

Both thematic role and next-mention biases affect pronoun use in Dutch

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Listeners' expectations about what the speaker will mention next influence their interpretation of pronouns. An important question is whether speakers take such expectations into account when choosing whether to use a pronoun. A logical hypothesis would be that speakers use a pronoun when it refers to the person or object that the listener expects to be mentioned next. If the speaker instead wants to continue with a person or object that is less expected, she will signal this by choosing a more elaborate expression. This is exactly what certain accounts of reference production predict (e.g. Arnold, 2008). However, several researchers have found that the choice for a pronoun is not influenced by how predictable the referent is (Fukumura & Van Gompel, 2010; Rohde & Kehler, 2014). Recently, it has been argued that whether predictability plays a role in pronoun use depends on the verb in the preceding clause (Rosa & Arnold, 2017): Source-Goal verbs such as *give* create a stronger prediction that the second NP will be mentioned next than Stimulus-Experiencer verbs. However, such an account conflates predictability with thematic role (cf. Pickering & Majid, 2007; Kehler & Rohde, 2013).

The aim of the present study is to disentangle predictability effects on pronoun use from thematic-role effects in Dutch, a language that offers more referential options than English, such as reduced and demonstrative pronouns. We conducted two web-based written continuation experiments, in which participants read a context sentence and typed a suitable continuation, starting with the connective *vervolgens* 'subsequently'. In Experiment 1, participants (N=48) were free to continue the context sentences in any way they wanted. In Experiment 2, either the first or the second NP was underlined, and participants (N=52) had to start their continuation with this NP. There were no time constraints. The context sentences contained Source-Goal and Agent-Patient verbs with an NP2 implicit-consequentiality bias (Commandeur, 2010; Koornneef & Sanders, 2013). We manipulated this bias such that it shifted to the NP1 in two ways: (1) by varying the social status of the referents (e.g. 'The {boss/assistant} criticized the {assistant/boss}.'), which makes the lower-status referent more likely to be mentioned next (see Garvey et al., 1974); and (2) by inserting the adverb *eerst* 'first' (e.g. 'The farmer's wife called {right away/first} the midwife. '), which is predicted to create a strong expectation for a subject continuation, because it induces a parallel coherence relation (cf. Kehler et al., 2008). To control for grammatical function, we also created Goal-Source and passive Agent-Patient sentences.

Experiment 1 confirmed that our manipulations reversed the next-mention bias of the verb (significant effects of social status and adverb, $ps < .001$). Experiment 2 showed that pronouns were more frequent for Goal than for Source referents, but only for non-subjects (non-significant interaction: $p = .06$; see Fig. 1, top), in line with Rosa and Arnold (2017). However, this trend was largely due to an increase in demonstrative pronouns, which in Dutch are canonically used for non-topical referents (Kaiser, 2011). This suggests that Goals are not as salient as subject referents, but salient enough to prevent a full NP reference. By contrast, we found effects of the next-mention bias only for personal pronouns, as well as on the use of reduced vs. full pronouns: When the referent was congruent with the bias, participants produced significantly more personal pronouns as well as more reduced forms compared to full forms, across subjects and non-subjects, and across Goal-Source and Agent-Patient contexts ($ps < .05$; see Fig. 1, bottom).

These results suggest that predictability, as measured by next-mention biases, plays a role in the choice for a personal pronoun in Dutch, irrespective of thematic role or grammatical function, while thematic role mainly affects demonstrative pronoun use. The preference to pronominalize Goals might therefore be partly due to their inherently higher salience, possibly because Goal non-subjects are often an obligatory verb argument (indirect object), whereas Source non-subjects are mostly optional (Fukumura & Van Gompel, 2010). In sum, thematic role and predictability both seem to affect the choice of referring expression in Dutch, but in different ways.

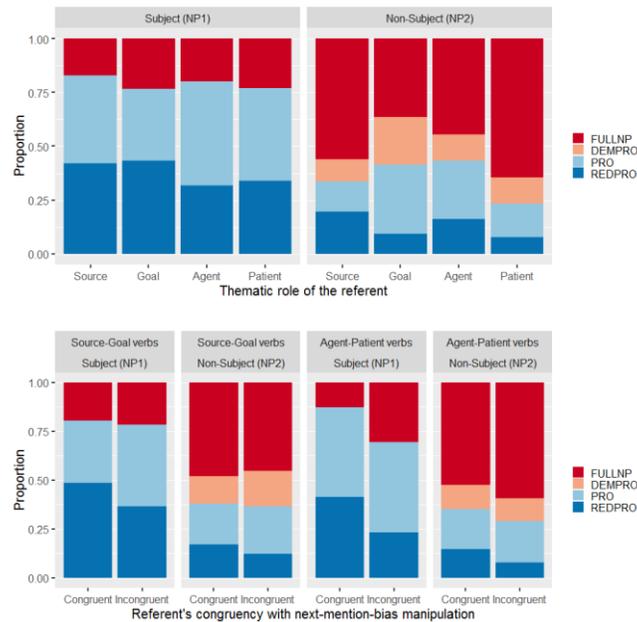


Figure 1. Choice of referring expression in Experiment 2 by the referent's thematic role and grammatical function (top), and by the referent's congruency with the next-mention-bias manipulation, grammatical function, and verb type (bottom).

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