

Prosodic (re)-organization of article vs. pronoun clitics in English

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The prosodic word (PW) has been proposed as a planning unit in speech production and tested in Dutch [5, W&L]. W&L used monosyllabic function words (e.g., articles) to examine this hypothesis, on the assumption that they are prosodically cliticized to form PWs with a preceding verb. They compared speech initiation time (RT) for three sentence types: 2PW control [I seek *wine*] vs. clitic [I seek *the wine*] vs. 3PW control [I seek *fresh wine*] (Figure 1). Their results showed that RT did not differ between control and clitic conditions (2 PWs), but was longer for the adjective condition (3 PWs), suggesting a) prosodic cliticization of the article with the verb to form a 2PW utterance, and b) an effect of the number of resulting PWs on speech initiation time, since the number of words and syllables was the same for the clitic and adjective conditions.

These findings support the hypothesis that the PW plays a role in representations that govern speech planning; the method also provides a tool for evaluating how different function words might prosodically cliticize in other languages, and which factors govern such processes during speech planning. The goal of the present study was to examine these issues in English, comparing the cliticization of articles vs. pronouns. The study also used a different task: immediate reading aloud without pre-exposure to lexical targets, compared with W&L's delayed response task with pre-preparation time. Following W&L, we predicted shorter RT when prosodic cliticization occurs, because it reduces the number of PWs in the utterance.

Twenty (15F, 5M) Australian English-speaking adults (Mean age: 29;4 yrs) were instructed to read each sentence aloud as it appeared on the screen. There were 3 kinds of sentences: 2PW control: [I drink] [wine]; clitic: I drink *the wine*; 3PWd control: [I drink] [John's] [wine]. Half of the clitic stimuli contained an article (e.g. I drink *the wine*) and half contained a pronoun (e.g. I eat *it fast*). A test trial is illustrated in Figure 2. Test sentences were repeated three times in separate blocks, randomized across participants and presented in DmDx [1]. Productions were audio-recorded in Audacity, with the resulting 3051 sentences analysed using the *lme4* package in R [2, 4]. Response time (RT), defined as the temporal interval between the offset of the beep (vertical line in Figure 2) and the onset of the production response, was log-transformed as the dependent variable, with clitic type (article vs. pronoun) and condition (2PW vs. clitic vs. 3PW) as factors.

Results revealed a significant effect of condition ($F=31.05$, $df=2$, $p<.01$) and a clitic-type-by-condition interaction ($F=5.025$, $df=2$, $p <.01$). While there was no RT difference between the article clitic and 2PW control, the RT for the pronoun clitic was significantly longer. Conversely, while there was an RT difference between the article clitic and 3PW condition, there was no difference between the pronoun clitic and the 3PW condition (Figure 3). The faster RT for the article clitic condition than for the pronoun clitic condition suggests that the pronouns did not cliticize, but were separate PWs, increasing the RT (which reflects the total number of PWs). This is consistent with a difference in prosodic organization between articles vs pronouns in English, at least in this syntactic context and task. We discuss the role of different factors and task effects, including lexical pre-activation, immediate vs delayed production, the predictability/frequency of different types of function words, and prosodic re-organization during speech planning, as discussed in [3].

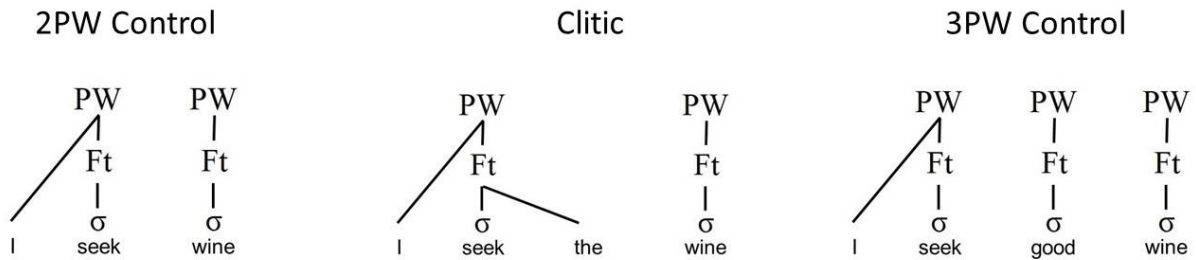


Figure 1. Prosodic structures of 2PW control, clitic and 3PW control sentences in Dutch [5].

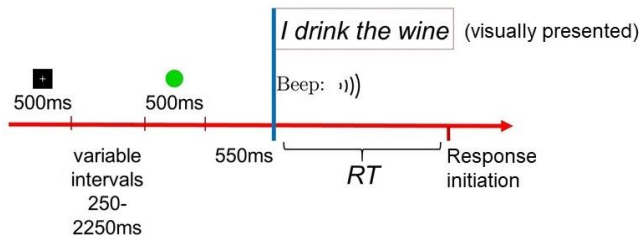


Figure 2. Time sequence of a test trial.

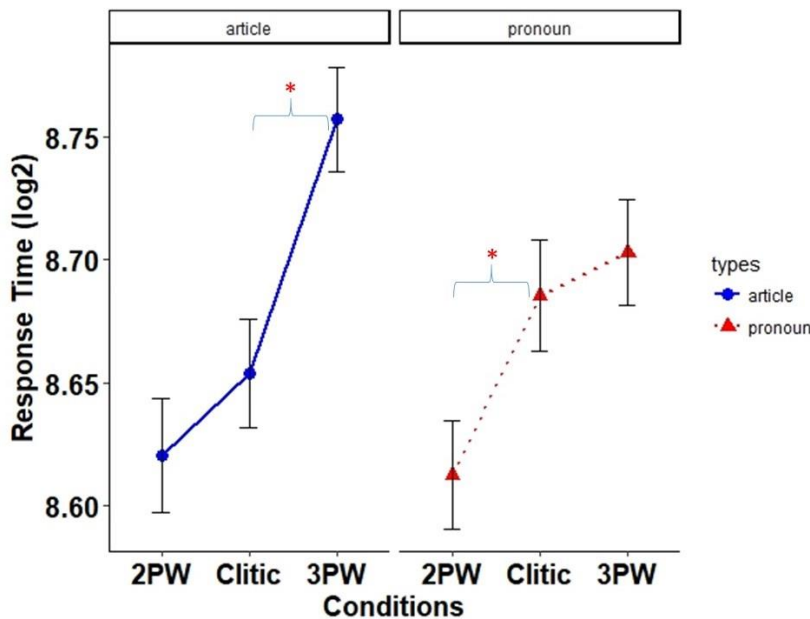


Figure 3. Log-transformed RT to 2PW control, clitic, 3PW control sentences in English in article and pronoun conditions, with +/- 1SE.

References:

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