

Research Article

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Other-initiated repair in Yélî Dnye: Seeing eye-to-eye in the language of Rossel Island

Abstract: Other-initiated repair (OIR) is the fundamental back-up system that ensures the effectiveness of human communication in its primordial niche, conversation. This article describes the interactional and linguistic patterns involved in other-initiated repair in Yélî Dnye, the Papuan language of Rossel Island, Papua New Guinea. The structure of the article is based on the conceptual set of distinctions described in Chapters 1 and 2 of the special issue, and describes the major properties of the Rossel Island system, and the ways in which OIR in this language both conforms to familiar European patterns and deviates from those patterns. Rossel Island specialities include lack of a *Wh*-word open class repair initiator, and a heavy reliance on visual signals that makes it possible both to initiate repair and confirm it non-verbally. But the overall system conforms to universal expectations.

Keywords: other-initiated repair; conversation analysis; visual signals

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1 Yélî Dnye, the language of Rossel Island

Why would anyone be interested in the minor details of a discourse structure in an exotic language, especially as the details are on the whole not unexpected? To appreciate the answer consider:

1. Other-initiated repair is the fundamental backup system which ensures intersubjectivity – without it, interactional communication simply would not work.
2. It could in principle work in different ways. For example, one collects one's queries after a lecture and asks them at the end, but in conversation for systematic reasons the system favours adjacency. Similarly, interactional responses to problems could be like the compiler's "syntax error!", or simply a lack of response. But these are not the patterns that are found. Rather there seem to be a systematic but limited range of response types, and a bias across them.
3. Given 2, it is worthwhile asking what are the properties of this crucial back-up system in some Galapagos, some far flung island cut off from most of the cultural influences of familiar languages and cultures.

In this paper, we set out to explore such a distant and isolated system which allows us to ask: are there striking universals in this domain, which show up wherever humans converse?

Yélî Dnye is a 'Papuan', i.e. non-Austronesian language, with no proven relationship to any other language (but see Dunn et al. 2005 for some possible links). It is spoken on an island c. 450 km offshore of Papua New Guinea by around 5000 people, the sole inhabitants of the island (35 km by 10 km in size), for whom it is the primary language. There has been about 60 years of mission activity (now in abeyance),

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which introduced English as the medium of instruction. The island is served by no regular transport, and consequently there is little market economy and little evidence of state institutions.

The language is highly complex with 90 phonemes (including sounds known to no other language), complex irregular morphology in huge paradigms, and extensive verb suppletion. It is ergative both in morphology and also (very unusually) in syntax. Henderson (1995) and more extensively Levinson (in preparation) provide grammatical descriptions of the language. The typological profile would include as main features: 56 consonants (many multiply articulated), 34 distinctive vowels (including nasalized and lengthened segments); limited derivational morphology, complex inflection or suppletion on verbs and nouns; marking of case (ergative, absolutive, dative, locative, etc.) on nominals, but also marking of subject and object on verbs (so both dependent and head marking); free phrase order (with rigid word order within phrases) in principle, but overwhelming SOV tendencies in practice. With nine person/numbers, six tenses, two aspects, cross-cutting habitual and imperative moods, the verb is a special locus of complexity.

A number of grammatical, lexical or discourse features are of special relevance to what follows. The language is doubly dependent marking, in the sense that verbs carry inflectional clitics which indicate subject and object person/number, while nominals carry number and case marking. Given argument dropping, the verbal cross-referencing may allow tracking, but due to semantic generality (e.g. 3rd Person singular) such cross-referencing can also easily lose the identity of the referents, so engendering repair. Pronouns of various types, e.g. possessive or oblique, can also lack referential clarity. Another peculiarity of the language is that personal names are restricted in number – they are properties of the clan of the father. Thus there are frequent requests for clarification of which Mгаа or Weta the speaker has in mind. A third relevant fact is that there is a particular interactional style: participants prefer a dyadic face-to-face arrangement, which facilitates the use of many visual signals, not only gestures, but also conventional facial expressions. It is thus possible to signal successful repair, or a successful guess at what someone said, simply by a flash of the eyebrows.

Earlier work on interaction in Yélf Dnye can be found in e.g. Levinson (2005, 2012). One special feature of interaction on the island is that the favoured position is dyadic and face-to-face at close range, which allows maximal use of conventionalized facial expressions – for example, ‘yes’ answers to questions can be signalled by an eye brow flash with no verbal component. For the topic in hand, the relevance is that a repair initiator in polar question format may well have no verbal response, and may not even be delivered in a verbal modality.

Two papers on Yélf Dnye touch closely on the subject of other-initiated repair (I will use the acronym OIR to label the phenomenon and sequence type, *repair initiator* to label the turn which initiates the repair). Levinson (2007) explores person-reference rules as revealed through OIR, showing that for systematic reasons speakers try minimized references, and escalate only as required, step by step providing additional material in a specific order until referent identification succeeds. This material is interesting because it suggests that the prevalence and location of OIR might be partly motivated by culture-specific norms for ‘under-telling’, in the case of Yélf for example by naming taboos, deniable gossip and the like.

Levinson (2010) reports on a systematic sample from face-to-face conversation of over 300 questions and their responses, and finds that nearly 20% of all questions perform other-initiated repair, rising to nearly 40% if one considers just *wh*-questions:

Table 1: Questions and their use in other-initiated repair

	Totals (percent)	OIR function
Polar questions	193 (61%)	13 (6.7%)
Wh questions	122 (39%)	47 (38%)

Overall, this suggests a high level of OIR in Rossel Island language usage, which may be related both to the intense and quick nature of conversational interaction and to low status differentials which otherwise might inhibit OIR.

2 Data collection and corpus

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

Table 2: Key properties of the data collected for this study

-
- 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 any bias from over-representation of particular interactions or speakers.
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Most of the recordings from which the samples were drawn were made in 2003-4, and were filmed while people waited for e.g. a feast to be prepared, or chatted afterwards, or when visiting kin. The writer has spent nearly twenty years working in the same area, so his presence is well tolerated, and the filmed interactions were relaxed and informal. Eight tapes with different participants from 2 to many were selected of about 50 minutes duration each, and sampled with 10 minute segments consecutively till 100 OIRs were collected. Participants were predominantly male, as men and women tend to sit and talk separately, and the ethnographer is male. In addition to this corpus, for the purposes of this paper reference has been made to high resolution recordings made more recently with separated audio channels, allowing high fidelity phonetic analysis and better video quality.

3 Sequential structure and OIR

3.1 Minimal OIR sequence

Yélí Dnye OIR sequences conform in general outline to the shape expected on the basis of English or other familiar languages (Schegloff et al. 1977): immediately after the first speaker produces a source of trouble in hearing or understanding in the turn labelled T-1, the recipient produces an initiator of repair (T0), and the first speaker typically attempts a repair in T+1. For example, the following simple sequence is initiated by an interjection here transcribed as :aa, a nasalized low front long vowel [ã:] with rising intonation, and the producer of the problem utterance repeats verbatim the original turn (more on the form and intonation of this interjection below).

Extract 1. R04_V2_s1_503941

- | | | | | |
|---|---|---|------------------------|-----|
| 1 | A | daa wa
not FUTCONT3
will they eat it? | ma ngmê
eat PFS.3SO | T-1 |
| 2 | B | :aa?
huh?
huh? | | T0 |
| 3 | C | daa wa
not FUTCONT3
will they eat it? | ma ngmê
eat PFS.3SO | T+1 |

3.2 Non-minimal OIR sequences

An OIR may not be immediately successful – for example, the OIR itself may be not clearly heard or its target understood as in the following extended trouble-shooting sequence:

Extract 2. R03_V19_s2_817340

- | | | | | | | | | | | |
|---|---|--|------------|------------|------------|------------|------|---------|------------|-------------------------|
| 1 | A | m:iituwo | kî | naa | têdê | Teyoo | kî | yipal:a | wo, | T-1 |
| | | Day.before.yesterday | that | feast | place | Teyoo | CERT | hung.on | 3S.3sO.REM | |
| | | <i>The day before yesterday Teyoo hung on to them at the feast</i> | | | | | | | | |
| 2 | | (3.0) | | | | | | | | |
| 3 | | kî | tpókñî | doo | u | ntââ | dé | | | |
| | | those | guys | NEG | 3Poss | sufficient | PL | | | |
| | | <i>Those guys are inadequate</i> | | | | | | | | |
| 4 | B | n:uu | ka | yipal:a | wo? | | | | | T0 (=T-1 ₂) |
| | | who | DAT | hung.on | 3S.3sO.REM | | | | | |
| | | <i>He hung on to whom?</i> | | | | | | | | |
| 5 | A | :aa? | | | | | | | | (T0 ₂) |
| | | Huh? | | | | | | | | |
| | | <i>Huh?</i> | | | | | | | | |
| 6 | B | n:uu | ka? | | | | | | | (T+1 ₂) |
| | | Who | DAT? | | | | | | | |
| | | <i>To whom?</i> | | | | | | | | |
| 7 | A | Wuyópu | (0.5) | Kopwo, | Kopwo | mupwo | | | | T+1 |
| | | Man's name | Man's name | Man's name | with.sons | | | | | |
| | | <i>Wuyópu, (0.5) Kopwo and his sons</i> | | | | | | | | |

Here in T-1 the people Teyoo hung on to are designated as “those guys” (plural, more than 2). In T0 B asks who they are by repeating the verb with a wh-word (“to whom did he hang on?”), but the OIR is not heard clearly, and A produces a general OIR on the previous restricted OIR. This engenders a T-1, T0, T+1 sequence (marked in brackets) embedded within the first OIR sequence, diagrammatically:

Pattern (a) T+1 → T0 [= (T-1) → (T0) → (T+1)] → T+1.

Clearly the embedded or subordinate OIR sequence is a precondition for completing the embedding or superordinate OIR sequence. This nesting phenomenon raises interesting issues about indefinite possible recursion in the interaction system, for which see Levinson 2013.

Notice here the relation of the first T0 to its trouble source T-1: it is a partial repeat with a Wh-question added (*‘He hung on to whom?’* from *‘Teyoo hung on to them at the feast’*). The repetition element serves to *localize* the problem, and the case-marked ‘who’ asks for *specification*. This is the essence of all OIR, where the issue is preferably to specify *what* is the problem, and *where* it is. The localization function is especially valuable where, as here, the trouble source is separated from the repair initiator by a full additional clause (if the 3.0 second gap is a lapse, then T0 has to skip over a full intermediate turn). In the second OIR, the open initiator equivalent to *huh?* does not in itself either localize or specify – hence it must occur immediately after the trouble source (which it implicitly identifies as such); it offers no resources to track down the trouble.

Multiple OIR sequences need not be embedded; the first attempt at repair may simply be inadequate, engendering a sequence like:

Pattern (b) T-1 → T0 → T+1 = T-1 → T0 → T+1.

Extract 3 shows such a pattern, where an open-class initiator (OIR (1)) leads to a repair by repetition, and a specific repair initiator follows (OIR (2)), which itself is overlapped by an addition to the first repair, getting repeated in OIR (3).

Extract 3. R03_v27_s3_1160711

- | | | | |
|---|---|--|------------------|
| 1 | A | ye ngê Chiipyââ ghee knî december ngê a koko té | T-1 |
| | | that TOP Chiipyââ with.child AUG December ADV 3CI ascending plS.PRS/FUT.CI | |
| | | <i>that Chiipyââ and kids will come up in December</i> | |
| 2 | B | :êê? ← OIR (1) | TO ₁ |
| | | <i>huh?</i> | |
| 3 | A | Chiipyââ ghee knî december ngê a koko té | T+1 |
| | | Chiipyââ with.child AUG December ADV 3CI ascending plS.PRS/FUT.CI | |
| | | <i>Chiipyââ and kids will come up in December</i> | |
| 4 | B | [n:uu ghee knî ← OIR (2) | TO ₂ |
| | | who with.child AUG | |
| | | <i>who and kids?</i> | |
| 5 | A | [a kee miyó ((in overlap with TO ₂)) | T+1 ₂ |
| | | 1sPOSS grandchild two | |
| | | <i>my two grandchildren</i> | |
| 6 | B | n:uu ghee knî ← OIR (3) - redo of OIR (2) | TO ₃ |
| | | who with.child AUG | |
| | | <i>who and kids?</i> | |
| 7 | A | Chiipyââ | T+1 ₃ |
| | | <i>Chiipyââ (female name)</i> | |
| 8 | B | :aa! | |
| | | <i>ah</i> | |

Many sequences of this type in Yélf Dnye were analysed in Levinson (2007), where it was shown that there is a systematic progression across the TOs (repair initiators) used by a single participant – the first TO may be open, but the second will be more restricted, and the third even more so (e.g. from ‘Huh?’ to ‘Who will?’, to ‘the son of Kopwo?’). Using this progression it was possible to show that there is a hierarchy of person reference, from least specific (e.g. person/number marking on a verb) via intermediate (e.g. a kinterm) to most specific (a name plus a kinterm). The existence of this systematic progression demonstrates the operation of an underlying principle: try to achieve adequate reference with minimal means (“oversuppose and undertell” as Sacks & Schegloff 1979 put it). Part of the special interest of OIR is what it shows about the underlying principles of reference. Extract 4 illustrates such a progression, where two OIRs (OIR (2) & OIR (3)) pursue the identity of one referent, Peter.¹


Extract 4. Transcript example of OIR on a repair (from 2013_27JulyC&M_1083555)

- | | | | |
|---|---|--|-----------------|
| 1 | C | P:uumu mu pini u kópu kî nyi ny:ângo | T-1 |
| | | P:uum that man 3sPOSS affair CERT 2s heard | |
| | | <i>Have you heard about that affair of the man from P:uum?</i> | |
| 2 | M | ló p:eeni ← OIR (1) | TO ₁ |
| | | which matter | |

¹ A referee queried if the turn labelled OIR (4), “What has he done?”, in Extract 4 is not actually a belated go-ahead to the pre-announcement in line 1. This is moot. Note that OIR (1) might be interpreted that way too, except that it gets treated as a need for more information. By the time of OIR (4) the loss of sequentiality requires picking out the information that now needs elaboration, combining functions of sequence re-uptake and also the careful specification of what and where the information is lacking, typical of OIR.

	<i>what affair?</i>	
3	C Kaato tp:oo Kaato 3POSSson <i>Kaato's son</i>	T+1
4	M ló pini ← OIR (2) which person <i>what person?</i>	TO ₂
5	C Peter	T+1 ₂
6	M Peter? ← OIR (3)	TO ₃
7	C EBF ← ((EBF designates 'Eye brow flash', a form of assent))	T+1 ₃
8	M lukwe ngmê dê md:oo ← OIR (4) what INDF 3sPST do <i>what has he done?</i>	TO ₄
9	C Jennifer tp:oo módó p:o mu dê yé Jennifer 3POSSchild female pregnant 3sPST put <i>He made Jennifer's daughter pregnant</i>	T+1 ₄

This example also contains a more complex pattern, where the initial trouble source 'the affair of the man from P:uum' yields two points of trouble: uncertain person reference whose repair we have just described, and the uncertain nature of the affair (pursued in OIR (1) and OIR (4)). The next example is similar. N mentions a local house building operation, and C is trying to mentally locate it by means of both house-owner and house site. First he pursues the name of the house owner with a wh-question 'Which Ghaakpê?', offering a possible solution — 'Weta's son?' — which is accepted non-verbally by a flash of the eyebrows (EBF, more about this later). But then to be sure of the house in question he pursues its location, first offering incorrectly a village, then being given the correct village, he tries to identify the house site. This is a third pattern of compound OIR:

Pattern (c) T-1 → TO → T+1


Extract 5. 2013_July15C&N_503100

1	N Ghaakpê Weta tp:oo u nani awêde wunê pyidupyidu ngmê Ghaakpê Weta 3POSSson 3sPOSS possession today 3immFUTCLS raising PFS3sO <i>Ghaakpê Weta's son, his house they are putting up today</i>	T-1
2	C ló Ghaakpê, W[eta tp:oo? ← OIR (1) which Ghaakpê Weta his.son <i>which Ghaakpê, Weta's son?</i>	TO ₁
3	N [BLINK	T+1
4	[(0.35)	
5	[BLINK+EBF	
6	nyââ Yes	
7	C mu, Kîmbêkpâpu ← OIR (2) that Kîmbêkpâpu(LOC) <i>that one, in Kîmbêkpâpu village?</i>	TO ₂
8	N Kîmbê vyuwo Kîmbê vyuwo(LOC) <i>in Kîmbê vyuwo village</i>	T+1 ₂

- 9 C ló pee u katéni? ← OIR (3) T0₃
 Which part 3POSS side
which side (of the village)?
- 10 N ngomo km:ee mu ché ngópu, ‘N:aalumu u ngomo mudu pee T+1₃
 house foundation that digging PFS3sOHabC ‘Naalum 3POSS house other side
they’ve dug the foundation (flattened it), on the other side from N’s house
- 11 C OK :ii!
 OK, I see.

In these ways, there are many complex types of multiple OIR sequences, deserving of much greater attention than we can give them here.

3.3 Patterns within sequences – the role of repetition

OIR is an intrusion on the flow of conversation – an exception to the norm of progressivity (Schegloff 2006). Thus it is so organized to fix troubles in understanding or hearing as fast as possible, so that the business in hand can be resumed while it is still uppermost in interlocutors’ minds (Schegloff 2007). In the cross-linguistic project of which this paper is a part, open OIRs (like *huh?*) are distinguished from restricted ones, which in turn are divided between those that request a specific ‘redo’ of a part of the trouble-source turn (like *who?*) vs. those that seek confirmation for a candidate hearing or expansion (like ‘Peter came?’ or ‘you mean Peter?’). Two thirds of the time in the Yélí corpus the open initiators receive a repetition of (part of) T-1 in T+1. The request forms typically have partial repetition of T-1 plus a Wh-word, and receive a one word or small phrase as repair in T+1. The confirmation type offers a partial repetition or expansion of T-1, and receives a simple confirmation in T+1. Other patterns are possible (e.g. instead of repeating elements of T-1, one can choose an alternate formulation), but these represent the majority of the present corpus.

- (a) Open-OIR
 A: **WXYZ** → B: *huh?* → A: **XYZ**
- (b) Request-OIR
 A: **WXYZ** → B: *which XY?* → A: **XYQ**
- (c) Confirmation-OIR
 A: **WXYZ** → B: **WX?** → A: *Yes*
- (d) A: **WXYZ** → B: You mean **Q?** → A: **Q**

These patterns are illustrated in turn below, where bold highlights the repetitive elements. What is clear from the patterns is that partial repetition is a crucial way both to redo the essentials of the original utterance T-1 (pattern (a)), or to precisely locate the problem in T-1 (patterns (b) and (c)). A final repetition pattern is in (d) where if new material is introduced in T0 as an interpretation of T-1, it is likely to be repeated in T+1 (rather than using a straight affirmation particle, which remains an alternative). This ensures the repetition of troublesome items even when they were not in that form in T-1 (although it may also have the force that Schegloff 1996 attributes to confirming allusions, i.e. conveying that the content had already been implied).

Extract 6. Pattern (a) R04_V1_s3_912622

- 1 A nyââ, **mu ngmidi ‘nuw:o ngópu** yini T-1
 yes that single take PFS3sOREMPI that.one
yes, they only took that one
- 2 B ê? T0
heh?
- 3 A **mu ngmidi ‘nuw:o ngópu** T+1
 that single take PFS3sOREMPI
they only took that

Extract 7. Pattern (b) R04_V2_s1_500271

- 1 A **mu tpile** daa wa ma ngmê, apii T-1
 that thing NEG IRR3FUT eat PFS3sO.PROX TAG
they cannot eat that thing, right?
- 2 B **ló tpile?** T0
 which thing
what thing
- 3 A **mu tpile** taataa T+1
 that thing red
that red thing

Extract 8. Pattern (c) 2013_July15C&N_331103

- 1 A u kpâm **mye Y:oonkîgh:ê pyââ** T-1
 3POSS wife also Y:oonkîgh:ê women
his wife's (female) relatives are also at Y
- 2 B **mye Y:oonkîgh:ê pyââ?** T0
 also Y:oonkîgh:ê women
the relatives are also at Y?
- 3 A nyââ T+1
 Yes

From the reductions involved in repetition it is already clear that there is an effort to economize on the repair sequence while still pin-pointing the target. One overall finding of the cross-cultural project of which this is a part is that T0 plus T+1 tend to amount to more or less the same amount of material as the original T-1 trouble turn – evidence for the pressure for speedy resolution of the problem.

Extract 9. Pattern (d) R04_V1_s3_1185576

- 1 A yi n:ii knî ye tepe mye y:ee ngópu T-1
 3pl REL AUG 3plDAT injection also give.to.3 PFS3sO.REM
they also gave an injection to those ones
- 2 B **'nmo knî ye?** T0
 birds AUG 3plDAT
to the birds?
- 3 A nyââ **'nmo knî ye** T+1
 yes birds AUG 3plDAT
yes to the birds

4 Formats for other-initiation of repair

In this section, we survey forms that speakers of Yélf Dnye use for initiating repair in T0 position. Our interest is not only in the specific linguistic resources that are used by speakers of Yélf Dnye 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).

We distinguish the following main types of repair initiator (see introduction to this special issue):

Table 3: Types of repair initiators

Open. Open type 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.

Restricted. Restricted type repair initiators restrict the problem space in various ways 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'.

The following Table shows the relative frequencies of these types in the Yéli Dnye corpus analysed in this study (here incomplete sequences, non-adjacent initiators, complex sequences or questionable cases have been weeded out, making an N of 70 for comparative purposes; elsewhere below I draw on the fuller sample). As described below, open repair initiators seem restricted to the particle format (like Huh?, here a low front nasalized vowel format) and there is no obvious equivalent to 'What?' or 'Sorry?', hence the gaps in the table. The interjection type is most common, but is less frequent than the two restricted types (seeking specification or confirmation) put together, in this respect conforming to the cross-linguistic tendency to be as specific as possible when seeking repair (caution is in order, however, with small samples from limited interactions, as here).

Table 4: Types of repair initiators and their frequency in the Yéli Dnye corpus

Type	Subtype	Frequency
Open	Interjection	31
	Question-word	0
	Formulaic	0
Restrict- ted	Request (asking specification)	18
	Offer (providing a candidate)	21
	Alternative question	0
Total		70

Frequency is a possible clue to an underlying preference structure across these types. The proposed preference would be that

1. If one can, one should produce in T0 a candidate hearing or understanding, requiring the trouble-source speaker to merely affirm.
2. If one cannot do so (e.g. because one has not heard T-1 adequately), one should at least then try to formulate a Wh-question which pinpoints the area not heard adequately.
3. Failing the ability to do that (because one heard or understood too little), one should produce an open OIR that asks for a complete redo (repetition or reformulation).

Thus there would be an ordered preference for:
confirmation type > request type > open type

Such a preference would follow from a rule ‘be as specific as you can’ (see Schegloff, Jefferson & Sacks 1977:369, Clark & Schaeffer 1987:23, Levinson 2007, Schegloff 2007:101 and more generally Grice 1975, Levinson 2000), which finds support from the cross-linguistic study of which this paper is a part. Note that, in Table 4, open-class repair initiators are common, but not as common as the other two types together, supporting the inference that this easiest-to-produce strategy is avoided where possible.

Some of the most telling evidence for such a preference structure may be qualitative, as found in self-repairs on repair initiators such as the following, where B replaces a Wh-form of OIR with a confirmation type of OIR (the order of replacement always seems in this direction):

Extract 10. R04_V1_s3_1138616

- 1 A kî tii mgîdî vy:o mye dnyimo mgîmîmgîmî T-1
 That kingfisher night middle also 3plHABDistal catching
They would also catch the kingfishers in the middle of the night
- 2 (0.5) (??) tii
 kingfisher
 kingfishers
- 3 B ló tii? kî yi nkwodo tii? T0
 which kingfisher tree in.canopy kingfisher
Which kingfisher type, the one in the tree tops? ((eye point upwards))
- 4 A kî ‘nmê tii ((points)) T+1
 That bird kingfisher
That kingfisher type (pointing to trees)

Although this pattern occurs a number of times in the current corpus (see e.g. Extract 5, OIR (1)), the sample is too small to explore these substitutions in depth, but see also Levinson 2007 for some other patterns.

4.1 Open formats

In Yélí Dnye, open repair initiators seem to be almost exclusively in the form of an interjection or particle, mostly a long nasalized low or central vowel :aa? or :êê?, as in Extract 1, Extract 3 OIR (1), Extract 6, Extract 12 and elsewhere. The form does not seem to be subject to politeness considerations or other sociolinguistic restrictions, although such OIRs may simply be suppressed in interactions that fall under kinship taboos (along with many other interactional moves). So, in a cross-linguistically unusual pattern, *lukwe* ‘what?’ cannot by itself function as a repair initiator. However, one does, although rarely, find the form *lukwe nyimo* ‘you are saying what?’ (*nyimo* is, in line with the nature of Yélí grammar, one of a couple of hundred specialized quotation forms, glossing second person speaking, present tense continuous aspect; these forms are non-verbal lexical items functioning as full predicates). This is an open OIR format, but not in a one-word form like *pardon?*, *sorry?* or *what?*, and as the English gloss suggests, it seems to query the *point* of what was said rather than the content. Here is an occurrence of this exceptional form, which illustrates its rather special usage:

Extract 11. R03_V19_s2_1663416

- 1 K m:iituwo Mby:aa tp:oo ka mu nyoo yipêyipê. T-1
 day.before.yesterday Mby:aa 3POSSson DAT that 2sHAB.PROX ask.repeatedly
a while ago you were still asking the son of Mby:aa
- 2 I :êê
 yeah
- 3 K mbwêmê kn:ââ ((turns away, and laughs at I’s expense))
 pig base.kê
for the pig’s main downpayment

- 4 I nyimo lukwe? ← OIR TO
 2sPRS.CI what
you are saying what?
- 5 K m:iituwo Mby:aa tp:oo ka mu nyoo yipêyipê T+1
 day.before.yesterday Mby:aa 3POSSson DAT that 2sHAB.PROX ask.repeatedly
a while ago you were still asking the son of Mby:aa
- 6 I ((nods))
- 7 K pala ((gestures to ground where mat for repayments should be; laughs))
 mat
(on the) mat

K in the trouble-source is mockingly reminding I that his handling of shell money debts is not perfect, and I's query seems defensive (along the lines of 'what are you getting at exactly?'), although K treats it as an OIR, repeating the initial observation. Open formats of this type have been reported from a number of languages in the cross-linguistic project of which this is a part, and seem to claim "an act of saying has been registered, but what it was, or did or was intended to do, remains unclear" (see Dingemanse et al. 2014:13-14). Thus in Yéîlî the extended form contrasts with the one-word usage in a Gricean way (saying more, implies asking for more). Notice incidentally that T+1 is separated from T-1 by three full turns, yet verbatim repetition is still used in the repair, a matter of some psycholinguistic interest given the general rapid fading of verbatim memory.

4.1.1 Interjection strategy

Yéîlî OIR interjections are always in the form of a long nasalized low-to-mid front or central vowel (length and nasalization are distinctive in the language). In Yéîlî length and nasalization are phonemic, but the phonemic vowel space is crowded, even though not all vowels can be distinctively nasalized. Figure 1 shows the relevant nasalized phonemes (in orthographic and IPA form), and realizations of the OIR are within the circle indicated.

The Yéîlî usage fits the universal tendencies noted in Dingemanse et al. (2013). These are front low-to-mid, open-to-central vowels as predicted by a least effort principle, lacking even the glottal restriction (/h/ or /ʔ/) found in many other languages.

This front open vowel though has other functions, including continuer functions like English *hm*, and its individuation relies on a rising intonation, associated with wh-questions (Yéîlî polar questions tend to fall; they are certainly not standardly delivered with rising intonation, even though they are not morphophonemically marked as interrogatives). Figure 2 shows a typical pitch trace of an open initiator.

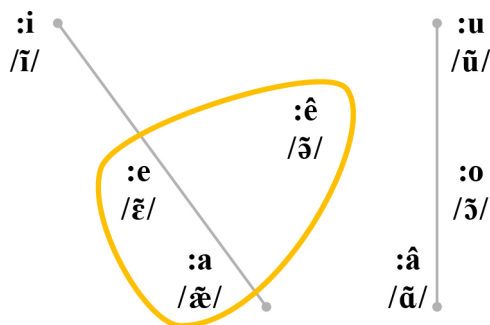


Figure 1 Yéîlî Dnye inventory of distinctive long, nasalized vowels in IPA and practical orthography (circled area indicates the range of occurring OIR initiator forms)

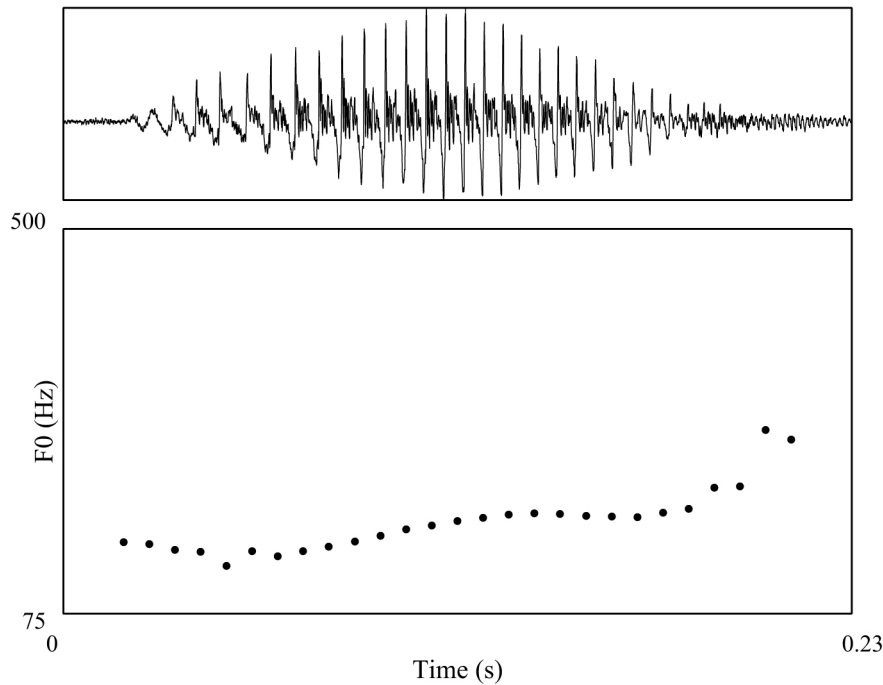


Figure 2 Praat trace of typical open OIR (low front nasal vowel with rising intonation) [2013_July15C&N_1437700]

There are close, overlapping functions where such front open vowels with rising intonation may be something more than simple OIRs. For example, in the following B shows surprise by issuing what is apparently an open repair initiator with the same rising intonation (see Figure 2). This is receipted with a repair-like reformulation in T+1 – but it is preceded by ‘yes’ which seems to presuppose that T-1 was well received. Detection of the ‘surprise’ function may rely on other prosodic and kinesic features, yet to be nailed down. The distinction between OIRs and news receipts done in the manner of OIRs to mark surprise and incredulity is difficult, also in English.

Extract 12. 2011_66_01Aug26YW&P_18246

- | | | |
|---|--|-----|
| 1 | A yepê, ala tpile ngê até dî vyi, yepê,
3s>3plQUOT this thing ERG just 3sIMM say 3s>3plQUOT | T-1 |
| 2 | dyuu m:uu doo a kwo, mu kêêlî ghê
pile more 3sRemPastCon CLS standing that side part
<i>he said to them, this thing has said, there were some more there</i>
(visiting archeologist is said to have machine detecting missing skulls in cave) | |
| 3 | B :aa?
<i>huh?/really?</i> | T0 |
| 4 | A nyââ, yepê, yi kââ dmi até mya dyimê
Yes 3s>3plQUOT those picture CLF just 3PROXREP fall
<i>Yes, he said to them, their photos appeared again</i> | T+1 |

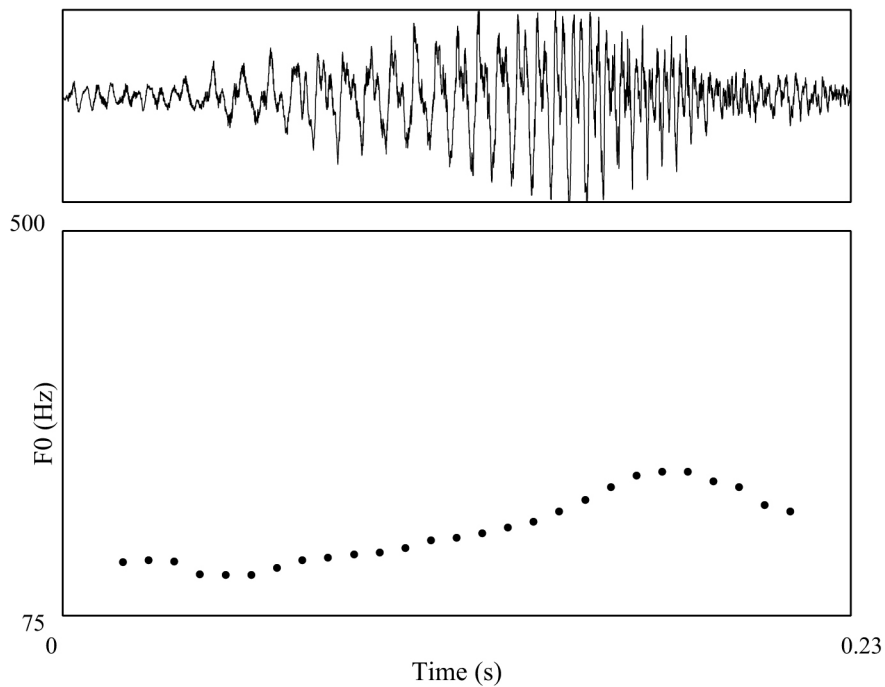


Figure 3 OIR initiator serving also as surprise marker [2011_66_01Aug26YW&P_20753]

4.1.2 Question word strategy

Unlike most languages (Enfield et al. 2013), Yéli Dnye has no standard use of a question word to do the job of an open initiator of repair.² Thus the use of a question word like *lukwe* ‘what?’ will be responded to like a *restricted* OIR – that is, recipients will try and find a thing to be clarified. (See Dingemanse et al. 2014:12-13, on how in other languages prosody can distinguish ‘what’ forms as open OIRs vs. restricted ones).

4.1.3 Other open strategies

As mentioned the only verbal alternative to the particle strategy equivalent to *Huh?* is an explicit ‘What did you say?’ clause. But as illustrated above, this seems to have a challenging or resisting component, and doesn’t seem to serve simply as a repair initiator.

There is however a non-verbal possibility. Rossel Island interaction is, as mentioned, intensely dyadic affording primacy to visual cues. In this context, it is possible to engender a repair simply by staring at the trouble-source speaker without moving after the trouble-source turn. Such a convention is discussed by Manrique (this volume) in Argentine Sign Language as a “freeze-look” response (cf. Manrique 2014). Here’s an example from Rossel Island. T-1 has a troublesome reference, which implies at least three individuals (*dy:eemi* is a dyadic kin term meaning ‘a man with his brother-in-law’, and *knî* is an augmentative plural). A fixed stare by the recipient elicits the first of the brothers in law, and a second fixed stare followed by a ‘who (else)?’ gets the second.

² A reviewer suggests this absence may be more general in other Papuan languages; to assess this requires conversational corpora, and so is not so easily investigated.

Extract 13. R03_V19_s2_838213

1	A	kî pini dy:eemi knî	T-1
		that man with.brother.in.law AUG	
		<i>that man with his brothers in law</i>	
2	B	(PROLONGED GAZE) (all response withheld)	T0
3	A	Kopwo	T+1
		<i>Kopwo</i>	
4	B	(PROLONGED GAZE + Blink)	T0 ₂
5		(1.2)	
6		n:uu	
		<i>'Who (else)?'</i>	
7	A	Wuyópu	T+1 ₂
		<i>'Wuyópu'</i>	

4.2 Restricted formats

Unlike open formats, restricted formats offer clues to *what* the problem is and *where* it was in the trouble-source turn T-1. The 'what' problem can be made clear with a Wh-phrase scoping over part of T-1, as in 'Who?' (this will carry case, thus indicating the role in the sentence, as in 'who-DATIVE?' in Extract 2, line 6), while the 'where' problem can be handled by a partial repeat, either with a Wh-question or without. We will see below that a frequent minimal form is 'which thing/person', which allows both the Wh-form with its case and a partial repetition: thus in Extract 3 the trouble source is 'Chiipyââ with child' and the initiator 'Who with child?'

Most restricted OIR initiators involve at least some repetition, including the rare use of alternative questions as below (alternative questions seem to be used to suggest a possible correction, as here):

Extract 14. R04_V18_73573

1	A	mu mdoo Moresby d:uu lee knî	T-1
		Perhaps Moresby 3IMM.MOT.PI go.FOL dPROX	
		<i>They two went to Moresby (gestures)</i>	
2	B	Moresby ó Alotau? ← OIR	T0
		<i>Moresby or Alotau?</i>	
3	A	lónté knomomê, yed:oo Moresby d:uu lee knî	T+1
		How COND.Intrans then Moresy 3IMM.MOT.PI go.FOL dPROX	
		<i>If this is how it is, they two went to Moresby</i>	

A Wh-word alone may not be sufficient, especially if the trouble source is located in a clause before the last (as in Extract 2). The following is an example of the relation between T-1 and OIR. In the first, a simple 'who?' would be ambiguous over Kaawa or his son-in-law, but the repetition avoids the ambiguity (similarly see Extract 2, line 4).

Extract 15. R03_v27_s3_1172618

1	A	Kaawa u mbywé ntee	T-1
		Kaawa 3sPOSS son.in.law like	
		<i>he's like Kaawa's son in law</i>	
2	B	ló Kaawa u mbywé?	T0
		Which Kaawa 3sPOSS son.in.law	
		<i>which Kaawa's son in law</i>	
3	A	ó Cheme	T+1
		Oh Cheme(LOC)	
		<i>the Cheme village one</i>	

4.2.1 Seeking clarification/specification

Like all languages, Yélî has a range of content question words as shown in Table 5 (Tables repeated from Levinson 2010, a study of all types of questions and their formats, including OIRs).

Table 5 Wh-words in Yélî Dnye (from Levinson 2010)

Wh-word	Gloss	Structure	Remark
<i>n:uu</i>	Who?	monomorphemic	applies to any named thing other than a place
<i>nanê</i>	Who-ERGATIVE?	monomorphemic	Intrinsically case marked
<i>lukwe</i>	What?	monomorphemic	
<i>ló</i>	Which?	monomorphemic	
<i>angê</i>	Which?	monomorphemic	rare
<i>angênê</i>	Where (location)?	<i>angê+nê</i> ‘which? one’	(static locus only, not clearly compositional)
<i>anyi</i>	Whither/Whence?	monomorphemic	
<i>ló y:i</i>	Whither/Whence?	<i>ló y:i</i> ‘which place.anaphoric’	
<i>angênté</i>	How (method)?	<i>angê+nté</i> ‘which+like’	
<i>lónté</i>	How (is it)?	<i>ló + nté</i> ‘which + like’	
	Which method?		
	Which kind of?		
<i>yémi/yimi</i>	How many?	monomorphemic	
<i>angêntoo</i>	How big?	<i>angê+ntoo</i> ‘which size’	
<i>lóntoo</i>	How big?	<i>ló+ntoo</i> ‘which size’	
<i>angêndy:ââ</i>	How tall/long?	<i>angê+ndy:ââ</i> ‘which tall/long?’	
<i>anté</i>	When?	monomorphemic	
<i>angodo</i>	When?	dialect variant	P:uum dialect
<i>ló dîni ghi ngê</i>	When?	<i>ló+dîni+gh+ ngê</i> ‘which time part?’	
<i>lukwe(u) dîy:o</i>	Why?	<i>lukwe+dîy:o</i> ‘what reason?’	

Table 6 Frequency of different Wh-word types (from Levinson 2010)

Type of wh-word by category	Frequency	Percent
Thing (What?)	49	40%
Place (Where?)	28	23%
Person (Who?)	15	12%
Manner (How?)	12	10%
Reason (Why?)	8	6%
Time (When?)	6	5%
Amount (How much?)	4	3%
Other	1	1%
Totals	123	100%

Table 7 Semantic classes and restricted OIR types

Category	Specification (Wh-word)	Confirmation (repetition or guess)
Person	11	3
Thing	8	15
Place	4	3
Time	1	1
Other		1
Totals	24	23

The frequency of restricted OIR in terms of these same semantic categories in the current sample is shown in Table 7, organized around the semantic categories of person, place, time, etc. Although the numbers are small, they do suggest that the Wh-forms are heavily used for specifying people, while repetitions or guesses are made especially for things. Despite the availability of (case-specialized) forms for ‘who’ (*n:uu*) and ‘what’ (*lukwe*), speakers make more extensive use of more specific forms based on a ‘which’ (Wh-adjectival) form *ló*, thus *ló pini* ‘which person?’, ‘*ló tpile?*’ ‘which thing’. As earlier pointed out, these compound forms offer the opportunity for minimal repetition which helps localize the trouble in T-1 – hence presumably their frequency. In the examples below bold face picks out the repetition element which serves to locate the trouble (also in bold):

Extract 16. R04_V18_48474

- 1 A **kópu dyuu** lónté nmyi pyódu ngópu T-1
 things pile how 3plPST cause.to.be PFS3sOREM.PI
How did you fix the group of things up
- 2 B **ló kópu dyuu?** TO
 which thing pile
what group of things?
- 3 A a ka mu nyoo mbumu T+1
 1sDAT that 3sREM speaking
what you told me about

Extract 17. R04_V18_381575

- 1 A ó yenê **kî pini** dpî ‘nuw:o yó, ((gestures)) T-1
 oh 1s>3plQUOT this man 2d/plIMPDefd take 2pl3sO.IMP
Oh I said to them, you should take this guy
- 2 B **ló pini?** TO
 which man
which guy?
- 3 A Mgaa T+1
Mgaa (man’s name)

Extract 18. R03_v27_s3_1373141

- 1 A ala **Téliwâ** nîmo chii T-1
 This Téliwâ 1sImmFUTCL.MOT look.for
I am going searching for Téliwâ
- 2 B **ló Téliwâ?** TO
 which Téliwâ?
- 3 A Kóótpidi tp:oo u wo tp:ee T+1
 Kóótpidi 3POSSson 3sPOSS step son
Kóótpidi’s son’s step-son

4.2.2 Seeking confirmation (offering a candidate)

Besides Wh-question forms, the other major type of restricted OIR is based on producing a phrase to be confirmed as an understanding or hearing of T-1 (occurring less with person reference problems than with reference to things and events, as mentioned above). Most often, this phrase is a partial repetition of part of T-1. A straightforward example follows (‘marriage shells’ are the shell money coins used in bride-price payments):

Extract 19. R03_V19_s2_1160050

- 1 A ngm:aa kn:ââ, **mgêmî ndapî** T-1
 security base.kê high.shells.for.marriage
the replacement big kê shell and the marriage shells
- 2 B **mgêmî ndapî** T0
 high.shells.for.marriage
marriage shells?
- 3 A nyââ T+1
 yes

The repetitions may be taken as an offering of a candidate hearing, although they may also query the correctness of that prior reference, as perhaps in Extract 4, where B queries a name just given ('Peter?').

An alternative strategy is to make a further specification, not stated in T-1, as a guess at what was meant. Such a guess may be a simple referent identification as in:

Extract 20. 2013_27JulyC&M_1237929

- 1 C tp:oo mye daa trust kwólu T-1
 3PSS.son also3PST NEG trust cause
he didn't trust his son
- 2 M Mwolâ? T0
Mwolâ (name)
- 3 C Mwolâ T+1

Note that here the T+1 or repair turn repeats the guess in the initiator as an alternative to confirmation with *nyââ* 'yes' (see more on this pattern below).

Or the guess may be more complex, like a guess at reasons for a description:

Extract 21. R04_V1_s3_1009292

- 1 A ndoo apê, u momu pwoo wunté tpile ngmê wa a 'nuw:o ngmê T-1
 perhaps 3sPOSS special nets like thing INDF IRR 3FUT PFS.3sOPROX
perhaps they'll bring special nets and things like that
- 2 B mu 'nmê tp:oo k:oo kígha u l:êê dîy:o T0
 that bird child inside causing 3sPOSS reason
for catching those birds inside?
- 3 A ee! T+1
Right

5 Morphosyntactic devices involved in OIR sequences

Apart from open OIR interjections, there are few if any linguistic forms dedicated to other-initiated repair. There are however forms that have specialization for self-repair. For example *nîmo* apart from its functions as a 1st person Habitual inflection for verbs, also functions as a quotation predicate or particle meaning 'I say to myself'; from this latter usage presumably is derived its function as a self-repair marker, as in the following. Here B guesses the identity of the song-cycle accompanying a pig feast to be put on at the date mentioned, then self-corrects and says whatever the song-cycle is they are putting on in the indicated direction. The particle *nîmo* is used to mean 'no I don't mean (X), I mean (Y)'; it comes from the same large paradigm of quotation particles as the open class form deployed in section 4.1 ('You are saying what?').

Extract 22. R04_V18_387941

- 1 A ndoo apê first wiki p:uu a yiyé ngmê T-1
 perhaps first week attached 3FUT.PI put.down PFS3sOPROX
perhaps they'll put it in the first week of September
- 2 B Kulu? TO
the Kulu operetta?
- 3 (0.8)
- 4 nîmo Kulu, ala kî mbwêmê pîpî
 1s>selfQUOT.PRS Kulu DEIC.PROC that pig eating
I don't mean Kulu, (but) this pig feast here (head pointing)
- 5 A Kulu (name of song/feast) T+1
The Kulu operetta ((affirming the earlier guess just abandoned))

We have already suggested that self-repair on an initiator can be an interesting source of information about preferred action types; here B makes a guess at a referent ('they' in the gloss of the first line) only coded in verb agreements, then suspects (incorrectly as it turns out) that he may be wrong, and chooses a more general formulation, substituting 'whatever event is happening here' for the earlier name of the event. One sees here a tension between the principle 'be as specific as you can' with another 'be as accurate as you can', a tension that always underlies the confirmation type of OIR.

6 Actions

Various actions can clearly be done in principle *through* doing an OIR. For example, by making as if one didn't hear or didn't fully comprehend one can show surprise. Extract 12 is such a case above. Another example is the following where B shows disbelief that the visiting biologists have a chemical they can inject into lizards that will preserve them without going stiff:

Extract 23. R04_V1_s3_859759

- 1 A pwii pwii yed:oo ntóó T-1
 soft yet dead.body
it's soft but dead
- 2 B :ê? TO
heh?
- 3 A ntóó T+1
 dead.body
dead

It's reasonable to assume that even if in cases like this the main function is showing surprise, the OIR function is still live – otherwise it would be hard to account for the fact that these usually elicit just the kind of response that normally follows an open initiator. It's a reasonable guess that all languages permit this use of open-class initiators as surprise markers, or news receipt markers, and certainly it is attested in most other languages in the cross-linguistic project of which this is a part (see Introduction to this special issue). But more specialized secondary actions can also occur. For example in what follows elder A is explaining to middle-aged B how to use shell money properly for the sake of overhearer young man C, and B's OIR checks the noun phrase 'replacement shell'. The context makes it unlikely that B failed to hear or understand properly, but in querying the item he serves to emphasize the item for didactic purposes for over-hearer C (as when a trial lawyer gets a witness to repeat a point for the jury):

Extract 24. R03_V19_s2_910260

- | | | | |
|---|---|--|-----|
| 1 | A | yenê, a kê kuu
1s>3pl 1sPOSS kê.coin fresh
<i>I said to them, “my kê is a replacement shell”</i> | T-1 |
| 2 | B | a kê kuu? ((+eye point))
1sPOSS kê.coin fresh
<i>“my kê is a replacement shell?”</i> | T0 |
| 3 | A | (Blink) nyââ
<i>(Blink) yes</i> | T+1 |

7 In the eyes of the beholder – a Rossel Island specialization

As mentioned in the introduction, Rossel Island interaction is marked by a preference for intense dyadic face-to-face interaction. When people meet on a path or at a wedding or feast, they tend to squat facing each other at a distance of not much more than a metre which allows mutual touching and close monitoring of the other’s face. In the visual channel thus set up, a range of conventionalized facial signals can be deployed. These play a role in the conduct of OIR sequences. Already mentioned was the possibility of indicating trouble just by intense gaze and a freezing of response (see Extract 13, section 4.1.3) – a non-verbal open OIR device. Extract 24 in the prior section provides a typical example of the auxiliary functions that non-verbal signals can also provide: the OIR or didactic repetition has an added eye-point which may refer to the village to which the shell money should be given. The T+1 slot has an initial blink – such blinks, some 100 ms longer than a natural blink, serve to signal affirmation, as does a slight brow raise, preceding the verbal ‘yes’.

These non-verbal signals have a timing advantage – they tend to occur well before verbal responses (if any). For example, repeating part of Extract 5 above as Extract 25, note that after C’s OIR (which is of the confirmation requiring kind) N produces an affirmative blink which starts in the middle of the first syllable of ‘Weta’ – C has the confirmation before he has even finished speaking, although N follows up with a verbal confirmation. Notice that this speed of response is possible because N can see C making the lip-rounding for ‘Weta’ even before the acoustic signal reaches him. The first blink is held with half-open eyes till the end of the OIR (‘Weta tp:oo’) then a second blink plus eyebrow-raise immediately precedes the verbal affirmation *nyââ* inside the 350ms gap. Figure 4 shows stills from this extract.

Extract 25. 2013_July15C&N_505226

- | | | | |
|---|---|---|-----|
| 1 | C | ló Ghaakpê, W[eta tp:oo? ← OIR
which Ghaakpê Weta his.son
<i>which Ghaakpê, Weta’s son?</i> | T0 |
| 2 | N | [BLINK | T+1 |
| 3 | | [(0.35) | |
| 4 | | [BLINK+EBF | |
| 5 | | nyââ
Yes | |



Figure 4 Blinks and eyebrow flashes as early confirmations of OIR

Given these efficiencies of the visual modality, it is not surprising that some turns in OIR sequences dispense with words altogether. We have already seen that T0 can be delivered entirely non-verbally, and not surprisingly T+1 can be too. The following, extracted from example 4 above, is a case where the second OIR is affirmed purely by an artificial blink and an eyebrow flash.

Extract 26. 2013_27JulyC&M_1088205

- | | | |
|---|---|-----|
| 1 | C Peter | T-1 |
| 2 | M Peter? ← OIR | T0 |
| 3 | C EBF ← ((EBF designates ‘Eye brow flash’, a form of assent)) | T+1 |
| 4 | M lukwe ngmê dê md:oo
what INDF 3sPST do
<i>what has he done?</i> | |



Figure 5 Blink and eyebrow flash alone as confirmation

These blinks and eyebrow flashes play a role similar to English ‘yeah’- they can function as continuers (also like English *hm*) as well as affirmations. They signal successful ‘grounding’ (Clark & Schaeffer 1987, Clark & Brennan 1991), the establishment of mutual understanding. Repair of course is all about fixing a problem with grounding, and so these visual signals play a systematic role in Yéli Dnye repair.

Although the heavy reliance on the visual modality may be a Rossel Island specialization, non-verbal signals (often similar in kind) probably play a widespread role in OIR systems, as suggested in Dingemanse & Floyd 2014. As a reviewer points out, it might be interesting to see how the absence of the visual channel, e.g. at night, is compensated for.

8 Conclusion

We began by asking what can be learnt from studying a conversational strategy in a remote and minor language. The answers are, first, we have found many commonalities with OIR sequences in familiar languages, commonalities that cannot, given the isolated geography and culture history, have been borrowed. There has to be an explanation of these striking parallels across cultural traditions. My own inclination is to find here evidence of a fixed ethological background to human communication, what I have called ‘the interaction engine’ (Levinson 2006). Certainly, compared to the diversity of languages and cultures, the core human interactional machinery has a striking universal character. But to label the phenomenon is not to explain it. Explanations will lie in a mix of innate factors (e.g. those factors that show up early in infancy), developmental tendencies and functional factors that constrain possible solutions. For example, the cross-cultural tendency for face-to-face engagement (sometimes attenuated, as in Tzeltal; see Rossano et al. 2009) which facilitates rapid detection of communication problems is likely innate, as is the whole apparatus for intersubjective understanding built on reflexive reasoning about other peoples’ mentation. Even the embedded character of OIR sequences in the ongoing discourse may plausibly derive from the innate machinery of our action system, which involves constant servo mechanisms to adjust, e.g. how I grasp the mug. But the pressure for early repair, which requires OIR in close proximity to the trouble source, is probably functional in origin, motivated by the ephemeral nature of verbatim memory. Already, specific initiators of repair may leap backwards over a clause or more to pick up an earlier trouble-source as in Extract 2. Notice how in Extract 11 a word-for-word redo (repair by repetition) in T+1, of the original trouble source in T-1, is separated already by two turns – beyond this verbatim memory may not reliably stretch. The tendency for an open OIR like *huh?* with front open vowels, a default positioning of the vocal tract, may be driven by least effort considerations (see Dingemanse et al. 2013). The use of question intonation is motivated by the request-like character of T0, a request to repeat whole or part or agree to a hearing or interpretation. The tendency to repetition in T0 and T+1 is motivated by the need to signal what is to be repaired and which part the repair fixes. In this sort of way one may expect a compound explanation of the cross-cultural universals and tendencies in this domain.

A second answer to what we can learn from studying such practices in cultures remote from our own is what can differ. Yélf Dnye OIR systems seem to lack a question-word open-class initiator (like English *what?*). That is not perhaps surprising, since we are now in the domain of linguistic inventories, and they can be expected to vary radically. It is only odd that most other languages have such an element, although the requestive basis of OIR just mentioned is perhaps explanation enough. More striking as a cultural specificity is the heavy reliance on visual cues. Here we find a culturally conventionalized inventory of facial signals like the affirmative blink and the affirmative eyebrow raise, or the use of eye-pointing. Incidentally, these or similar signals have been noted in other cultures or sign languages, so they may have some natural origin (although there are other facial signals used on Rossel Island that seem quite idiosyncratic, like a wrinkling of the nose to indicate ‘Wow!’). So what is culturally special is the presumption of close monitoring and the unusually sustained nature of mutual gaze that is required if visual signals are to be reliable. Most animals generally avoid mutual gaze which signals aggressive intent or sexual interest – that the human use of it is innate is attested by the white sclera of the human eye that makes it easy to track gaze direction. Humans often override this inhibition in all cultures, but the thorough exploitation of mutual gaze on Rossel Island seems to be especially pronounced and culturally unusual.

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Appendix: Key to Glosses

PERSON/NUMBER

1,2,3	Person (e.g. 3REM, 3 rd person subject, any number, remote past tense)
s, d, pl;	Number in verbal inflections
Sing, Dual, PL	Number in nominal determiners
Any	Any person/number
MF, MonoF	Monofocal (singular or 1 st person)
PF, PolyF	Polyfocal (2 nd and 3 rd persons dual and plural)
We2, You3, etc.	Person/number in free translation: we2 = we dual, you3 = you three or more, etc.

VERBAL COMPLEX

S,	Subject
O	Object
P	Punctual (Punctiliar) aspect
PI	Punctual Indicative
C	Continuous aspect
CI	Continuous indicative
REM	Remote Past tense – day before yesterday or before
IMM	Immediate Past tense - earlier today
NrPST	Near Past tense – yesterday
PAST	Past of any remoteness
PRS	Present tense
FUT	Future tense
ImmFUT	Proximal or immediate future tense (today - continuous aspect only)
DistFUT	Distal future tense (tomorrow or beyond - continuous aspect only)
PROX	Proximal tenses, the three closest to coding time (for the punctual aspect: future, immediate past, near past, for the continuous aspect: immediate future, present and immediate past)
DIST	Distal tenses
IND	Indicative mood
IMP	Imperative mood
IMPDef	Imperative deferred – ‘do it later’
HAB	Habitual mood
PreN	Preverbal nucleus or inflectional proclitic (position usually self-evident and unmarked)
PostN	Postverbal nucleus or inflectional enclitic (position usually self-evident and unmarked)
COND	Conditional marker (verbal enclitic) in antecedent (indicative only, not counterfactual)
CF	Counterfactual marker (verbal proclitic) in antecedent and consequent
CFAnt	Antecedent counterfactual marker
CFCons	Consequent counterfactual marker
(Equ)	Equative, e.g. special type of Counterfactual.
Trans; Intrans	Transitivity
TV/IV	Transitive/Intransitive Verb (not marked where self-evident)
∅	Zero morph; especially pre- and post-verbal enclitics (note: this is only marked where pertinent to the discussion)
N-	Homorganic nasal archiphoneme used to mark 2nd person possession – it assimilates to the succeeding stop position
RES	Resultative
FOL	Verb root form occurring with a non-null postverbal enclitic
CERT	Epistemic marker (certain or visible), usually <i>k-</i>
UNCERT	Epistemic marker (uncertain or invisible), usually <i>wu</i>
IRR	Irrealis (usually <i>w-</i>)

YI	<i>yi construction</i> of temporal subordination
FOC	Focus construction, e.g. <i>yinê</i> and <i>vyîlo</i> constructions
CLS	‘Close’, i.e. Deictic marker ‘hither’ (towards ego)
MOT	Associated Motion marker
REP	Repetition of action marker (‘again’)
TAM	Tense, Aspect, Mood
TAMP	Tense, Aspect, Mood and Person/Number
REFL	Reflexive pronoun (‘Self’)
WEAK	Special form of inflection for ‘weak verbs’
STRONG	Special form of inflection for ‘strong verbs’

NOMINAL CATEGORIES

ERG	Ergative case
ABS	Absolutive case
DAT	Dative
LOC	Locative
INST	Instrumental
EXP	Experiencer
NOM	Nominative
ACC	Accusative
VOC	Vocative
INDF	Indefinite
DEF	Definite
Dual, Sing, PL	Dual, Singular, Plural (in inflections s/d/pl)
(Hum)	Human (of plural category)
AUG	Augmentative pluralizer <i>knî</i>
Pro	Nonpersonal Pronoun (e.g. <i>n:iî</i> ‘the one’), sometimes relative (REL)
REL	Relative pronoun and clause marker
DEIC	Deictic pronoun or category
TOPIC	NP marked with <i>ngê</i> for topic, ‘as for X...’
SPEC	Specified root, specialized form of a definite noun
RECP	Reciprocal pronoun (<i>numo, noko</i>)

MISCELLANEOUS

QUOT	Quotation particle, specific for person/number of speaker and addressee, tense and mood. e.g. <i>nganê</i> , 1s>2sFUT.QUOT ‘I will say to you’
NEG	Negative marker
NegPol	Negative polarity item
QUANT	Quantifier
CLF	Classifier
ADV	Adverbializer (e.g. <i>ngê</i>)
TAG	Tag question marker (e.g. <i>apii?</i>)
N- or _	Nasalization of an initial segment to indicate 2 nd person possession; where the segment is already a nasal, the present but invisible morpheme is marked with an underscore