance between mothers- and sons-in-law and between opposite sex siblings, avoiding naming the recently deceased) extend to both namesakes and placenamesakes of the person whose name shouldn't be mentioned. This extension of personal name avoidance practices into the domain of place reference provides the setting for a naturalistic and culturally authentic experiment in location identification.

This interactional experiment investigates place reference as a collaborative process. The complicating effects of placename avoidance on location identification are here exploited to shed light on how Murrinhpatha speakers represent their orientation within, and movement through, the landscape. Because extensive use of gestural pointing and the apparent absence of both absolute and relative directionals were noted in Blythe's corpus of informal Murrinhpatha conversation, an experiment utilising GIS information was devised to shed light on the relationships between pointing and demonstrative usage. From the video recording of the experiment, pointing and gaze tokens, demonstratives and path-encoding adverbials were identified and coded. These data provide insights into the strategies Murrinhpatha speakers use to talk about the orientation of landmarks with respect to one other, and with respect to the location of the speech event. It is particularly noteworthy that the frequency of use of particular deictic devices varies according to whether information about the location is being sought or being provided.

In §2 we provide background to the study, both in terms of the cultural and linguistic setting of Murrinhpatha speakers, and the context of spatial representation more broadly. In §3 we discuss personal and placename avoidance, giving examples from naturally occurring interactional discourse. In §4 we discuss the setup of the placename experiment and the ensuing pragmatic strategies used to work around the naming restrictions imposed on the selected locations. In §5 we discuss the relationships between pointing, the use of demonstratives, epistemics and sequence structure. In §6 we discuss the place of pointing and gesture within a broader, more inclusive view of the language faculty.

2 The Cultural and Linguistic Background

Murrinhpatha is a lingua franca spoken by approximately 2700 people in Wadeye, Nganmarriyanga and in various smaller communities within the Fitzmaurice and Moyle Rivers region of Australia's Northern Territory (see Figure 1). It is spoken by people affiliated to the Murrinhpatha, Marri Ngarr, Marri Tjevin, Marri Amu, Magati Ke, Ngan'gityemerri and Jaminjung languages, who prior to the 1940s and 50s, would have been multilingual hunter-gatherers. Today all Aboriginal people in this region, children included, speak Murrinhpatha natively on a daily basis. The other languages are extremely endangered and are no longer being acquired by children (Forshaw et al. in press).

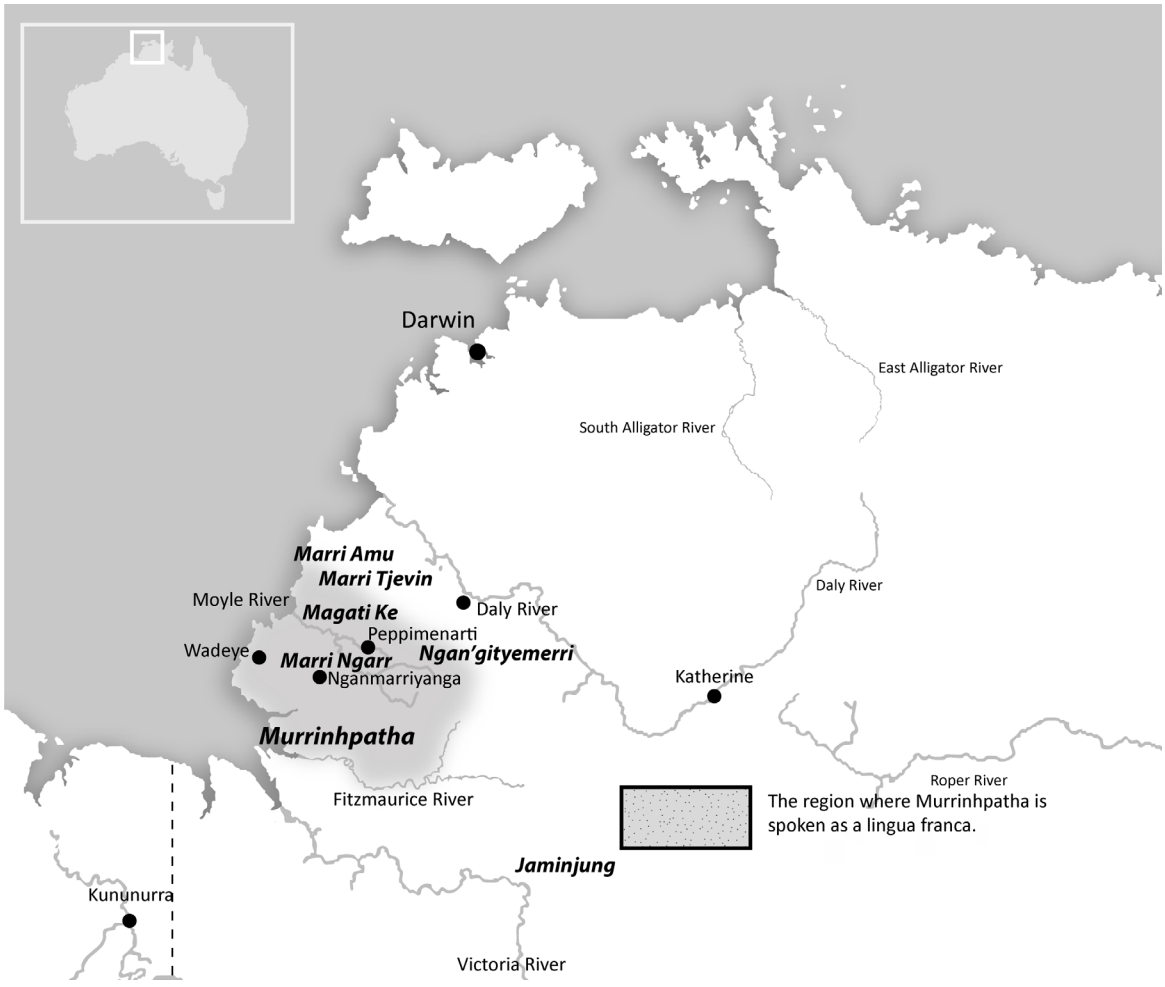

Figure 1: The Fitzmaurice and Moyle Rivers region of Australia's Northern Territory.

The Murrinhpatha language[1] is headmarking and highly polysynthetic. As yet no comprehensive grammatical description has been undertaken. Previous research has described the language's genetic status (I. Green 2003), its complex verbal morphosyntax (Blythe 2009a; 2010a; 2013; Nordlinger 2010b; 2010a; Mansfield 2014; Street 1980; 1987; Walsh 1976; 1996; 1987), the system of nominal classification (Walsh 1993; 1997), transitivity (Nordlinger 2011), the marking of tense, aspect and mood categories (Nordlinger and Caudal 2012; Mansfield 2014), and the kinship system (Blythe 2012; in press). The use of Murrinhpatha grammar in social interaction has been investigated with reference to persons (Blythe 2009a; 2010b; 2013), and repair practices (Blythe 2015). Less well understood is how spatial categories are represented lexically, grammatically, or otherwise. This paper makes an initial attempt to bridge this gap in understanding.

The literature on spatial representation in the world's languages is vast (see Levinson 2003; Levinson and Wilkins 2006a; Pederson et al. 1998; Pederson 2003, inter alia). In most of this literature, spatial distinctions are conceptualised in terms of how an object, the *figure*, is located with respect to another object or location – the *ground* (after Talmy 1983). Topological (non-angular) reference is when the figure and the ground are collocated in space (Levinson and Wilkins 2006b, 3). When they are not collocated in space, reference to the figure is coordinated through an angular vector that is expressed lexically, through frames of reference, or through spatial deixis.

1 The spelling used here *Murrinhpatha* is the revised spelling recently adopted in the community of Wadeye. The language has also been spelled *Murrinh-Patha*, *Murrinhy Patha*, *Murinbata* and *Murinbada*.

To varying degrees, the world's languages utilize three types of referential frames: the *relative*, the *absolute* and the *intrinsic*. With an intrinsic frame of reference, the location of the figure is expressed as within a search domain projecting out from a salient facet of the ground object (e.g., "the ball is *in front of* the house", "*behind* the car", etc.).[2] If you rotate the ground object in space, the angular specification will change. The intrinsic frame of reference is a binary relation – the interlocutors' viewpoint is not expressed.

Relative and absolute frames of reference are ternary relationships. A relative frame of reference projects figure and ground coordinates relative to the orientation of the viewer's body ("the ball is *on the left* of the chair" / "*right* of the man"). Between the figure and the ground, a directional vector is projected as radiating out from the viewpoint of the interlocutors (see Figure 2). An absolute frame of reference projects ground coordinates that are external to the scene, and unchanging ("*southwest* of Darwin", "*upstream* from here"). With an absolute frame of reference, the angle of the projected vector lies between the figure and the viewpoint of the interlocutors, as radiating from the ground (see Figure 3). The direction of the figure from the viewer can be inferred from the angle of the projected vector.

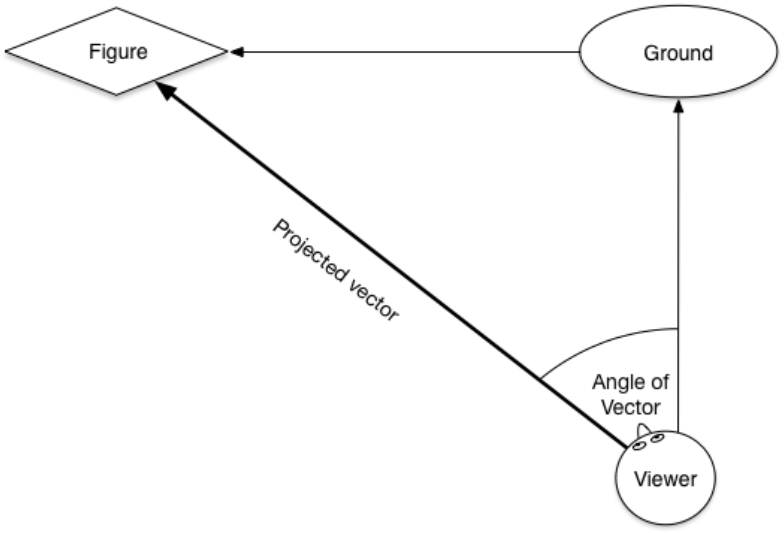

Figure 2: Vector projection within a relative frame of reference (e.g., the Figure is to the *left* of the Ground).

In the event that a place reference is constructed relative to the location of the speech event (i.e., where the viewpoint of the interlocutors is the ground location), then a deictic vector is inferred relative to the orientation of the interlocutors. One way to convey this vector is by pointing. From its source (the origo), the pointing gesture (hereafter 'point') projects a trajector toward the figure – interpreted as the target of the point – thus providing the vector of the trajectory (see Figure 4).[3]

Australian languages are famous for using predominantly absolute directional terms. Arrernte (Wilkins 2002), Guugu Yimidhirr (Haviland 1993; Levinson 1992) and Kuuk Thaayorre (Gaby 2012), for instance, are among the many that approximate the cardinal directions (*north*, *south*, *west* and *east*). Other languages like Jaminjung (Schultze-Berndt 2006) orient directional axes along drainage lines, or according to prevailing winds, like MalakMalak (Hoffmann 2013). As far as we know, the relative directions *left* and *right* are unreported in Australian languages. Murrinhpatha appears to lack both absolute and relative terminologies. Although a comprehensive study of spatial terms remains to be completed, investigations to date have revealed the intrinsic to be the dominant, and very probably, *only* frame of reference. Thus the intrinsic terms *thakuny* (the left hand) and and *batbat* (the right hand) are seldom, if ever, extended

2 Objects that lack salient facets (fronts, backs and sides), like balls and trees, will not serve as grounds for intrinsically framed references.

3 In most accounts deixis is considered to be external to the frames of reference typology. However Danziger (2010) proposes a fourth *Direct* frame of reference for situations where viewer and ground are merged.

beyond the body in naturalistic settings.[4] Even under experimental conditions (i.e., the *man-and-tree* task, Levinson et al. 1992), we find only occasional innovative usage of intrinsic terms in a quasi-relative fashion. Thus, in the contrastive example (1), the angular vector necessary for expressing a ternary spatial relation (as in, "the tree is to the left of the man") is inferrable, but isn't lexically or grammatically encoded.

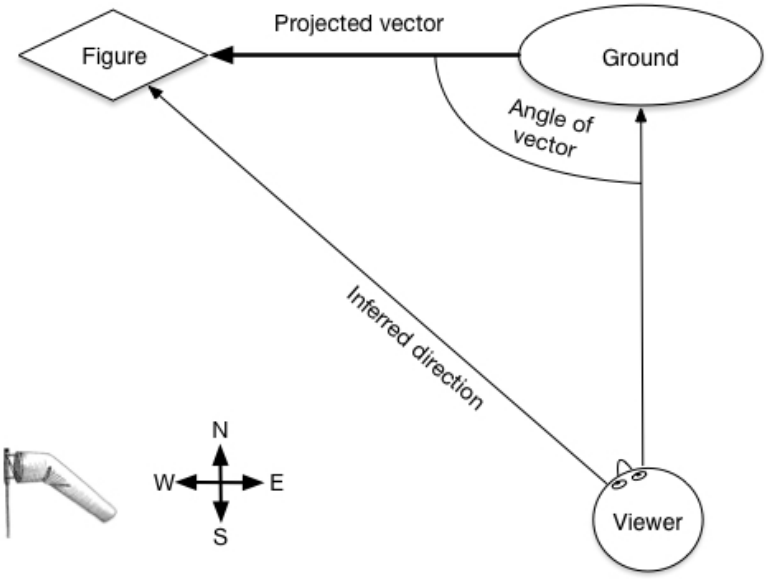

Figure 3: Vector projection within an absolute frame of reference (e.g., the Figure is *west*/*upwind* of the Ground).

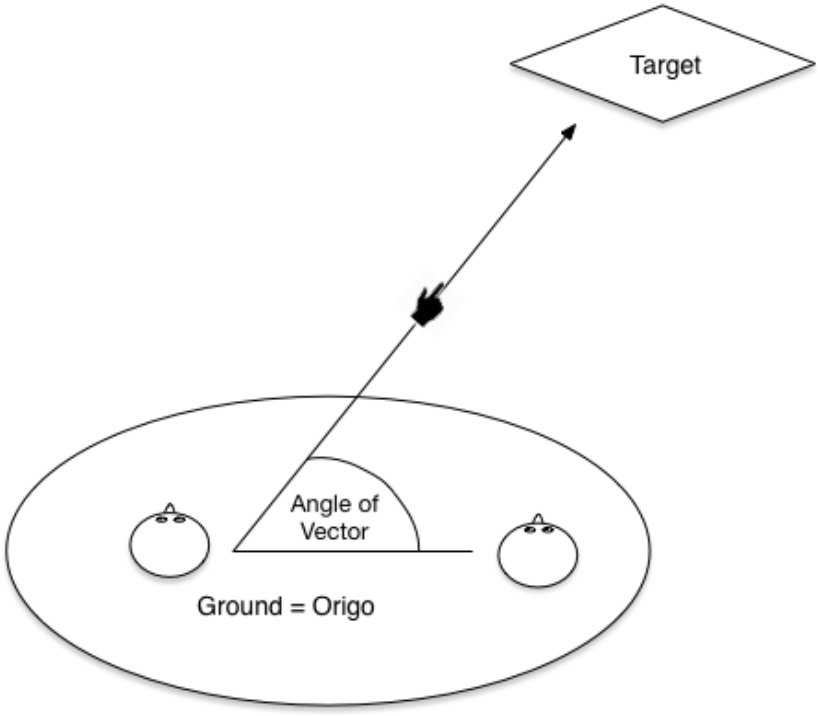

Figure 4: In pointing the angle of the indicated vector is interpreted relative to the physical orientation of the interlocutors.

4 *Thakuny* and *batbat* are unattested in Blythe's corpus of transcribed Murrinhpatha conversation (4 hours and 48 minutes, to date).

(1) 20150608JB_ManTree_2Sync_530055_531926

Thakuny thay pirrim (0.2) Karduka batbat pirrim ka[nyethuwarda memmirl.]

thakuny	thay	pirrim		kardu	-ka	batbat	
left	tree	3SG.S.stand(3).NFUT		NC:HUMAN	-TOP	right	
pirrim		kany	-gathu	-warda	mem		-birl
3SG.S.stand(3).NFUT		PROX	-hither	-TEMP	3SG.S.HANDS.RR.NFUT		-look.back
The tree is on the left. The human is on the right					[looking	this way.	]
					[((points	to self))	]

Such uses are intrinsic because the viewer's body is parsed onto the viewer's location, as ground, and a search domain is projected from the viewer's sides, as a binary spatial relation (Majid et al. 2004, 109; cf. Danziger 2010). Similarly, there is no evidence for the intrinsic directions *kangkarl* and *pepenyi* ("up" and "down"), *kumparra* and *tirduk* ("ahead" and "behind") being used in an overtly relative fashion. Because the only detected frame of reference is the intrinsic (and binary), the specification of angular vectors must be accomplished through spatial deixis, rather than through ternary frames of reference. In this very strict sense, the spoken language is effectively 'directionless'. Abstract intrinsic terms do exist, but because they are independent of the viewer, they don't indicate the direction the viewer must gaze to see the figure.[5]

Murrinhpatha speakers point with their hands and with their heads (mostly their foreheads or chins, and seldom with their lips). Compared with Central Australian and Arnhem Land groups who have highly developed alternate sign languages (Kendon 2013; J. Green and Wilkins 2014; Wilkins 1997), Murrinhpatha speakers have very few conventionalised handsigns.[6] This avails virtually the entire manual modality for pointing. Murrinhpatha speakers do not use the space behind them for abstract metaphorical points (e.g., to past time). Nor, when referring to locations that are behind them, do they transpose their deictic centre (unlike "relatively framed" French speaking pointers) so as to use mainly left, right and forward oriented points (Le Guen 2011). When Murrinhpatha speakers point they use the full 360° of gestural space. The GIS data reveal that physical points to quite distant locations can be remarkably precise (cf. Haviland 1993). As we will see in §5, points are frequently combined with demonstratives and path-of-motion adverbials. Clues to Murrinhpatha speakers' reliance on pointing emerged during Blythe's fieldwork in Wadeye, whilst driving. On numerous occasions, the people who knew the route to a particular destination were (against the driver's better judgement) sitting the back seat of the car. If the driver does not turn backwards to see the speaker's points or direction of gaze, instructions like "here", "there", "this way" and "that way" are rendered all but useless.

Within absolute referential frames, co-speech pointing has been investigated in the Australian language Guugu Yimidhirr (Haviland 1993; 1996) and in Arandic languages (Wilkins 2003; J. Green and Wilkins 2014). Le Guen (2011) compares pointing in absolutely framed Yucatec Maya (cf. Bohnemeyer 2011) with relatively framed French. Clark (2003) examines pointing and object placement with use of demonstratives from a semiotic perspective (in English) while Enfield (2003) uses pointing in Lao interaction to elucidate demonstrative meaning. We add to this body of research by investigating the nexus between pointing and demonstrative use, particularly from the perspective of sequence and the epistemic incline between interlocutors.

5 However, as mentioned above, when viewer and ground are collocated in space, intrinsic directions may be parsed off the viewer's body in a quasi-relative fashion. Of these, the saggital directions (ahead and behind) are the only directions to have been attested in naturalistic discourse. As such, deixis or place descriptions are required for all locations that are neither ahead nor behind the viewer. Even these directions are frequently accompanied by points.

6 This is perhaps true of the Daly region more broadly. In his very thorough survey of Aboriginal signing systems, Kendon notes that as one progresses from the desert areas (Central Australia) northward into the Kimberley and Fitzmaurice region, the degree of sign-language development is increasingly attenuated (Kendon 2013, 58). No signing systems are reported for any of the Daly languages. However, in the last 10-15 years handsigns associated with heavy metal and/or hiphop have emerged in Wadeye. These have not yet been investigated.

3 Personal and Placename Avoidance

The Fitzmaurice and Moyle Rivers' region of Australia's Northern Territory is known locally as the Thamarrurr region. Within this region, there are some 22 exogamous patrilineal clans whose members share the same sets of clan totems. In Murrinhpatha the clan totems are called *ngakumarl* (Falkenberg 1962; Stanner 1936; Ward 1983). Each clan has an estate containing several significant sites (*ngugumingki*) which are said to have been created by totemic ancestors in the dreaming. Various shared *ngakumarl* totems (e.g., crows, butterflies, bamboo, white clay, the sun, certain vegetables, fish and game, etc.) are associated with each *ngugumingki*. The *ngugumingki*, and the estates on which they lie, are also associated with the particular language that the associated totemic ancestors were speaking at the time the land was created.

Indigenous personal names are markers of clan membership. Predominantly, they are either *ngakumarl* totems associated with the individual's clan (such as *kalinykun* wasp, *lurrinyin* 'cicada', *yuwirrnga* 'ghost bat') or the names of locations on the individual's clan estate (such as *mawurt*, *kinngirri*, *kilangkany*, etc.). Usually these are *ngugumingki*. If a person with the same name as one of these locations dies, or stands in an avoidance relationship to somebody that requires them to avoid his/her personal name, then the constraints on the use of that name apply equally to the place as apply to the person. Although most places that are potentially subject to naming taboos have certain totemic significance, the restrictions do not apply because they are totemic sites, per se. Rather, the restrictions relate to their phonetic similarity with the names of persons deceased, or persons that stand in avoidance relationships to the participants in conversation.[7]

Because placenames are recognitionals, there can be informational consequences of avoiding them. When a video of a dreaming story was recorded as part of a cultural maintenance program, the recordist noted that the two female owners of the country narrating the story hadn't mentioned the name of the site. The principle teller Elizabeth had avoided the name because the particular *ngugumingki*, *Nirrpi*, a sun dreaming, has the same name as a man of her own clan that she calls *ngathan* 'brother' (hence, she here observes opposite sex-sibling avoidance). So that both the story and the name of the location could be recorded for posterity, the recordist urged the tellers to add an addendum to their narration. In this addendum, Lucy collaboratively completes Elizabeth's unfinished turns (lines 7, 11 and 18) by producing the avoided name on her behalf (at the arrowed lines 9, 13, 17 and 20).

(2) *Kardu Pe* – Waterlily Woman (20041016JB02_435016_461711)

1	Eliz	Karduka	wurri-	wurrinidha	wurrinidhaya	kardu	peyu	karda;
		kardu	-ka	wurri-[truncated]	wurrini	-dha		
		NC:HUMAN	-TOP	STRI	3SG.S.6go.PIMP	-PIMP		
		wurrini	-dha	-ya	kardu	pe	-yu	karda
		3SG.S.go(6).PIMP	-PIMP	-CL	NC:HUMAN	waterlily_fruit	-CL	PROX
		She we- Waterlily woman went in here,						
2		(0.9)						
3	Eliz	kanawup,						
		kanam	-wup					
		3SG.S.be(4).NFUT	-stay					
		she stayed {here}.						
4		(0.9)						
5	Lucy	°°pankurrk.°°						
		pan	-kurrk					
		3SG.S.slash(23).NFUT	-dig					
		She dug a hole						
6		(0.3)						

7 The extension of personal naming taboos to homophones or near homophones of the restricted name has been reported for a number of Australian languages (Dixon 1980; Douglas 1964; Hart 1930; Nash and Simpson 1981).

7 Eliz pankurrk, (.) weyi kanardi, (0.5) daka kanyika murrinyka,
pan -kurrk weyi kanam -rdi
3SG.S.slash(23).NFUT-dig hole 3SG.S.be(4).NFUT-enter
da -ka kanyi -ka murriny -ka
NC:PL/T -TOP PROX -TOP name -TOP
She dug a hole and went into it, here at the place called...
8 (0.6)
9 Lucy → Nirrpi.
place_name
Nirrpi.
10 (0.8)
11 Eliz Yi daka murriny kanyika:,
yi da -ka murriny kanyi -ka
and NC:PL/T -TOP name PROX -TOP
And the name of this place is...
12 (0.5)
13 Lucy → Nirrpiwa.
nirrpi -wa
placename-EMPH
Nirrpi.
14 (0.2)
15 Eliz Murriny lurrutj nayu.
murriny lurrutj na -yu
NC:SPEECH strength 2SG.S.say/do(34).FUT -CL
Say the name louder!
16 (0.2)
17 Lucy → ↑Nirrpiwa [Dawa (murrinyyu.)
nirrpi -wa da -wa murriny -yu
placename -EMPH NC:PL/T -EMPH NC:SPEECH -CL
Nirrpi is the name of the place.
18 Eliz [Daka murriny kanyika:,
da -ka murriny kanyi -ka
NC:PL/T -TOP name PROX -TOP
The name of this place is ...
19 (0.9)
20 Lucy → Nirrpi.
placename
Nirrpi.
21 Eliz Da ngaywa dayu.
da ngay -wa da -yu
NC:PL/T 1SG.POSS -EMPH NC:PL/T -CL
It's my country.
22 Lucy I daka ngaywa.
i da -ka ngay -wa kanyi -yu
and NC:PL/T -TOP 1SG.POSS -EMPH PROX -CL
And it's my country.
23 Eliz He he he he.

One way that conversationalists instruct each other to produce a tabooed name on their behalf is by using the verb *nangkawadha* 'say the name'. In extract (3) four young men are sitting on top of a hill called

Thuykem. Evidently one man, Mike[8], cannot pronounce the name *Thuykem*. Thuykem also happens to be a woman's name.

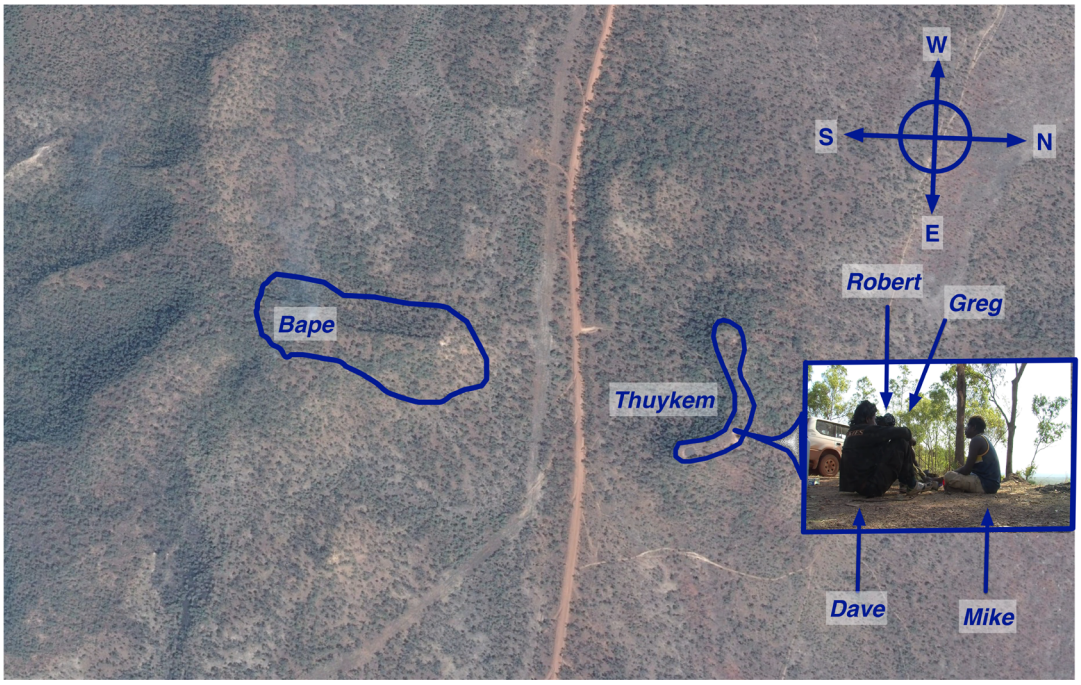

Figure 5: Seated on the arc-shaped hill *Thuykem*, Mike (on the right) is more or less facing the nearby hill *Bape*.

(3) Thuykem 20110824JBvideoGYHM100_02_1370156_1386710

1	Mike	ya da palyirr panguwathu (0.4) wurrankek;
		ya da palyirr pangu -gathu wurran -kek
		HES NC:PL/T hill DIST -hither 3SG.S.6go.NFUT -be_rainbow
		Um that hill that runs along there in front of us in an arc... ((gazing SW))
2		(1.3)
3	Mike	burrk damatha wurran.
		burrk damatha wurran
		lovely INTS 3SG.S.6go.NFUT
		is really lovely.
4		(1.3)
5	Mike →	[palyirr da warda kanyire.]=[da- da nangka↑wa↓dha.]
		palyirr da warda kanyi -re da- da
		hill NC:PL/T TEMP PROX -PERL STRI NC:PL/T
		na -ngkawadha
		2SG.S.8say/do.FUT-say_name
		This hill around here now, sa- say its name!
6	Mike	[(headpoints SW to top of hill)] [(turns to face Dave)]
7		(1.0)
8	Greg	Bape.
		placename
		Bape

8 The four young men in this extract are referred to by pseudonym.

9 Mike ((shakes head))
10 (0.4)
11 Rob Thuy:kem.
placename
Thuykem
12 Dave [Thuykem.]
placename
Thuykem
13 Greg [Thuykem.]
placename
Thuykem
14 Mike ((nods))
15 (0.4)
16 Mike → murriny dungengnu.
murriny du -ngeng -nu
NC:SPEECH 2SG.S.17.FUT -say -FUT
Say the name!
17 (0.7)
18 Dave palyirr Thuykem.
hill placename
The hill Thuykem
19 (0.2)
20 Mike yu da palyirr- (.) nyinda kanyi.
yu da palyirr nyinda kanyi
yeah NC:PL/T hill ANAPH PROX
Yeah that's- this hill here ((nodding)).
21 (0.3)

The four boys are sitting on top of the hill called *Thuykem* admiring the view, talking about places they can see. At lines 1 and 3 Mike announces that the hill spanning in an arc out in front of them is beautiful. Then, specifying the hill on which they are currently sitting, he turns toward Dave (line 6) and instructs him to say the name (line 5). The instruction is comprised of the 'place/time' noun-class marker (*da*) plus the imperative verb *nangkawadha*, 'say the name.' When Dave doesn't respond, co-present Greg proffers the name of the nearby hill (*Bape*, line 8) which more or less faces Mike as he is seated on the ground facing south (see Figure 5). Mike disconfirms this more distant candidate with a headshake (line 9). At lines 11-13, Robert, Dave and Greg each proffer the name *Thuykem*. Nodding at line 14, Mike confirms the present location, *Thuykem*, to be the hill he is talking about. At line 16 he then instructs Greg to say the name again.[9] Greg obliges at line 18. Nodding, at line 20 Mike again confirms this to be correct.

At lines 1 and 3 of this conversational extract Mike combines eyegaze and/or headpoints with distal (*pangu*) and proximal (*kanyi*) demonstratives – rather than explicitly mentioning the hill by name. In the remainder of this paper we report results from a communication experiment that rides on this cultural practice of placename avoidance. Persons with different knowledge states must converge such that they both understand a proposed destination, despite the name of the destination being, for all intents and purposes, 'unavailable' to the more knowledgeable participant. As with extract (3), pointing, gaze and demonstrative usage are central to the analyses.

9 This instruction uses the "speech" noun class marker *murriny* and the imperatively framed speech verb *dungeng*, here construable as "say the name".

4 The Name Avoidance Experiment

For a number of years, authors Kinngirri Mardigan, Mawurt Perdjert and other Wadeye residents have taken first author Blythe to visit numerous named locations where navigational coordinates were recorded with a GPS. Additional places were identified using satellite imagery for which pins were dropped so as to record the longitudes and latitudes. Before running the experiment, approximately 90 named locations had been identified. After running the experiment, all additional locations mentioned in the recording were identified, bringing the total database to 132 locations that were either named or described in some fashion.

Twelve named sites were selected for twelve trials. These are located on the estates of seven different clans: three Murrinhpatha clans, two Marringarr clans, and two Marri Tjevin clans. The video camera was aligned due north (0°). For each trial, either Kinngirri or Mawurt was given the name of a location which was not to be pronounced by the knowing participant. The other enquired as to where they were supposed to be travelling the following day for a picnic. Each could say whatever they liked, except that person given the name was not to pronounce it. Through a series of questions and answers the two had to come to a shared understanding about where the picnic would be. Invariably, each trial culminated in a successful guess which was confirmed by the participant in-the-know as being the intended location. Kinngirri and Mawurt received the bare minimum of instruction as to how they should arrive at a shared understanding – merely that they could say or ask whatever they liked, except that the person in-the-know shouldn't mention the placename.[10]

The experiment has parallels with the various director-matcher tasks which seek to examine collaborative reference in interactional settings (e.g., Clark and Wilkes-Gibbs 1986; Brennan and Clark 1996; Pederson et al. 1998). However, we find the terms *director* and *matcher* inappropriate for the dataset because the guessing participant sometimes gave information about how a proposed route should be recognised, and the in-the-know participant sometimes requested information.[11] We thus use *knower* and *guesser* as labels because they better convey roles these participants play within the trails.

It was hoped that by using pre-identified locations, a net could be cast for contextualised data to illuminate the relationships between pointing and demonstrative use, and to find any as-yet undocumented directional vocabulary. No new directional vocabulary emerged however, so we are reporting on the demonstrative and pointing data.

5 Mechanisms for Identifying the Location

Kinngirri Mardigan and Mawurt Perdjert successfully identified all twelve locations, taking between 40 seconds and 420 seconds to confirm the correct locations.[12] Unbeknownst to first author Blythe, two of the selected locations were actually subject to naming taboos for the guessing participant. In these cases, the first letter of the placename was presented for confirmation (thus, 'W' was proffered for the placename *Wumirdim* and N was proffered for the placename *Nardirri*). Due to a problem with the video camera, the first trial was not transcribed.

In attempting to converge on the correct location, participants applied one or more of the following diagnostic devices:

(i) Gestural provision of the proposed vector. Both knowers and guessers used their hands and heads to point in the direction of the proposed destination (i.e., the destination they knew to have been given, or the direction of the destination they suspected to have been given).

10 As well as participating in the experiments as subjects, Kinngirri and Mawurt helped assemble the database of named locations, providing both ethnographic information and locational information. They also provided translations and glosses for the recorded text, as well as commenting on the written version of the paper.

11 Furthermore, in most director matcher tasks, each participants have separate arrays of objects or drawings which are obscured from the other participant's view by a screen. In this experiment, participants had full view of each other and whatever they happened to have at hand.

12 Mean = 177 sec. The transcribed trials yielded approximately 30 minutes of naturalistic talk in interaction.

(ii) Description/characterization of the proposed destination. Participants described or inquired about what the destination is like – whether or not it is inland or on the coast, whether it is a beach, woodland, a waterhole, a creek, or a floodplain, etc. Participants often talked about the varieties of bush-foods to be found in the area.

(iii) Indication of the distance to the proposed destination. This was either done overtly by describing the destination as *manda* ('nearby') or *ngatjparr* ('far'), gesturally through an elevated point[13], or covertly by indicating whether the destination warrants driving to, or whether walking should suffice.

(iv) Description/characterization of the way to the destination. The relevant roads are described as straight or bumpy. Mentions of particular river crossings were used to specify the required roads. Participants also pointed to one of the six main tracks out of the community of Wadeye, so as to indicate from whence the journey should begin.

(v) Characterization of the proffered location. If the guesser proffered an incorrect candidate location, as a manner of disconfirmation, the other sometimes characterized that location as being a beach, a woodland, a fishing spot, etc., with the implication that the intended destination was not that sort of place. Similarly, knowers might characterize the proffered location as *ngatjparr* ('distant'), implying that the intended location is nearer.

(vi) Characterization of the destination with respect to persons, or to other places. Participants might describe the destination as within a particular clan's estate, or as falling within a larger named geographical area.

(vii) Guess. The guesser proffers the missing name (or first letter thereof).

(viii) Confirmation. The knower confirms the correct location (or, the correct direction, if what was being guessed was the direction).

In order to reveal how participants use the above diagnostic devices to converge on the intended location, the entire eighth trial is produced as extract (4). In this trial Mawurt was given the name of the location (*Werndek nganayi*, also known as 'Old mission') and Kinngirri had to guess. Bracketed numbers to the right of the textline indicate which diagnostic devices are being employed. All diagnostics were applied in this trial with the exception of (vi).

(4) 20110825_JB_video_GYHM100_01_2014761_2060500

1	Mawurt	Kinngirri,	
		kinngirri	
		woman's_name	
		Kinngirri,	
2		(5.0)	
3	Mawurt	nandji mutikaka dangarnurtka ku pishing purrunungime.	(ii, iii)
		nandji mutika -ka dangam -rdurt -ka	
		NC:RES motorcar -TOP 2SG.S.bash(14).NFUT -find -TOP	
		ku pishing purru -nu -ngime	
		NC:ANM fishing 1NS.INC.S.go(6).FUT -FUT -PC.F.NSIB	
		The fishing place you found with the motorcar, we'll go there.	
4	Kinngi	ha ha (0.2) ku pishi::ng;	(ii)
		ha ha ku pishing	
		ha ha NC:ANM fishing	
		Ha ha. (0.2) Fishing?	
5		(0.6)	

13 That is, where greater angles of elevation convey greater distances.

6	Mawurt	Yu ku balli- (.) ballinukunu. yu ku balli balli -nukunu yes NC:ANM mud_crab mud_crab -DAT *Yeah mudcrab- for mudcrabs.*	(ii)
7	Kinngi	wililire; wilili -re walk -INST *By walking?*	(iii)
8		(1.0)	
9	Mawurt	Awu wilili daka ngatjparrwa. awu wilili da -ka ngatjparr -wa no walk NC:PL/T -TOP distant -EMPH *No it's too far to walk.*	(iii)
10		(1.5)	
11	Kinngi	Yederr; placename *Yederr?*	(vii)
12		(1.9)	
13	Mawurt	Ya nyinika ngatjparrdeyida. ya nyini -ka ngatjparr -deyida HES ANAPH -TOP distant -same *Ah that's too far.*	(v)
14		(1.3)	
15	Mawurt	↑darrimurn darrimurn;↑ sand sand *It's a beach/sandy place. It's a beach/sandy place*	(ii)
16		(2.8)	
17	Kinngi	[kanyingu:;] kanyi -wangu PROX -away *This way?* ((Handpoint North))	(i)
18	Mawurt	[purrunungime-] purru -nu -ngime 1NS.INC.S.go(6).FUT -FUT -PC.F.NSIB *We'll go- ...*	
19		(0.2)	
20	Mawurt	yu daka yutjpan ↑panguwardanu; yu da -ka yutjpan pangu -warda -nu yes NC:PL/T -TOP straight DIST -TEMP -DAT *Yeah it's straight {up} that way.*	(iv)
21		(0.8)	
22	Kinngi	Da nan nan purrunungime; da nan nan NC:PL/T what's_name what's_name purru -nu -ngime 1NS.INC.S.go(6).FUT -FUT -PC.F.NSIB *Ah what's the- what's the name of the place we're going.*	
23		(0.5)	
24	Kinngi	[Old mission;] *Old mission*	(vii)

25 Mawurt	[nandjika] mutika dangarnurtwa na,	(iii)
	nandji -ka mutika dangam -rdurt -wa na	
	RES -TOP motorcar 2SG.S.bash(14).NFUT -find -EMPH TAG	
	You've found a car, haven't you?	
26	(1.1)	
27 Kinngi	Manandji ba karrim kanyi.	
	ma -nandji ba karrim kanyi	
	not -NC:RES Oh! 3SG.S.stand(3).EXIST PROX	
	No- Oh there is one here. ((Points to the nearby car)).	
28	(0.2)	
29 Mawurt	Na::;	
	na	
	TAG	
	Really.	
30	(0.7)	
31 Mawurt	Mamba?	
	mamba	
	alright	
	Alright?	
32	(1.0)	
33 Kinngi	werntek nganayika;	(vii)
	werntek nganayi-ka	
	placename -TOP	
	Werndek nganayi?	
34	(0.5)	
35 Mawurt	Bere mamba yutjpan yindamatha.	(viii)
	bere mamba yutjpan nyinda damatha	
	completion alright straight that's_right INTS	
	Well right that's exactly the one.	
36	(0.2)	
37 Kinngi	Ii he he he he	
	yeah ha ha ha ha	
38 Joe	Too easy ha ha ha ha haha	

At line 3 of extract (4) Mawurt makes an initial reference to the intended location. So doing, he describes it as a fishing place (diagnostic ii) and, by pointing out that she had found the place with a vehicle, implies that location is sufficiently distant to warrant driving to (iii). At line 6 he describes the place as having available mudcrabs (ii). At line 7 Kinngirri inquires whether the destination is near enough to walk to (iii). At line 9, however, Mawurt assures her that it is not (iii). At line 11 Kinngirri proffers *Yederr* as a candidate destination (vii) (Yederr being a place where mud crabs can be found) which Mawurt then describes (at line 13) as *ngatjparr* – far away, thereby disconfirming it as the intended location (v).

Having established that the intended destination is a beach (line 15, ii), Kinngirri at line 17 guesses that the direction is to the north, which she indicates with a hand point (i). Abandoning his overlapped utterance (line 18), Mawurt confirms the direction (line 20, viii), adding that the road up there is straight (*yutjpan*) (iv). All this proves to be sufficient information for Kinngirri to correctly guess the location (vii), although her overlapped guess at line 22 (*old mission*) doesn't yield the desired confirmation. Her subsequent guess (*Werndek Nganayi*, line 33) (vii) solicits Mawurt's confirmation at line 35 (viii).

Broadly speaking, the diagnostics are applied within the context of information solicitation and provision. Numerous 'where' questions are asked in addition to confirmation solicits (polar questions). This series of enquiries results in a gradual lessening of the knowledge differential, to such a point that the

speakers converge on a shared understanding of the intended destination. In the next section we examine the deictic devices used to achieve this. The methods are mixed in order to present qualitative analyses of individual extracts along with supporting quantative data on pointing and demonstrative frequency.

6 Pointing and Demonstrative Usage

While our ultimate objective would be to situate the Murrinhpatha demonstratives within a typological framework of usage (Diessel 1999; Dixon 2003; Himmelmann 1996), we don't yet understand the place each occupies within a closed set of formal and semantic oppositions. Establishing the semantics of the bare forms is complicated by them being frequently modified by the path-of-motion-cum-orientation clitics *-gathu* ('motion hither'/'facing us') and *-wangu* ('motion thither'/'facing away from us'), thus converting them into spatial demonstratives, even when their inherent glosses are otherwise. The seven identified demonstratives are listed in Table 1. Three of these (*dji*, *kaya* and *ngangka*) are poorly attested and barely understood. Thus, in this section we present a usage-based account of the four best-attested demonstratives.

The unmodified spatial demonstratives 'proximal' (*kanyi*) and 'distal' (*pangu*) encode, to some degree, the conceptual distance of the target location from (as internal to, or external from) the location of the speech event. The proximal marks the referred-to location as *within* the speaker's 'here-space', whereas the unmodified distal is understood to be *outside* the interactionally construable boundaries of the here-space (i.e., 'not here') (Enfield 2003; Cutfield 2011). When modified by *-gathu* (hither) or *-wangu* (thither), the so-called 'proximal' vs. 'distal' distinction becomes particularly tenuous. The anaphoric and recognitional demonstratives are essentially discourse demonstratives. The anaphoric demonstrative (*nyini*/*nyinda*, etc.) is retrospectively oriented in pointing back to a prior anaphor. The 'recognitional' demonstrative (Himmelmann 1996) (*pana*, etc.) is prospectively oriented in that it presents a previously unintroduced referent as something that the targeted recipient ought to know about.

Table 1: The seven Murrinhpatha demonstratives. [14]

Gloss	Bare forms	+hither (*-gathu*/*-wathu*/*-yethu*)	+thither (*-wangu*)
Proximal ('here/this')	*kanyi/kanyirda*	*kanyethu/kanyirdathu*	*kanyungu*
Distal ('there/that')	*pangu/pangurda*	*panguwathu*	*panguwangu*
Anaphoric ('that X previously mentioned')	*nyini/yini/nyinirda/ nyinda/yinda*	*nyindathu*	*nyindawangu, nyindangu*
Recognitional ('that X you know about')	*pana/panda/panarda*	*pandathu*	*pandawangu*
Gloss unknown	*dji-*	*djiyethu*	*djiwangu*
Gloss unknown	*kaya*		
Gloss unknown	*ngangka*	*ngangkathu*	*ngangkangu*

The experiment yielded rich data on demonstrative usage and kinesic behavior. For the purpose of coding, the unit under investigation is the *move*, a basic unit of action in interaction, often built out of multiple semiotic resources in concert (Goffman 1981; Enfield 2009). Moves are composite utterances that can be construed as having verbal and kinesic components. Firstly, all points with hands or the head were identified and, where applicable, correlated with the use of demonstratives and/or adverbial path-of-motion clitics. Subsequently, turns at talk including demonstrative tokens were examined to determine whether concurrent gestural behaviour might be devoted to indicating the physical vector of a place referent. Gestures were coded for whether they indicated the vector and/or the distance of the referent. Moreover, iconic or symbolic components of gestures

14 The stem *dji-* is unattested as a free form. This particular experiment yielded four *djiwangu* tokens ("that way"), three of which were accompanied by points. There were two *kaya* tokens (each unaccompanied by points) and no *ngangka* tokens surfacing in this dataset.

were coded for whether motion trajectory across the landscape was conveyed (such as a 'hither'-type flutter of the fingers) or features of the landscape were depicted (such as a rising-then-dipping point that depicts the crest of a simultaneously mentioned hill). All gestures deemed to provide a vector were counted as points. Of 85 potentially meaningful gestural behaviours, 74 were identified as clearly and deliberately indicating the general direction of a place referent. 89% of these (n=66) occurred with at least one demonstrative.

The data yielded 219 demonstrative tokens and 108 path-encoding adverbials.[15] All moves containing demonstratives were subjected to similarly applicable coding, regardless of whether they combined with physical points; as were all moves containing points that were not combined with demonstratives. Using the GIS data, the discourse transcript and the video footage, all points were inspected to determine their most likely referents (ie., the intended or imagined destination, a track to the destination, a previously mentioned location, a visible object, etc.). Turns at talk containing demonstratives, and/or coinciding with points, were coded for whether the speaker was epistemically 'in-the-know' as to the proposed location, or otherwise (Heritage and Raymond 2005; Heritage 2012). Relevant moves were analysed interactionally as either 'subsequent' or 'non-subsequent'. Thus canonical question and answer adjacency pairs were identified (Schegloff and Sacks 1973; Schegloff 2007b). Answers to questions were coded as 'subsequent' moves (second pair parts). Questions, preliminaries to questions, question-prompts, and post-second elaborations following answers (if separate moves) were coded as 'non-subsequent'.[16]

7 Demonstratives used with points

In Figure 6 the solid bars showing the total demonstrative counts reveal the anaphoric and proximal demonstratives to be the most frequently used in the dataset, followed by the recognitionals.[17] The hatched bars on the right, however, reveal the proximals to be the only demonstratives to be substantially combined with points (47 out of 65 (72%) tokens).

As the participants begin to establish the general direction of the intended destination, the first point in almost every trial is accompanied by *kanyungu* (literally, 'this-away': the proximal demonstrative *kanyi* plus the 'thither' path-encoding adverbial *-wangu*). For example, in lines 1 and 2 of extract (5), Kinngirri asks Mawurt to confirm their intended destination by pointing eastward with an elevated hand point. Mawurt confirms this candidate destination with the affirmation token *yu* ('yes') and a deictic expression built around the anaphoric demonstrative (*nyindawangu*, 'that previously mentioned direction').

15 The two path-of-motion adverbials *-gathu* (hither) and *-wangu* (thither) are here deemed clitics in that they have a broad base of attachment (to nouns, to adjectives, within the templatic structure of polysynthetic verb, even following other adverbials that elsewhere function as interjections).

16 Moves more or less equate to turn-constructional units plus, where applicable, the concommitant gesture; or, where relevant, gestures unaccompanied by speech. Subsequent moves include base adjacency second pair parts as well as pre-, insert-, or post-expansion second pair parts (Schegloff 2007b). Whilst in principle subsequent moves needn't be answers to questions, they were all answers to questions in this data set.

17 As frequency comparison, we contrast the experimental data counts with counts from two informal face-to-face conversations (totalling 39 minutes, in which 199 demonstrative tokens were identified).

	PROX	**DIST**	**RECN**	**ANAPH**	*dji-*	*ngangka*	*kaya*	**No of tokens**
Experiment	30%	7%	21%	41%	2%	0%	1%	219
Conversation	27%	21%	16%	26%	3%	4%	2.5%	199

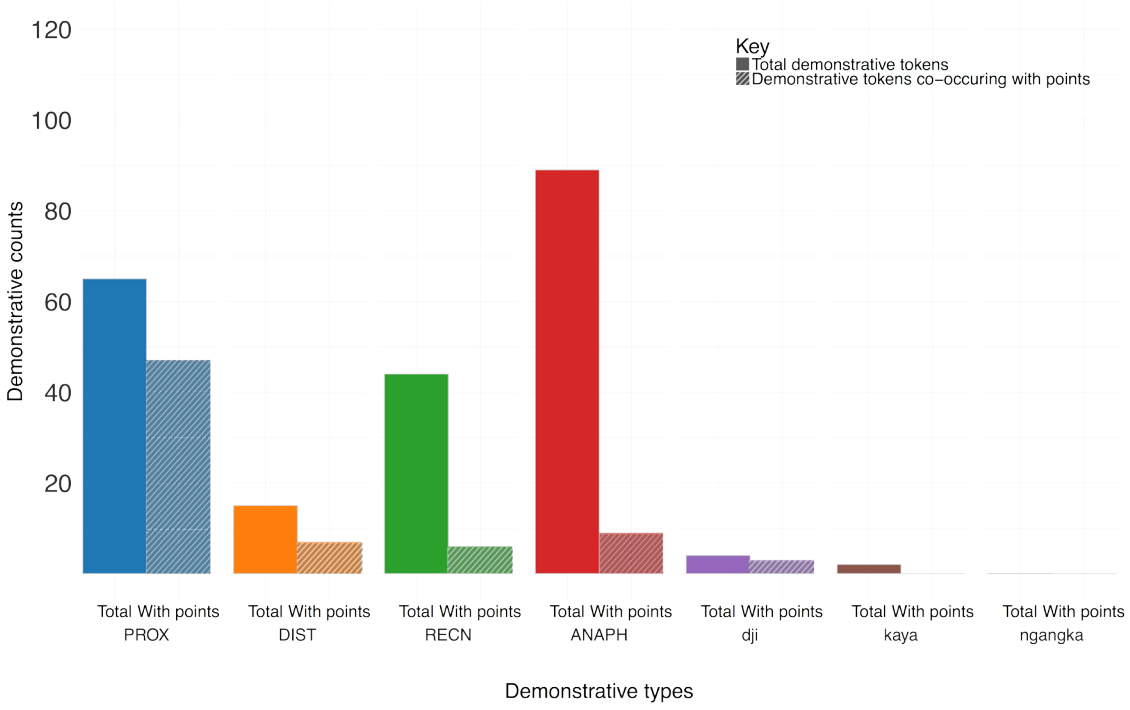

Figure 6: Total counts of demonstrative type tokens attested in the dataset (solid bars, left) vs. counts on the subsets of those tokens that are accompanied by points (hatched bars, right).

(5) 20110825_JB_video_GYHM100_01_1622470_1625118
(Mawurt is *knower*)

1 Kinngi [kanyungu]
kanyi -wangu
PROX –thither
this way?

2 Kinngi [((points east with open hand))]
3 (0.5)
4 Mawurt yu nyindawangu kardu purrunungimeyu.
yu nyinda -wangu kardu
yes ANAPH -thither NC:HUMAN
purru -nu -ngime -yu
1NS.INC.S.go(6).FUT -FUT -PC.F.NSIB -CL
yeah that's the way we're going.

Extract (6) is similar. In lines 1 and 2 Mawurt uses the proximal demonstrative *kanyungu* plus a finger point to proffer a candidate direction. As Kinngirri disconfirms this candidate with the negator *wurda* ('no'), she rules out the suggestion with the anaphoric demonstrative *nyini*. In extracts (6) and (7), neither of the anaphoric demonstratives (lines 4, respectively) are accompanied by points.

(6) 20110825_JB_video_GYHM100_01_1356126_1358861
(Kinngirri is *knower*)

1 Mawurt [kanyunguka;]
kanyi -wangu -ka
PROX thither -TOP
this way

2 Mawurt [((points NNW))]

3 (1.0)
4 Kinngi wurda nyiniyu.
wurda nyini -yu
no ANAPH -CL
not there.

One might imagine that in a language lacking abstract direction terms, points would regularly accompany distal demonstratives ('that way'). As extract (7) demonstrates, this certainly does happen. However, the total number of distal demonstratives (*pangu*) was low overall (n=15). Furthermore, the number occurring with points (n=7) suggests ambivalence (~50%) as to whether the distals should be accompanied by points. In extract (7) Mawurt's backhanded point in line 4 is timed to overlay the modified distal *pangurdamathangu* 'right out that way'.

(7) 20110825_JB_video_GYHM100_01_1356126_1016785
(Kinngirri is *knower*)

1 Kinngi ngarraniminangu
ngarra -nimin -wangu
what/where -INTS -thither
Where to exactly?
2 (1.9)
3 Mawurt [mayernka ngallaka pangurdamathangu yibimkekyu.]
mayern -ka ngalla -ka pangu -damatha -wangu
track -TOP big -TOP DIST -INTS -thither
yibim -kek -yu
3SG.SB.lie(2).NFUT -extend_into_distance -Cl
{Along} the main road stretching right out that way.

4 Mawurt [((backhanded point eastward))]

The points that accompany the distals are not discernibly different from those accompanying the proximal. Nor are the locations/routes referred to with the proximal plus *wangu* (thither) less far afield than those

referred to with the distal plus *wangu*. Evidently, elucidating pragmatic differences between proximals-plus-points and distals-plus-points will require continued research. Clearly though, if it is necessary to indicate the vector with a point, the most likely demonstrative to accompany that point will be the proximal. This holds true, regardless of the sequencing of moves, and regardless of whether the participant knows the intended destination. However, within subsequent moves (answers to questions), the proportion of proximals-plus-points drops to 25% (n=16) from 73% overall (n=48 proximals-plus-points). In fact, for every demonstrative type, the proportion occurring with points, as subsequent moves, is reduced from the total number of points (see Figure 7). Similarly, the proportion of proximals-plus-points produced by *knowers* (of the intended destination) drops to 23% (n=15, from 73% overall (n=48)), with similar reductions for the other demonstratives-plus-points, when produced by knowers (see Figure 7). The subsequent moves containing demonstratives are closely – but not exactly – correlated with epistemic status of the speaker as *knower*; in that, almost all were answers to information requests, or provided confirmations, disconfirmations or elaborative answers to polar questions produced by *guessers*.[18] Of the "subsequent" moves containing demonstratives, 95.4% were produced by *knowers* (103/108).

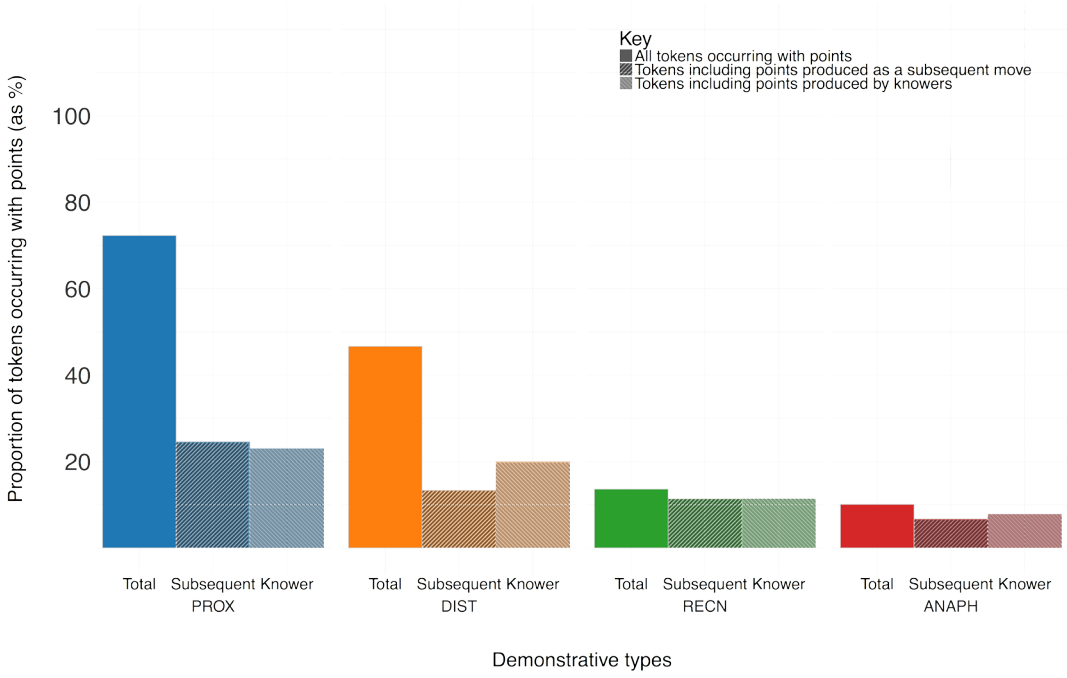

Figure 7: The solid bars on the left of each group show the proportions of the various demonstrative type tokens in the corpus that occur with points (Total). The darker hatched bars (in the middle) show the proportions of the various demonstrative type tokens occurring with points which are produced as subsequent moves (Subsequent). The lighter hatched bars on the right show the proportions of the various demonstrative type tokens occurring with points which are produced by the person that knows the intended destination (Knower).

In the next section we explore effects of move sequencing and knowledge states on the use of demonstratives, and to a lesser degree pointing. By inspecting demonstrative use for whether the relevant participant is a *knower* or a *guesser*, and whether the participant is answering a question (as opposed to asking one, or moving towards asking one, etc.) we have two methods of quantifying the relative knowledge asymmetries between interlocutors, which is evidently a factor motivating demonstrative selection.

18 A Chi-squared test of independence suggests that although the Subsequent and Knower factors are independently coded they are correlated ($\chi^2(6, N=213) = 34.1$, $p < .001$). Demonstrative types with low counts such as *dji-* (4 tokens), *kaya* (2 tokens) and *ngangka* (zero tokens) have been excluded from the test and RECN and ANAPH have been collapsed due to low token counts.

8 Demonstratives that are mostly used without points

In Figure 8 we show the proportion of demonstratives used within subsequent moves as used by *knowers*, regardless of whether points occur. For every demonstrative type, the percentages are higher in the latter than the former, but the relative inclination toward the discourse demonstratives (especially the anaphorics) is the same. Evidently both epistemic primacy and subsequent position tend to push demonstrative selection in the opposite direction from pointing (cf. Figure 7, in which the proximals are favoured).

While we noted earlier that the anaphoric demonstrative (*nyini* plus numerous variants) is the least likely to occur with a point (10% of tokens), it is the most likely to be used 'subsequently', as answers to questions (80% of tokens), and the most likely to be used by 'knowers' of the destination (89% of tokens). As such, anaphoric demonstratives point back to the asked about location in order to provide sought after information about it, or alternatively, to confirm or disconfirm it as the intended destination (as shown by the examples in lines 4 of extracts (5) and (6)). When it comes to the pragmatic task of marking the direction of their referents within absolute space, anaphoric demonstratives avail this information from what has already been conveyed by the previous anaphor. The seven anaphoric demonstratives produced by knowers that were accompanied by points were all produced either as disconfirming second pair parts, or as elaborative post-expansions to a disconfirming second pair part. In these exceptional cases, the previous anaphor is recalled in order to point out that the intended location is something other than the proffered candidate. Extract (8) exemplifies.

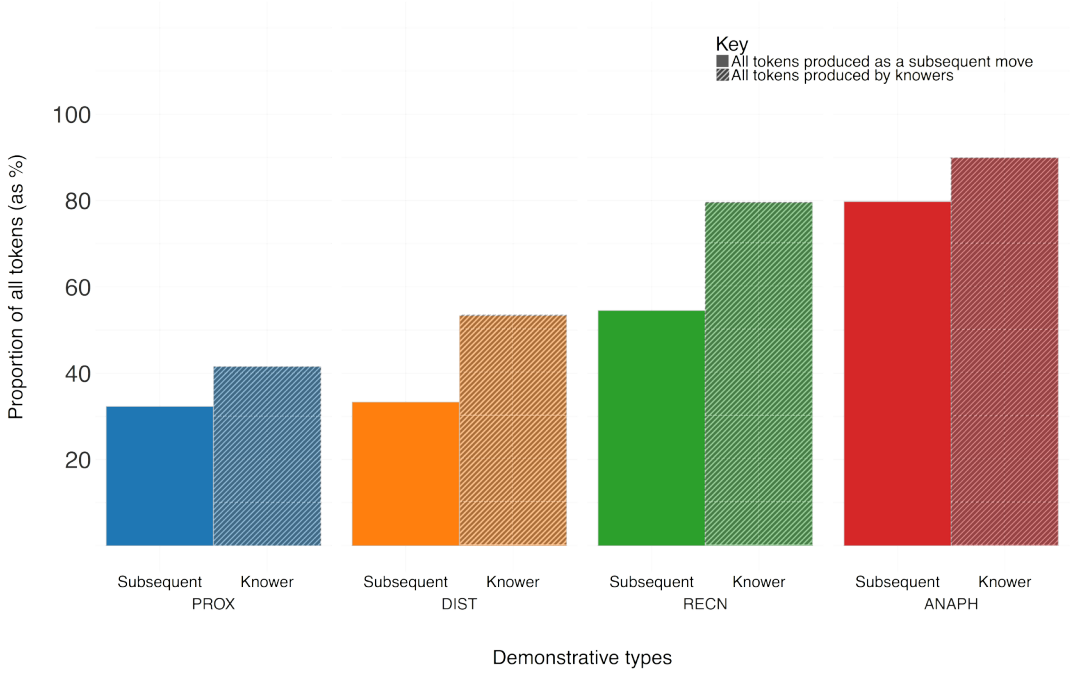

Figure 8: The proportion of demonstrative types (both with and/or without points) that occur in *subsequent moves* (solid bars), and as used by *knowers* (hatched bars).

(8) 20110825_JB_video_GYHM100_01_2844440_2849155
(Mawurt is *knower*)

1	Mawurt	>Da purrpurrk warda pana [kurrankadhuk.<			
		da	purrpurrk	warda	pana
		NC:PL/T	small_&_numerous	TEMP	RECN
		kurran	-ngkadhuk		
		3SG.S.go(6).EXIST	-exist		
		There are lots of small {named} places around there.			

2 Kinngi [Kulinmirrka
kulinmirr-ka
placename-TOP
Is it Kulinmirr?
(or in the Kulinmirr estate?)

3 (0.6)

4 Mawurt Yini [k a n y i w a re; (.) n g a t jparr]wa nyini,
nyini kanyi -wa -re da ngatjparr -wa nyini
ANAPH PROX -EMPH -LOC NC:PL/T distant -EMPH ANAPH
That's [*around this way, it's fur*]*ther.*

5 Mawurt [((points North)) ]

So as to disconfirm Kinngirri's guess (*kulinmirr*, line 2), Mawurt produces a nominal predicate construction in which the previously mentioned *kulinmirr*, here expressed by the anaphoric demonstrative *yini*, is held to be 'this way', as indicated by the proximal deictic expression *kanyiware*. In this case the northerly backhanded point (line 5) is timed to overlay *kanyiware*, and is arguably not correlated at all with the anaphoric *yini*. Nor is it correlated with the subsequent anaphoric *nyini* in the same line, which is being used to indicate that the proffered location is further afield than the intended location. In these cases, the anaphoric demonstrative falls within disconfirming turns being used to characterise the proffered location in terms that don't apply to the actual location (the 5th of the diagnostic devices listed in §4.1).

The recognitional demonstratives (*pana*/*panda*/*panarda*) are dedicated to introducing new referents, or to reintroducing referents mentioned prior to interceding discourse in which different referents were discussed in the interim. They occur in turns performing a wide range of action types including confirmation and disconfirmation of proffered candidate locations, information provision following content questions, and elaboration of the route by reference to recognisable landmarks. The majority of these demonstratives (79%) are performed by knowers. These however are as likely to occur within subsequent moves as non-subsequent moves (~50%). Because speakers use them to urge recipients to recognise referents they ought to know about, they are used within the spatial domain to urge recipients to identify locations that they should be able to recognise.

Although prospectively oriented, they are still discourse dependent, in that they become interpretable by reference to the surrounding discourse. They thereby indicate vectors by virtue of their place-referents being recognisable landmarks, or in the vicinity of recognisable landmarks. For example, in line 1 of extract (9), Kinngirri proffers two candidate locations on the coast, south west of where the participants are sitting. These locations are approximately 2 km apart (see Figure 9). In line 3, Mawurt disconfirms the candidates but confirms the general vicinity. He does this with a construction containing an existential verb *karrim* ('there is an X'), an anaphoric demonstrative (*nyinda*) and a recognitional demonstrative (*panda*). A literal translation of line 3 would be, 'Yes, that place you know about that is there {in the vicinity of} the place(s) you just mentioned.' This expression conveys the appropriate vector so accurately that Kinngirri requires only two more guesses (lines 5 and 9) to determine the correct location (see Figure 9).

(9) 20110825_JB_video_GYHM100_01_2492360 _2500361.
(Mawurt is *knower*)

1 Kinngi Ditji. (0.2) Muyuwa;
ditji muyuwa
placename placename
Is it Ditji? (0.2) Or Muyuwa?

2 (1.0)

3 Mawurt Yu daka karrim (.) nyinda panda;
yu da -ka karrim nyinda panda
yes PL/T-TOP 3SG.SB.stand(3).EXIST ANAPH RECN
Yeah it's right in that area
4 (2.3)
5 Kinngi ka↑ba:↓rniny;
kabarniny
placename
kabarniny?
6 (0.4)
7 Mawurt Wurda.
No
8 (1.0)
9 Kinngi thay punyek[ka;
thay_punyek-ka
placename -TOP
Thay punyek?
10 Mawurt [Nyin::da:;
nyinda
that's_right
Exactly

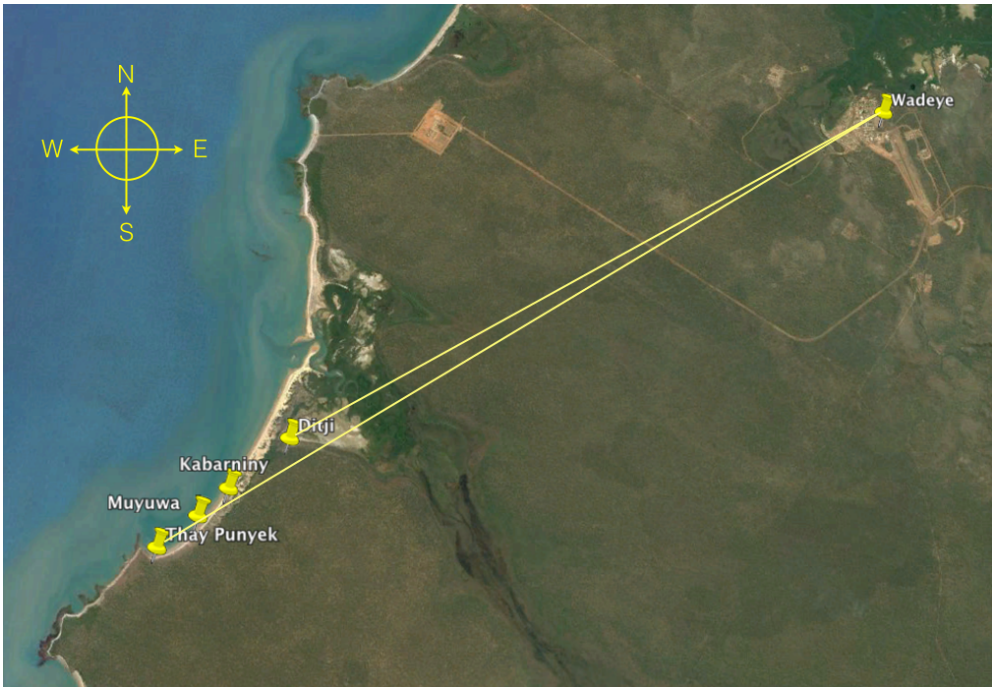

Figure 9: At roughly seventeen kilometres from where Mawurt and Kinngirri are sitting, the locations *Ditji*, *Muyuwa*, *Kabarniny* and *Thay Punyek* lie within 2° of separation.

As extract (9) demonstrates, recognitional demonstratives avail their vectors pragmatically from landmarks mentioned in the surrounding discourse. This is probably why only 14% of the recognitional demonstratives occurred with points. The example in extract (10) is one that does.

(10) 20110825_JB_video_GYHM100_01_2742140_2747795.
(Mawurt is *knower*)

1 Kinngi Ma ↑Tjintiwa.
ma tjinti -wa
but placename -EMPH
But Tjindi?
2 (1.5)
3 Mawurt [Awu yinika da ngatjparr wurda nyiniyu;]=
awu nyini -ka da ngatjparr wurda nyini -yu
no ANAPH -TOP NC:PL/T distant No ANAPH -CL
No, not there, that's too far.

4 Mawurt [(((Gazes SW))]
5 =Nyini[ka pepe da pandawangu.]
nyini -ka da pepe pana -wangu
ANAPH -TOP NC:PL/T down RECN -thither
it goes down that way that you already know about.

6 Mawurt [((Headpoint N))]

In extract (10) Mawurt contrastively uses anaphoric and recognitional demonstratives to disconfirm the candidate location Kinngirri proffered in line 1. He firstly uses two anaphoric demonstratives to point out that the proffered location is further afield than the actual location (line 3). He then uses the recognitional demonstrative plus the 'thither' adverbial (*pandawangu*, line 5) to urge Kinngirri to recognise that her proffered candidate lies 'down there in a direction that {she} should be able to recall'. His concomitant headpoint to the North (line 6) sharply contrasts with his just-prior south-westerly oriented gaze (line 4) which is thought unlikely to have been a point.[19] Much like the anaphoric example in extract (8), the point occurs in a turn being used to disconfirm the proffered candidate (diagnostic v in §4.1).

In summary, the likelihood that a demonstrative will coincide with a point and the choice of particular demonstrative vary according to sequence structure and the epistemic status of the speaker. When participants don't know the intended location and need to ask the direction, the demonstrative of choice to embed within a question and combine with a point is the proximal.[20] When in-the-know participants are asked about the location, they are most likely to select anaphoric and/or recognitional demonstratives to answer the question and they are quite unlikely to overlay these demonstratives with points. If, in constructing their answers, they need to indicate the direction with a point, they are once again most

19 Although reminiscent of a head point, Mawurt's elevated gaze to the southwest (line 4) was deemed unlikely be a point because the candidate location and the intended location (and the tracks there-to) were oriented in the opposite direction. We propose that as common ground is built up sequentially, visible behaviours can be analysed as potentially meaningful, or as extraneous noise. In this case, by line 1 of extract (10), the intended location had already been established to be a long way northwest of where Mawurt and Kinngirri are seated.

20 76% of the 25 questions (clear first pair parts) asked by guessers that contained demonstratives combined with points included the proximal demonstrative *kanyi* (n= 19, cf.: 3 distals (12%), 2 anaphorics (8%) and 1 recognitional (4%)).

likely to include a proximal demonstrative in the answer, perhaps alongside other (especially anaphoric) demonstratives.

9 Conclusion

The direction-giving task being reported investigates how Murrinhpatha speakers discuss locations and space when naming the referent is not an appropriate option. It takes advantage of the cultural constraints on pronouncing place-namesakes of individuals whose personal names are subject to naming taboos. Because this is a live issue for Murrinhpatha speakers, a fabricated name avoidance experiment is an authentic one that mirrors issues faced everyday within conversational interaction. That the place reference strategies discussed here are evidenced elsewhere in Blythe's corpus of informal face-to-face conversation suggests the solutions adopted in this experiment are representative of place reference strategies used in non-experimental settings.

Initial moves function as questions when there is a knowledge differential between interlocutors (Labov and Fanshel 1977; Heritage and Roth 1995; Heritage and Raymond 2012); yet without direct access to what participants are thinking, this differential isn't easily amenable to quantification. Nevertheless, in this study we have employed two methods for approximating knowledge states as interlucutors speak and point. Firstly we coded for their knowledge states (as *knower* or *guesser*) with respect to the intended destination; that is, whether or not the speaker was epistemically privileged. We then independently coded for action sequencing, focussing on subsequent moves. The high correlation here is unsurprising. Although non-subsequent moves in this dataset were not always questions, subsequent moves invariably dealt with the provision of solicited information – answers, effectively. Answers are where we see a levelling of the epistemic incline between interlocutors. We thus treat sequence structure and epistemic priviledge as quantifiable proxies for what interlocutors think about when deciding on whether to point, and on which demonstrative to select. Each provides independent stereoscopic viewpoints on the speaker/pointers' mental states as they make their interactional moves.

In suggesting that Murrinhpatha is virtually 'directionless', we wish to defeat the connotation that the language has any sort of deficit. Although the lexicon and grammar seem not to allow ternary frames of reference, Murrinhpatha speakers retain a precise spatial orientation and are in no way hamstrung by the apparent absence of abstract direction terms. By expressing directional vectors deictically (gesturally and/or as implicated through discourse anaphora) they readily make themselves understood, despite potential complications arising from culturally specific restrictions on particular placenames.

Human beings all need to refer to places and convey their orientation within the landscape, and never more so than when giving directions. Although we are generally not wholly reliant on language for this task, it is seldom done without language altogether. At issue here is where, when and how deictic contrasts are conveyed. Some researchers (e.g., McNeill 2000; Goldin-Meadow 2014) suggest that our conceptualisation of human language should be broadened to include co-speech gesture. Murrinhpatha provides compelling support for this proposal. In Murrinhpatha co-speech pointing gestures accompanying demonstratives are not merely helpful additions but are a necessary part of spatial deixis, and presumably this holds true with all languages. But to consider these points as external to the language is to somehow leave Murrinhpatha with a deficit that is not evidenced under normal circumstances. While it remains to be determined how speakers cope with direction giving when they can't see each other pointing, this intriguing question has only become an issue relatively recently – since telephones, computers and radios have enabled Murrinhpatha speakers to distribute speech events between separate locations. The language didn't emerge with these technologies, although they might impact its development into the future. In Murrinhpatha the vectorial component of spatial deixis has fallen squarely into the visuo-corporal modality, especially when information is being sought and a placename is unavailable. So for Murrinhpatha at least, points have arguably become a necessary part of the language itself.

Acknowledgements: We are grateful for Lucinda Davidson, Jacqueline Tosi and Liz Lennox's assitance in preparing the transcripts for analysis. The paper has benefited from the advice and comments of Jenny Green, Aung Si, Alice Gaby, Lila San Roque, Nick Enfield, the participants in the *Place, language and landscape* workshop (Radboud University, Nijmegen, 2013) and from two anonymous reviewers. The research was funded by the European Research Council (StG 240853) and the Australian Research Council (DP110100961, DE130100399).

Abbreviations

ANAPH: anaphoric demonstrative
CL: clitic
DIST: distal demonstrative
EMPH: emphatic
F: feminine
FUT: future
HES: hesitation
INC: inclusive of the addressee
INTS: intensifier
LOC: locative
NC:ANM: 'animate' noun class
NC:HUMAN: 'human' noun class
NC:PL/T: 'place/time' noun class
NC:RES: 'residue' noun class
NC:SPEECH: 'speech' noun class
NFUT: non-future
NSIB: non-sibling
NS: non-singular
PIMP: past imperfective
PC: paucal
RECN: recognitional demonstrative
S: subject
SG: singular
STRI: same turn initiation of repair
TAG: tag particle
TEMP: temporal adverbial
TOP: topic

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