Research Article

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Miscommunicated referent tracking in L2 English: a case-by-case analysis

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Abstract: For second language learners, reference remains a frequent source of error and pragmatic infelicity, even at relatively advanced levels. While most errors will be readily accommodated by the hearer, on some occasions they result in fundamental misunderstandings about what has been stated. This paper presents a case-by-case exploratory study of 22 such miscommunications and explores the discourse conditions under which such otherwise routine errors became problematic. Data are drawn from elicited narratives by 20 high-intermediate English language learners of various language backgrounds and their L1 English interlocutors. The discussion focuses on the two most prominent issues identified: the conditions under which pronoun errors triggered misunderstandings, and the contribution of pervasive over-explicitness to referent introductions being mistaken for referent tracking.

Keywords: anaphoric reference; miscommunication; pronouns; referent tracking; stimulated recall

1 Introduction

Much of what is conveyed in conversation is about specific individual people and objects, and so successful communication often hinges on recognising who is meant by expressions such as *Maria*, *the man* and *she*. This is the domain of *reference*, in which speakers use *referring expressions* to pick out individual entities and events within the real world. Complicating matters is that any one expression can refer to different items on different occasions, with pronouns in particular often shifting their reference from utterance to utterance. In both first and second language acquisition, this communicative challenge is amplified by the

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considerable linguistic complexity of noun phrase systems, which for many second language learners are a persistent locus of error.

In being both central to discourse yet error-prone, reference is likely to be a source of misunderstanding in L2 speech though there has been little research to explore the nature of its triggers or impact. Among the unresolved questions are whether certain errors or infelicities are especially problematic and under which discourse conditions. While intuitions serve some value, there is potentially far greater value in empirical investigation. The present study approaches this through a case-by-case analysis of a set of 22 referential miscommunications involving English language learners (ELLs) retelling a narrative to L1 English interlocutors. Cases were explored within a *mental models* framework for reference resolution (e.g. Garnham 2001) and focused on the extent to which the speakers' choice of linguistic form can account for the hearer's (mis)interpretation. In the following sections, the concept of reference is discussed and the theoretical framework presented, followed by a summary of previous research on L2 reference and a classification system for analysing referential miscommunication.

2 Speaker reference

While reference may be conceived in a variety of ways,[1] this study focuses on the pragmatic notion of *speaker reference* (hereafter simply *reference*), in which speakers use *referring expressions* (REs) to make clear for their addressees which specific individual they are speaking of (the *referent*) and do so with the intention that the addressee will then identify that individual (Bach 2008). For present purposes, three of these component concepts require elaboration. Firstly, a referent may be any discrete entity with a continuity of existence, including people, objects, locations, events and times (e.g. Du Bois 1980). Secondly, this conception of reference is fundamentally audience- and goal-directed. Thus, the speaker takes account of the addressee's mental world, aiming to select a RE that will efficiently and unambiguously point them to the intended individual (e.g. Garnham 2001). Thirdly, referring expressions are nearly always definite NPs, though not all definite NPs are used referentially.[2] The major categories of RE are names (e.g. *Maria*), pronouns (e.g. *he*) and definite determiner + noun (e.g. *the*

1 See, for example, Abbott (2010) for discussion of the distinction between semantic and pragmatic perspectives on reference.

2 Exclusions include generics ('The badger is a mustelid'), predicative complements (e.g. 'Adern is the Prime Minister'), pleonastics ('It's raining') and a range of other uses. For a comprehensive list, see Huddleston and Pullum (2002, pp. 399–410).

baker; *your son*) (e.g. Ariel 1990). Prototypically, speakers use full NPs to introduce (and re-introduce) referents into discourse and then reduced forms (e.g. pronouns or ø) for subsequent *referent tracking* (or *anaphoric reference*).

2.1 Communicating reference

A useful conceptual framework for the communication or reference is offered by Garnham's (2001) *mental models* account of anaphora resolution. Drawing on interdisciplinary perspectives, it readily accommodates insights from linguistics about the form and use of REs and locates this within a broader account of how hearers interpret references. Mental models are cognitive representations of the situations that a text/discourse is about, and are populated by the individuals referred to, their properties, and the relations holding between them. These details are incrementally updated as the discourse unfolds.

In the first instance, interpreting a NP involves recognising whether it is referential or non-referential (e.g. pleonastic, generic or non-specific). Though context and inference play important roles, hearers are guided by morphosyntactic marking, the most important of which may be for *definiteness*, which has a close but non-exclusive relationship with reference based on signalling referent identifiability (Lyons 1999).

Once a RE is recognised, its form encodes additional procedural information that may guide interpretation. This arises partly from the entities in a mental model being ranked in order of prominence, with this order subject to moment-by-moment updates (e.g. Schumacher 2018). Where the next utterance involves *focal continuity* (e.g. the same grammatical subject), it may be communicatively sufficient to merely signal this continuity, as can be achieved in many languages through zero anaphora and in English through overt pronouns. When a mental model contains a small number of referents, the mere signalling of *focal shift* through the use of a fuller form (e.g. *the* + N) may also be sufficient. This can be recognized in the following example, where '*he*' and '*the guy*' generate contrasting inferences:

John[1] had a job interview.
… He[1] asked lots of good questions.
… The guy[2] asked lots of good questions.

In both Accessibility Theory (Ariel 1990) and the Givenness Hierarchy (Gundel et al. 1993), such inferences are attributed to a partially grammaticised relationship holding between the ranked order of referents and a corresponding scale of either

NP types (Accessibility Theory) or pronouns and determiners (Givenness Hierarchy).[3]

Interactants also attend to the descriptive content encoded in REs, particularly when names are unavailable. For instance, gender-matched individuals might be readily distinguished through descriptions such as 'the elderly baker', 'the gentleman' and 'the boy'. Such semantic content also enables referents to be linked to other individuals, objects and events in ways relevant to reference resolution (e.g. 'the baker' being the likely referent of '[he] made croissants'). Though not explored in this study, the descriptive content encoded in a NP may also be accompanied by other semiotic resources such as gestures and facial expressions, through which a referent can be differentiated in ways such as pointing, mimicking, relating or representing.

Beyond the RE, interactants are guided by general processes of making sense of discourse (e.g. Kehler 2002). This can be illustrated in the contrasting pronoun interpretations below:

Jim[1] didn't invite Bill[2] to his wedding because …
1. … he[1] loathes him.
2. … he[2] swore at him.

Relevant here are the explanatory cause and effect relationship signalled by 'because' and the differing theta roles for Jim in the subordinate clause (as *experiencer* and *theme* respectively). Essentially, the explanation for 'not inviting Bill' is found in making sense in (1) of who loathed whom, and in (2) of who swore.

To briefly summarise, references are interpreted within mental models of discourse that include representations of the relevant individuals and what is predicated on them. Hearers attend to linguistic forms to identify referential REs, and then seek to match the RE with a cognitive representation of the intended referent, for which they likely draw on focal attention, semantic knowledge and world knowledge. This suggests that, alongside general disrupting factors (e.g. noises and inattention), referential miscommunications could plausibly arise from characteristics of learner language such as errors in determiner or pronoun use, infelicitous NPs (e.g. ambiguous descriptions), incorrect noun choice, and general coherence problems.

2.2 Reference and second language learning

As suggested above, when learning a second language, reference is a frequent locus of linguistic error and pragmatic infelicity. The fundamental challenge for

3 Scott's (2020) relevance theoretic account dispenses with both the NP and activation scales, arguing that each RE type encodes specific procedures for identifying the referent.

learners can be conceptualized as developing competence in three interconnected spheres: acquiring the linguistic forms of the RE system, developing sensitivity to their discourse functions (e.g. accessibility marking), and being able to use them appropriately in real time. Taking firstly the form of REs, a learner's L1 and L2 may contrast substantially in relation to available NP types and in how concepts such as definiteness and specificity are encoded (Balogh et al. 2020), with a residual influence of the L1 often persisting even at advanced proficiency levels (e.g. Nakahama 2011). For many ELLs, for instance, the article system remains stubbornly troublesome (e.g. Chan 2022), leading to potential ambiguities in distinguishing specific from non-specific referents and distinguishing initial from subsequent references. Similar difficulties are reported in the use of English pronouns (e.g. Kang 2004), demonstratives (e.g. Swierzbin 2010) and relative clauses (Izumi 2003).

Secondly, there may be functional differences in how equivalent NP types in a learner's L1 and L2 map onto particular degrees of accessibility or cognitive status. For instance, Gundel et al. (1993) propose that English *this* + N prototypically points to a more recently activated referent than its Russian equivalent. Similarly, ø (zero anaphora) has a highly restricted use in English compared to Spanish, and this difference has been causally associated with infelicities even at highly advanced levels (Quesada and Lozano 2020) and are known to occasionally trigger miscommunications (Padilla Cruz 2017, pp. 18–19).

Thirdly, speakers must contend with the pressured performance of deploying REs in real time in a manner responsive to their addressees. This involves simultaneously attending to syntactic, pragmatic and perhaps lexical features that have yet to be automatised, while also monitoring informational content and hearer reactions (e.g. Gullberg 2006). Thus maintaining clarity of reference often engenders a heavy cognitive processing load which is likely to result in lapses in performance. Specifically, given constraints on working memory and attentional capacity, speakers are likely to make RE errors or inapposite choices when their attention shifts between meaning, form, and fluency (see Skehan 2009).

Given this complexity, numerous studies have explored the characteristics of L2 reference production, focusing particularly on the contextual suitability of RE selections. Most notably, there is strong evidence across a number of language pairings for recurrent *over-explicitness*, in which overly informative REs are used, such as selecting names in place of pronouns (e.g. Gullberg 2006; Ryan 2015; Torregrossa et al. 2021). Systematic *under-explicitness* is particularly common at lower levels (e.g. Chini 2005) but also reported at higher levels during unpressured performances (e.g. Lumley 2013; Ryan 2020; Torregrossa et al. 2021).

Notwithstanding important cross-linguistic effects, the most recurrent findings have been generalised into broad developmental trajectories. Chini (2005), drawing on key works such as Klein and Perdue (1992), identifies development from an early

'pragmatic and lexical' stage in which learners mainly alternate between bare nouns, names and ø, with ø reserved largely for referents maintained in topic position. Further NP types are then gradually acquired, including (if available) pronouns and markers of (in)definiteness. At an intermediate level, learners reach an '(over-)explicit lexical' stage, frequently selecting full NPs in place of pronouns or ø. Such over-explicitness has been attested in a wide range of L1–L2 pairings (e.g. Chini 2005; Lozano 2018; Ryan 2015) and "leads to noncohesive speech that is difficult to understand" due to blurring of "the distinction between new and old information" (Gullberg 2006, p. 166).[4] At Chini's (2005) advanced 'syntactic' stage, learners approach more native-like performance after acquiring command of a wider range of grammatical resources for maintaining and shifting referent focus, such as passive voice, clefting and fronting.

2.3 Reference and L2 miscommunication

As the previous section suggests, there are multiple ways in which a learner's references may be less than optimal, either through linguistic error, pragmatic infelicity, or lacunae in lexical and grammatical resources. Each of these is a well-established general trigger of miscommunication (e.g. Padilla Cruz 2017), and is known to specifically inhibit the communication of reference (e.g. Pietikäinen 2018). The risks seem self-evident for under-explicitness (e.g. vagueness and ambiguity) and for some covert errors that generate a conflicting yet contextually viable meaning, as can occur with some article errors. Perhaps less evident is that over-explicitness can create unintended implicatures of non-co-referentiality (Levinson 2000), as has been noted in L1–L1 communication (Goodman 1986). This can be illustrated through modification of an example presented above:

> The man[1] who lives next door had a job interview.
> … The man[1] asked lots of good questions.
> … He[1] asked lots of good questions.

Here, it is the over-explicit form that is ambiguous despite its alternative (non-coreferential) reading requiring a bridging inference.

Given the importance and challenge of reference, there may be considerable value in exploring the causes and extent to which features of L2 reference tend to trigger miscommunication. Findings may for instance usefully inform pedagogy and provide insight into discourse trouble-spots.

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4 This contrasts with explicitness in various other domains within English lingua franca communication, where redundant words or information may enhance clarity and prevent miscommunication (Kaur 2017; Mauranen 2012).

2.4 Analysing referential miscommunication

The definition of reference adopted in this study specifies precisely what counts as communicative success: the hearer accurately identifies the individual (person, entity, place etc.) that the speaker means (Bach, p. 20). For present purposes, this entails two types of non-successful outcome: (a) *misidentification*, in which the hearer identifies the wrong individual, and (b) *non-identification*, in which the hearer finds the reference too ambiguous to resolve. To these may be added an additional category: (c) *strained identification*, in which the reference is ultimately successful but results in 'undue' processing difficulty. The specification of 'undue' excludes cases in which speakers may themselves treat reference resolution as potentially troublesome and requiring negotiation, as prototypically signalled through use of a *try-marker*, where an RE is offered with rising intonation and followed by a pause that invites clarifying questions (Sacks and Schegloff 2007). Strained identification, therefore, is operationalized as involving either unheralded clarification requests or retrospective comments by the interlocutor of the type '*at first I thought she meant X*' or '*it took me a while to figure out he meant Y*' (as will be elaborated subsequently).

A distinction is often drawn between triggers of miscommunication that originate in the speaker (e.g. word choice), the hearer (e.g. inattention), the interaction between both, or within neither (e.g. structural ambiguities of the language or in features of the setting, such as noise) (Bazzanella and Damiano 1999). Since communication involves multiple linguistic and paralinguistic subsystems, it follows that breakdowns may be triggered by a single element or by a constellation of multiple elements. Greater detail is incorporated into Mustajoki's (2012) multidimensional model of interaction, which acknowledges the temporal nature and phases of speech production and interpretation, with risks at all phases. Central to the model are the 'mental worlds' of the interactants (including their relationship, linguistic abilities, cultural background, cognitive systems, context, and emotional/physiological state) and the process of speakers *monitoring* hearer reactions and adjusting their speech accordingly (*recipient design*), through which it is argued nearly all miscommunications can be avoided. In complementing this work, Padilla Cruz (2017) draws attention to further hearer-based cognitive factors that can lead to erroneous interpretations, including an incautious processing strategy and subsequent confirmation bias and weak vigilance towards revising interpretations. This complexity warrants in all miscommunication research a high degree of epistemic humility in attributing causes to specific factors (Roberts 1996) and further demands the presentation and analysis of extended data extracts in sufficient detail.

Worth briefly emphasizing is the naivety of presuming that miscommunications involving a learner will have been triggered by that learner. As

numerous studies show (e.g. Coupland et al. 1991; Stubbe 2010; Tzanne 2000), miscommunications very frequently occur among native speakers, while ELLs bring successful communicative strategies that often greatly mitigate the risk of breakdown in lingua franca communication (Mustajoki 2017; Pietikäinen 2018). Thus, while the present study does focus on references by language learners, the potential role of the L1 hearer is an ever-present possibility.

3 The present study

The study design involves a close case-by-case examination of miscommunicated referent tracking in narrative retellings by high-intermediate learners of English to L1 English-speaking interlocutors. The adoption of a case-by-case approach reflects the study's exploratory nature, in which the appropriate starting point is to consider each case individually and to make minimal assumptions about the triggers of any specific incidence of miscommunication. For simplicity, the focus is singular person references in retellings of a silent film. Research questions were posed about the impact of formal (RQ1) and pragmatic features (RQ2) of L2 reference alongside a general exploratory question relating to the research approach (R3):

RQ1: Which RE error types appear most communicatively problematic?

RQ2: To what extent are the pragmatic phenomena of over-explicitness and under-explicitness implicated in the miscommunications?

RQ3: What does a close case-by-case analysis suggest about contextual factors in referential miscommunication?

3.1 Participants

The participants in the study were 20 English language learners (ELLs) enrolled at [*university name*], each paired with an L1 English-speaking interlocutor[5] (L1). Participants were recruited through poster advertisements on campus (no credits provided).[6] The elicitation task involved ELLs retelling a narrative to their

5 All but one were mother-tongue speakers of English, the exception being a Thai-born native-like bilingual (NZ citizen). The retelling involving her was the shortest of all and produced no miscommunications.

6 All participants provided informed consent. Pseudonyms are used for all participants.

interlocutor, who later participated in a stimulated recall interview. Each ELL self-identified as 'currently learning English' via immersion within a first-year undergraduate programme and had achieved an IELTS score of at least 6.0 (and no more than 7.0) in all bands within 12 months prior to enrolment, and thus for the purposes of this paper were considered high-intermediate level learners. Their ages ranged from approximately 18–24. Ten were native speakers of Chinese Mandarin, three of Korean, two of German, and one each of Japanese, Arabic, Tetum, Malay and Macedonian.[7] For linguistic comparison, 11 pairs of L1 undergraduate students also completed the task.

A different L1 hearer participated in each dyad and prior to the task, the interactants had little or no previous contact with each other. The age range of hearers was 18–50, and they were recruited from among university students and staff, including English teachers. Undoubtedly, there will be individual differences relevant to reference resolution which the study does not control, including differences in world knowledge (e.g. Sanford and Garrod 1998), working-memory (e.g. Almor et al. 1999), referential competence (Yule 1997), and use of interpretation strategies (Padilla Cruz 2017). This reinforces the principle that since each retelling unfolds differently, each warrants examination as an individual case.

3.2 Identifying miscommunications

Perhaps the most communicatively troublesome miscommunications are those that go unnoticed and unresolved by the interactants themselves. Identifying such cases poses a methodological challenge as they are usually unmarked by repair sequences (cf. studies of naturally-occurring data, e.g. Schegloff 1987). Miscommunications may leave subtle traces in discourse, such as indications of annoyance or discomfit (e.g. Hinnenkamp 2003), but to make coding decisions based on such traces may be highly speculative and require additional support, such as Stubbe's (2010) use of language informants and ethnographic data. Greater confidence in identifying miscommunications may be possible with various forms of elicited data but at varying costs to interactional authenticity, such as eye-tracking studies requiring obtrusive facial equipment and looking at a digital screen rather than a speaker (e.g. Craycraft et al. 2016). More naturalistic designs include following instructions to complete a physical task, such as building an object (Goodman 1986) or tracing a route on a map (Brown 1995), which also allow

7 Although this suggests interlanguage divergences, the present study is not concerned with describing or accounting for the participants' L2 referential systems, instead focusing solely on attested triggers of miscommunication.

identification of missteps in real-time. For present purposes, the key limitation of such tasks is the rather narrow range of referential phenomena elicited, being largely limited to referents that are physically present or otherwise visible and therefore highly accessible.

An alternative approach is the use of introspective self-reports, such as the present study's use of stimulated recall (SR) interviews, in which a stimulus is used to prompt the addressee to recall their cognition at the time of the event. When used in conjunction with a narrative retelling task, this enables a three-way comparison of the events being narrated, the speaker's articulation of them, and the hearer's interpretation. Key assumptions include the correspondence between the original events and the speaker's retelling, and the accuracy of hearer recall. As discussed in detail elsewhere (Gass and Mackey 2016; Ryan and Gass 2012) there are numerous pitfalls in using the method and delicate handling is required. Issues include the time between the event and recall, the power of the recall stimulus, formulation and timing of the recall questions, focusing on recollection rather than reconstruction, and managing participant anxiety.

To manage these issues, a SR protocol was followed, as outlined in the following subsection and presented in Appendix A of Supplementary material. Key features included the relative immediacy of the event to the SR (cf. the case studies presented in Gass and Mackey 2016, pp. 28–40), triangulation between the retellings and two-part SR process, and in particular the strict focus on declarable knowledge available for verbal reporting. Overall, while memory decay may mean some miscommunications go uncaptured, the risk of false memories being reported is minimized through adhering to the protocols.

3.3 Materials and procedures

Data were elicited through retellings of an extract from the silent Charlie Chaplin film *Modern Times*. The events of the film involve two main characters, Chaplin and a young woman, and a number of minor characters, principally the boss, workmate, scientist, witness, baker and policeman. In retelling who did what to whom, speakers typically present sequences of talk in which several characters are 'on-stage', and alternate between sequences of extended referent continuity and others of frequent referent shift (Perdue 1993, p. 105). The task is noted for eliciting rich narrative data and has been used widely in studies of learner reference (e.g. Jarvis 2002; Klein and Perdue 1992; Lumley 2013).

The basic procedures (adapted from Perdue 1993) were as follows (for full details, see Appendix A of Supplementary material):

– Each pair conducted the task on a different day.

- Participants in a dyad were introduced and the task explained.
- Both participants watched Part 1 of the film (approximately 4½ min).
- The L1 hearer then left the room to 'answer the phone', and the designated speaker watched Part 2 (approximately 7½ min).
- The hearer re-entered the room and the speaker recounted what happened in Part 2. This retelling was both video and audio recorded.
- The speaker left and the hearer participated in a stimulated recall interview.

The stimulated recall interview procedures were as follows:

- The purpose of the interview was explained, emphasising a focus on the hearer's understanding at the time of the retelling (rather than present reflections).
- The SR commenced within 3–5 min of the retelling and was audio-recorded.
- The researcher played the video, periodically pausing it and prompting the hearer to describe what their understanding had been at the time of the retelling. Prompts usually sought to discover the listener's general understanding (e.g. *What was your understanding at this point?*), though on occasion more targeted questions were posed (e.g. *Who stole the bread?*). Leading questions (such as *Did you understand who she meant? Were you confused?*) were avoided.
- To confirm miscommunications and uncover further examples, the hearer was then shown Part 2 of the film, and encouraged to pause it and make comments on anything they had misunderstood. Example interview extracts are presented in the Findings section (Extract 3) and Appendix B.1 and B.3 of Supplementary material (Extracts 1a & 4a).

3.4 Coding and analysis

After each retelling was fully transcribed, REs and their intended referents were identified. This proved fairly straightforward due to the high-intermediate level of the ELLs, the coherence of their retellings, and the researcher's familiarity with the narrative. Only singular references to persons were coded, with referent introductions distinguished from referent tracking. REs were further coded for NP type based on Ariel's (1990) hierarchically arranged inventory, including forms such as:

> full name > *the* + noun > last/first name > *that/this* + noun > *that/this* > stressed/unstressed pronoun > Ø

To these NP types were added the recurring categories *the* + name, indefinite NP, and bare noun, each of which is non-standard for referring to hearer-known individuals. During this stage linguistic NP errors were also highlighted and categorized (e.g. gender, determiner, syntax).

The SR interviews were also transcribed in full, with miscommunications identified and coded under the three categories outlined in the literature review: (a) misidentification, (b) non-identification, and (c) strained identification. Table 1 presents the coding categories, definitions and types of coding evidence drawn from either the retelling or the SR interview, as illustrated in relation to a pivotal scene in *Modern Times* in which the girl steals a loaf of bread.

In the next stage, relevant extracts from the retellings and SR interviews were matched on a spreadsheet. The initial coding resulted in 22 cases of ELL-NS miscommunication being identified. Chains of miscommunication, stemming from the same problematic RE, were counted as a single miscommunication. Each of these 22 cases were then transcribed in detail (following the system developed by Jefferson 2015), though for readability and due to space constraints much of this detail has been omitted from the findings (but is preserved in Appendix B of Supplementary material).

The goal of analysis was to arrive at the most economical and plausible account of each case utilizing the analytical tools of the mental models framework outlined in Section 1.1. These tools were operationalised as follows:

Table 1: Miscommunication coding categories.

Category	Definition	Evidence
Misidentification	Wrong individual identified	SR part 1: hearer voices a misunderstanding, e.g. 'Chaplin stole the bread'; and/or SR part 2: hearer self-identifies a misunderstanding, e.g. 'Oh I thought it was Chaplin'
Non-identification	Lack of certainty about who was intended	SR part 1 & 2: hearer expresses uncertainty, e.g. 'I didn't know who she meant'
Strained identification	Clarification request	Retelling: hearer-initiated request for clarification, e.g. 'Who stole it?' or 'The girl?'
	Undue processing strain[a]	SR part 1 & 2: hearer expresses difficulty in arriving at a correct understanding, e.g. 'At first I thought she meant Chaplin but realised it was the girl' or 'I didn't understand at first'
Successful communication	Intended individual is identified	SR part 1 & 2: hearer expresses evidence of understanding, and/or no evidence of misunderstanding

[a]Contrasts with 'forecasted processing strain' in which the speaker foreshadows the possibility of difficulty, prototypically through use of a *try-marker* (Sacks and Schegloff 2007).

- Available referents: The hearer's mental model contains characters from the story (the intended referent and competing characters).
  - Others may be added through referent introductions (definite NPs for hearer-known or inferable characters; indefinite NPs for hearer-new).
- Accessibility/focus: At each moment, these characters have varying degrees of accessibility or attentional focus (e.g. a character just mentioned will have high accessibility).
- Accessibility marking: the form of NPs encodes processing instructions for referent recoverability (e.g. 'she' likely referring to an individual currently in focus).
- Descriptivity: Each referent has specific characteristics which are known to the interactants and which may be encoded in the RE (e.g. gender, age, role; 'the girl' encodes 'female' and 'young').
- Coherence: Mental models are geared for coherence. Inferences are derived from knowledge of the world, the characteristics of referents and the activities they engage in (e.g. 'the baker' likely to be 'the man with the bread').

Further concepts were to be appealed to only where these analytic tools proved insufficient for a particular case. As will be discussed, in some cases, multiple factors appeared to contribute in non-trivial ways, and in some cases the trigger appeared to be indirect (i.e. features arising earlier in the retelling).

4 Findings

4.1 Overview of the retellings

Table 2 presents a basic linguistic overview of the 20 retellings. Each act of reference is recorded in the table as one NP, represented by the fuller form where references were repaired or for NPs in apposition. For instance, the utterance '*he – the Charlie Chaplin*' was counted as '*the* + name'. In total, there were 1,085 acts of reference, averaging approximately 54 references per retelling (Median = 52). However, as Figure 1 illustrates, there was substantial variation between the retellings, with one outlier containing 51% more references than any other, and two being more than 40% less.

In total there were 22 miscommunications identified across 11 retellings.[8] Five retellings had one miscommunication each, two had two cases each, three had three cases, and one involved four miscommunications. While some participants

8 Six miscommunications also occurred in the parallel set of L1–L1 interactions. These were rather different in nature to the ELL-NS miscommunications, mostly involving under-explicitness and reported speech; due to space constraints, these are put aside here.

Table 2: Noun phrases in referent tracking.

	N	%
Ø	93	8.6%
Pronoun	463	42.7%
This/That + NP	20	1.8%
Name	127	11.7%
Short description	278	25.6%
Long description	20	1.8%
Full name	32	2.9%
Non-conventional	52	4.8%
Total	1,085	100.0%

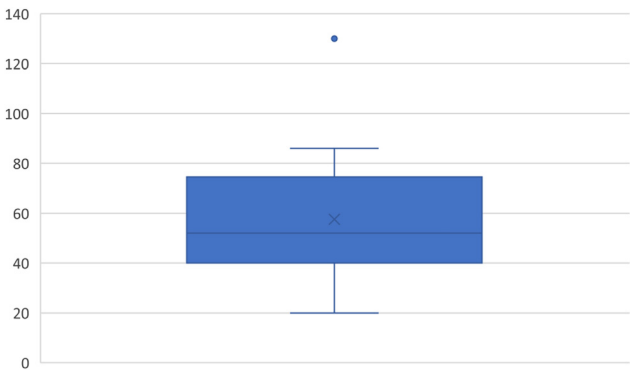

Figure 1: References per retelling.

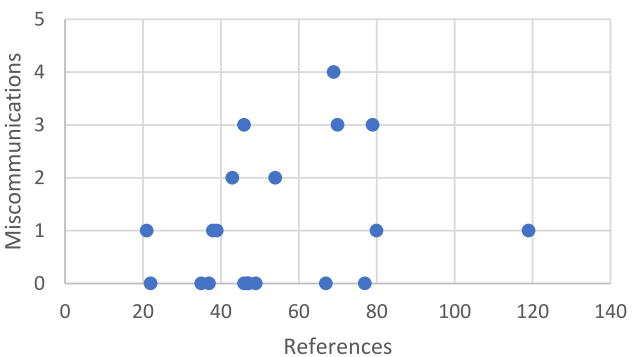

Figure 2: Number of references and number of referential miscommunications.

may simply have been 'better' communicators than others, it is also relevant that some attempted a more ambitious, richer retelling with increased scope for references to go awry. One obvious measure of referential complexity is the total number of acts of reference in a retelling, since more cases implies more opportunities, as Figure 2 indeed suggests.

A further measure of complexity is the number of individuals referred to in a retelling, and this was also associated with increased miscommunication. As displayed in Figure 3, the nine retellings involving seven or fewer characters accounted for just four miscommunications, while those with eight or more characters accounted for 18 of the 22. Just one miscommunication occurred in the five retellings with six or fewer characters. This is consistent with Arnold and Griffen's (2007) finding that the greater the number of referents, the greater the cognitive demands on both speaker and listener.

4.2 Overview of the miscommunication triggers

In nearly all cases it was possible to reasonably account for how miscommunications were triggered within the mental models framework. That is, nearly all cases could be suitably explicated with reference to matters of coherence, errors in morphosyntactic marking, the descriptive content of REs, focal attention and its association with RE selection. An overview is presented in Figure 4.

In the following sections, the focus will be on pronoun errors (Section 4.3.1) and failed introductions (Section 4.3.2), which together represent almost half the cases (9/22) while also being the two most uniform categories. Before turning to these, the other patterns will be briefly described alongside initial observations in relation to RQs 1 and 2.

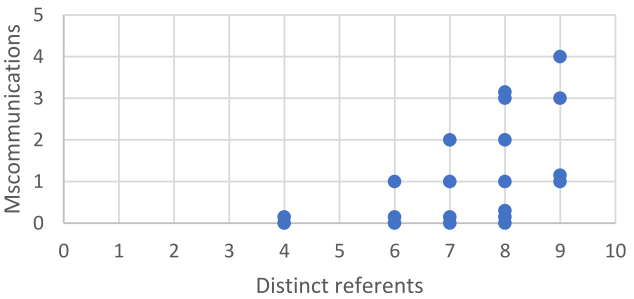

Figure 3: Number of referents and miscommunications.

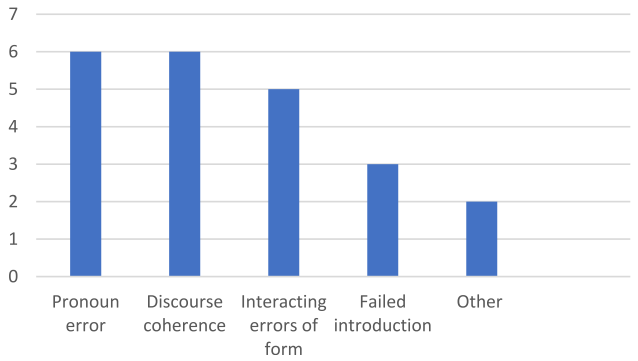

Figure 4: Triggers of miscommunication.

Firstly, in total, six otherwise rather heterogeneous cases clustered within a general theme of problems relating to discourse coherence, where the addressee reported that a longer sequence of talk was too unclear to determine quite what was happening and who was involved. In these cases, there was no obvious or compelling connection to problems being triggered by a particular RE, but rather to a general lack of narrative coherence. For instance, when queried about a scene, one hearer explained:

Extract 1: Stimulated recall interview with Madeleine

M .hhh and I wasn't quite sure who did the hitting
(0.4)

R yup

M (0.5) uhm (1.1) and I could've assumed it was Chapman but at this point
(0.5) the story started getting a little bit (0.7) muddly because
(0.5) they all fell ↓down,
they were all running ↓awa::y↑,
they're all down they're all up I don't know

In other cases hearers used terms such as 'hazy' and 'puzzled' to describe their understanding and account for why they had not assigned reference to particular REs. Thus, non-coherent discourse was associated with non-identification rather than misidentification. Individual cases varied greatly, but each appeared to result from the interaction of multiple factors over successive utterances, including grammatical errors, word choice, unclear sequencing and/or unclear description of events (as similarly reported by Matsumoto 2015). The overall effect was a weakening of the addressee's confidence in understanding enough of the narrative

to assign reference to particular REs, as predicted by coherence models of reference resolution (e.g. Kehler 2002).

Another heterogenous group were five cases centering not on the choice of RE, but on the interaction of two or problems of mispronunciation, lexical-descriptive ambiguity, and morphosyntactic error. Individually, such errors were abundant elsewhere without proving disruptive, but in these cases their interaction appeared to generate an unintended meaning. For instance, in referring to Charlie, one speaker used 'the Charl', containing both an incorrect use of *the* + name and a mispronunciation of *Charlie*. The addressee interpreted this as 'the child' and assumed the speaker was introducing a new character into the discourse. While problematic in combination, these errors would have been trivial in isolation.

Two further cases were categorized as 'Other'. One appeared to be triggered by a momentary inconsistency in referential strategy when a speaker who routinely (over-)used Ø for maintenance in subject position then used a pronoun for this function. The hearer interpreted this as indicating attentional shift to another character. The second stemmed largely from a lack of lexical differentiation in describing two characters, both of whom were consistently referred to as 'the [other] woman' and occurred when one of these characters was reintroduced.

Some preliminary observations can now be noted in relation to RQs 1 and 2. Firstly, by far the most problematic NP errors involved pronoun errors (e.g. *he* for *she*), with other errors tending to become problematic only in combination. Secondly, and perhaps surprisingly, there was very little evidence of over- and under-explicitness directly triggering miscommunications though this belies a more subtle and indirect effect to be discussed in Section 4.4.

4.3 Pronoun errors

Pronoun errors (e.g. *he* for a female character) were the most clearly distinguishable and uniform set of triggers. In total, there were 26 uncorrected pronoun errors across the retellings (5.6% of the 463 pronouns), of which at least 11 were successfully resolved by the hearer[9] and at least six resulted in miscommunication. There are also tentative indications that perhaps another four contributed to further instances of communicative strain though the impact of the pronoun error is difficult to untangle from other factors and so will not be examined here.

Since only some pronoun errors triggered miscommunication, this raises questions of the conditions under which they become disruptive. In what follows, analysis is presented firstly of successful and then of unsuccessful interpretations.

9 Five further cases were not addressed in interviewee comments but are presumed successful.

In the extracts, pronoun errors are marked in **bold** font. As will become clear, in nearly all cases the error alone appeared a sufficient trigger, which appears not to be true of any other NP error type in the cases examined (e.g. 'the Charl', as discussed).

4.3.1 Pronoun errors successfully resolved

The successful interpretation of erroneous pronouns (e.g. *he* for a female) is of some theoretical interest in iteself: unwittingly, the speaker produces an utterance whose semantic content (e.g. *He [not she] stole the bread*) may be diametrically opposed to their communicative intention (*She [not he] stole the bread*). For the hearer to recognise this, they may have to select one reading over another, and the question is on what basis they do so.

As will be illustrated, successful pronoun errors co-occurred with a combination of the following factors: (1) the intended referent having high-accessibility (i.e. pronoun use being pragmatically appropriate); (2) local absence of other referents matching the pronoun gender; (3) discourse coherence promoting the intended interpretation, and (4) syntactic constraints on anaphor-antecedent relations. Discourse coherence factors are involved when one individual is recognisably the most likely agent/benefactor/recipient of an action, either based on an attribute (e.g. 'the *hungry* girl' most plausibly being 'the *bread thief*') or a connection to previous events (e.g. 'the girl who *stole* the bananas' plausibly being 'the bread *thief*').

Extract 2 illustrates the first three factors in combination, with Whitney successfully interpreting '***he*** stole' as '*the girl* stole' despite the plausibility of Chaplin being the thief (i.e. stealing bread *for* her). Specifically, (1) the girl is highly accessible, being maintained in topic position from the previous clause, (2) Chaplin is the only other accessible referent (following an episode boundary), and (3) a coherence-related lexical relation holds between *hungry* and *steal bread* (a very similar case is presented as Extract 2a, Appendix B.3 of Supplementary material).

Extract 2: Tian (Mandarin L1) & Whitney

T after this there was another story
ahh at it also is Chaplin,
and Chaplin found a girl,
in the street,
W yep
T in the st- the girl was:: was hungry,
W yeh=

→T =and then **he** stole: steal stealen ahh stoled,
stole a bread, a piece of bread,
W mhm
T and then **he** run – uh s- she runned .hh
she run and then:: Ø hit Chaplin,

Illustrating the use of the SR, evidence of Whitney's successful interpretation is presented in Extract 3:

Extract 3: Stimulated recall interview with Whitney

1 R: okay I'll just pause there what was your understanding
2 of that (1.4) s- [sequence there?
3 W: [the the girl steals some bread,
4 in the bread store,
5 (1.9)
6 and (0.9) so (0.5)
7 I think that the girl is running away and colliding with
(0.3) Chaplin,
8 (0.4) that – he doesn't tell it quite that way,
9 tsk (0.8)
10 R: okay,
11 W: yeh

Whitney's response (line 3) is not only immediate but partially overlaps the prompt (lines 1–2)[10] and there is no suggestion that she arrived at her interpretation with any difficulty or revision. A more complex sequence of events is found in Extract 4, emphasising the crucial role of accessibility (Factor 1) and illustrating the operation of binding constraints (Factor 4):

Extract 4: Lian (Mandarin L1) & Molly

L the policeman take Charlie,
then ah the second police man take the wo- ah .
err t- ah ask woman to go into the car,
.hhh and
so Charlie and the woman met on that car again,
mm err and the woman,
think um:: she:: think – thought about something
and cried,
so Charlie gives he- her gives her: .hh his hankerchief?,

10 This contrasts with much of the rest of the extract, where Whitney uses extended pauses and at times slows her speech when describing other events.

then the woman um decide to run away,
ah and Charlie::: helped **him**,
and ah they
they:: pushed ah ah policeman,

In interpreting 'Charlie helped **him**', four characters were co-present: Charlie, the girl, and two policemen. Binding constraints dissuade a co-referential reading of Charlie 'helping himself' ('himself vs. him' being a less likely error than 'him vs. her'), thereby promoting two options: Charlie helped the girl or Charlie helped one of the policemen. Conventions of the film genre notwithstanding, a purely coherence-based process may be insufficient to rule out the policemen (i.e. Charlie helping the policeman prevent the girl escaping), particularly given that this speaker made just one uncorrected and one corrected error among 53 uses of pronouns. However, Molly reported no strain or delay in her interpretation, suggesting that she sensed compelling grounds to override Lian's pronoun choice. These grounds, it seems, are the girl being the most accessible referent. She is the topic of the immediately preceding clause and has been maintained in focus for seven consecutive clauses, while the policemen were last mentioned six and seven clauses earlier.

As exemplified here, and consistent with Scott's (2020) procedural account of RE interpretation, it seems that hearers paid more heed to the pragmatic scope of pronoun use (i.e. accessibility) than to marking for gender. That is, on hearing 'he' in the absence of a highly accessible male character, two procedural routes were possible: (1) find a less accessible male referent, or (2) ignore the pronoun gender. In all cases, hearers followed the latter procedure. For the hearers, the assumption that the speaker would avoid under-explicit pronouns outweighed the assumption that they would correctly select pronouns for gender. A further example illustrating the same point is discussed in Appendix B.3 of Supplementary material (Extract 3a).

4.3.2 Pronoun errors triggering miscommunication

When pronoun errors did trigger miscommunication, the key factors represent the converse of factors 1, 2 and 3 and the absence of binding constraints (factor 4). This might be considered the standard case. Extract 5 illustrates the operation of all four factors in a sequence which follows an accident in which Chaplin, the girl and the policeman fall from a police truck. Sahar describes the fleeing girl looking at Chaplin and then "**he** [the girl] said 'come, come with me'":

Extract 5: Sahar (Arabic L1) & April

S and then Charlie said
wake her up and **she** said he said for her
'now it's time to -scape'
A mhm
S and sh- when she go #while like that,
→ she look at him and **he** said 'come, come with me'
.hhh and they 'scape together

Here, and in all other misidentifications arising from pronoun errors, the hearer wrongly identified another competing, highly accessible character whose gender matched the pronoun (factors 1 & 2). Conversely, in no case did a hearer retrieve a less accessible character who matched the pronoun for gender (see also Extract 4). As is also typical of these cases, because the misidentification in Extract 5 produced a coherent and plausible chain of events (factor 3), the problem went unnoticed and unrevised by the hearer until viewing the film in Part 2 of the SR interview.

A similar example is presented below from the beginning of the sequence in which the girl steals the bread.[11] The miscommunication occurs in the final utterance of the extract, while Raquel subsequently explained her earlier clarifying question ("SHE or HE?") as a pedagogical prompt for self-correction ("just doing [her] job" as a teacher).[12]

Extract 6: Kang (Mandarin L1) & Racquel

K ah (0.3) a (0.2) a beautiful lady?,
jus[t a-
R [yeh
K just appeared on the part one,
R yep
K [beautiful lady gives the bananas to
R [yep yep yep yep
K gives the bananas to
R yeh ye
K ah °hh (0.4) mm [so:
R [so where is ↑Chapman?=

11 A longer extract is provided in Appendix B of Supplementary material (Extract 5) presenting this miscommunication and another that occurred shortly after.

12 Though this successful resolution is readily explained by the four factors (accessibility, coherence etc.), it is also more simply explained by virtue of being an exact repetition of the utterance that prompted Raquel's corrections.

=He's just (0.1) walking [on the street?
K [w- w- walking
walking [on the street,
R [oh yeh
(0.4)
K ah when: (0.2) when: (0.2) the beautiful lady (0.6) umm (0.7) *tch*
(0.5)
uh **he** (0.2) uh <u>she</u> is very (0.3) ah hangry,
(1.1)
R hu[ngry?
K [**
HUNGry, hung[ry
R [oh
K **he** wer- (0.2) **he** was (0.1) very hungry,
°h and er: (0.2) °hhh
R SHE↓ (0.3) or HE↓
K she sh[e she:
R [she
(0.4)
→K er (0.6) mm (1.2) **he he he he** just walking: (0.6) uhnnn (1.0)
aw uh (0.2) a (0.1) a (0.3) <u>bread</u> shop

Although Kang was describing the hungry girl walking towards a bakery, Raquel confidently interpreted this as Chaplin, which subsequently confused her understanding of who stole the bread. This case is again consistent with the four factors of accessibility, competition, coherence and syntactic constraints. In the actual film, Chaplin had not yet appeared in this scene, though was reintroduced into the discourse by Raquel's clarification question ("so where is Chapman?" [sic]), with Kang stating that he was "walking on the street". This established reasonably high accessibility (factor 1) and since it occurred immediately after an episode boundary, there were no competing male referents (factor 2). Perhaps most important is the coherence relation holding between the matching predicates of Chaplin "walking on the street" and "**he** just walking a bread shop" (factor 3). There are no syntactic constraints on this interpretation (factor 4).

Also worth considering, however, is that the miscommunicated pronoun error is positioned immediately following Raquel's repair initiation of another case ("HE or SHE?"). It could be that Raquel treated the repair as having a salience for Kang that would prevent an immediate recurrence (i.e. the assumption that he would now be on alert to the form of pronouns).

In the cases presented above, there is a general alignment in the interpretation promoted by factors 1–4, resulting in either successful resolution or misidentification. A contrasting case is Extract 7 where these factors promote conflicting interpretations and thereby result in non-identification. The key utterance is 'he [the girl] stolen the bread'. Although discourse coherence suggests the girl was the thief (factor 3), this is undermined by the presence of a highly accessible male character (factor 2), leaving the hearer unable to identify the thief:

Extract 7: Rachel (Tetun L1) & Renee

T I think she's a beggar or a homeless something like that?,
and she:'s looking outside of the bread – where people the –
bak- the bakery?,
and um she's looking at the ↓bread that she want and=
R =looking at the::?
T the the window?,
out- outside the windows,
and the[n suddenly
R [okay
T .hhhh a man carry a lot of ahh a lot of ah bread?,
→ .hhhh and then **he** s- stolen the bread,
and then finally someone watch her,

Despite the marginal infelicity of introducing the baker as 'a man carry(ing) a lot of bread', coherence factors nevertheless point to the girl as the likely bread thief (*beggar*; *homeless*; *looking at the bread she want*) and therefore the likely referent of 'he'. However, the baker has higher accessibility than the girl, having been introduced in the immediately preceding clause in topic position. There are also no linguistic signals of topic shift shift (e.g. a disjunctive marker such as *however* or *but then*) and the bread being maintained in focus position suggests a parallel structure.[13] The hearer's confusion, then, can be explained by the conflict between (1) the interpretation promoted by discourse coherence and (2) the one promoted by both accessibility and gender marking. As noted, the hearer was unable to determine which interpretation was best.

Overall then, across the examples examined here, in the appendices, and others in the data, not only were pronoun errors a major source of referential miscommunication, but consistencies can be identified in the contexts under which they proved problematic or easily resolved. These involved the presence of competing referents matching the pronoun in gender and accessibility (factors 1

13 Maintenance in focus position typically co-occurs with topic maintenance (Mitkov 2002).

and 2), discourse coherence (factor 3) and syntactic constraints on anaphor-antecedent relations (factor 4).

4.4 Failed introductions

An unexpected source of miscommunication occurred when referent introductions were misinterpreted as referent tracking. In these cases, failure to establish a new individual in the hearer's mental model led to a chain of subsequent misinterpretations.[14] The term *failed introductions* distinguishes these from *miscommunicated introductions* (Ryan 2016), in which the *wrong* referent is introduced into the discourse. The three cases appear highly uniform and the contributing factors have relevance to broader issues of L2 reference.

The retelling task typically elicited introductions of three hearer-new characters: the witness, the baker and the policeman. In three retellings, the introductions of the witness failed, with the reference in each case interpreted as referring anaphorically to the main female character ('the young girl'). In all cases this led to substantial misunderstanding of the narrative. The uniformity in these failed introductions could suggest the presence of context-specific or task-specific difficulties, with a likely factor perhaps being the complexity of introducing the girl, baker, witness, and policeman in quick succession.

Two of the three failed introductions involved REs that appear both grammatically accurate and pragmatically felicitous (*one woman*, *a woman*) while the third had the seemingly trivial issue of a missing article (*lady*). In each case, the central noun (*woman*, *lady*) also encoded the notion of maturity, which seems to contrast sufficiently with the character typically referred to as *the young girl*. Furthermore, in two of these cases, analysis of the verb frames (*lady points at her*, and *a woman saw her*) also suggest little potential for confusion, as a co-referential interpretation requires the hearer to either overlook binding principles or assume they are being violated (i.e. as 'the lady points to herself'), or to assume that other hearer-factors were involved, such as inattention. Overall, then, when considering the REs in isolation, it appears rather surprising that any of these introductions were problematic.

These features are illustrated in Extract 8 where the failed introduction of the witness occurs immediately after the introduction of the baker. There appears to be nothing sufficiently distracting in the immediate context to account for it.

14 As elsewhere in this study, such chains were counted as a single miscommunication.

Extract 8: Anming (Mandarin L1) & Tom

A so that's the first part,
and the the second part is um,
about er ah also the small guy and er and er a girl,
um first er the girl is f- ahh alon- alone,
and er she feelt ve::ry hungry,
and er she saw ah how to say er a store,
some some bread,
so they- so she stole a bread,
and then Ø run away,

T hmhf

A but er she het ((*hit*)) the the small guy,
hehe and ah and er er and Ø give the bread to:: to the to the guy
but er and then,
er the the owner of the store,
and an- er how tsk

→ er because one woman told hi::m,
ah someone, s- s- ah someone stole your bread,
so er he:: he and the police ran to catch
– want to catch the – wanted to catch the girl,

A very similar case is presented in Extract 9 where the same scene is recounted, and where the problematic RE is the 'the lady'.

Extract 9: Ai (Mandarin L1) & Melissa

A the (0.6) policeman (0.2) catch the girl?,
(0.2)

A b[ut but he said that

M [mhm

A "I- she didn't stole the bread, I did",
[so the police take away – take him (0.5) away,

M [ahh

→A but the lady told the (0.3) told the um driver
(0.3) that it's the girl steal the bread,
(0.1) not the man

The third case (not presented here for reasons of space) involved a German L1 speaker and the utterance "lady points at her".

One possibility is that responsibility lies solely with the hearer. Discouraging this interpretation is the consistency and uniformity of these miscommunications. If the hearers were, for example, inattentive, then one would expect evidence of

inattention triggering miscommunications elsewhere, but this seems not to be the case. Although the hearer may bear some responsibility, it appears reasonable to also consider what was contributed by properties of the retellings.

One possibility is that due to the presence of errors elsewhere, particularly article and other determiner errors, the hearers paid less heed to marking for definiteness and indefiniteness, perhaps viewing the speaker as unreliable in portraying this distinction. Indeed, at the beginning of Extract 8, Anming introduces the girl as *a girl*, yet Tom reported that he "assumed it was the same girl from the first scene [Part 1]". Thus it could be that this and other article errors had set a precedent for interpreting expressions such as *one woman* as potentially anaphoric. It may therefore be that failures to introduce and establish characters in the ELL narratives were not triggered by specific local errors, but by hearers adjusting to features of the discourse.

Of particular interest is evidence that the ELLs' tendency for over-explicitness – the overuse of fuller forms in place of pronoun and Ø – may also have contributed. As reported in numerous previous studies (e.g. Chini 2005; Gullberg 2006; Lozano 2018), over-explicitness is considered highly characteristic of referent tracking at intermediate levels and beyond, and in the present data is evidenced in the ELL's much more frequent use of full forms over pronouns (ELL = 48.8%; L1 = 29.1%). Where this seems relevant is in the loss of the highly audible contrast between tracking accessible referents and signalling hearer-new entities (*she* vs. *a woman*). Without this contrast, many introductions relied on the much less prominent distinction between definiteness and indefiniteness (*the woman* vs. *a woman*), which, as noted previously, was not reliably marked by many speakers. This suggests that the more over-explicitness is characteristic of a retelling, the more potential arises for failed introductions.

There is some evidence to support this interpretation. As noted, the three NPs that failed to introduce the witness were interpreted as anaphoric references to the girl. Analysis of all three cases reveals that, at the moment the witness was introduced, the girl had an accessibility status usually associated with use of a zero or pronoun. Specifically, in two of the three cases the girl was the topic of the previous clause, and in all cases had been maintained through several immediately prior clauses. Thus in hearing *a woman* as referring to the girl, the interlocutors not only ignored (or misheard) the marking for indefiniteness, but must also have implicitly assumed that it was over-explicit. This may have been a justifiable assumption given the pervasiveness of over-explicitness.

Overall, then, while these failed introductions appeared to arise from a combination of factors, including task complexity, it is notable that they were not triggered by local errors but seemed to arise through interlocutors overgeneralising from typical features of L2 reference, and in particular from over-explicitness.

5 Discussion

The previous sections have presented an overview of the referential miscommunications and a more detailed account of the two most consistent and recurring triggers. Turning now to RQ1, by far the most problematic NP-error type was pronoun errors (*he* vs. *she*), which accounted for more than a quarter of miscommunications (6/22). Beyond frequency, they also appear particularly *susceptible* to triggering miscommunication, with nearly one in four such errors (6/26) being misunderstood by the hearer. In comparison, while other NP-error types occurred frequently (e.g. wrong article, missing determiner, modifier errors, mispronunciation, lexis), none sufficiently accounted for any miscommunication, though problems did arise through the interaction of multiple errors. This is consistent with the operation of mental models, which readily accommodate minor errors and ward off interpretations that are grammatically consistent but contextually unlikely, while it also indicates a more powerful aggregate effect whereby multiple errors can combine to create unintended meanings.

This confirmation of the relative severity of pronoun errors complements previous research indicating a strong L1 influence on their production (e.g. Antón-Méndez 2010). Such errors are considered highly frequent for speakers of languages such as Chinese where pronouns do not encode gender (e.g. Dong et al. 2015) and to some extent also for speakers of pro-drop languages such as Spanish, where gendered pronouns may be available but the referent's gender need not be processed when formulating the equivalent utterance (e.g. Antón-Méndez 2010). As a remedial priority, there is therefore a strong case for emphasizing the treatment of pronoun errors over other types of NP error (e.g. determiners), and to do so in reference to James' (1998) criteria of frequency and of gravity. In intercultural communication, it may be prudent to apply a *revision mentality* (House 2003) or *hermeneutical vigilance* (e.g. Padilla Cruz 2014), treating pronouns cautiously in both use and interpretation.

Moving to RQ2, there was very little evidence of under- and over-explicitness directly triggering any of the miscommunications. This was somewhat unexpected given both the frequency of such infelicities (especially over-explicitness) in L2 speech (e.g. Lumley 2013; Ryan 2015; Torregrossa et al. 2021) and the attested risk both pose to communication, as supported by theoretical models (e.g. Ariel 1990)[15] and empirical evidence from L1 communication (e.g. Goodman 1986). In these data, the negligible association with under-explicitness is in fact readily explained

15 Accessibility Theory (Ariel 2006, p. 15) holds "that each referring expression specializes for a specific degree of mental accessibility", and thus infelicities may point to unintended referents within a mental model.

by the scarcity of such REs in the retellings (apart from overuse of Ø), which in turn is consistent with the hypothesis that intermediate/advanced under-explicitness arises mostly in unpressured, naturalistic settings (Ryan 2020), where greater attentional resources are available for the processing load required of pronouns (Gullberg 2006). In contrast, over-explicitness (mainly pronoun avoidance) was highly characteristic of the data. However, despite the potential for problems, the communicative cost posed by infelicity is often effectively offset by its greater informativity (e.g. *he* vs. *the baker*). Despite this, there were also plenty of cases where the full form seemingly provided no additional distinguishing information (e.g. *he* vs. *the man*). It may be that because over-explicit REs were so pervasive, they were anticipated and readily accommodated by learners. That is, because full NPs were not consistent markers of discontinuous reference, hearers likely adjusted while maintaining a more general *hermeneutical* vigilance (e.g. Padilla Cruz 2014) towards accessibility marking.

Nevertheless, the findings also suggest that frequent over-explicitness and determiner errors may contribute to miscommunications *indirectly*, partially accounting for the occasional failures of hearers to recognise introductions of new characters. They appear to do so by clouding contrasts between hearer-new characters and subsequent referent tracking. Tyler (1992) made a related point about coherence in L2 speech, where a lack of subordination "essentially strips the discourse of important sources of information regarding prominence and logical relationships" (p. 721). Here, since the vast majority of references are anaphoric, a reasonable working assumption is to assume – after the initial cast of characters has been established – that a RE will be anaphoric unless it is clearly distinguished as otherwise (for instance use of existential constructions, e.g. *There was a woman*). In so doing, hearers will occasionally overcorrect for an anticipated idiosyncrasy, which also likely interacts with a hearer tendency to be conservative in accepting new referents into a mental model when existing referents appear to suffice (Prince 1981, pp. 245–246). Thus while L2 explicitness may indeed facilitate L2 communication (e.g. Mauranen 2012), the present findings offer an additional nuance to this perspective.

RQ3 asked what an exploratory case-by-case analysis would reveal about the contextual conditions under which miscommunications occur. This has been partly addressed above in the connection between over-explicitness and failed introductions, a finding which only arose when drawing parallels between several nearly identical and otherwise perplexing cases. We turn now to the interaction between contextual factors and pronoun errors. Where pronoun errors were successfully interpreted, narrative coherence promoted a non-gender-matching interpretation and there was an absence of alternative candidates with the requisite accessibility. Importantly, however, no miscommunication involved

identifying a character with low accessibility that matched the pronoun gender. This suggests that rather than searching outside the current focus of attention for a gender-matching candidate, addressees assumed that a pronoun error had occurred, even if the speaker nearly always used pronouns accurately (e.g. Extract 4). A possibility worth exploring in future research is whether there may be an order of hearer processing, whereby failure to identify a suitable antecedent leads to a relaxation of the gender-matching constraint before any relaxation of accessibility constraints. This hypothesis would be readily accommodated within Scott's (2020) procedural-based account of pronoun interpretation.

Conversely, referents were misidentified when both (1) the erroneous pronoun mapped to a gender-matched, accessible referent not ruled out by syntactic constraints, and (2) the actions predicated on that referent seemed plausible in the context of the narrative. Future studies might explore the outcome when the inferences generated by (1) and (2) appear to be in conflict; in the one clear case in these data (Extract 7), the hearer reported confusion.

6 Concluding remarks

The present study establishes with reasonable certainty the occurrence of miscommunications in referent tracking and provides exploratory analyses that seek to account for two important subsets of the data, errors in the gender-marking of pronouns and anaphors mistaken for introductions. The intended analytical approach has sought a parsimonious stance, focusing on how 'what was said' can reasonably account for the unintended interpretations of the interlocutors, with minimal speculation about factors which cannot be demonstrated in these data (e.g. hearer distraction).

Several cautions are warranted. Firstly, since miscommunications become visible rather infrequently and unpredictably, as with most previous studies (e.g. House 2003; Morgan 2013), the cases examined are drawn from a small and focused collection and so care is needed in generalizing to other ELL-L1 interactions. A general caution within miscommunication research (e.g. Roberts 1996) is the further need to remain cautious and tentative in reaching conclusions, since even the most persuasive accounts may overlook contributing factors. There are also several specific design features of the elicitation task which have undoubtedly shaped the data, and a degree of authenticity was sacrificed to enable identification of cases that would otherwise have gone unnoticed. Most notably, the task involves limited interactiveness, which reduces the potential for repair and other possibilities for correction. Also to be noted is that some interlocutors were teachers, some of whom may have been inclined to focus on grammatical

form rather than understanding. Unfamiliarity between the interactants also represents a particular discourse condition.

It may be possible to address such issues in future studies, and there may also be considerable value in comparing miscommunications in ELL-NS interactions with those that occur among L1s (where they are more frequent than often presumed, e.g. Tzanne 2000), as well as those that occur in ELF interactions, where they are much less frequent than often presumed (e.g. Mustajoki 2017). From a language teaching and second language acquisition perspective, there may also be considerable value in making connections between factors such as the L1, error production and miscommunication, which could lead to the identification of recurring communicative trouble-spots for certain learner profiles.

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