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THE PERCEPTION OF MODAL PARTICLES IN DUTCH AS A SECOND LANGUAGE¹

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1 Introduction

This study examines the perception of modal particles in Dutch, contrasting native and non-native speakers. ‘Modal particle’ is a cover term for the usually high-frequent, usually adverb-like words found in real-life discourse in languages such as German, Dutch and classical Greek, used to express meaning nuances in various areas such as modality, evidentiality and aspect (cf. e.g. Schiffrin, 1987; Foolen, 1996). Modal particles are probably difficult for second language learners to master, not only because of strong mismatches between languages as regards their usage of such lexical elements, but also because this class of words shows an intricate association between word meaning and prosodic parameters. In the large majority of cases, modal particles in Dutch do not carry a pitch accent, i.e., they are not highlighted by a conspicuous melodic movement (one could also say that they are deaccented, cf. Elffers, 1997). Very often, however, they have an accented counterpart which functions as a ‘normal’ adverb. For example:

(1a)

Dat doet zeker PIJN
That does [part] PAIN
I presume that HURTS

(1b)

Dat doet ZEKER pijn
That does CERTAINLY pain
That certainly DOES hurt

In example 1a there is a pitch accent on the noun *pijn* (indicated by the capitals), while the word *zeker* remains unaccented. As a result, *zeker* functions as a modal particle, giving the whole utterance an uncertain, testing flavour - it almost functions as a (*yes-no*) question. In example 1b *pijn* is unaccented and the sentence accent in this case is located on *zeker*, leading to an adverbial interpretation of the word (*viz.*, ‘certainly’).

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Example 1a does not have a suitable word-for-word translation, because modal particles are virtually non-existent in English (and in many other languages). Foolen (1986) suggests that modal particles are problematic for speakers of Dutch as a second language (DSL-speakers) (cf. also Wenzel, 2002).

Dutch intonation has to do with information structure and focus (Keijsper, 1985; Baart, 1987). In light of the kind of things modal particles contribute to the semantics and pragmatics of utterances, it is hardly surprising that these lexical elements cannot be focused, which helps us understand why they cannot be accented. On the other hand, modal particles are sensitive to information structure: at least since Krivonosov (1963) we know that they tend to mark the borderline between theme and rheme, i.e., between old and new information. In Dutch, both phrases carrying old information and those that express new information can be, and often are, prosodically marked, e.g. by means of a pitch accent. The preferred position of modal particles is then by definition one between two accented phrases, and therefore unaccented (Vismans, 1994).

With respect to second language acquisition, prosody has been virtually ignored for a long time (Chun, 2002). Recently, however, it has been established that prosodic factors such as stress position and pitch accent placement are very important for non-nativeness and comprehensibility judgements of L2 speech (Anderson-Hsieh et al, 1992; Munro & Derwing, 1995; 1998; Trofimovich & Baker, 2006).

The results and conclusions of the few studies on transfer of prosodic characteristics (from L1 to L2) that have been carried out are not straightforward. Some experimental studies involving Dutch do report transfer (Mennen, 2004; Roosman, 2006; Rasier, 2006), others do not (Caspers & Van Santen, 2006). Mennen (2004) found evidence for transfer of the phonetic implementation of pitch rises from L1 Dutch to L2 Greek. Roosman (2006) reports L1 influence on the realisation of word stress in L2 Dutch. Rasier (2006) concludes that the location of sentence accent is transferred from L1 French to L2 Dutch. In contrast, Caspers & Van Santen (2006) did not find evidence for influence of L1 on the location of word stress in spoken L2 Dutch. Swerts (2007) and Rasier (2006) clearly show an influence of L1 structure on accent distribution in elicited data in L2.

As far as we know, no experimental work has been done on the perception of different accent distributions in Dutch by second language learners. On the basis of the available literature it is to be expected that - unaccented or deaccented - modal particles are difficult for L2 learners of Dutch to interpret, and the current experiment was done to establish whether this problem actually exists.

2 Approach

We set up a perception experiment in which subjects were presented with a context sentence and two stimulus sentences, differing only in the presence versus absence of a pitch accent on the target word. The context sentences were constructed in such a way that they would fit either an adverbial (accented) or modal (unaccented) reading of the stimulus sentence.

We selected the following modal particles for our investigation: *wel* ('rather', 'quite'), *zeker* ('probably') en *toch* (untranslatable, indicates that confirmation is expected). These words share the property that their interpretation as adverb or modal particle depends

on the presence versus absence of a pitch accent. Furthermore, they have been investigated earlier (cf. Schermer-Vermeer, 1984; Vismans, 1994; Van der Wouden, 1999; Hogeweg, 2005), which means that at least some of their properties are known.

We hypothesized that DSL-speakers will have problems with the distinction between modal and adverbial use of words like *zeker*. We expected that the control group would select stimuli with accented target words in non-modal contexts in the majority of cases, and stimuli with unaccented target words in modal contexts. For the non-native subjects, the largest problems were expected for the modal contexts. We thought it possible that the non-modal contexts, i.e., the stimuli containing accented target words might be responded to correctly, if only because accented lexical items are more salient than unaccented ones.

3 Method

3.1 Stimulus materials

For each of the three target words five different stimulus sentences were created. The sentences were ambiguous as to the interpretation of the target as a modal particle or a regular adverb. They were read aloud by a trained speaker, who realized pitch accents at indicated positions, resulting in either a modal or a non-modal version of the sentence. In addition, context sentences were constructed, intended to lead to either a modal or a non-modal interpretation of the target word in question. Below examples are given of context and stimulus sentences; for the stimulus sentences the intonation contour is indicated à la Bolinger (1989), as this type of representation shows not only the position, but also the shape of the pitch accent:

context A

Je hoeft geen stoel voor Sander klaar te zetten
‘You don’t have to put a chair out for Sander’

stimulus a)

		ze-		
Hij	komt		ker	niet
He	comes	cer-	tainly	not

‘He certainly won’t come’

stimulus b)

	komt			
Hij		zeker		niet
He	comes	certainly		not

‘I presume he won’t come’

The pitch accent on *zeker* in stimulus a) triggers an adverbial interpretation (i.e., ‘certainly’) and therefore the sentence is an appropriate continuation in the given context. In stimulus b) *zeker* remains unaccented and the pitch accent in this case falls

on the verb *komt*. As a result, *zeker* can only function as a modal particle, indicating a form of uncertainty, which does not fit context A very well.

The alternative context for these stimulus sentences - fitting a modal use of *zeker*, i.e., stimulus b) - is:

context B

De stoel van Sander is nog leeg

‘Sanders chair is still empty’

For the complete set of stimulus materials see the appendix.

After verification and segmentation, using PRAAT (Boersma & Weenink, 2006), the digital recordings were placed in a single audio file. Every context sentence occurred once, followed by both versions of the corresponding stimulus sentence (the relative order of the accented and unaccented versions was varied quasi-randomly). Context and stimulus sentences were presented twice in succession, in a fixed random order, with fixed pauses, and separated by beeps. Both context and stimulus sentences were printed in an answer booklet, without an indication of the pitch accent position, differing the two stimulus sentences with (a) and (b). Subjects had to circle either the (a) or the (b) version, depending on which version they thought best suited the presented context.

3.2 Subjects

A control group of 25 speakers of Dutch as a first language (DFL-speakers) participated in the experiment. They were between 20 and 27 years old, and 11 of them were male. The 17 DSL-speakers (late learners of Dutch) were first year students at the department of Dutch Studies at Leiden University. They had all followed exactly the same educational programme from September 2006 to May 2007, containing a large amount of language instruction. Their level was between A2 and B1, according to the Common European Framework of Reference (Council of Europe 2001),² ages varied between 20 and 41, and 5 were male. Eight DSL-speakers had Chinese as their first language (7 Mandarin, 1 Cantonese), the remainder of the group spoke an Indo-European language. No hearing problems were reported and all subjects participated on a voluntary basis.

3.3 Procedure

The group of native subjects was tested in one session, the non-native subjects, for practical reasons, in two other ones. The sessions started with the distribution of answer booklets. On the first page the subjects had to fill in a short questionnaire (year and place of birth, mother tongue, L3, etc.). Then they had time to read the instructions and ask questions. Subjects were instructed to listen to context and stimulus sentences and mark on the answer sheets which of the two versions of the stimulus sentence they thought fitted the presented context best (by circling the (a) or the (b) version). A

² A reviewer remarked, correctly, that this level might be too low for the rather complex task investigated. The results given below, however, at least partially refute this critique. The experiment might of course be repeated with more advanced students.

practise item was then played, after which questions could again be asked. Next, the experiment was run, without any further pauses.

4 Results

Table 1 contains the number of ‘correct’ (i.e., in line with our predictions) and ‘incorrect’ responses for the native and non-native speakers. For the group of non-native subjects, one case was missing.

Table 1: *Absolute (and relative) frequency of correct and incorrect responses, for native versus non-native speakers of Dutch*

subject group	responses		
	correct	incorrect	total
native	676 (90%)	74 (10%)	750
non-native	288 (57%)	221 (43%)	509
total	964 (77%)	295 (23%)	1259

The data show that the DFL-speakers have a mean score of 90% predicted responses, while the DSL-speakers have a mean of 57% correct responses (Pearson $\chi^2=190.256$, $df=1$, $p<.001$).

In Figure 1 the data for both the native and non-native speakers are broken down further by context type and target word.

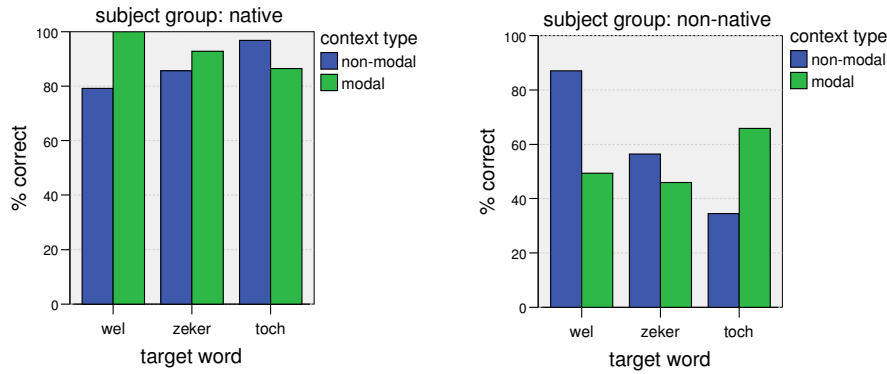


Figure 1: *Percentage of correct responses per target word, broken down by context type, for native versus non-native speakers*

An analysis of variance on percentage correct reveals a large effect of nativeness ($F_{(1,1257)}=245.495$, $p<.001$), and a small main effect of target word ($F_{(2,1256)}=6.819$, $p<.005$). There is no main effect of context type ($F_{(1,1257)}<1$, ins.), which means that overall there is no significant difference in the number of correct responses to the modal and non-modal contexts. However, there are significant two-way interactions between nativeness and target word ($F_{(2,1251)}=8.342$, $p<.001$), between nativeness and

context type ($F_{(1,1253)}=7.182$, $p<.001$) and between target word and context type ($F_{(2,1251)}=6.650$, $p<.005$). Finally, there is a strong three-way interaction ($F_{(2,1247)}=46.005$, $p<.001$).

It is clear that *wel* is responded to differently by the native speakers in the modal and non-modal conditions: in a context designed to trigger a preference for accented *wel*, the subjects indeed selected accented *wel* in 79% of the cases, but the responses rise to a full 100% preference for unaccented *wel* in the modal context condition. This means that native speakers feel very strongly about unaccented *wel* in these contexts: apparently, the stimulus with the accented version is completely unacceptable. The reverse is not true: in non-modal contexts the preference for the accented version of *wel* is not absolute, in a fifth of the cases subjects select the unaccented version. The difference between modal and non-modal contexts is significant for *wel* (Pearson $\chi^2=29.018$, $df=1$, $p<.001$). The same is true for *toch*, albeit that the difference is much smaller and reversed (Pearson $\chi^2=8.786$, $df=1$, $p<.005$). Closer inspection of the data reveals that this effect is caused by one ambiguous context sentence (context 1b for *toch* allows a modal as well as a non-modal interpretation). For *zekeer* the effect of context type is not significant (Pearson $\chi^2=3.363$, $df=1$, ins.).

The non-native speakers have a higher percentage correct responses for *wel* in non-modal contexts than the native subjects (87% vs. 79%), but a much lower score in the modal condition (49% vs. 100%). The responses for the other two target words show mirrored effects for both groups of speakers as well, which explains the strong three-way interaction reported above.

Wel in a non-modal context is the only condition the DSL-group seems to be really comfortable with (87% correct); the difference between modal and non-modal contexts is significant for *wel* (Pearson $\chi^2=27.791$, $df=1$, $p<.001$). For *zekeer* the responses do not differ in the two types of context (Pearson $\chi^2=48.839$, $df=1$, ins.); the scores appear to be random here (on average 51% correct), indicating that the stimuli in both context types are generally hard for the subjects to interpret. Finally, there is a significant difference in the number of correct responses to the target word *toch* per context type (Pearson $\chi^2=16.619$, $df=1$, $p<.001$); in the modal contexts 66% of the responses is correct, while in the non-modal contexts only 35% of the responses is correct. It seems that there is a general preference for unaccented *toch*, irrespective of context type. We do not have a full explanation for this finding, but it could be the case that unaccented *toch* is much more frequent in spoken Dutch than accented *toch*.

5 Discussion and conclusion

It became clear that non-native subjects have problems with selecting the best fitting stimulus in the contexts designed to evoke a modal use of the target word, as we expected. However, in the non-modal contexts they experienced difficulty as well, except with the stimuli containing the target word *wel*. It appears that the DSL-speakers find *zekeer* and *toch* more difficult than *wel*. This could be explained by the fact that accented *wel* is in direct opposition with the negation *niet* (not), which makes it highly contrastive and rather hard to miss for DSL-learners.

Recent work on spontaneous speech elicited from DSL-speakers with Spanish as L1 revealed a clear but unexpected hierarchy in the acquisition of modal particles (Van

Balen, 2007). It turned out that the higher the proficiency level of the subject, the more modal particles were used, and a ranking in difficulty was possible for the different particles. When a Spanish DSL-speaker uses modal particles, *maar* is the first one to appear, followed by *wel*; *toch* is tenth in line, and *zeker* is not used at all by the investigated group of speakers. Furthermore, the non-modal use of the target words shows a parallel pattern: *wel* is more frequent than *toch*, and *zeker* is completely absent from the DSL-data. It seems that *wel* is acquired much earlier than *toch*, and *zeker* clearly is the hardest.

We are inclined to interpret the results of our experiment as an indication that Dutch particles and their interaction with prosody merit more attention in didactic materials aimed at DSL-speakers. It seems reasonable to reserve some (more) time for the phenomenon of accentuation (its nature and function), and to try to make the students sensitive to the fact that the meaning of Dutch words can depend on whether or not it carries accent. Moreover, examples of Dutch modal particles and their accent-carrying adverbial counterparts should be offered (in context), in order to create a certain consciousness for modal particles and their contribution to the meaning and usage possibilities of utterances. The lack of descriptive work, however, will not make this a trivial task.

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Appendix: Stimulus materials

Wel

context 1a. Het feestje was zeker niet leuk? ('I suppose the party wasn't fun?')

context 1b. Hoe was het feestje? ('What was the party like?')

stimulus 1a. Het feestje was WEL leuk ('The party WAS fun')

stimulus 1b. Het feestje was wel LEUK ('The party was oKAY')

context 2a. Was het nieuwe meisje niet aardig? ('Wasn't the new girl nice?')

context 2b. Hoe is het nieuwe meisje? ('What is the new girl like?')

stimulus 2a. Dat nieuwe meisje is WEL aardig ('That new girl IS nice')

stimulus 2b. Dat nieuwe meisje is wel AARDig ('That new girl is oKAY')

context 3a. Was de komiek niet grappig? ('Wasn't the comedian funny?')

context 3b. Hoe was de komiek? ('What was the comedian like?')

stimulus 3a. De komiek was WEL grappig ('The comedian WAS funny')

stimulus 3b. De komiek was wel GRAPpig ('The comedian was oKAY')

context 4a. Was de voorstelling niet goed? ('Wasn't the performance good?')

context 4b. Hoe was de voorstelling? ('What was the performance like?')

stimulus 4a. De voorstelling was WEL goed ('The performance WAS good')

stimulus 4b. De voorstelling was wel GOED ('The performance was oKAY')

context 5a. Was het geen mooi weer? ('Wasn't the weather nice?')

context 5b. Hoe was het weer? ('What was the weather like?')

stimulus5a. Het was WEL mooi weer ('The weather WAS nice')

stimulus5b. Het was wel mooi WEER ('The weather was oKAY')

Zeker

context1a. Ik neem de auto ('I'm taking the car')

context1b. Ik zie dat je je regenbroek aanhebt ('I see you are wearing your rainproof trousers')

stimulus1a. Dus jij gaat ZEker op de FIETS ('So you are DEfinitely going by BIKE')

stimulus1b. Dus jij gaat zeker op de FIETS ('So I presume you are going by BIKE')

context2a. Ik weet niet of mijn tante in Papoea heeft gewoond ('I don't know whether my aunt lived in Papua')

context2b. Wat weet je tante veel over Papoea ('Say, your aunt does know a lot about Papua')

stimulus2a. Ze is er ZEker geWEEST ('She has CERtainly BEEN there')

stimulus2b. Ze is er zeker geWEEST ('I suppose she has BEEN there')

context3a. Ik heb zelf nog niks ingepakt ('I have not packed anything yet')

context3b. Ik zie dat er nog niks is ingepakt ('I see that nothing has been packed yet')

stimulus3a. We kunnen vanDAAG dus ZEker niet verTREKken ('We CERtainly cannot LEAve toDAY')

stimulus3b. We kunnen vanDAAG dus zeker niet verTREKken ('I presume we cannot LEAve toDAY')

context4a. Je hoeft geen stoel voor Sander klaar te zetten ('You don't have to put a chair out for Sander')

context4b. De stoel van Sander is nog leeg ('Sanders chair is still empty')

stimulus4a. Hij komt ZEker niet ('He CERtainly won't come')

stimulus4b. Hij KOMT zeker niet ('I presume he won't COME')

context5a. Ja, ik heb in m'n vinger gesneden ('Yes, I have cut my finger')

context5b. Heb je in je vinger gesneden? ('Have you cut your finger?')

stimulus5a. Dat doet ZEker pijn ('That DOES hurt')

stimulus5b. Dat doet zeker PIJN ('I presume that HURTS')

Toch

context1a. Je mag het stuk taart van Jaap opeten ('You can eat Jaaps piece of cake')

context1b. Waarom staat Jaap op de namenlijst? ('Why is Jaap on the list of names?')

stimulus1a. Hij komt TOCH niet ('He CERtainly won't come')

stimulus1b. Hij KOMT toch niet ('He won't COME, will he?')

context2a. Emma wil haar fiets verkopen ('Emma wants to sell her bike')

context2b. Hoe kan Emma's fiets nou gestolen zijn? ('How can Emma's bike been stolen?')

stimulus2a. Zij fietst TOCH nooit ('She never cycles ANYhow')

stimulus2b. Zij FIETST toch nooit ('She never CYcles, does she?')

context3a. Er brandt licht bij de burens ('The light of the neighbours is on')

context3b. Waarom pakken de burens de telefoon niet op? ('Why don't the neighbours pick up the phone?')

stimulus3a. Ze zijn TOCH thuis ('They ARE home, after all')

stimulus3b. Ze zijn toch THUIS ('They are HOME, aren't they?')

context4a. Jan heeft zich niet goed voorbereid op het tentamen ('Jan has not been preparing himself for the exam very well')

context4b. Waarom ziet Jan er zo somber uit? ('Why does Jan look so gloomy?')

stimulus4a. Hij is TOCH geslaagd ('He passed ANYhow')

stimulus4b. Hij is toch geSLAAGD ('He PASSed, didn't he?')

context5a. Laat dat ding maar vallen ('You can drop that thing')

context5b. Kijk uit met dat glas ('Watch out with that glass')

stimulus5a. Je breekt het TOCH niet ('You won't break it ANYhow')

stimulus5b. Je BREEKT het toch niet ('You won't BREAK it, will you?')