

Managing expectations

Referential expectedness and uncertainty in a syntactically flexible language

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One of the central goals of human language is to convey intended messages successfully to the addressee. However, communication inherently involves uncertainty or unexpectedness which hinders this delivery. Different languages have different strategies to manage unexpectedness. In this article, we explore the strategies used in Murrinhpatha, an Australian Aboriginal language with highly flexible syntax, that is, free constituent order and frequent NP omission. We argue that Murrinhpatha speakers utilise the language's syntactic flexibility to manage referential expectations. Highly unexpected referents tend to be expressed preverbally, while expected referents which need to be 'reinforced' are usually expressed postverbally. Uniquely expected referents are usually syntactically omitted. We argue that expectation and uncertainty provide a more convincing account of Murrinhpatha compared to an account of accessibility. Our findings shed new light on several aspects of syntactically flexible languages, including pragmatic salience and newsworthiness, and the functional distinction between postverbal NPs and NP omission.

Keywords: referential uncertainty, free constituent order, NP omission, Australian Aboriginal languages

1. Introduction

One of the central goals of human language is to convey intended messages successfully to the addressee. Thus, when shaping utterances, speakers often take addressees' needs into account (Chafe 1994, Clark & Murphy 1982, Ferreira 2019, Givón 1983b, Grice 1975 and Gundel et al. 1993). This addressee orientation is at work in speakers' choice between referential expressions, as demonstrated by two major findings: first, speakers prefer lexical NPs over third-person pronouns in

the presence of competing referents (Arnold et al. 2000 and Karmiloff-smith 1985, for an overview see Arnold & Griffin 2007). Second, speakers prefer pronouns over lexical NPs if they believe that the addressee has greater certainty about the forthcoming referent (Tily & Piantadosi 2009). These findings suggest that referential choice is exploited by speakers to manage the expectations or uncertainties that they attribute to their addressees (Nieuwland & Van Berkum 2008: 606, see also Kibrik 2011).¹ In this article we will refer to ‘uncertainty’ when an addressee is unable to select between competing referents, and ‘unexpectedness’ as an overarching concept that encompasses both uncertainty about referent identity, and instances when an addressee has an expectation that turns out to be incorrect.

The body of research cited above tends to focus on English and other languages which show relatively rigid syntax (some notable exceptions include Givón 1983c and Kibrik 2011). Languages like English demand a constituent for each argument on the one hand, and relatively fixed constituent order which encodes grammatical relations on the other. This naturally opens the question of how referential expectedness is managed in languages that do not meet these conditions; in particular, Australian Aboriginal languages with both free constituent order and extensive NP omission such as Warlpiri and Jiwarli (Austin & Bresnan 1996 and Hale 1983), may present a different kind of evidence. Such languages have often been labelled ‘non-configurational’, but to avoid any conflation with issues in generative syntax, we here use the label ‘syntactically flexible languages’. Despite the extensive discussion of these languages in the literature (see Section 2), there has been relatively little discussion of how these two characteristics are connected with referential expectedness. In this article, we use expectation and uncertainty as a lens to study free constituent order and NP omission in Murrinhpatha, an Australian Aboriginal language (Non-Pama-Nyungan; Southern Daly) spoken in and around Wadeye in the Northern Territory. This framework, we argue, provides a convincing explanation of basic clausal patterns in this language. In particular, we will argue that referential (un)expectedness explains both preverbal and postverbal positions in the clause.

Being a syntactically flexible language, Murrinhpatha does not use constituent order to encode grammatical relations. In fact, NPs referring to arguments are usually omitted (Ma 2024 and Nordlinger et al. 2022). Furthermore, there is no regular case-marking of core grammatical relations (Nordlinger 2011: 717, however see Nordlinger & Kidd 2023). A recent experimental study shows that Murrinhpatha constituent order is indeed highly variable when speakers are invited to describe

1. In the literature the term referential ambiguity or conflict is often used instead. In this article, we adopt the term referential expectedness in order to highlight its relationship with the field of probabilistic pragmatics (Franke & Jäger 2016).

a scene with no preceding discourse context, suggesting that this language does not have a ‘basic constituent order’ (Nordlinger et al. 2022: 214). These findings are complemented by the current study, where we focus instead on how Murrinhpatha constituent order and NP omission are shaped by discourse context.

While Murrinhpatha does not encode grammatical relations via constituent order or case-marking, Murrinhpatha verbs are richly inflected and may index one or more arguments of the clause, using subject prefixes and object suffixes with an essentially nominative/accusative alignment. Nonetheless, this inflectional information is only sufficient to uniquely identify first- and second-person referents (1a). The (highly frequent) third-person category leaves open a wide choice of possible referents, and third-person singular object is not morphologically marked (1b) (Mansfield 2019: 121). However, non-singular third-person referents are generally marked morphologically for number and/or gender (1c). Thus, verbal inflection provides clear information when speech-act participants are involved in an event, but for other referents it provides only partial information to narrow down the range of potential candidates. This point will become clearer in the ensuing discussion, where examples mostly involve third-person referents.

MURRINHPATHA

- (1) a. *nga-nhi-rtiwak-nu*²
 1SG.SBJ.PIERCE.³IRR-2SG.OBJ-follow-FUT
 ‘I will follow you.’
- b. *dam-rtiwak*
 3SG.SBJ.PIERCE.NFUT-follow
 ‘(She/he/it/somebody) is following (her/him/it/somebody).’
- c. *pubam-pun-ngkardu-neme*
 3NS.AFFECT.NFUT-3PL.OBJ-see-PAUC.M
 ‘They (paucal, masc.) see them (pl.).’⁴

In clauses like (1b) and (1c), NPs may be required to provide further information about third-person arguments, though as we will see, this depends crucially on the available candidate referents, and whether they match any number and gender

2. Murrinhpatha verbs exhibit extensive morpho-phonological juncture effects, such that for example *nga-nhi-rtiwak-nu* is pronounced as *nganhiriwaknu*, with lenition of a medial stop (for details see Mansfield 2019). In this article we show just the morph-by-morph analyses.

3. Classifier stems in the examples are glossed with their prototypical semantic meaning. For example, PIERCE prototypically indicates an event of piercing, although this meaning is not present in all compounds, and there are some compounds in which it is difficult to discern any lexical meaning at all for the classifier stem.

4. Unless specified otherwise, example source is from the authors’ own knowledge.

features that are specified by verbal morphology. In this article we primarily focus on the positions and omission of such NPs; the role of inflectional morphology is only highlighted where relevant.

We distinguish three syntactic possibilities of NPs in Murrinhpatha discourse: (i) preverbal, (ii) postverbal and (iii) omission. These three possibilities can be understood in terms of expectations and uncertainty on the part of the addressee, as judged by the speaker. Our core analysis can be briefly summarised as follows. A preverbal NP (2) is used when the speaker judges that the intended referent is not expected by the addressee. On the other hand, if the speaker judges that the intended referent is expected by the addressee, a preverbal NP is rarely used. This typically results in a verb-initial or verb-only clause. A postverbal NP (3) is used when the intended referent is the expected referent, but there are also other reasonable candidates and therefore the expected referent needs to be ‘reinforced’ to mitigate uncertainty. Omission occurs when there is a uniquely expected referent, with little or no uncertainty, often resulting in a verb-only clause (4).

MURRINHPATHA

- (2) *i nukunu ini=ka dem-pirnturt*
 CONJ 3SG.M ANAPH=KA⁵ 3SG.SBJ.PIERCE.RR.NFUT-arise
 ‘The man gets up.’⁶ [CM-DB_3-1; Video narrative]⁷
- (3) *wurdam-mardarlart-warda ne nukunu=yu*
 3SG.SBJ.IMPEL.RR.NFUT-tremble-now TAG 3SG.M=CLS
 ‘Now he’s shaking, right?’ [CM-DB_2-3; Video narrative]
- (4) *dem-pirnturt*
 3SG.SBJ.PIERCE.RR.NFUT-arise
 ‘(He) gets up.’ [2011-07-25_LP-GM_2-1; Video narrative]

In this article, we will argue that this expectation/uncertainty-driven clausal scheme is consistent with earlier observations of syntactically flexible languages, but provides a stronger explanation of the distinction between postverbal NPs and NP omission. Murrinhpatha speakers also command other techniques for managing referential uncertainty, such as gesture (Blythe 2009) and prosody. Prosodic uncertainty management has been described in other Australian lan-

5. In the Murrinhpatha literature =*ka* is glossed as the topic marker. But we find its discourse function is still unclear, and therefore do not provide a functional gloss for it in this article.

7. The name in the square brackets indicates the file name for files in the Paradisec JM4 archive, see <https://catalog.paradisec.org.au/collections/JM4> (last access 9 August 2024).

6. *Nukunu* is a personal pronoun but as we’ll see later in Section 6, the English pronoun *he* is not always a felicitous translation.

guages, for example, when referents in focus are expressed with a ‘super-high’ pitch peak (Fletcher & Butcher 2014:124–126; see also Simard 2010 and 2018). However, in this study we limit our investigation to the role of syntax.

2. Constituent order and NP omission in syntactically flexible languages

One of the crucial observations in the literature on syntactically flexible languages is that constituent order and NP expression or omission are influenced by discourse-pragmatic considerations rather than grammatical relations (Mithun 1992 and 2006, Payne 1987 and Swartz 1991; see also papers in Adamou et al. 2018, Downing & Noonan 1995, Mushin & Baker 2008 and Payne 1992). The general idea is to connect the surface syntax of these languages with discourse-pragmatic ‘salience’ or ‘prominence’, which can roughly be understood as ‘importance’: a preverbal or clause-initial NP which usually expresses a discourse-pragmatically salient referent. On the other hand, a postverbal or clause-final NP usually expresses a referent which is less discourse-pragmatically salient (Austin 2001, Givón 1983b and 2011, Hale 1992, Mithun 1992, Payne 1987 and Swartz 1991). Non-salient referents are generally syntactically omitted, though (partial) information about these referents may be morphologically marked on the verb, like in Murrinhpatha (see (1) above) (Bowern 2008, Evans 1985, Gordon 2016, Gürer & Göksel 2019 and Hale 1992). The precise meaning of ‘salience’, however, is not always explicitly explained in the literature.

The connection between discourse-pragmatic salience and the surface syntax is exemplified by Mithun’s (1992) newsworthy-first principle. Using the concept ‘newsworthiness’ (i.e., discourse-pragmatic salience; Mithun 1992:32–34), Mithun explains the syntactic patterns in Cayuga, Ngandi and Coos. In particular, she argues that newsworthiness decreases within a clause in these languages, giving rise to an ordering pattern where the clause-initial NP refers to the most newsworthy referent, and the clause-final NP the less newsworthy referent. As for the least newsworthy referent, it may be omitted (Mithun 1992: 43). The examples of newsworthy referents include significant new referents, contrastive referents, and new topical referents. The least newsworthy referents are best exemplified by continuous topics (Mithun 1992: 43). The application of Mithun’s newsworthy-first principle is also found in studies on other syntactically flexible languages such as those spoken in America like Seneca and Mohawk (Chafe 2015:147 and Mithun 1996:172) and in Australia (Simpson & Mushin 2008).

The newsworthiness approach describes the broad pragmatic contour of clause structure in syntactically flexible languages, but it remains somewhat unclear about the cognitive underpinnings of this structure. The concept of

“accessibility” is one way that researchers have attempted to develop a more cognitively explicit account. Accessibility can be defined as “the ease with which the mental representation of some potential referent can be activated in or retrieved from memory” (Bock & Warren 1985: 50; see also Tachihara & Goldberg 2020). The degree of accessibility of a certain referent is dependent on various factors, such as givenness (whether the referent has been previously introduced into the discourse), humanness or animacy, narrative centrality, recency or referential distance (how far is the last mention of the referent?), and syntactic prominence (the grammatical relation of the last mention of the referent, where subject is said to be more prominent than other grammatical relations); see Arnold (2010) and Vogels and colleagues (2019) for an overview on accessibility.⁸

The general claim in accessibility research is similar to Mithun’s newsworthy-first principle, but in a mirroring fashion; accessibility increases within a clause: the clause-initial NP usually refers to a less accessible referent, whereas the clause-final NP a more accessible referent. For a referent which is highly accessible, the speaker also has the option of omitting it, very much like the least newsworthy referents in Mithun’s framework. This pattern has been reported in studies on various syntactically flexible languages, including those spoken in Australia (Bardi: Bowerman 2008, Kayardild: Evans 1985, Bininj Gun-wok: Evans 2003, Warlpiri: Hale 1992 and Garrwa: Mushin 2005) and others (Siouan languages: Gordon 2016, Turkish: Güner & Göksel 2019 and İşsever 2019, Klamath: Meyer 1992, Papago: Payne 1987 and Nez Perce: Rude 1992); see also studies in Givón (1983c). A common finding in this body of work is that a referent which has been introduced into the discourse but does not participate for some time – what is generally called a discontinuous topic – tends to be reintroduced by a preverbal NP, because its accessibility diminishes during the time when it is absent from the scene. A continuous topic, on the other hand, tends to be either omitted, or expressed by a postverbal NP, since it is highly accessible. Table 1 below provides a visual scheme of the relationship between newsworthiness and accessibility on one hand, and modes of argument expressions on the other.

The work cited above raises some issues which warrant clarifications and further research. We focus on two in this article. First, the very nature of discourse-pragmatic salience is not always clearly articulated and defined in the literature. Claims like “this referent is pragmatically salient and therefore is expressed by a clause-initial NP” are often made without elaboration. Some studies, such as Mithun (1992), provide a list of properties that make a referent salient (e.g., new-

8. In the experimental literature (e.g., Gleitman et al. 2007), accessibility is also measured by perceptual properties such as the size and colour of the referent. This is not discussed in this article.

Table 1. Relationship between discourse-pragmatic concepts of newsworthiness and accessibility, and modes of argument expression

	Modes of Preverbal or clause-expression initial NPs	Postverbal or clause-final NPs	Omission
Discourse-pragmatics			
Newsworthiness	Newsworthy	Less newsworthy	Less/Least newsworthy
Accessibility	Less accessible	Accessible	(Most) accessible

ness, contrastiveness, topicality). However, the enumeration of many properties that constitute salience risks creating a category that is so heterogeneous as to be applicable to almost any referent. The concept of accessibility has also been used in diverse and sometimes unclear ways (Arnold 2010:189), though we here follow the relatively explicit definition in terms of memory retrieval. Although accessibility may promise to create a unified concept of salience, as we will show below (Section 5), it has some implausible implications in Murrinhpatha.

Second, the distinction between the functions of postverbal NPs and NP omission requires more elaboration, and the role of postverbal NPs has received limited attention (Beeching & Detges 2014:2 and Poletto & Bocci 2016:649). Although a gradient distinction in terms of discourse-pragmatics between these two referential options is suggested in some studies, as shown in Table 1 above, the criteria for determining what is “less newsworthy” and “least newsworthy” are not always clear. In some other studies, this type of gradient distinction is not found, and as a result the functional difference between the two is unexplained. Hale (1992), for instance, suggests that in Warlpiri both postverbal NPs and omission are used for “elements out-of-focus” (see also Simpson 2007: 421). Güreç and Göskel (2019:233) observe that in Turkish what “can be omitted or put in the post-verbal, deaccentuated domain” is of the same type, namely, discourse-given referents. In Bardi, Bower (2008: 68) suggests that omission targets **old** information, whereas clause-final NPs are used to **reintroduce old** information (Bower 2008: 69–70) – though this leaves open the question of why some old information can be tacitly assumed, and other old information must be overtly reintroduced. Similar observations are made for Kayardild (Evans 1985: 53–54) and Siouan languages (Gordon 2016: 400–402 & 409). However, as suggested by neo-Gricean pragmatics (Levinson 2000), postverbal NPs and omission should be functionally different, since omission should by default be favoured as a matter of economy and efficiency, and any (overt) postverbal NPs should therefore be motivated by

functional considerations (Levinson 2000:114 & 136). We will argue below that referential expectation and uncertainty can shed light on the functional difference between postverbal NPs and omission, and can also provide a more unified account of discourse-pragmatic salience.

The analysis presented in this article does have some precedents in research on syntactically flexible languages, notably Mithun (1992), Rude (1992), Givón (1983a, 2011) and McGregor (2013), who have noted the influence of expectedness or (un)certainly of referents on constituent order, NP omission and optional case-marking. For instance, Mithun (1992: 43) argues that when the speaker believes their intended referent to be expected by the addressee, the referent is not pragmatically prominent and will either be expressed by a postverbal NP or syntactically omitted. Both Givón (1983a: 195, 2011) and Rude (1992), in their studies on Ute and Nez Perce, suggest that less expected referents are likely to be expressed by a preverbal NP, whereas more expected referents are likely to be expressed by a postverbal NP, and the most expected referent will be syntactically omitted and only indexed by verbal agreement morphology.⁹ Whilst their proposals are similar to the one made in this article, we will show that some details are not entirely compatible with the Murrinhpatha data. This is especially true for Givón's proposal, in which expectedness is entirely linked to referential distance. In our analysis, referential distance can play a role in increasing uncertainty, but this is subsumed within a more general model of expectation and uncertainty.

3. The role of addressees' expectations and uncertainty in pronoun use

As explained above, audience-oriented pragmatics has largely been investigated with respect to English, while syntactically flexible languages have been studied using other concepts such as newsworthiness and accessibility. In this article we work towards bridging this gap.

One particularly fruitful topic for studying addressees' expectation and uncertainty in English is the use and interpretation of pronouns (for an overview see Kehler & Rohde 2013). Comprehension experiments show that the interpretation of English pronouns depends upon inferences regarding the flow of events, whereby addressees develop expectations about who or what is going to be mentioned next, and interpret pronouns accordingly (Hobbs 1979). This is a multifaceted inference involving agency, event structure and other factors. For example, following a verb of transfer, addressees expect that the recipient will be the next-

9. Givón (1983a) uses the term 'predictable', whereas Rude (1992) uses the term 'expected'. However, these terms can be seen as interchangeable since Rude adopts Givón's methodology.

mentioned referent in the following clause (5), and interpret the subject pronoun in this clause accordingly (Stevenson et al. 1994: 525):

- (5) a. *John seized the comic from Bill. He...* (he = John)
 b. *John passed the comic to Bill. He...* (he = Bill)

At the same time, passage-completion experiments (e.g., Fukumura & van Gompel 2010) show that English speakers have a greater tendency to use a pronoun when the intended referent is identical to the previous subject as opposed to other grammatical roles. For example, speakers were given stimuli such as (6a) and (6b), where the semantics of (6a) biases the speaker to complete the passage by talking about John, and the semantics of (6b) biases them to talk about Bill (Rohde & Kehler 2014). This reiterates the same ‘flow-of-events’ principle demonstrated above, but here the experimental participants were additionally invited to select the referential form, either reusing the name of their chosen referent or using a subject pronoun. Speakers who continued to talk about the previous subject (e.g., John in 6) in the following clause were more likely to use a pronoun, compared to speakers who switched the subject. This preference was exhibited by both speakers who conformed to the flow-of-events principle and those who went against this principle, indicating that the same-subject pronoun effect operates independently of the flow-of-events principle.

- (6) a. *John amazed Bill.* _____
 b. *John detested Bill.* _____

While the experiments above show that English pronoun use and interpretation is a multifaceted process, they also have succeeded in showing how these distinct principles interact using a probabilistic model of expectation. The model quantifies addressees’ expectations about whether a given candidate is the speaker’s intended referent, taking into account the speakers’ biases for pronominalisation as described above (Franke & Jäger 2016 and Kehler & Rohde 2019). This is also the approach taken in the aforementioned experiment by Tily and Piantadosi (2009), showing that English speakers prefer pronouns when they believe that their addressee has less uncertainty about the intended referents. These studies have provided substantial experimental support for a model in which referential choice and interpretation are shaped by expectation and uncertainty, between rational agents who form beliefs about each other’s beliefs. The approach is distinct from the accessibility literature above, which is based on ease of memory retrieval, as opposed to expectedness, although some accessibility studies do also consider the state of mind of the addressee (e.g., Chafe 1994).

We will show below that expectedness provides insights into clause structure in at least one syntactically flexible language, Murrinhpatha. More specifically,

this involves the speaker's assumptions about the addressee's expectations, and in the case of linguistic analyses such as the current one, we are in fact dealing with linguists' conjectures about the speaker's assumptions about the addressee's expectations. But for brevity, we will refer more simply to 'expectations'. For Murrinhpatha we do not have the kind of controlled experimental data that can be used for probabilistic modelling, but we can provide different types of insights by drawing on naturalistic data, where a range of factors influence addressee expectations. We draw on a range of narrative and conversational data from the 100,000-word Murrinhpatha corpus, though we draw most heavily upon narratives of silent videos.¹⁰ In the ensuing discussion we further compare this approach to the accessibility approach, arguing that the expectedness approach is a more plausible theory, and should be further explored with respect to other syntactically flexible languages.

4. Preverbal NPs and unexpected referents

As mentioned above, Murrinhpatha speakers use preverbal NPs when they believe their addressee may be uncertain about an intended referent, or have an incorrect expectation about the intended referent. There are three main situations in which a referent can be considered unexpected: (i) when there are multiple candidate referents that the addressee might entertain, and no clear way to choose between them, (ii) when the addressee has no expectations at all regarding the intended referent, for example the answer to a *wh*-question, and (iii) when the referent expected by the addressee is in fact not the intended referent. We discuss these three situations in turn.

The first situation is illustrated by (7). In (7.3), there are two competing subject referents: 'he' and 'she', and this competition prevents the addressee from forming a clear expectation about the intended referent. They are competing because of their morphosyntactic and semantic compatibility. Morphosyntactically, both of these referents are compatible with the verb *dem-pirnturt* '3SG.SBJ.PIERCE.RR.NFUT-arise' which inflects for a third-person singular subject.

10. The silent videos used in this article include film clips and video stimuli developed by the Max Planck Institute for Psycholinguistics. The two film clips can be found on <https://www.youtube.com/watch?v=VQ6THOfnukI> (The Curse of Mr. Bean, ep. 3; last access 20 Feb 2023) and https://www.youtube.com/watch?v=_oa998z_G4g (The Lion Cage; last access 20 Feb 2023). The video stimuli can be found on: https://archive.mpi.nl/tla/islandora/object/lat:1839_00_0000_0000_0021_DC42_E?asOfDateTime=2023-06-21T18:31:48.627Z. (last access 16 Mar 2023) The file names are 'Cooking' and 'Wake up'.

As such, verbal morphology does not help to pick out the intended subject from the candidate referents. The feature that distinguishes the two candidate referents is gender, but this feature is not encoded in this verb. Semantically, both of the referents are able to get up, thus both are possible subject referents in (7.3). Crucially, the preceding context does not give any obvious reason to expect one candidate or the other. The preverbal NP *nukunu* ‘he’ in (7.3) therefore can be explained by the absence of a uniquely expected candidate. One could potentially analyse examples like this purely on the basis of competing candidates, without needing to evoke the concept of expectation; however the need to resolve candidate competition is clearly compatible with the notion of uncertainty.

MURRINHPATHA

- (7) 1. *i mam-na*¹¹
 CONJ 3SG.SBJ.SAY.NFUT-3SG.M.OBL
 ‘And (she) said to (him)...’
2. “*yuwu... mi patha mi kanhi=yu*
 yes CLF:VEG good CLF:VEG PROX=CLS
ngarnamka-murrk-ngime” *mam*
 1PAUC.SBJ.BE.NFUT-eat-PAUC.F.NSIB 3SG.SBJ.SAY.NFUT
 ‘Yes, the food is good, this good food (we)’re eating.’ (She) says.’
3. *i nukunu ini=ka dem-pirnturt*
 CONJ 3SG.M ANAPH=KA 3SG.SBJ.PIERCE.RR.NFUT-arise
 ‘And he gets up...’ [CM-DB_3-1; Video narrative]

Example (8) demonstrates the same situation with an object referent. In the preceding lines (not shown), three inanimate referents are introduced, namely ‘water’, ‘box’ and ‘cloth’, all of which are candidate object referents for the verb *mangan-art* ‘grab’ in this example. Like the previous example, these three referents are competing referents because of their morphosyntactic and semantic compatibility. They have the same person and number features (third-person singular). Since third-person singular object is unmarked in Murrinhpatha (Nordlinger 2011: 710), this means that as far as verbal morphology is concerned all of these three referents are candidates for the object of this example. More importantly, these three referents are also semantically compatible with the meaning of the verb, because they are all things that can be grabbed. As such, the addressee might be uncertain which object is intended. This uncertainty motivates the use of the preverbal NP *nanthi-warda thingkelet* ‘CLF:THING-now’, which avoids this potential uncertainty.

11. The line numbers in this and following examples in this paper indicate separate annotations in the source script.

MURRINHPATHA

- (8) *i nanthi-warda thingkelet mangan-art*
 CONJ CLF:THING-NOW cloth 3SG.SBJ.USE.HANDS.NFUT-grab
 ‘And now (he) grabs a **cloth**.’ [CM-DB_2-1; Video narrative]

The second situation, where the addressee has no expectations at all about the intended referent, is illustrated in (9) and (10). As mentioned, a typical context of this situation is in answering a *wh*-question. One of the main (though by no means only) pragmatic functions of *wh*-questions is to request information about unknown referents. In Murrinhpatha, the response to this uncertainty is to use a preverbal NP, as illustrated by the preverbal pronoun *ngay* ‘1SG’ in (9) (note that this is a verb where inflection does not distinguish 1SG from 3SG subject), and the preverbal NP *kangkurl ngay* ‘my father’ in (10) (which frames a question/answer pair within a reported speech passage).

MURRINHPATHA

- (9) 1. *nangkal mam me-patha-dha?*
 who 3SG.SBJ.SAY.NFUT 3SG.SBJ.USE.DO.PST-make-PST
 ‘Who did (he/she) say made it (the damper)?’
 2. *ngay me-patha-dha*
 1SG 1/3SG.SBJ.DO.NFUT-make-PST
 ‘I made it.’ [LAMP_20140422_WF_01_V1; Conversation]
- (10) 1. “*nangkal mam*”
 who 3SG.SBJ.SAY.NFUT
 ‘Who said that?’ (asked the father)
 2. “*kangkurl ngay mam-nga*”
 FaFa 1SG 3SG.SBJ.SAY.NFUT-1SG.OBL
 ‘My **grandfather** said it (to me).’ [CS1-001-B-sm-06; Personal narrative]

Finally, referential unexpectedness arises when the candidate expected by the addressee is **not** the intended referent. Murrinhpatha speakers appear to anticipate this, and to avoid potential misunderstanding, a preverbal NP is used to pinpoint the correct, intended referent. This point is illustrated in (11). In this example, the expected subject referent in (11.5) should be ‘lion’ for several reasons. The first is referent continuity: ‘lion’ is a continuous subject referent from (11.2). The second is that the action ‘looking around’ in (11.5) echoes the lion’s recent action in (11.2). However, Charlie Chaplin is in fact the intended subject referent in (11.5). As shown in this line, this unexpected subject referent is expressed by a preverbal NP, in this case, the masculine personal pronoun *nukunu*. This pronoun implies a human referent, and is perhaps more felicitously translated into English as a lexical noun rather than a pronoun.

MURRINHPATHA

- (11) 1. *ku were ngala=yu*
 CLF:ANIM pawed.animal big=CLS
 ‘The lion...’
2. *i manangka be-ngkardu=ya*
 CONJ not 3SG.SBJ.AFFECT.IRR-see=INTJ
 ‘But (it) didn’t see him.’
3. *wurdam-wurl-de=ya*
 3SG.SBJ.SHOVE.RR.NFUT-return-ITER=INTJ
 ‘(It) goes back.’
4. *i kanam-wit=ya*
 CONJ 3SG.SBJ.BE.NFUT-lie.down=INTJ
 ‘And (it) lies down.’
5. *nukunu=ka pirri-wirbirl-dha*
 3SG.M=KA 3SG.SBJ.STAND.PST-turn
 ‘The man was looking around.’ [2015-07-01_C-M_2-11; Video narrative]

We have shown thus far that preverbal NPs are used in a variety of situations, all of which involve unexpected referents. This may either involve situations of uncertainty, with multiple candidate referents and no clear way to select between them, or situations where the addressee has an expectation but it is not correct. In Section 5 we will describe situations in which addressees’ expectations are in line with the speaker’s intended referent.

5. When referents match addressees’ expectations

Expected referents are generally not expressed by a preverbal NP in Murrinhpatha. As stated in Section 1, this leads to two possibilities: either NP omission or a postverbal NP. We describe each of these possibilities below.

5.1 NP omission and uniquely expected referents

When the speaker judges that the intended referent is also the referent uniquely expected by the addressee, they usually omit any NP for that referent. This situation is more common than the other two referential strategies (preverbal NPs and postverbal NPs), which results in the prevalence of NP omission in Murrinhpatha, like many other Australian languages. An example of an omitted uniquely expected referent is shown in (12). Here, the referent ‘my father’ is omitted in (12.2), immediately after its overt expression in (12.1). Since the action involved in both lines are the same (i.e., ‘laugh’), the speaker believes that the addressee can

identify the intended referent in (12.2) due to the repetition of action and the lack of other candidates.

MURRINHPATHA

- (12) 1. *yelngay=ka dim-nga-kampa*
 my.father=KA 3SG.SBJ.SIT.NFUT-1SG.OBL-laugh
 ‘My father laughed (at me),’
 2. *dim-kampa*
 3SG.SBJ.SIT.NFUT-laugh
 ‘(He) laughed.’ [CS1-001-B-sm-06; Personal narrative]

Likewise, in (13) the person who holds the gun (13.2) and the participants of the shooting event (13.3) are uniquely expected. The candidate referents in (13.2) and (13.3) are ‘my father’ or ‘bush turkey’. The addressee’s real-world knowledge tells them that it is more likely that the father had a gun and shot the bush turkey, instead of the other way around (note that this is not a fairy tale). Since the referents in (13.2) and (13.3) are uniquely expected, they do not need to be expressed by NPs.

MURRINHPATHA

- (13) 1. *ku murntuykuy yelngay bam-ngkardu*
 CLF:ANIM bush.turkey my.father 3SG.SBJ.AFFECT.NFUT-see
 ‘My father saw a bush turkey.’
 2. *thungku kan*
 CLF:FIRE gun
 ‘(He had) a gun.’
 3. *bangam-rde*
 3SG.SBJ.AFFECT.NFUT¹²-hit
 ‘(He) shot (it).’ [1974_CS1-4A_02; Personal narrative]

In Section 4 we illustrated the tendency to use a preverbal NP to indicate the intended referent amongst multiple candidates. The discussion of (12) and (13) above, by contrast, shows that if the intended referent is uniquely expected, NP omission tends to be observed. We will now show that this does not require same-subject continuity. Consider (14). The subject in (14.3), ‘he’, is omitted. But this subject is not continuous from (14.2), where there is a subjectless verb construction, and ‘he’ is an unexpressed object (Walsh, 1987). What permits subject omission in (14.3) is not subject continuity, but the semantics of the verb: *wurdam-wurl* ‘goes back’ typically takes an animate subject, for which ‘he’ is the only likely candidate. Thus, expectedness leads to NP omission.

12. *Bam* and *bangam* are glossed the same because /ba/ AFFECT has two inflectional patterns (Mansfield 2019: 114).

MURRINHPATHA

- (14) 1. *a kura patha kura patha-nu=yu*
 oh CLF:WATER good CLF:WATER good-DAT=CLS
 ‘Oh drinking water, (he’s going) for drinking water.’
2. *dem-ralal kura patha*
 3SG.SBJ.PIERCE.RR.NFUT-thirsty CLF:WATER good
 ‘(He’s) thirsty for water.’ (lit. ‘thirsts (him) water.’)
3. *puy wurdam-wurl*
 keep.going 3SG.SBJ.IMPEL.RR.NFUT-return
 ‘(He) goes back.’ [2011-07-21_KM-AB_2-1; Video narrative]

Example (15) shows an example involving an inanimate referent, which, like ‘he’ in (14), is considered expected because of verbal semantics. Here, the object ‘water’ is expected because it is the only referent in the narrative which fulfils the selectional restriction of the verb *dam-pinhipak* ‘pour out’. As shown, ‘water’ is not referred to by an NP in (15). Note also that the NP omission of ‘water’ is not due to its continuity in the narrative: it has not been involved for 10 lines prior to the clause in (15).

MURRINHPATHA

- (15) *dam-pinhipak*
 3SG.SBJ.PIERCE.NFUT-pour.out
 ‘(He) pours out (the water).’ [2011-07-21_KM-AB_2-1; Video narrative]

Finally, referents can be expected due to event structure, which usually leads to NP omission in Murrinhpatha narratives. This is similar to the English pronominal interpretation examples mentioned in (5a) and (5b). This point is illustrated in (16). In this example, there are two protagonists, ‘he’ and ‘she’, both of which are syntactically omitted throughout the fragment. Example (16.1) describes an event where someone demands an action from someone else. ‘He’ can be assumed to be the person who makes the demand based on preceding context (not shown here), and therefore by deduction, ‘she’ must be the person who is demanded to perform the action, i.e., to open the door. This event structure renders ‘she’ the uniquely expected referent in (16.3), where the event of failing to open the door is described, and the subject ‘she’ is omitted. This is despite the fact that (16.3) involves a switch of subject from ‘he’ to ‘she’.

MURRINHPATHA

- (16) 1. “*na-nga-dhar!*”
 2SG.SBJ.USE.HANDS.FUT-1SG.OBL-open
 “‘Open (it) for me!’”
2. *mam-kanam*
 3SG.SBJ.SAY.NFUT-BE.IMPF
 ‘(He)’s saying.’
3. *wurda wurdam-bay*
 no 3SG.SBJ.SHOVE.RR.NFUT-fail
 ‘But no, (she) fails (to open the door).’

[2015-07-01_C-M_2-11; Video narrative]

5.2 Postverbal NPs and reinforcement of expected referents

The functions of postverbal NPs are perhaps the most difficult to characterise in Murrinhpatha. Ma (2024) discusses several functions performed by postverbal NPs in Murrinhpatha narratives. Here, we focus on one particular function: to reinforce expected referents. These referents are believed by the speaker to be expected by the addressee, but they are **not uniquely** expected. This is often because there are other reasonable candidates. This idea is exemplified in (17). Example (17.1) has an instrument, ‘knife’, which is manipulated by the protagonist of the narrative. This narrative also includes another inanimate referent, namely ‘stick’, which is the object of the event of chopping in (17.2) to (17.5). ‘Stick’ is not expressed by an NP in these lines, since it is the only choppable referent in this narrative, and therefore is the uniquely expected object referent in these lines (Section 5.1). Then in (17.6) the protagonist puts something down, but what? ‘Knife’ is the expected candidate, because it has been expressed as an NP some lines earlier, and is continuously manipulated as an instrument ever since. But ‘knife’ is not the **unique** candidate. ‘Stick’, which has also been involved in preceding events and is also put-down-able, is another possible candidate. Therefore, the addressee faces some uncertainty as to whether ‘knife’ or ‘stick’ is the object in (17.6). The speaker mitigates this uncertainty by using a postverbal NP referring to ‘knife’ as a way to reinforce the expected referent as the intended referent.

A very similar example is shown in (18), where again a postverbal NP is used to refer to the object of the verb *ban-pak* ‘put down’. Like (17), the intended object, ‘food’, is an expected referent, since it is mentioned in the previous line. Yet, the verb *ban-pak* can also apply to any inanimate physical object in the scene, such as ‘firewood’ that is mentioned a few lines earlier (not shown). The postverbal NP in (18.2) is used to reinforce that ‘food’, the expected referent, is indeed the intended referent.

MURRINHPATHA

- (17) 1. *thu naif-warda mangan-art*
 CLF:WEAPON knife-now 3SG.SBJ.USE.HANDS.NFUT-grab
 ‘Now (he) picks up a knife.’
2. *bangam-rtal*
 3SG.SBJ.AFFECT.NFUT-chop
 ‘(He) chops (a stick).’
3. *ini bangam-rtal*
 ANAPH 3SG.SBJ.AFFECT.NFUT-chop
 ‘He chops (it).’
4. *ini bangam-rtal*
 ANAPH 3SG.SBJ.AFFECT.NFUT-chop
 ‘He chops (it).’
5. *ini bangam-rtal*
 ANAPH 3SG.SBJ.AFFECT.NFUT-chop
 ‘He chops (it).’
6. *ban-pak thu naif ngala pangu=yu*
 3SG.SBJ.PUT.NFUT-put.down CLF:WEAPON knife big DIST=CLS
 ‘(He) puts **the big knife** down over there.’

[2011_10-10_LD-RD_3-1; Video narrative]

Example (19) presents a slightly different situation. In this example, verbal semantics already provides explicit, but somewhat ambiguous, information about the object. The verb *mem-ngka-purl* in (19.2) contains an incorporated body-part morpheme *-ngka-*. This morpheme can denote either the eyes specifically, or the face more generally. The protagonist in this narrative has recently woken up, and by world knowledge the speaker might believe that the addressee would expect the protagonist washes his face in (19.2). Yet, this expectation is not very strong, since ‘eyes’ is also a possible candidate. As shown in the example, the intended referent ‘face’ is reinforced by the postverbal NP, ‘feis’. This NP has some interesting parallels with ‘afterthought’ constructions, which are sometimes said to provide further clarification or elaboration on the information in the core clause (López 2014: 414; see also Baker & Mushin 2008:10–11 for references in the Australian context). However, afterthoughts are sometimes considered prosodically detached from the clause (e.g., Simard 2010), whereas postverbal NPs discussed in this article belong to the same intonational unit as the verb. The postverbal NP illustrated here is part of a wider pattern of mitigating potential uncertainty, in this case involving progression from ambiguous reference to something more specific.

MURRINHPATHA

- (18) 1. *bere mam-nge* “*puy=ya puy=ya*”
 so 3SG.SBJ.SAY.NFUT-3SG.F.OBL keep.going=INTJ keep.going=INTJ
mam-nge... “*mi-gathu-nu*”
 3SG.SBJ.SAY.NFUT-3SG.F.OBL CLF:VEG-hither-DAT
ngi-mpa-mardamarda”
 1SG.SBJ.SIT.FUT-2SG.OBL-wait.for
 ‘So (he) says (to her), “come on... (I)’m waiting (for you) to give (me) food”’
2. *ini ban-pakwak-dim* *mi*
 ANAPH 3SG.SBJ.PUT.NFUT-put.down-SIT.IPFV CLF:VEG
 ‘And (she) is putting **the food** down.’ [CM-DB_3-1; Video narrative]
- (19) 1. *dem-pirnturt*
 3SG.SBJ.PIERCE.RR.NFUT-arise
 ‘(He) gets up.’
 [12 lines not shown]
2. *mem-ngka-purl* *feis*
 3SG.SBJ.USE.HANDS.RR.NFUT-eye/face-wash face
 ‘(He) washes his **face**.’ [2011-07-25_LP-GM_2-1; Video narrative]

Reinforcement of expected referents by a postverbal NP in our data typically occurs in topic chains. Dixon (1972: 71) describes topic chains in Dyirbal as the following:

A number of consecutive sentences in such a sequence have a common NP, with common referent, then they will form a topic chain: this entails each sentence being transformed into a form in which the common NP is a topic NP... This NP may only be stated once, at the beginning of the topic chain; optionally all or part of it may be repeated later in the chain.

The frequent NP omission of topics in topic chains can be naturally accounted for by their expectedness, as described in Section 5.1. However, successive NP omission may increase uncertainty of the referent, since it opens the possibility for other referents to be introduced. This is possible since in Murrinhpatha new referents may be introduced without an NP referring to them (Ma 2024: Section 4.5.2). To reinforce a topical referent after successive omissions, Murrinhpatha speakers sometimes use a postverbal NP, as exemplified by the postverbal pronoun *nukunu* ‘3SG.M’ in (20).

MURRINHPATHA

- (20) 1. *nukunu mam-ngkarr-kanam*
 3SG.M 3SG.SBJ.USE.HANDS.NFUT-be-dizzy-BE.IMPF
 ‘He’s dizzy.’
2. *kanam-wit-warda*
 3SG.SBJ.BE.NFUT-lie.down-now
 ‘(He) lies down now.’
3. *nukunu yuwu*
 3SG.M yes
 ‘Yes, him.’
4. *aa dem-nham da kangkarl pangu*
 oh 3SG.SBJ.PIERCE.RR.NFUT-fear CLF:PL/T above DIST
 ‘(He)’s scared up there’
5. *mam-ngkarr-dim*
 3SG.SBJ.USE.HANDS.NFUT-be.dizzy-SIT.IMPF
 ‘and dizzy.’
6. *mi-yerr-nu-warda na*
 3SG.SBJ.LOOK.IRR-peak-FUT-NOW TAG
 ‘(He) peaks down, right?’
7. *mim-yerr*
 3SG.SBJ.LOOK.NFUT-peak
 ‘(He) looks down.’
8. *mam “da kangkarl”*
 3SG.SBJ.SAY.NFUT CLF:PL/T above
 ‘and (he) thinks, “this is high up.”’
9. *wurdam-mardarlart-warda ne nukunu=yu*
 3SG.SBJ.IMPEL.RR.NFUT-tremble-now TAG 3SG.M=CLS
 ‘He’s shaking.’
10. *yuwu*
 yes
 ‘Yes.’
11. *Mr. Bean?*
 ‘Mr Bean?’
12. *murriny nukunu=yu*
 CLF:LANG 3SG.M=CLS
 ‘That’s his name.’

[CM-DB_2-3; Video narrative]

Example (20) shows a topic chain describing Mr. Bean's actions and feelings. In (20.1), the beginning of this topic chain, Mr. Bean is expressed by a preverbal pronoun *nukunu*.¹³ After this line, Mr. Bean is syntactically omitted in (20.2). Example (20.3) is a confirmation where the speaker confirmed that he was still talking about Mr. Bean. Then from (20.4) to (20.8) there are five successive clauses in which Mr. Bean is involved but syntactically omitted. Importantly, the postverbal pronoun *nukunu* occurs in (20.9), after these instances of NP omission. We suggest that the function of this postverbal NP is to reinforce the topical referent, Mr. Bean. Although there are no other overt candidates in this example, we suggest that successive NP omissions gradually raise uncertainty about whether any other candidates have been introduced. This is because communication always has some inherent potential for mishearing, misunderstanding etc., which may be small but has an incremental effect over multiple clauses. Postverbal NPs can be used to keep the addressee on track as to which referent is intended after successive NP omissions. Further evidence comes from (20.10) to (20.12), where the speaker confirmed that he was still talking about Mr. Bean.

Example (20) also suggests a limitation of the notion of accessibility in explaining constituent order and NP omission in syntactically flexible languages. The speaker would likely regard Mr. Bean as highly accessible to the addressee in this example. Recall that human continuous subjects are considered to have very high accessibility (see Section 2), therefore Mr. Bean should be highly accessible in (20.9). At this point, Mr. Bean has a referential distance of just one, which is calculated based on involvement, not morphosyntactic coding (Givón 1983b: 14). Mr. Bean is also the protagonist in (20) and in the entire narrative. If the addressee has understood the preceding clauses, then Mr. Bean should be 'easily retrieved from memory'. As such, accessibility alone should predict NP omission in (20.9). This example therefore does not support an accessibility analysis. On the other hand, as argued above, referential uncertainty does provide a plausible explanation for the linguistic expression of Mr. Bean in (20), and more generally why referents should be expressed by an NP after several clauses in which they are involved but syntactically omitted. Furthermore, referential uncertainty can also explain why in cases like (20) a postverbal NP is used as opposed to a preverbal NP: since preverbal NPs are associated with unexpected referents, a preverbal pronoun *nukunu* in (20.9) would suggest to the addressee that this clause is about some unexpected

13. Example (20.1) is an interesting example of preverbal expression, since Mr. Bean is also the subject of preceding clauses (not shown here). However, there is a long pause (8 seconds) between (20.1) and the previous clause (not shown here), after which the speaker may judge that the addressee expects a change of topic. The preverbal expression would then indicate that, counter to this expectation, the speaker is continuing to talk about Mr. Bean.

male referent, thus sowing confusion about the intended referents of the preceding clauses.

Example (21) again shows how a referent is reinforced by a postverbal NP after being syntactically omitted for several clauses. The referent 'he' is reinforced by the postverbal pronoun *nukunu* in (21.4) and (21.7). At this point in the narrative, 'he' is the only human referent, which makes it the expected referent. Each instance of postverbal *nukunu* in this example occurs after exactly three successive clauses in which the same referent is involved but syntactically omitted (the same pattern can in fact be observed also in Example (20)) Although there is obviously some variation in the number of clauses with NP omission that precede a postverbal reinforcement, these examples suggest that there may be a relatively consistent number of clauses with NP omission required to induce the postverbal reinforcement.

MURRINHPATHA

- (21) 1. *nanthi brick karrim*
 CLF:THING brick 3SG.SBJ.STAND.NFUT
 'There's a brick,'
2. *pana thungku thay ban-pak*
 REC.N CLF:FIRE wood 3SG.SBJ.PUT.NFUT-put.down
 '(He) puts the firewood there.'
3. *i naif ban-pak*
 CONJ knife 3SG.SBJ.PUT.NFUT-put.down
 'And (he) puts down the knife.'
4. *dam-dhakhthuk nukunu thungku thay*
 3SG.SBJ.PIERCE.NFUT-collect 3SG.M CLF:FIRE wood
 'He's collecting the firewood.'
5. *nhini kanam-kut*
 ANAPH 3SG.SBJ.BE.NFUT-collect
 '(He) collects it.'
6. *thungku thay murr-de*
 CLF:FIRE wood more-ITER
 'more firewood.'
7. *wurrini-dha nukunu*
 3SG.SBJ.GO.PST-PST 3SG.M
 'He walked off.' [2011-07-21_KM-AB_3-1; Video narrative]

In contrast (20) and (21), which involve relatively long topic chains, (22) shows that when a topic chain is short, a postverbal NP for reinforcement is not needed. In this example, (22.1) to (22.3) form a topic chain, with '3DUM.NSIB = two (non-sibling) men' being the topical referent, which is expressed by an NP *pernintha* in the first clause of the chain (22.1), and is syntactically omitted in

the final clause of the chain (22.2 and 22.3). In the following line (22.4), ‘everybody’ becomes the new topical referent. The short length of the topic chain may explain why ‘two (non-sibling) men’ is not expressed by a postverbal NP in (22.2). If topic-chain reinforcement is indeed the motivation for the examples of postverbal NPs above, then short topic chains do not provide the sequence of omission that would motivate a postverbal NP.

MURRINHPATHA

- (22) 1. *bere pernintha=ka kaykay-warda*
 so 3DU.M.NSIB=KA call.out-now
 ‘Then the two (men) called out.’
2. *pan-nintha-ret*
 3SG.SBJ.SLASH.NFUT-DU.M.NSIB-start
 ‘(They) started calling out.’
3. *kardu ngarra terert-nu warda*
 CLF:HUMAN LOC many-DAT now
 ‘to everybody.’
4. *kardu terert kardu ku-warra punni-dha*
 CLF:HUMAN many CLF:HUMAN CLF:ANIM-first 3PL.SBJ.USE.FEET.PST-PST
i mi-nu
 and CLF:VEG-DAT
 ‘Everybody was out hunting or collecting fruits.’
 [CS1-015B_02; Personal narrative]

6. Discussion

In Sections 4–5 we showed how Murrinhpatha speakers manage addressees’ expectations about intended referents by selecting from three syntactic possibilities, namely, (i) preverbal NPs, (ii) postverbal NPs and (iii) NP omission. We showed that speakers’ beliefs about addressee expectations, and in particular the alignment or misalignment of these expectations with the intended referents, can explain the distribution of these three syntactic possibilities in Murrinhpatha narratives. In fact, we propose that this sort of expectations management is the main guiding principle in Murrinhpatha clause structure. This is not to say that it is the *only* principle, and several other factors have been investigated (Ma 2024, Nordlinger et al. 2022). Our analysis adds to the previous body of literature which argues that constituent order and NP omission in syntactically flexible languages are largely driven by discourse-pragmatics (Austin 2001, Givón 1983c, Kiss 1981, Mithun 1992 and Payne 1987). But we also shed new light on the subject by drawing on recent pragmatic research on languages with more rigid syntax, where

interlocutors' beliefs about each other's beliefs also play a central role (Frank & Goodman 2012 and Franke & Jäger 2016). Our focus on addressee's expectations also provides a relatively unified approach, compared to the somewhat heterogeneous concept of newsworthiness.

In our analysis of topic chains (Section 5.2), we noted that the use of a postverbal NP in a topic chain presents a challenge to the accessibility account of syntax in syntactically flexible languages. To reiterate, a referent is said to be 'accessible' if it can be easily retrieved from memory, and referents are highly accessible if they have been continuously or recently involved in a discourse. But we found that in Murrinhpatha, continuously involved referents are sometimes expressed by an (postverbal) NP in long topic chains. We argue that this mitigates the uncertainty associated with multiple clauses where the referent is syntactically omitted. We propose that uncertainty is a more plausible explanation of this phenomenon than accessibility, because the series of clauses with omission have potential to increase uncertainty, but the accessibility of the referent should not change at all as long as the addressee is following the story. The subject referent in a topic chain such as 'he' in (20) should indeed be the most accessible referent in the chain.

Since we reviewed some pragmatic research on English pronouns above, it is worth considering how this does or doesn't line up with our findings on Murrinhpatha syntax. Murrinhpatha pronouns such as *nukunu* '3SG.M' should not be assumed to be functionally equivalent to English pronouns like *he*. As shown in Table 2, we might consider preverbal position in a Murrinhpatha clause to be roughly equivalent to lexical NPs (common nouns or proper names) in English. Both of these are used when the speaker does not assume that their intended referent is also the addressee's uniquely expected referent (Section 4) (cf. Tily & Piantadosi 2009). When a referent is uniquely expected, English speakers use a pronoun, which may not provide any information as such, but is required by English syntax. In this situation, Murrinhpatha speakers usually omit the referent syntactically, because this language does not require arguments to be expressed as NPs, though the verb must still be inflected for the appropriate person/number/gender categories. As for postverbal position in a Murrinhpatha clause, this is more difficult to equate with an English referential strategy – perhaps this is a variable equivalence, where English speakers might use either a noun/name, or a pronoun. The more rigid syntax of English may also imply that other non-syntactic strategies are preferred for expectation management, such as definite/indefinite articles, or prosodic prominence.

The discussion above suggests that there is some functional equivalence between Murrinhpatha pronominal inflection on verbs and English independent pronouns. At the same time, an important difference is that Murrinhpatha verbal inflections are also used when there is a coreferential NP (e.g. *nganki*

Table 2. Comparison between modes of argument expression in Murrinhpatha and English

Intended referent	Murrinhpatha	English
Not uniquely expected	Preverbal NP	Noun or proper name
Uniquely expected	Syntactic omission	Pronoun
Expected but with other possible candidates	Postverbal NP	? Noun, name / Pronoun

ngu-bamkardu ‘we 1PL-see.’), whereas in English it is usually a mutually exclusive choice between pronoun and noun/name, e.g. **Mary she went there* (where *Mary* and *she* refer to the same referent). Likewise, Murrinhpatha personal pronouns do not appear to be functionally similar to English personal pronouns: in English, a personal pronoun is used to fill a syntactic slot when the intended referent is the expected referent, whereas the evidence we have shown above for Murrinhpatha pronouns such as *nukunu* ‘3SG.M’ (such as Example (11)) suggests that they are more typically used when the intended referent is not uniquely expected. In this case, the masculine gender and implied humanness of *nukunu* is sufficient to distinguish the intended referent from other candidates, thereby reducing uncertainty.

We also mentioned in Section 3 that in English, referents which are the subject in consecutive clauses favour pronominal expression, compared to switched subjects which favour full NPs. However, we have not found any clear evidence for this in Murrinhpatha. In fact, we sometimes find the opposite pattern in this language: NP omission can be found in the context of switched subjects (e.g., Example (16)). It can therefore be said that in Murrinhpatha subject switches are not always signalled by a heavy referential option. That said, using pronouns to indicate subject switches is still possible in English, when preferred by event structure (e.g., Example (5)), so NP omission in Murrinhpatha may yet align with English pronouns on this point. Further research, including perhaps controlled experimental conditions, would be required to investigate the probabilistic structure of Murrinhpatha constituent order and NP omission, and thus give us a clearer picture of the pragmatic similarities and differences between languages with very different syntactic patterns.

7. Conclusion

In this article we have demonstrated a relationship between referential expectation management and syntax in Murrinhpatha. We showed that Murrinhpatha

speakers often utilise the language's syntactic flexibility, such as free constituent order and NP omission, to mitigate uncertainty by assisting addressees in keeping track of referents in discourse. In particular, we illustrated the functions of preverbal NPs, postverbal NPs and NP omission in Murrinhpatha narratives. Preverbal NPs are used to indicate unexpected referents. Postverbal NPs reinforce referents which are expected but not uniquely expected. Finally, NP omission occurs when the referent is uniquely expected. We have argued that expectedness and uncertainty accounts for narrative evidence better than an alternative account based on accessibility, while at the same time providing a more concrete psychological account than the existing literature on newsworthiness. Expectation and uncertainty also make connections between patterns of referential expression in languages as typologically different as English and Murrinhpatha, and we propose that this conceptual framework will provide a fruitful approach for further research on other syntactically flexible languages.

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List of abbreviations

1	first person	CLF:WATER	noun classifier, water
2	second person	CLF:WEAPON	noun classifier, weapons
3	third person	CLS	clause ending
ANAPH	anaphora	CONJ	conjunction
CLF:ANIM	noun classifier, animates	DAT	dative
CLF:FIRE	noun classifier, fire	DIST	distal
CLF:HUMAN	noun classifier, humans	DU	dual
CLF:LANG	noun classifier, language	FAFA	grandfather
CLF:PL/T	noun classifier, times and places	F	feminine
		FUT	future
CLF:THING	noun classifier, neuter/residue class	IMPF	imperfective
		INTJ	interjection
CLF:VEG	noun classifier, non-meat food	IRR	irrealis

ITER	iterative	PL	plural
LOC	locative	PROX	proximal
M	masculine	PST	past
NFUT	non-future	RECN	recognitional
NS	non-singular	RR	reflexive/reciprocal
NSIB	non-sibling	SBJ	subject
OBJ	object	SG	singular
OBL	oblique	TAG	confirmation request
PAUC	paucal		

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