Research Article   **Open Access**

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Other-initiated repair in Murrinh-Patha

Abstract: The range of linguistic structures and interactional practices associated with other-initiated repair (OIR) is surveyed for the Northern Australian language Murrinh-Patha. By drawing on a video corpus of informal Murrinh-Patha conversation, the OIR formats are compared in terms of their utility and versatility. Certain "restricted" formats have semantic properties that point to prior trouble source items. While these make the restricted repair initiators more specialised, the "open" formats are less well resourced semantically, which makes them more versatile. They tend to be used when the prior talk is potentially problematic in more ways than one. The open formats (especially *thangku*, "what?") tend to solicit repair operations on each potential source of trouble, such that the resultant repair solution improves upon the troublesource turn in several ways.

Keywords: other-initiated repair; conversation analysis; semantics

By initiating repair on an interlocutor's prior turn, speakers of the Australian Aboriginal language Murrinh-Patha seek to manage slips in intersubjectivity. The various formats for Other-Initiated Repair (OIR) act as pointers to likely trouble sources and possible trouble types. These trouble types might relate to audibility, speech production, or, with understanding what has been articulated. Some OIR formats are quite specialized whereas other formats are more versatile. Whatever the repair initiator (RI), the trouble source producer must consider the format of the initiator in the light of the interactional alignment of co-participants, so as to decide which repair operations are required to fix the particular problems that rendered their prior turn inadequate.

The analysis undertaken here is interdisciplinary. For the most part, this paper applies the qualitative methods of conversation analysis. However, these analyses have been augmented by quantitative methods that utilise a modified version of the coding scheme included in this special edition (Dingemanse, Kendrick, and Enfield forthcoming). Certain coding questions have been adapted following qualitative analyses of several extracts. There is thus feedback between these methodological approaches. These quantitative analyses give a measure of how certain formats tend to selectively target particular repair operations while other formats show more versatility.

1 The Murrinh-Patha language

Murrinh-Patha 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. It is spoken by people affiliated to the Murrinh-Patha, Marri Ngarr, Marri Tjevin, Marri Amu, Magati Ke, Ngan'gityemerri and Jaminjung languages, who prior to the 1950s, would have been multilingual hunter-gatherers. Today all Aboriginal people in this region speak Murrinh-Patha natively on a daily basis. It is one of only 18 traditional Australian languages still being acquired by children (AIATSIS 2005, 3). Until they encounter English at school, most children in Wadeye grow up as monolingual Murrinh-Patha speakers (Kelly, Nordlinger, and Wigglesworth 2010). Murrinh-Patha is a polysynthetic language that exhibits both

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fusional and agglutinating morphology. Syntactically, it is head-marking with quite free word order (Walsh 1976; Blythe 2009a; Nordlinger 2010; Mansfield 2014). All nouns belong to one of ten nominal classes (Walsh 1993; 1997), which, not being genders, do not form the basis for verbal inflection. Each nominal class has a dedicated content question word that allows speakers to ask about entities belonging to those categories (see §4.1.1). Widespread name avoidance hugely complicates reference to persons (Blythe 2009a; 2009b; 2013) so other initiation of repair plays an important role in dealing with these complications.
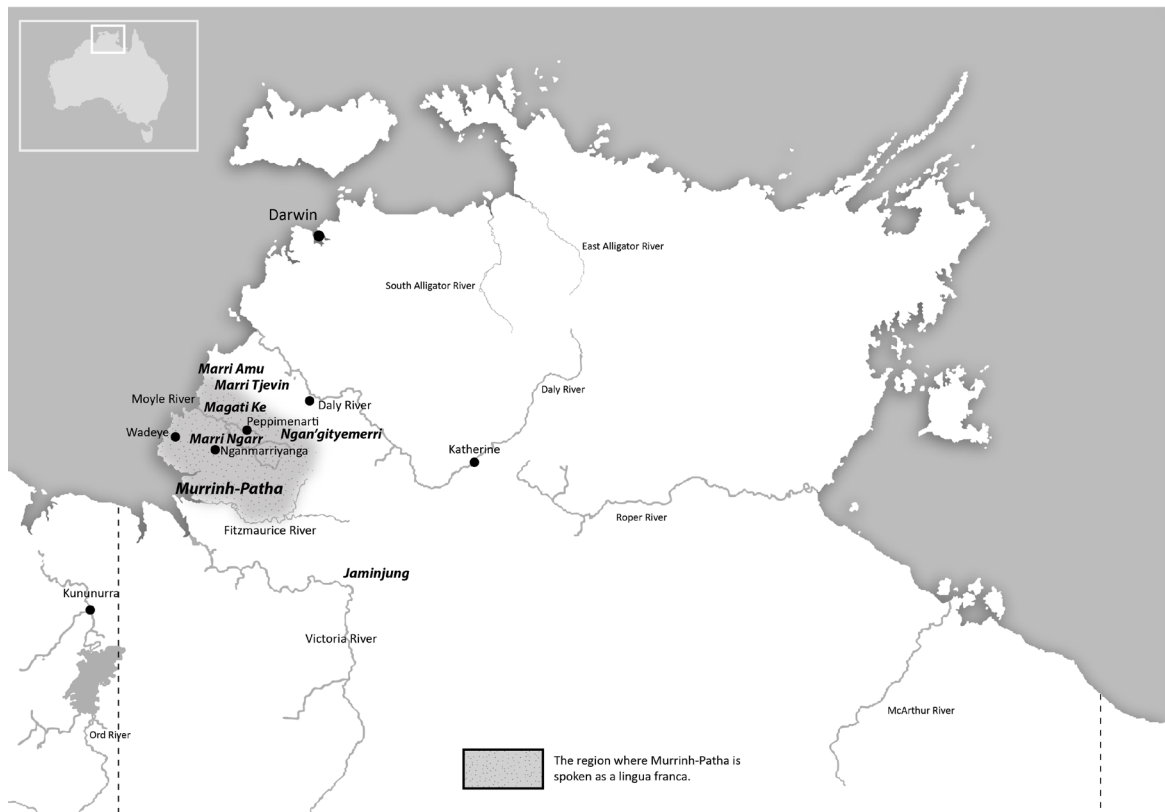

Figure 1: The Fitzmaurice and Moyle Rivers region of Australia's Northern Territory.

2 Data collection and corpus

The corpus on which this work is based was constructed in accordance with a set of guidelines developed by the members of the comparative project being reported on in this special issue (see Dingemanse & Enfield 2015 for further information). Here are the key properties of the data:

Table 1: Key properties of the data collected for the studies in this issue

- Recordings were made on video.
- Informed consent was obtained from those who participated.
- Target behaviour was spontaneous conversation among people who know each other well (family, friends, neighbours, acquaintances), in highly familiar environments (homes, village spaces, work areas).
- Participants were not responding to any instruction, nor were they given a task—they were simply aware that the researcher was collecting recordings of language usage in everyday life.
- From multiple interactions that were collected in the larger corpus, the selection for analysis in this study was of a set of 10-minute segments, taken from as many different interactions as possible (allowing that some interactions are sampled more than once), to ensure against bias from over-representation of particular interactions or speakers.

Of the seventeen Murrinh-Patha interactions sampled in this study, thirteen were collected by the author between 2007 and 2012 and four were collected in 2012 by John Mansfield. The recordings were made either in the communities of Wadeye, Nganmarriyanga, or on the estates of one of the local clan groups. Between 5 and 25 minutes were sampled from each interaction, totalling 3 hours and 53 minutes of conversation. This provided 147 cases for the core collection of other initiations of repair in Murrinh-Patha.

3 Sequential structure and OIR

3.1 Minimal OIR sequence

In the canonical OIR sequence, the existence of a problem becomes public in middle turn of the sequence (T0), as Extract 1 demonstrates. At T0 speaker B produces something (in this case, it is the content question word *nangkal*, "who", at line 5) which alerts the previous speaker (A) to a problem with his/her previous turn (T-1), or part thereof. At the following turn (T+1), A attends to the issue, by repairing what he/she assumes to be the problem. In this case, A calls out to a group of women, summoning one of them with the 2nd person singular inflected verb *thurrumaniyethu*, "come here will you" (line 3)[1]. At T+1 (line 7) *nyinyi nyinyi*, "you, you", specifies the previous speaker, B, as the target of the intended summons.

Extract 1: Dingalngu 20110730_JB_video_GYHM100_04_344960

```
1    A        ↑YAWU kardu thurduriyitjmani kagawu!↑
              Yawu      kardu        thurdu    -riyitj  -mani kagaw
              Hey!      NC:HUMAN     2SG.S.29.FUT -explain -try_to come_here
              Hey!! Can you come here and explain {to her}.
2             (1.5)
3    A        thurrumaniyethu.                                    T-1
              thurru         -mani    -gathu
              2SG.S.go(6).FUT -be_able -HITHER
              Come here will you.
4             (0.6)
5    B        nangka:l;                                           T0
              who
              Who?
6             (0.2)
7    A        nyinyi ⌈nyinyi.                                     T+1
              2SG 2SG
              You, you!
8    C               ⌊nyinyi.
                      2SG
                      You!
```

3.2 Non-minimal OIR sequences

Sometimes a single repair initiator does not adequately resolve the problems with the T-1 turn and an extended sequence comprised of chained three-turned sequences emerges. This can also happen when the provided repair solution brings new sources of trouble. Alternatively, the RI itself can be problematic and interlocking OIR sequences can emerge.[2] Extract 2 exemplifies the initial situation where the first

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1 *Thurrumaniyethu* in line 3 is a second summons – a pursuit of the initial summons in line 1. The group of women that A is calling out to, although seated nearby, is obscured by a parked vehicle.
2 74 of the 147 repair initiators in this Murrinh-Patha collection (50%) occur in non-minimal sequences.

repair solution proves inadequate and a second RI pushes for a fuller understanding of the previous repair solution. As is typical of these extended sequences, the repair initiations show a narrowing of domain, in this case it is from an 'open' interjection to a more restricted 'candidate understanding'.

In Extract 2, Peggy is recounting how a group of young girls survived a nearly disastrous boating mishap. In line 1 she mentions that a particular girl collapsed on the beach (having been washed up on the shore). Gracie (at line 3, and in overlap with Peggy's line 4) makes a contribution to the telling that sees Peggy suspend what she is saying and turn to face her. Gracie has a speech disorder (spasmodic dysphonia with tremors) which makes her difficult to understand. She normally produces multisyllabic words as discrete breathy syllables, as is the case here.

Extract 2: Da Ngarne 20091121JBvid03_726920

1	Peggy	↑ngarra darrimurn damatha ba- (0.2) bammat,↑					
		ngarra	darrimurn	damatha	ba	bam	-bat
		LOC	sand	INTS	STRI	3SG.S.18.NFUT	-fall
		Right on the sand, she- (0.2) she fell down.					
2		(1.2)					
3	Gracie	⌈ngen nyin-⌉ da- thu- (0.2) yit- tjit;				T-1₁	
		ngen	nyinda-gathu	yittjit			
		flesh	ANAPH-FOC	heavy			
		She was overweight.					
4	Peggy	⌊(wurdan-)⌋					
		(She-) ((turns to face Gracie))					
5		(0.5)					
6	Peggy	Aa?				TO₁	
		OIR.INTJ					
		Huh?					
7		(0.4)					
8	Gracie	Ngen				T+1₁, T-1₂	
		flesh					
9		(1.4)					
10	Mabel	ngen ↑ngalla;				TO₂	
		ngen ngalla					
		flesh big					
		fat body?					
11		(0.3)					
12	Gracie	((holds hands apart facing each other))				T+1₂	

13	Peggy	Na::;	
		Na	
		TAG	
		Really?	

Gracie's stilted description of the girl's physique as overweight (*ngen nyindathu yittjit*, literally: "that heavy flesh", line 3) is the first T-1 turn. When Peggy initiates repair (*Aa?*, "huh?", line 6), at line 8 (T+1$_1$) Gracie repeats only the initial word *ngen* ("flesh") which had previously been produced in overlap. The second repair initiation (T0$_2$) is co-present Mabel's offer of a candidate understanding (*ngen ngalla*, "fat body?") at line 10. Gracie confirms this to be the correct understanding by demonstrating gesturally, with both hands, that the girl in question was not thin (line 12). Although the RIs at lines 6 and 10 move from more open to more restricted[3], the repair solutions here become progressively more reduced than the initial trouble source turn (T-1$_1$). This reduction of articulated material (seven syllables > one syllable > demonstrative gesture) is to be expected from someone whose vocalizations are produced under considerable strain.

Another type of non-minimal sequence is where an initial RI fails to secure repair, such as the overlapped interjection *Aa¿* at line 6 of Extract 3, and a second initiator is produced which targets the same trouble source turn as the first one (as in line 8). In these cases, [T-1$_2$, T0$_2$, T+1$_2$] is considered to be a complete OIR sequence, whereas [T-1$_1$, T0$_1$] is sequentially incomplete. (Incomplete sequences will be excluded from any counts relating to solicited repair operations).

Extract 3: Da Ngarne 20091121JBvid03_1226536

1	Peggy	>kardu mamay damanangadha ⌈mut⌉ muttjeya<	
		kardu mamay damana -ngadha mutmut –ye =ya	
		NC:HUMAN young_child just -still ignorant -ear =CL	
		He was still just a little boy, he didn't understand much.	
2	Lily	⌊Mm.⌋	
3	Peggy	one ma:as; (1.0) An one silly billygoat bin de:;=mam,	T-1
		one mast and one silly billygoat bin there mam	
		one mast and one silly billygoat be.PST DIST 3SG.S.34say/do.NFUT	
		"{the boat had} One mast, and there was one silly billygoat", he said.	
4	Mabel	ha ha ⌈ha hm mhm	
5	Peggy	⌊ha ha ha ⌈ha ha⌋ ha	
6	Gracie	⌊ Aa¿ ⌋	T0$_1$
		OIR.INTJ	
		Huh?	
7		(0.2)	
8	Gracie	Aa¿	T0$_2$
		OIR.INTJ	
		Huh?	
9	Peggy	Aha one silly billygoat bin de:;=*mam;*	T+1
		Aha one silly billygoat bin there mam	
		laugh one silly billygoat be.PST DIST 3SG.S.34say/do.NFUT	
		"And there was one silly billygoat", he said.	

4 Formats for other-initiation of repair

In this section, I survey forms that speakers of Murrinh-Patha use for initiating repair in the T0 position. Our interest is not only in the specific linguistic resources that are used for formulating other-initiation of repair, but also the contextual principles for selection of one type of form over another, and the kinds of functional outcomes that each type of form can have (that is, the repair operations that the forms elicit in T+1).

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3 The movement here reflects the "natural ordering" along the dimension of "relative 'strength' or 'power'" that RIs have "to locate a repairable" (Schegloff, Jefferson, and Sacks 1977, 369; Sidnell 2010, 253) (cf. Dingemanse, Blythe and Dirksmeyer (2014) for additional dimensions of variation).

We distinguish the following main types of repair initiator (see Dingemanse & Enfield 2015):

Table 2: Some basic format types for other-initiation of repair

Restricted. Restricted repair initiators restrict the problem space by locating or characterising the problem in more detail.
- *Request type (asking for specification/clarification)*. Typically done by content question-words, often in combination with partial repetition.
- *Offer type (asking for confirmation)*. Typically done by a repetition or rephrasing of all or part of T-1.
- *Alternative question*. Repair initiator that invites a selection from among alternatives.

Within restricted, *external* repair initiators address problems about unexpressed elements of T-1; this 'external' function can be performed by all of the listed format types for 'restricted'.

Open. 'Open' repair initiators are requests that indicate some problem with the prior talk while leaving open what or where the problem is exactly.
- *Interjection*. An interjection with questioning intonation.
- *Question-word*. An item from the larger paradigm of question words in the language. Most usually a thing interrogative, sometimes a manner interrogative.
- *Formulaic*. Expressions not incorporating interjection or question-word, often managing social relations or enacting politeness.

The following table shows the relative frequencies of these types in the Murrinh-Patha corpus analysed in this study:

Table 3: Types of repair initiators and their frequency in the Murrinh-Patha corpus.

Type	Subtype	Frequency (n/147)	Proportion
Restricted	Request (seeking specification)	48	33%
	Offer (seeking confirmation)	48	33%
	Alternative question	0	0%
Open	Interjection	35	24%
	Question-word	8	5%
	Formulaic	0	0%

In the following section I diverge from the ordering adopted by the other papers of this special issue by discussing the restricted formats before the open formats. I think it is important to understand the operations of the more specialised restricted formats – how they target certain types of trouble sources and how they restrict the problem space – before examining the operations of the non-specialist open formats. It is easy to underappreciate all-round tools (like a good set of multigrips) before realising that specialised tools (e.g., canvas pliers, crimping pliers, circlip pliers, forceps, wire strippers, etc.) aren't versatile enough to perform a wide range of fixes. The restricted RI formats are more precise tools than the open RI formats, but the open formats are versatile tools that can attend to talk that is problem-laden in several ways.

4.1 Restricted formats

All initiators of repair are formulations for interrogating prior talk (Dingemanse, Blythe, and Dirksmeyer 2014). They enable recipients to ask prior speakers what they just said, about what they meant, or about who the utterance was intended for, etc. Restricted RIs draw on language-specific resources for question construction. As such, those RIs that restrict the domain of inquiry to recognizably salient socio-semantic categories tend to be built around content question words. Those that offer candidate understandings for confirmation or disconfirmation are built as polar questions. Alternative questions can also service as RIs although none have emerged in this Murrinh-Patha collection.

4.1.1 Request subtype – the category specific repair formats

53% of the restricted RIs exploit recognizable socio-semantic categories so as to classify trouble source items and potentially locate them. They normally use content question words to do this. Thus RIs built around the interrogative *nangkal* "who?" make clear that the trouble source is a person reference item; which is not to say that *nangkal* necessarily pushes for referential specification, although it usually does. RIs built around the question word *ngarra* "where?" make it clear that the trouble relates to a place reference item, but this does not guarantee that the predominant issue will be location identification or wayfinding. Content questions characterize troubles as intersecting with the categorial domain of the content question word, which, by manner of inference, can be used to locate referential expressions of the relevant domain. Ultimately trouble source producers must infer from what has been produced within the T0 turn, and from the goings-on in the vicinity of the T-1 turn, which items within T-1 might be problematic and what sort of issues they might point to.

A factor complicating person reference in Murrinh-Patha is the widespread avoidance of certain personal names. Speakers avoid naming the recently deceased, certain in-laws and siblings, especially opposite sex siblings. Despite this, names (when unencumbered by prescribed taboos) are the default means for introducing new persons into conversation (Blythe 2009a; 2013). In Extract 4 Mary avoids mentioning her classificatory sister by name.[4]

Extract 4: Da Ngarne 20091121JBvid03_613780

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1   Mary     nigunuka puleka panguwa na°dh°adini:;  (0.9) muniwingkarledhawurrini; (0.2)
             nigunu-ka  pule    -ka    pangu -wangu  -wa   na           -dha =dini
             3SG.F -TOP esteemed -TOP  DIST  -direction -EMPH 3SG.S.7go.PIMP -PST =3SG.S.1sit.PIMP
             muni        -wingkarle      -dha=wurrini
             3SG.S.11.PIMP-change_direction-PST=3SG.S.6go.PIMP
             The lady was going that way (0.9) she was changing direction (0.2)
             ((points high northwards, sweeping point northwards))
2            ngarra dewinhattha marda nganangurr warda wangu.                    T-1
             ngarra      de              -winhat-tha  marda_nganangurr warda wangu
             who/where 3SG.S.22have.PSTIRR-run  -PST middle_of_sea       TEMP  direction
             and then she started heading out into the middle of the ocean.
             ((raised whipping point northwards))
3            (1.1)
4   Rosa     nangkalyu;                                                          T0
             nangkal =yu
             who     =CL
             who?
5            (0.6)
6   Mary     pu⌈le- (1.2)   ⌈Ma- (0.3) ⌉ Margie kalekale;=                       T+1
             pule      ma-  margie          kale  -RDP
             esteemed STRI woman's_name mother-RDP
             The lady, Ma-  Margie's own mother
7   Gracie      ⌊xxxx xxxx ⌊xxx xxxx ⌋
8   Lily     =yukuy;
             yukuy
             that's_right
             That's right.
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4 Although same sex siblings are free to refer to each other by name, they tend not to address each other by name, and generally prefer other (non-name) strategies for third person reference within informal conversation.

In the above extract Mary is recounting the previously mentioned boating mishap. At lines 1 and 2 she makes an initial reference to a then-young girl (now an old woman) being washed out to sea. Rosa's person-specific RI *nangkalyu* ("who", line 4) targets *nugurnu pule*, an expression built out of a free pronoun *nigunu* and the term *pule* which conveys certain seniority/respect. At line 6 Mary repeats *pule* but then (after a false start) restarts with a kinterm that is anchored to her daughter (*Margie kalekale*, "Margie's own mother"). At line 8 Lily (who was present at the said event) ratifies the kin-based formulation as appropriate.

Although the restricted OIR format *nangkal* makes evident that the trouble source item belongs to the domain of "persons", it does not guarantee that person identification is the issue to be dealt with. In Extract 5 *nangkal* deals with an audibility issue.

Extract 5: Nanthak 20110828_JB_video_GYHM100_02_1215150_1222380

```
1  Agnes    <thungku thungku thungku;>
            NC:FIRE NC:FIRE   NC:FIRE
            "fire fire fire"
2           (0.5)
3  Agnes    ⌈ku tjepeni ngamam wurr          ⌊anngarramardawitjkathu=                      T-1
            ku       tjepeni   ngamam                wurran    -ngarra    -mardawitj -gathu
            NC:ANM Japanese 1PL.S.34say/do.NFUT 3SG.S.6Go.NFUT-1PL.INC.IO -ascend    -HITHER
            We {thought} the Japanese had come up on us ha ha
4  Lily     ⌊(Bere nuddamkathutthutngimeya)⌋
            Bere  nuddamka        -thutthut-ngime   =ya
            Right 2DU/PC.S.30.NFUT-descend-PC.F.NSIB=CL
             (right you all went down),
5  Agnes    =ha ha ha ha ha ha ha
6           (1.7)
7  Lily     nangkalyu::.                                                                T0
            nangkal=yu
            who    =CL
            who?
8           (1.0)
9  Agnes    ku ngamamkangime ku tjepenimanawarda wurranngarrumardawitjka⌈thungime;   T+1
            ku        ngamamka               -ngime   ku        tjepeni -mana  -warda
            NC:ANM 1DU/PC.S.34say/do.NFUT -PC.F.NSIB NC:ANM   Japanese -INTENS-TEMP
             wurran          -ngarru   -mardawitj-gathu  -ngime
            3SG.S.6Go.NFUT-1PC.INC.IO-ascend      -HITHER-PC.F.NSIB
            At the time we [thought] the Japanese had come up on us.
10 Lily                                                              ⌊yukuy.
                                                                     Yes
                                                                     Yeah
```

In Extract 5 Agnes recounts hearing the horrified cries of children alerting a group of adults on the beach that a young boy's clothes had caught fire. Although part of Agnes' line 3 is overlapped by talk from Lily (at line 4), *wurranngarramardawitjkathu* ("they came up upon us") is produced in the clear. Thus when Lily initiates repair with *nangkalyu* ("who"), it targets the barely audible person reference, *ku tjepeni* (the Japanese) which had been produced in overlap.[5] At T+1 the repair solution reproduces the overlapped person reference item. In fact the entire T-1 turn is repeated (with some modification) at T+1. We frequently encounter this type of repair operation for open initiators like *Aa?* ("Huh?"), which are regularly deployed

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5 As non-Aboriginals, Japanese people take the "animate" *ku* class, rather than the "human" *kardu* class. The 3ʳᵈ singular subject of *wurranngarrumardawitjkathungime* makes this non-recognitional collective singular reference to "the Japanese" an allusion to the 1942 Japanese air raids on northern Australia.

when audibility is an issue. Here the person-specific RI, *nangkal* is interpreted in the light of the Lily's simultaneous talk as not seeking a specification of reference (despite specializing in this particular repair operation), but instead soliciting repetition of the overlapped material that ought to have included a person reference item.

Although *nangkal* ("who") and *ngarra* ("where") seek out category specific items as trouble sources, repair operations can also tackle issues pertaining to other categorical domains such as *time* or *reason*. In Extract 6 Bruce had been telling Dave and Dom about a cross-country bicycle ride to "old mission". At line 4 Dave ask Bruce if it takes about half an hour to get there by bike, which Bruce confirms (at line 6) to be a fair estimation. At line 8, Dom uses the place-specific RI *ngarrawangu* ("where to?") to enquire as to the destination implied at line 6 (T-1), but not overtly expressed. The provided repair solution "the shortcut to old mission" reveals not merely the destination (which was previously expressed[6] in line 1) but also the non-standard route (a shortcut through the bush, rather than along the main road), which partly justifies the inquiry about the required travelling time.

Extract 6: Ngandimeli 20120715_JB_video_GYHM100_02_745228

1	Bruce	ngethe na rait ngurrinidha ⌈(0.4) wulmitjin (.)⌉ ngamburraruyngime (0.3)	
		ngatheyida na rait ngurrini -dha wulmitjin	
		for_a_while TAG right 1SG.S.6go.PIMP -PIMP old_mission	
		ngam -wirra -ruy -ngime	
		1SG.SB.poke(19).NFUT-3PL.IO-arrive-PC.F.NSIB	
		I was going right, you know, I came out where they were at at old mission,	
2	Bruce	⌊((headpoint NE))⌋	
3		werrekimap pardedhangime	
		werreki -map parde -dha -ngime	
		woman's_nickname-mob 3DC.S.4be.PIMP-PIMP-PC.F.NSIB	
		werreki's family was there.	
4	Dave	burrk batjingkul lilbit hafana thanamut	
		burrk batjingkul lilbit hafana thana -mut	
		lovely bicycle little_bit half_an_hour 2SG.S.24slash.RR.PIMP-give	
		Did it take you a good half hour on the bicycle?	
5		(0.3)	
6	Bruce	hafana thanamut	T-1
		hafana thana -mut	
		half_an_hour 2SG.S.24slash.RR.PIMP-give	
		It takes you half an hour	
7	4	(0.7)	
8	Dom	⌈ngarrawangu?⌉	T0
		ngarra-wangu	
		where -away	
		which way?	
9	Bruce	⌊xxxxxxxxxxx⌋	
10		(0.3)	
11	Bruce	wulmitjin tjutkat nawa	T+1
		wulmitjin tjutkat na -wa	
		place_name shortcut TAG -EMPH	
		The shortcut to old mission, you know?	

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6 As Bruce pronounces the placename *wulmitjin* (old mission) he head-points in the direction of the location being referred to (northeast). So doing, he turns his head away from Dom (who is seated immediately to the west of Bruce), thus reducing Dom's ability to hear his articulation of the placename.

Just as languages vary in how many ways they classify the world of entities (e.g., *persons*, *places*, *animals*, *plants*, *concepts*, etc., and *things*), they also vary in how many ways those entities can be enquired about (Cysouw 2004a; 2004b; Mackenzie 2009; Mushin 1995). An indigenous system of classifying the world is reflected grammatically in Murrinh-Patha's system of noun-classes (see Table 4). So that all entities may be incorporated, there is a *nandji* "residue" class of "things" (anything that is not *kardu*, *ku*, *mi*, *tju*, etc.). Note that nine of the listed content question words are built around the base form *thangku* ("what"). In English *what* is used to ask about things. When it comes to repair initiation, languages such as English, German and Korean use the upward intoned *what?* (or equivalents) as open RIs while the downward intoned counterparts are used for restricted repair (that is, for inquiries specific to "things") (Schegloff 1997; Kim 1999; Egbert, Golato, and Robinson 2009; Selting 1987). Because the question word *thangkurnandji* targets the residue class "things", the base form *thangku* does not require intonation to demarcate between open and restricted repair initiation. In Murrinh-Patha the open RI *thangku* typically has falling final intonation, which is the normal contour for both content questions and polar questions.

Table 4: Murrinh-Patha's 10 nominal classes and some content question words specific to those classes.

Noun classifier	Categorial domain	Corresponding question words
kardu	humans: living Aboriginal humans	*nangkal, nangkalardu*
ku	animates: includes also non-Aboriginal humans, deceased Aboriginal humans, meat, money, etc.	*thangkugu*
mi	vegetable foods, tobacco	*thangkumi*
tju	strikers: clubs, playing cards, lightning	*thangku tju*
thamul	spears	*thangku thamul*
thungku	fire: coals, guns, matches, firesticks, etc.	*thangku thungku*
kura	water: fresh water, water sources	*thangku kura*
murriny	speech, language, stories	*thangku murriny*
da	place and time	*ngarra* (where), *mindjire* (when), *thangkurda* (where/when)
nandji	residue: body parts, sea water, trees, non-indigenous paraphernalia	*thangkurnandji*

Although any of the above question words could, in theory, be used for repair initiation, references to persons and places dominate the Murrinh-Patha collection of restricted OIR. As repair initiators, these class-specific interrogatives target a previously mentioned entity pertaining to the given class. In Extract 7 the animate class interrogative *thangkugu* seeks specification of a type of animal. Carol and Agnes have been telling Mike how co-present Maggie used to be so fearless a hunter that she would put her hand into snake holes to pull out the snakes.

Extract 7: Dingalngu 20110730_JB_video_GYHM100_04_475010

```
1    Agnes    ⌈ku bemaleledha⌉ ku pangkuy murlak ⌈tere:r:t.        ⌉
              ku        be                -ma  -lele -dha   ku        pangkuy murlak      terert
              NC:ANM 3SG.S.14Bash.PIMP -hand  −bite -PIMP NC:ANM    snake     dangerous many
              Dangerous long snakes used to bite her on the hand.
2  → Carol    ⌈ku pangkuy-        ⌉(0.8)                    ⌈ku pangkuy⌉ murlakka:, (0.3) merttha damatha.
              ku        pangkuy murlak  -ka    me                -art    -dha    damatha
              NC:ANM snake      dangerous-TOP 3SG.S.9snatch.PIMP-get/take-PIMP just
              The long dangerous snakes, she just picked them up.
3            (.)
```

4   Mike   <u>na</u>:.
              na
              TAG
              Really!
5   (.)
6   Carol   nganaka ranger himself wurrinidha.
              nganaka   ranger himself   wurrini   -dha
              you_know? ranger him/herself 3SG.S.6go.PIMP-PIMP
              She herself was a "ranger"
7   (0.5)
8 → Agnes   ngarra weyi kardirdi mebert;   T-1
              ngarra   weyi   kardi   -rdi   me   -be -art
              LOC   hole   3SG.S.4be.PIMP -put_in 3SG.S.9snatch.PIMP -arm -get/take
              Into the {snake} hole, she used to put her hand and grab {it/them}.
9   (0.5)
10 → Mike   thangkugu.   T0
              thangkugu
              what_animate?
              what thing of the animate ku-class?
11   (.)
12 → Agnes   ku tharingkin ⌈ku::,   T+1
              ku   tharringkin   ku
              NC:ANM king_brown_snake NC:ANM
              king brown(s)
13   Carol   ⌊ku deadly snake panaya
                         ku   deadly snake pana=ya
                         NC:ANM deadly snake RECN=CL
14   ⌈>pana< thangkugu::;
              pana thangkugu
              RECN what_animate?
              Those deadly snakes, what are they called?
15 → Laura   ⌊ku ngerri ngalla.
              ku   ngerri   ngalla
              NC:ANM ornamental_cicatrice big
              king brown(s)

While Agnes in line 1 tells Mike that Maggie had been bitten by snakes on numerous occasions, Carol (at line 2 and in overlap with Agnes) informs Mike that Maggie used to pick up dangerous snakes, which Mike acknowledges as noteworthy (line 4). At line 6 Carol likens Maggie to the indigenous rangers (well regarded for their bush-skills). At line 8 Agnes states that she used to put her hand into snake holes and grab the snake(s). At line 10 Mike uses the 'what-animate' interrogative *thangkugu* to initiate repair on the prior turn. Agnes' reference to the 'hole' *weyi* (line 8) does not include an animate *ku*-classifier. That the hole belonged to a deadly snake is merely implied (i.e. it is zero-referenced at line 8). *Thangkugu* thus pushes for elaboration of the nominal *ku*-class entity overtly expressed in line 2 as *ku pangkuy murlak* 'long dangerous animate' (normally understood as a variety of venomous snake). The full gravity of the danger is revealed in at line 12 when Agnes expands on the snake variety by overtly naming *ku tharringkin* the 'king brown' (*Pseudechis australis*)[7], which, by a different name, is also confirmed by Laura at line 15. The specification elaborates the more generic references to long dangerous snakes (*ku pangkuy murlak*, line 2) that had twice

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7 *Pseudechis australis* is greatly feared because it is extremely venomous, very long and very aggressive. It is known to stand on its tail and strike repeatedly, and even to bite people who are sleeping (Nambatu et al. 2009; Rasavi et al. 2014).

been overlapped by Anges' simultaneous speech in line 1.

By exploiting the noun-class system, *thangkugu* points back to prior anaphors of the relevant noun class, so as to enquire about the referent. In fact, any format that adds semantic information (whether lexically or morphologically) to the base form *thangku* sheds some light on how trouble sources are problematic for RI producers. We might think of this group "*thangku+*" (i.e., *thangkugu*, "what animate?", *thangkumi*, "what vegetable" *thangkunu*, "what for?", *thangkudha*, "what's wrong?", etc.) as a 'superordinate' collection of specialised restricted formats. They all tend to push for some sort of specification or explanation as repair operations (although not exclusively), but each zooms in on their categorial domain of specialisation (i.e., *animates*, *vegetables*, *reasons*, *incidents*, etc.). By contrast, the bare form *thangku* is an open RI.[8] Without the extra semantic information *thangku* is non-specific, which is what makes it so versatile. Below, when we perform a quantitative analysis of repair operations (in §4.2.4), we'll see that *thangku* solicits specifications and elaborations almost as frequently as the *thangku+* group, but at the same time attends to other issues that might also be potentially problematic.

4.1.2 Offer subtype of restricted format (candidate repair initiation)

The *offer* subtype, or *candidate* repair formats (Schegloff, Jefferson, and Sacks 1977; Dingemanse, Blythe, and Dirksmeyer 2014) are those that seek confirmation or otherwise of a possible understanding of the T-1 turn (or items therein), or a possible hearing of a partially audible trouble source item. Confirmations are normally done with an affirming interjection (e.g., *yu*, "yes" or *yukuy*, "that's right"), a nod, and/or by repetition of the offered candidate. Disconfirmations are normally done with the interjection *awu* ("no"), followed by an explanation to the contrary.

Despite having 47 complete candidate sequences in the collection, no clear lexical or morphosyntactic resources have been identified for cuing candidate repairs (e.g., *ya mean*, or *did you say X?*). In fact, polar questions are not lexically or morphosyntactically distinguishable from declaratives.[9] I have not yet ascertained whether prosody is implicated in cuing candidate repair initiation, although intonation and/or final lengthening perhaps play a role. Candidate repair initiations, and polar questions more generally, have falling intonation contours (like content questions and most declaratives). My working hypothesis is that although the final boundary tone is falling, it generally does not fall to the very base of the individual speaker's register range. It is thus falling but not fully falling. By contrast, affirming and disaffirming responses are more likely to have low boundary tones. They tend to fall nearer to the speaker's register base.[10]

Extract 8: Thuykem 20110901_JB_video_GYHM100_02_595664

1 Phillip karduka murrinh damatha nguddamnayitjnganamka kanyi ne;
         kardūka murrinh   damatha nguddam   -na   -yitj=nganamka
         NC:HUM NC:SPEECH INTS   1NS.EX.S.30shove.NFUT-3SG.M.IO-tell=1PC.S.4be.NFUT
         kanyi na
         PROX TAG
         We brothers are speaking for his benefit here, hey! ...
2 Dave   Mm⌈hm.
3 Phillip   ⌊bematha dayu mange ngarra penime pirrimnangerren (0.2) damkardutjim.   T-1₁

---

8 I don't consider the emphatic suffix *-wa* nor the semantically bleached clitic *=yu* (gloss: as yet undetermined) to significantly modify the meaning and function of the base form *thangku*. Thus *thangkuwa* and *thangkuyu* (1 token each) have been counted as open RIs rather than restricted (*thangku+*) RIs.

9 Various tag-like particles (*nganaka* "you know", *na* "isn't that right" and *nga* "hey!") are "possibly interrogative" but are at most only weakly response mobilizing. They are not utilized in candidate OIR.

10 These claims are partly impressionistic. Preliminary prosodic investigations are as yet inconclusive. Issues with mike placement and overlap have somewhat restricted the usable sample size.

```
            bematha   da       =yu mange ngarra penime
            exactly   NC:PL/T=CL deed   REL     3PC.NSIB
            pirrim            -na    -ngerren-nime      dam           -ngkardu-tjim
            3NS.S.3stand.NFUT-3SM.IO-say     -PC.M.NSIB 2SG.S.13Poke.NFUt-see    -2SG.S.1sit.NFUT
            right where the male non-siblings were talking {on the video} for his benefit, you know?.
4           (0.7)
5   Dave    awu nukunuka inda;                                              T0₁
            awu nukunuka nyinda
            Oh  3SM-TOP   ANAPH
            Oh, that previously mentioned bloke?
6           (0.7)
7   Phillip mup ba y̲inika nukunu n̲a̲nwa ini nawa.                         T+1₁, T-1₂
            mup ba  nyini -ka  nukunu nan          -wa    nyini   na -wa
            wait! Oh! ANAPH-TOP 3SG.M   what's_name-EMPH ANAPH TAG-EMPH
            wait, Oh, that previously mentioned bloke, what's his name, that bloke, isn't that right?
8           (0.1)
9   Dave    Joe;                                                            T0₂
            Joe
10          (0.2)
11  Phillip Yu.                                                             T+1₂
            Yeah
```

In Extract 8 Phillip and Dave are seated on the top of a hill. When I made this recording, Phillip and I had only just met but Dave I had recorded previously. In lines 1 and 3 Phillip remarks that they are speaking in the same location as another group of men in a video I had recorded a week earlier. In two verb forms (*nguddamnayitjnganamka*, line 1, and *pirrimnangerren*, line 2), Phillip uses the bound indirect object pronoun *–na* to cross-reference me as the beneficiary of the recording. In the first of two candidate RIs (line 5), Dave combines an anaphoric demonstrative (*inda*) with a masculine free pronoun (*nukunu*, "he") to offer a minimally specified candidate, "that previously mentioned bloke". This candidate is downward intoned (terminating at 107 Hz), but does not reach Dave's register base of around 81Hz (and hence is transcribed with a semicolon). Phillip's attempt to elaborate the referent is hampered by a name retrieval issue (*nan*, "what's name", in line 7). Dave offers a second candidate at line 9. The name *Joe;* is also downward intoned, terminating at 103 Hz, again short of Dave's register base. Phillip's affirmation token *yu.* terminates at 75Hz, which is his register base.

A recipient tilted epistemic gradient (Heritage 2010; 2013) is certainly a cue for candidate RIs. As current speakers, trouble source producers understand what they are intending to say better than recipients.[11] With essentially declarative lexicomorphosyntax, Murrinh-Patha candidate RIs are B event statements that serve as questions (Labov and Fanshel 1977) (see also Bolinger 1957; Pomerantz 1980; Heritage 2012; 2013). With candidate repair initiation, RI producers offer an item that is ostensibly of the same socio-semantic category as an item produced in the previous turn (e.g., a person reference, a place reference, a predicate), such that it should be understood as a possible replacement for the prior item. Although inclined epistemically towards trouble source producers, candidate RIs are less steeply inclined than other RI formats because they make clear that a problem of a particular type has been registered, and that a potential solution is at hand. This reveals the RI producer to know at least something about the T-1 turn (unlike the open formats).

Because almost any sort of understanding might need confirmation, candidate repairs are useful for handling complications relating to the domains of *place* and *person*, such as person identification when name avoidance is an issue. In Extract 9 Agnes recounts how, some years ago on the beach where she is seated, a young boy suffered burns on his back. She avoids the boy's name as he is her classificatory brother.

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11 The claim relates to current speakers having privileged access to their own thoughts. This is irrespective of whether their thoughts have any real world validity.

At line 1 she states that the child's maternal grandmother had been there as well (*kawukawu wun'guka deninginthadha*). At line 3 Lily initiates repair with a person specific RI built around the interrogative *nangkal* "who?". *Nangkalniminkama Alberta?* ("Who exactly Alberta?") asks both for a precise specification of the referent and offers a possible candidate for confirmation. Agnes disconfirms the candidate (*Awu*, "no", line 5) and attempts to specify the child by triangulating through the mother. However, her attempt is hampered by a name-retrieval issue (*kardu wakal nan nigurnuya* is literally "the child of what's her name"). Although not adequate to guarantee her recipients' recognition, her intent is sufficiently clear that Carol offers a candidate as the mother (*Bridget*, line 7, is offered as a replacement for the word-search word *nan*). At line 8 Agnes confirms that the boy was the eldest child of the woman named Bridget.

Extract 9: Nanthak 20110828_JB_video_GYHM100_02_1242580_1250970

1	Agnes	kawu↑kawu wun'guka deninginthadha;	T-1$_1$
		kawu -kawu wun'gu-ka dini -ngintha -dha	
		MoMo-RDP also -TOP 3SG.S.1sit.NFUT-DU.F.NSIB-PIMP	
		[his] grandmother was there with him as well.	
2		(1.6)	
3	Lily	nangkalniminka:↓ma:.=Alberta;	T0$_1$
		nangkal-nimin-kama Alberta	
		who -INTS -INDEF woman's_name	
		Who exactly, Alberta?	
4		(0.7)	
5	Agnes	Awu kardu wakal- (0.6) nan nigurnuya.	T+1$_1$, T+1$_2$
		Awu kardu wakal nan nigurnu =ya	
		No NC:HUMAN child what's_the_name 3SG.F.POS=CL	
		No what's her name's kid.	
6		(1.0)	
7	Carol	Bridjet;=	T0$_2$
		Bridget	
		Woman's_name	
		Bridget?	
8	Agnes	=Bridgettukun kardu ngal⌈la xxxx xxx	T+1$_2$
		Bridget -nukun kardu ngalla xxx xxx	
		Woman's_name-DAT NC:HUMAN large xxx xxx	
		Bridget's eldest kid xxxxxx.	
9	Carol	⌊Ba ↑yu yu yu yu;↑	
		Oh yeah yeah yeah yeah.	

In the next section we cover the open OIR formats (Drew 1997; Enfield et al. 2013). We will see that although the open formats lack the precision of the restricted formats, they still yield the same sorts of repair operations (e.g., specifications of reference, clarifications of speakers' intentions, repetitions of inaudible material). Although blunter instruments than the restricted formats, they tackle a wider range of trouble types. This makes them useful when the T-1 turn is inflicted by several sources of trouble.

4.2 Open formats

Murrinh-Patha has two open (lexical) formats, the interjection *Aa?* and the bare content question word *thangku*, "what?". There are no attested formulaic or apology based formats in the collection and there is but a single sequence in which repair is initiated through visible cues alone. Open formats are said to target the whole of the prior turn (Drew 1997; Schegloff 2004; cf., Robinson 2014). This is evidenced by sequences in which B's open RI follows an inaudible or overlapped T-1 turn, and the entire T-1 turn is then repeated at

T+1 (minus 'dispensables') (Schegloff 2004). Yet open formats don't only deal with auditory problems. Drew (1997), in research based on phone calls conducted in British English, notes that open RIs sometimes deal with affiliation issues or misaligned understandings of speakers' action intentions. The video recordings of Murrinh-Patha face-to-face interaction reveal that they also deal issues of *misaligned recipiency* (see §4.2.1 below), amongst other things. Open formats are essentially agnostic as to where within the prior turn the problematic items might lie, and what it is about the prior turn that happens to be problematic. This places the onus on trouble source producers to infer the nature of the trouble.

    Although there is some overlap in the sorts of repair solutions that *Aa?* and *thangku* solicit, the two formats are unequal in how likely they are to yield particular repair operations. In the following sections we will be exploring the pragmatic differences between *thangku* and *Aa?*.

4.2.1 Interjection strategy: Aa? ("Huh?")

The form of the OIR interjection in Murrinh-Patha (*Aa?* or *Aa¿*) is a simple monosyllable with rising intonation. The interjection generally consists of a low long vowel (normally [aː]) without ever any consonantal offsets, though some glottalization may occur in onset position [ʔaː↗], [haː↗].

    The interjection *Aa?* often solicits a repeat of the source turn. Full or partial repetitions of the trouble source turn were solicited in 82.7% of complete three-turn sequences (24/29). For this reason, OIR interjections are often thought of as predominantly dealing with hearing problems. Yet video data reveals *Aa?* to also deal with the concomitant problem of *misaligned recipiency*. By misaligned recipiency, I mean when targeted recipients appear to have been attending to something or someone other than the person addressing them – perhaps under the assumption that the talk they were hearing was intended for someone else. This can be evidenced by the noticeable gaze shifts toward the trouble source producers which accompany certain repair initiators (especially open formats like *Aa*?, "Huh?"). They reveal misaligned recipients to have heard something of the talk being produced, but to have not been listening attentively enough to produce the responses that they, as targeted recipients, are expected to produce. In Extract 10 two women, Carol and Agnes, are reminding Maggie (who is quite hard of hearing) that she once saved the life of Agnes' father when he was bitten by a snake.

Extract 10: Dingalngu 20110730_JB_video_GYHM100_04_1031130

1	Carol	⌈kaka ↑ngay thama;↑⌉	T-1
		kaka ngay thama	
		MoBr 1SG 2SG.S.34say/do.FUT	
		{He was} My uncle, you know!	
2	Agnes	⌊( )⌋	
3		(0.5)	
4	Agnes	nga ⌈dedi⌉ ngay;	
		hey dedi ngay	
		INTJ father 1SG	
		Hey, my father!	
5	Maggie	⌊Aa? ⌋	T0
		aa	
		OIR.INTJ	
		Huh? ((turns her head to face Carol))	
6		(0.5)	
7	Carol	kaka <u>ngay</u> thama.	T+1
		kaka ngay thama	
		MoBr 1SG 2SG.S.34say/do.FUT	
		{He was} My uncle, you know!	

In an overlapped utterance, Carol (at line 1) points out that the man was her uncle. As she says this she is gazing at Maggie. Also in overlap, Maggie (at line 5) uses the interjection *Aa?* to initiate repair as she shifts her gaze from Maggie toward Carol. At line 7 Carol produces a verbatim repeat of the overlapped utterance (albeit at a lower pitch-register) *kaka ngay thama*, "my uncle, you know". She thus treats the problem as an audibility issue. Yet overlap-induced inaudibility does not wholly account for the repair initiator. That Maggie turns her head to meet Carol's gaze points to previously inadequate (or misaligned) recipiency. Carol's marked jump in pitch register at line 1 (↑ngay thama↑), whilst certainly resolving the overlap, also secures the attention of Maggie, who had been the target of the reminder.

Aa? does not always solicit repetition of the trouble source turn. Sometimes trouble source producers presume their prior utterance to require clarification or explanation. Extract 11 is a case in point.

Extract 11: Da Ngarne 20091121JBvid03_1357790

1	Peggy	°nan°dji tin marrare ninangammardatjip;	
		nandji tin marra -re ninangam -mardatjip	
		residue tin now -TEMP 3SG.S.27.NFUT-burn_until_black	
		My billycan has gone black now.	
2		(0.2)	
3	Peggy	Kanyi ninangammarda- kuraka nukunuka Geoffreyka wurran'gurdugurdukyu.	
		kanyi ninangam -mardatjip [truncated] kura -ka nukunu -ka	
		PROX 3SG.S.27.NFUT-burn_until_black NC:WATER-TOP 3SG.M -TOP	
		Geoffrey -ka wurran -gurdugurduk=yu	
		man's_name-TOP 3SG.S.6go.NFUT-be_drinking =CL	
		This has gone bla- Geoffrey uses it for drinking from.	
4	Lily	Ya (0.4) xxx xxxx	
		HES	
		Um xxxxx xxx	
5		(0.3)	
6	Mabel	bilikan terertwa; nganaka,	T-1
		bilikan terert-wa nganaka	
		billycan many-EMPH you_know?	
		lots of billycans you know?	
7		(0.6)	
8	Peggy	Aa?	T0
		OIR.INTJ	
		Huh?	
9		(1.0)	
10	Mabel	ngarra sho:p;	T+1
		ngarra shop	
		LOC shop	
		in the shop	
11		(0.3)	

In lines 1 and 3 of Extract 11, Peggy remarks that her billycan (a cylindrical pot used for boiling water) has gone black (because it has been used on an open fire), and that her son Geoffrey likes to drink from it. At line 6 Mabel chimes in, *nandji bilikan terert nganaka*, "lots of billycans, you know." Following Peggy's OIR interjection (*Aa?*) at line 8, Mabel elaborates by effectively continuing from where she had previously left off. By appending "in the shop" (*ngarra shop*) to "lots of billycans", she points out the availability of new, unblackened billycans (quite suitable for Geoffrey to drink from). So doing, she deals with a potential topical disjuncture brought about by a mismatch in number (i.e., the talk moves from a single billycan to multiple billycans). Here the repair solution solicited by *Aa?* deals with the T-1 turn not being obviously

relevant to the talk that preceded it. Note that there is no overlap at T-1, the line is articulated clearly and there are no gaze shifts that might otherwise be associated with audibility or recipiency issues. Extracts 10 and 11 show *Aa?* being used for a range of different trouble types and being solved by quite different repair operations.

4.2.2 Question word strategy: thangku ("what?")

As an RI, the bare form *thangku* is the approximate functional counterpart to the upward intoned *what?* in English. It is an all-rounder that can be effectively deployed for dealing with talk that is problematic in more ways than one. In Extract 12, Carol is informing her daughter, Jenny, and sister, Ruby, about a neighbour who has been complaining about an unpaid debt, a debt that Jenny seems to be at least partly responsible for.

Extract 12: Museum 20090707JBvid04_487178

```
1   Carol    ku weitandert eitandert ngarra;=
             ku       eitandert    eitandert    ngarra
             NC:ANM eight_hundred eight_hundred where
             "The eight hundred, eight hundred, where is it?"
2            =⌈ku ngarra-⌉
             ku       ngarra
             NC:ANM where
              "Where is it?"
3   Jenny    =⌊>>(Awu Rub⌋yka damatha help mangarnu;=purrunu nawa.)<<        T-1
             awu Ruby         -ka   damatha help  ma               -nga  -nu
             Oh! woman's_name-TOP  INTENS   help  3SG.S.8say/do.FUT-1SG.IO-FUT
             purru             -nu   na  -wa
             1NS.INC.S.6go.FUT-FUT  TAG-EMPH
             Oh Ruby is going to help me, we're going, aren't we.
4            (0.2)
5   Ruby     °tha̲ngku.°                                                      T0
             thangku
             what
             What?
6            (1.0)
7   Jenny    ngarra council tjenydjim manganu;                               T+1
             ngarra   tjenydjim           ma               -nga  -nu
             LOC      change_something  3SG.S.8say/do.FUT-1SG.IO-FUT
             At the council offices she'll change it for me.
8   Carol    tjenydjimmarda ngamanu ngayyu;
             tjenydjim             -warda ngama             -nu   ngay =yu
             change_something-TEMP  1SG.S.34say/do.FUT-FUT  1SG  =CL
             I'll change it.
```

At lines 1 and 2 Carol animates the neighbours' demands for $800. At line 3, Jenny turns to Ruby and rapidly explains that Ruby will help her when they go. At line 5 Ruby initiates repair with the interrogative word *thangku*, "what?". At line 7 Jenny elaborates by explaining that at the council offices Ruby will change something for her – perhaps a PIN number, or a cheque. At line 8, her mother Carol offers to help her change it (evidently she understands what needed changing). The repair solution makes clear where they will go (a referential specification), how Ruby will help (a clarification of her intended meaning). So doing

she makes the topical link to the matter of the debt more transparent. Although the beginning of line 3 had been produced in overlap, Jenny does not repeat the overlapped material, so doesn't treat it as inaudible. However, whereas the previous turn had been rapidly mumbled, her articulation in the repair solution is slower and clearer. In Extract 12 Jenny thus performs four sorts of repair operation: she provides a referential specification, she explains her intent, she deals with possible topical disjuncture and refines her elocution. Here *thangku* effects major enhancements to the build quality of Jenny's interactional contribution.

4.2.3 Other open strategies

Both *thangku* and *Aa?* are non-specialist RIs, as is true of all open RIs, including the visually cued RIs. Given that the open RIs do overlap functionally, we should not be surprised that they occur within the same interactional environments. In Extract 13 we find both *Aa?* and *thangku* produced by different speakers within the same sequential environment and a "visible" repair initiation shortly afterwards, for more or less the same reasons. Prior to this extract Mary has been recounting the boating misadventure story we previously encountered at Extract 2. As she pounds longbums (*Telescopium telescopium*) to extract the tasty mollusk from inside, she speaks with her head bowed down. As she mumbles into the ground, Lily becomes concerned that the microphone won't pick up what she is saying. The microphone in question, here housed within a "dead cat" windshield, is perched above their heads on a stand, placed next to the tree under which they are sitting (see Figure 2). This item is not indigenous paraphernalia so what Lily should call it is not straightforward. For the others, her references to it become a source of utter bewilderment.

Figure 2: The "dead cat" windshield is perched above the speakers' heads.

Extract 13: Da Ngarne 20091121JBvid03_947645

```
1   Mary      ↓Da pilampi ngalla (ngurniwinart). (1.6) pungawuy.↓
              da       pilampi  ngalla ngurni           -winart   pungam      -wuy
              NC:PL/T salt_flat big    1PL.EX.SB.6go.PIMP-go_along 3PLS.33.NFUT-exit
              We were going along the big salt flats. They got out {of the boat}.
```

2		(0.7)	
3	Lily	°°°ya°°° (.)	
		ya	
		HES	
		Um ((Lily points towards Mary who isn't watching))	
4	Mary	⌈ puy; (0.3) ⌉	
		puy	
		keep_going	
		off they went	
5	Lily	⌊((Lily waves hand to get Mary's attention))⌋	
6	Lily	⌈ (0.8) °°ya°° (0.7) ⌉	
		ya	
		HES	
		Um	
7	Lily	⌊((Lily waves hand to get Mary's attention))⌋	
8	Mary	Ay	
		INTJ	
		yeah	
9	Lily	((points up overhead into the tree))	T-1$_1$

10	Mary	thangku;	T0$_{1a}$
		what	
		what?	
11	Gracie	Aa¿	T0$_{1b}$
		OIR.INTJ	
		Huh?	
12		(0.3)	
13	Lily	yawu:;	T+1$_1$, T-1$_2$
		yawu	
		hey!	
		Hey! ((points up overhead, seemingly into the tree))	
14		(2.7) ((Mary and Lily gaze up into tree, then at each other, then at Lily))	T0$_2$

15 Lily   tjingerrenkathu nandji kangkarl pindjim.   T+1$_2$
              tji   -ngerren   -gathu nandji kangkarl pindjim
              2SG.S.1sit.FUT-be_speaking-hither NC:RES high   3SG.S.5aloft.NFUT
              Speak up towards the thing hanging up there ((points upwards)).
16 Mary   (2.0) ((Mary gazes at Lily)).

Lily makes three consecutive attempts at securing Mary's attention (lines 3, 5 and at lines 6 and 7). At line 8 Mary answers the final summons. The trouble begins at line 9 when Lily points upwards (T1$_1$). At line 10 Mary uses *thangku* "what" and Gracie uses *Aa?* ("Huh?", at line 11) to initiate repair on the pointing gesture. At line 13, Lily repeats the point while adding the interjection *Yawu*, "hey!" (T+1$_1$, T-1$_2$). Gracie and Mary look up into the tree, then look blankly at each other, and then look at Lily (line 14). This sequence of blank looks amounts to a visibly cued other initiation of repair (T0$_2$). At line 15 Lily instructs Mary to "speak up towards the thing hanging up there" (*tjingerrenkathu nandji kangkarl pindjim*).[12] This accurate, though ad-hoc description of the microphone eludes the two women. There are further unsuccessful attempts at initiating repair on Lily's references to this problematic item (one using *thangku*, though excluded here for the sake of brevity). They never do learn what she was talking about. That Lily is encouraging Mary to stop mumbling into the ground has quite literally gone over their heads. *Thangku*, *Aa?*, and the blank looks are appropriate RIs to produce when completely baffled by what has just transpired. They each solicit repetition (of points) and each elicits elaboration or expansion of the T-1 turn, although in this case the problem is intractable and remains unsolved.

4.2.4 A quantitative analysis of open repair operations

In research on English talk-in-interaction Drew (1997, 73) and Robinson (2006, 142) detect no functional or interactional differences between *Huh?* and *What?*.[13] In the English OIR collection analysed by Kendrick in this issue, *Huh?* and *What* occurred with equal frequency, although with slightly different distributional patterns.[14] In the Murrinh-Patha conversational corpus the question word *thangku* is four times less frequent than the interjection *Aa?*.[15] Whether this disparity reflects differences in their usage is the subject of the following quantitative investigation.[16]

In the HSSLU coding scheme outlined in this special issue, questions D1 and D3 compared T+1 turns to T-1 turns. While D1 determined whether T-1 or items therein are repeated in T+1, D3 investigated whether items within T-1 were "modified" in some respect. The latter's conflation of different repair operations under

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12 The reference to the microphone is as an unspecified residue class entity (i.e., non-indigenous paraphernalia).

13 In their preliminary cross-linguistic investigation Enfield et al. (2013, 351) were unable to determine functional differences between the open OIR interjections and open content question RIs.

14 The 227 other initiations of repair in English yielded 17 tokens of *Huh?* vs. 17 of *What?* (Kendrick 2014, 179–180).

15 The 147 other initiations of repair in Murrinh-Patha yielded 35 tokens of *Aa?* vs. 8 tokens of *thangku* (4.4 : 1). Of the complete three-turn sequences, 29 were initiated by *Aa?* and 7 by *thangku* (4.1 : 1).

16 A number of reviewers have pointed out that function and frequency needn't necessarily correlate in a given corpus. While this is certainly the case, it is unwise to assume that differences in function wouldn't ever yield different frequency effects. In any case, frequency is here being treated only as the clue which sparks the investigation into to whether or not the pragmatic utility of these items differ.

the banner "modification" revealed little about the sorts of trouble sources that brought on particular OIR formats, and did not capture the breadth of *Aa?* and *thangku*'s utility. Based on qualitative (CA) analyses of several conversational extracts, I introduced four new coding questions that also compared T-1 and T+1 turns. Thus sequences were coded for: whether T+1 attends to issues of *audibility* and/or *misaligned recipiency* (A/MR) (as in Extracts 10 and 12), whether the T+1 included *repeated* material from T-1 (REP)[17] (as in Extract 10), whether the T+1 turn explains speaker A's *intended meaning* at T-1 (INTENT) (as in Extracts 11 and 12), whether T+1 attends to issues of *relevance* or *topical disjuncture* (R/TD) (as in Extracts 11 and 12), or whether T+1 expands or elaborates an underspecified reference or process (SPEC) (as in Extract 12).

This investigation measures how often *Aa?* and *thangku* target particular types of trouble sources. Because qualitative analyses revealed that certain category specific restricted RIs yielded similar types of repair operations, as a point of comparison, the same coding questions were also applied to the person-specific format *nangkal*(+) ("who", "whose", etc.), the place-specific format *ngarra*(+) ("where?", "where to?", etc.), and the *thangku+* collection of formats ("what animate?", "what vegetable?", "what for?", etc.). The total number of complete OIR sequences per format are listed in Table 5. Because the total counts for *thangku* and *thangku+* are not high, for the purpose of comparison with *Aa?*, the counts for each type of repair operation were transformed as percentages relative to the interjection's total count of 29 (see Table 6). The coding results are displayed in Figure 3 as grouped bar plots. These transformed figures are not amenable to tests of statistical significance (due to the low counts for *thangku* and *thangku+*). Nevertheless, they do suggest certain interesting patterns.

Table 5: Total raw counts for complete OIR sequences, per format.

	Aa?	Thangku	Thangku+	Ngarra(+)	Nangkal(+)
n = number of complete OIR sequences	29	7	7	19	16

Table 6: The proportion of repair operations (as a % of n) solicited at T+1, per format.

	Aa?	Thangku	Thangku+	Ngarra(+)	Nangkal(+)
Audibility / misaligned recipiency (A/MR)	82.7	28.6	14.3	5.3	18.7
Repetition (REP)	82.7	28.6	28.6	63.1	31.2
Intended meaning (INTENT)	27.6	71.4	14	5.3	6.2
Relevance/topical disjuncture (R/TD)	27.6	71.4	42	5.3	0
Specification (SPEC)	41.4	85.7	57.1	94.7	100

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17 When a trouble source item is overlapped by another speaker, a loud bang, engine noise, dogs barking, etc., or when or the trouble source producer mumbles/turns their head away/is located in an adjacent room, etc., there is external evidence suggesting that audibility is an issue. Although these situations normally result in some form of repetition, it is important not to rely on repetition as the sole diagnostic for an audibility issue. With respect to coding, it was assumed that repetition needn't be the only outcome for these sorts of trouble sources.
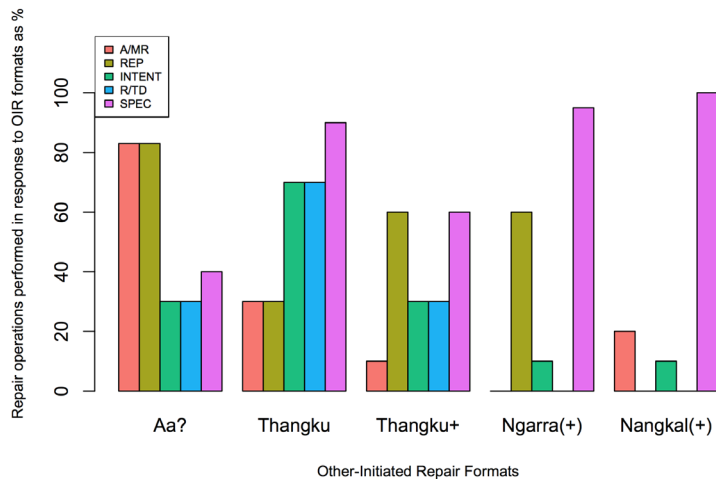
Figure 3: Grouped bar plots showing the types of repair operations performed in response to particular OIR formats.

With regard to the restricted formats, as expected, *ngarra* ("where") and *nangkal* ("who") are overwhelmingly used for referential specification. However, a few tokens also clarified intended meanings and helped with misaligned recipiency. *Thangku+* also pushes for referential specification. However it is equally likely to produce repetition of trouble source items.[18] In the open formats, audibility and misaligned recipiency are closely correlated with full or partial repetition of the trouble source turn.[19] *Aa?* and *thangku* deal with the same range of problems so have overlapping functional loads. However *Aa?* is more coercive of audibility and recipiency alignment operations than *thangku*. Both seek elaboration on speakers' intentions, attend to relevance issues and topical disjuncture, and result in referential specifications; yet *thangku* is far more coercive in these respects than *Aa?*. Effectively, the two open RI formats are biased pragmatically in different directions. That the interjection surfaces more often than the question word probably reflects these differences in pragmatic bias.
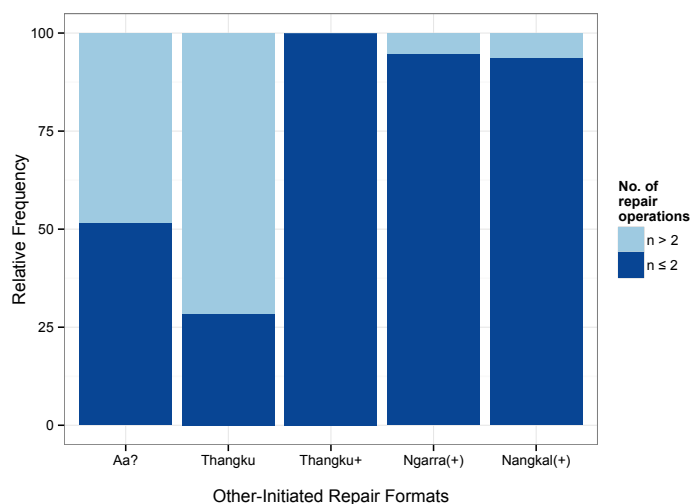
Figure 4: Relative frequency of OIR formats soliciting up to two – or more than two –repair operations.

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18 One should be cautious about interpreting the inclination of this group. *Thangku+* covers a range of specialized restricted formats that just happen to be built out of *thangku* derived interrogatives. It is essentially a mixed bag of low frequency formats which may, individually, be more specialized than the grouped bar plot suggests.
19 Although this correlation was expected, repetition was not used as a diagnostic for coding audibility. Overlap, extraneous noise and discernibility of phonemes informed the audibility coding. Repetition was coded separately. The correlation vanishes in the restricted formats.

In order to measure the versatility of these formats, I also coded for whether two or less, or more than two repair operations were elicited by the respective OIR formats. Figure 4 reveals the three restricted formats *nangkal*(+), *ngarra*(+) and *thangku+* to be unlikely to solicit more than two repair operations and highly likely to solicit only one or two repair operations. By contrast, the open formats are more likely to solicit more than two repair operations. Indeed, open *thangku* is reasonably unlikely to solicit merely one or two. The versatility of the open formats, particularly *thangku*, is revealed not only in the range of repair operations that they handle, but also in their regularly attending to several potential sources of trouble at the same time.

5 Conclusion

In this article I have presented a functional description of the system of formats used by Murrinh-Patha speakers for OIR. Although specific to this language, there are certain broader lessons about how OIR formats function as a system. All OIR formats are talk interrogation devices. They function as questions even if they aren't explicitly built (lexically, morphosyntactically, prosodically) as such. Formats vary in the ways that they target trouble sources, and how well they target them. They also vary in how forcefully they elicit particular repair operations. Although restricted formats are specialists and open formats all-rounders, the repair operations they solicit are of the same types. None of the formats show a one-to-one relationship between repair initiation practices and repair operations, although a many-to-one relationship is especially true of the more versatile open formats. In deciding how to interpret repair initiators, trouble source producers must bring to bear extraneous factors such as noise, overlap, mutual gaze, and participants' engagement with other activities (or otherwise) when considering the format of the initiator. These factors, along with acquired knowledge about the normative function of each OIR format, drive inferences about what might be problematic for recipients and how best to tackle those problems. This is how, when intersubjectivity begins to slip, OIR can so powerfully regain the necessary traction for successful human interaction.

Abbreviations

ANAPH: anaphoric demonstrative
CL: clitic
DIST: distal demonstrative
DU: dual
EX: exclusive of the addressee
F: feminine
FOC: focus
FUT: future
HES: hesitation

INC: inclusive of the addressee
INDEF: indefinite
INTJ: interjection
INTS: intensifier
LOC: locative
M: masculine
MoBr: mother's brother
MoMo: mother's mother
NC:ANM: "animate" noun class
NC:FIRE: "fire" noun class
NC:HUMAN: "human" noun class
NC:PL/T: "place/time" noun class
NC:RES: "residue" noun class
NC:WATER: "water" noun class
NEG: negator/negation
NFUT: non-future
NS: non-singular
OIR: (next turn/position) other initiation of repair
PIMP: past imperfective
PST: past tense
PSTIRR: past irrealis
PC: paucal
PL: plural
RECN: recognitional demonstrative
RDP: reduplication
RI: repair initiation
S: subject
SG: singular
STRI: same turn initiation of repair
TAG: tag particle
TOP: topic

Symbols relating to the transcription of speech

[, ⌊,], ⌋	Overlapping speech.
(0.9)	Silence (i.e., 0.9 seconds).
(.)	0.1 seconds of silence.
-	An abrupt cut off, usually a glottal stop.
=	Latching (no gap or overlap between different speakers).
=	Where the '=' sign occurs mid-line, this indicates the immediate continuation of the turn after a point of possible completion.
xxx xx	Indiscernible speech.
( )	Indiscernible speech.
(text)	Difficult to discern text. Bracketing indicates either a best guess at transcription or text alleged by consultants that I believe to be dubious.
((text))	Transcriber's comments
°text°	Utterance is softer than surrounding talk.
>text<	Utterance delivered faster than surrounding speech.
<text>	Utterance delivered slower than surrounding speech.
str<u>e</u>ss	Stress is marked by underlining.

:	Colons (without underlining or adjacent underlining) indicate lengthening or drawl.
↓, ↑	Marked shift to higher or lower pitch.
↑text↑	Entire utterance delivered at higher than normal pitch.
↓text↓	Entire utterance delivered at lower than normal pitch.
?	Fully rising terminal intonation.
.	Fully falling terminal intonation.
¿	Mid-high rising terminal intonation.
;	Mid-low falling terminal intonation.
,	Slightly rising terminal intonation.

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