REACCENTUATION OR DEACCENTUATION: 
A COMPARATIVE STUDY OF ITALIAN AND DUTCH

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ABSTRACT

This paper reports on a comparative analysis of accentuation strategies within Italian and Dutch NPs. Accent-patterns were obtained in a (semi-)spontaneous way via a simple dialogue-game with 8 Dutch speakers and 4 Italian ones. In this way, target descriptions of all speakers were obtained in the following four contexts: all new, single contrast in the adjective, single contrast in the noun, and double contrast. It was found that the two languages both signal information status prosodically, but in a rather different way. In Dutch, accent distribution is the main discriminative factor: new and contrastive accents are accentuated, while given information is not. Newness and contrastive accents were not intonationally different, yet a post-hoc test revealed that listeners could distinguish a contrastive intonation from a newness one, because contrastive accents generally were the sole accent in the phrase and always had the shape of a nuclear accent even in non-default positions. In Italian, distribution is not a significant factor, since within the elicited NPs both adjective and noun are always accentuated, irrespective of the status of the information. However, there is a gradient difference in that “given accents” are perceived as less prominent than the other two, while there is no overall perceptual difference between contrastive and newness accents.

1. INTRODUCTION

Languages may differ in their prosodic marking of information status. For example, speakers of most Germanic languages, such as Dutch, typically do not accentuate given information. Rather, they use pitch accents as pointers to new information or as signals of a contrast-relation. However, as Cruttenden (1997) already claimed, the tendency for given items to be deaccented is not a universal fact of language. For instance, certain Romance languages, like Catalan and Spanish, sometimes resist deaccentuation, in particular at the end of intonation groups. Cruttenden (1993) proved this by having native speakers of these languages produce particular setting-response pairs where the response involved a lexical item repeated from the setting. In general, non-plastic languages (Vallduvi 1991) such as Catalan and Spanish, do not solely use intonation to mark information status, but they also heavily rely on word order variation. This does not entail, however, that deaccentuation is impossible in Romance languages. In two cross-linguistic studies, Avesani et al. (1995) and Hirschberg & Avesani (1997) showed that Tuscan Italian patterns with both Spanish and English in deaccenting given clauses and full NPs. In particular, all the Italian subjects of those studies deaccented clauses and simple NPs in sentences where a wide scope reading of a quantifier caused a subordinate clause or a full NP to be out of focus. D’Imperio (1997) found that deaccenting of given information occurs in Neapolitan Italian and Farnetani & Zmarich (1997) reported that post-focal words in setting-response pairs of northern Italian have a shorter durations and a flat or falling FoO. Ladd (1996:177-178 & p.c.), on the other hand, claims that Italian allows deaccentuation on sentence level (e.g., repeated full NPs may be deaccented), but strongly favours deaccentuation within NPs. This would mean that within NPs givenness cannot be encoded prosodically, unless of course the given accents would be intonationally different from the other ones (where it is unclear whether the group of ‘other’ accents can be divided into distinctive “contrastive” and “newness” accents). The current paper reports on a comparative study of Italian and Dutch to get a clear picture of the role of information status within NPs on accentuation. (1) Is it the case that Italian speakers prosodically mark new and contrastive information in different ways (as Krahmer & Swerts 1998 found for Dutch). (2) Is it the case that Italian speakers consistently reaccent given information, while Dutch speakers consistently deaccent? (3) And if so, is there in Italian a difference between “given” accents and other accents, either acoustically or perceptually or both? To answer these three questions, the study reported here consists of a combination of a production and perception experiment for both languages.

2. METHOD

Accent-patterns for both languages were obtained in a (semi-)spontaneous way via a simple dialogue-game played by four Dutch pairs and two Italian pairs of subjects. The games were played as follows: initially, participant A instructs participant B to select a particularly coloured geometrical figure from an available set by uttering an NP such as “a red square”. After B has performed the required action with this object, she takes over and instructs A to perform an analogous action with another figure, e.g., a blue square. When A and B are out of cards, the game is over. The data thus obtained allow an unambiguous operationalization of the relevant contexts. A property is defined to be new (N) to the conversation if it is mentioned for the first time in the current dialogue game, it is given (G) if it was mentioned in the previous turn and finally a property is contrastive (C) if the object described in the previous turn had a different value.
for the relevant property. By varying the sequential order, the target descriptions were collected for the eight speakers in four contexts: no contrast (all new, NN), contrast in the prefinal word (CC), contrast in the final word (CG), all contrast (CC). Table 1 summarizes the situation. The data were subjected to three kinds of analysis: (i) All utterances of two target descriptions ("blauwe vierkant" (blue square) and "triangolo nero" (black triangle)) were used for a distributional analysis. (ii) For a more detailed, phonetic analysis, four realizations of a target utterance (in the contexts NN, CC, CG, GC) of two prototypical speakers of both languages were explored acoustically. (iii) In a listening experiment eight Italian and eight Dutch subjects (distinct from the speakers) were presented twice with 48 pairs of phrases of their respective language in a random order. Subjects were asked to focus on either the noun or the adjective and judge which contained the most prominent one.

3. RESULTS

3.1. Distribution

The results of the distributional analysis are given in Table 2. The Dutch data reveal a clear trend: in the NN (no contrast/all new) case both adjective and noun are always accented, and in most cases the same holds for the CC (double contrast) cases. When one item is given, while the other is contrasted (i.e., the CG and GC cases), the contrasted item is generally the only accented word and the given item is deaccented. Interestingly, the NN case always requires a double accent. This entails that there is no ambiguity in the data between broad and narrow focus, contrary to what one might expect. Even though both CG & GC, and NN & CC are strikingly similar, there are two exceptions. First, there is a complete lack of postnuclear accents in the CG case, while occasionally prenuclear accents on the adjective occur in the GC case. Second, CC differs from NN in that there are a number of utterances in the CC context with an accent only on the adjective or the noun. Looking at these exceptional cases revealed that in all cases the speaker made a contrast with his or her own last utterance, ignoring their partners last contribution. The Italian data are completely different in that every word is always accented, irrespective of context. In particular, given information is not deaccented, as in Dutch, but reaccented. Thus, it appears that accent distribution does not provide clues about information status in Italian, while it does in Dutch. However, it might be that Italian speakers use different types of accents to mark information status. To gain insight into this a phonetic analysis was carried out with two representative speakers, one Dutch (JR) and one Italian (FB).

3.2. Phonetic analysis

Acoustic measurements A phonological analysis of the Dutch and Italian speakers revealed that in both languages the nuclear accents differ from the prenuclear accents. In particular: prenuclear accents of both languages have a high pitch target, whereas the nuclear accents can be characterized by a fall which is timed early in
Figure 2: Waveform and $F_0$ measurement of two realizations of “blauw vierkant” by speaker JR. Left: NN context. Right: CG context.

Figure 3: Perceptual scores of prominence for prefinal and final words for Dutch and Italian. The four contexts CG, NN, CC and GC are defined in the text, for readability the word of interest is capitalized. The maximum value of the Y-axis is 48.

Perceptual measurements Prominence ratings were obtained by the perceptual study described in section 2. Figure 3 shows the results. Listeners were presented with pairs of entire utterances and were asked to judge in which of the two the noun or the adjective was most prominent. In the following, capitalized letters indicate the words on which the subject scored (thus: ‘Gc’ indicated that the subject had to rate the prominence of the prefinal word in GC condition). The results thus obtained are roughly the same in all cases. More precisely, words referring to given information (Ge or CG) uniformly score lowest on prominence (near zero for Dutch, slightly higher for Italian). The no contrast/all new (nN/Nn) and double contrast (cC/Cc) cases basically score around chance level ($n = 24$). Note that in all cases NN is rated slightly more prominent than CC, which may be due to a discourse effect: NN occurs only in the initial state of the game. In three out of the four cases single contrast is rated the most prominent: for Dutch single contrastive accents are always judged as the most prominent, for Italian only for the prefinal words. When the final word in Italian occurs in a single contrastive context (gC) it scores approximately the same as nN and cC. However, in these latter two cases the prefinal word also scores around chance level, while the prefinal word in the GC context scores very low on prominence. Thus, it might be that in Italian a single contrastive interpretation can be determined at the level of the entire NP.

Summarizing: although the Italian speakers reaccent given information, Italian listeners are nevertheless able to distinguish them from new and contrastive information. In this respect, there does not appear to be much difference between Italian and Dutch. However, Dutch listeners are able to make an additional distinction, namely between single contrastive cases and all new/double contrast ones. This distinguishing feature of Dutch derives primarily from accent

the syllable. The difference, though, is that the nuclear accent in the Italian data is fixed on the final word in the utterance, which entails that the contours associated with the Italian utterances of FB (and also generally for the other speakers) always have a flat hat shape (H* H=L* L%). Figure 1 illustrates this. The $F_0$ patterns for “triangolo nero” are essentially the same for the two conditions, NN on the left and CG on the right. The waveforms differ, however, in that the energy level associated with “nero” in the given context appears to be lower than in the newness context. For the Dutch data there is no one-to-one correspondence between the nuclear accent and the final word in the utterance. More specifically, if the final word is deaccented (due to givenness) the nuclear accent shifts to the prefinal word (the adjective); see Figure 2. Focussing on the $F_0$ pattern on the word “blauw” (blue) shows a difference in pitch contour, in particular with respect to the timing of the fall. In the NN context (left), the pitch level is sustained throughout the adjective and only drops slightly at the syllable boundary. In the CG context (right), one can observe a sudden drop of pitch before the syllable boundary is reached. The latter pattern is phonologically the same as the pitch movement that occurs on the syllable “vier” in the NN context. Interestingly, it is precisely the presence of such a nuclear accent in a non-default position which allows hearers to distinguish a contrastive from a newness interpretation (Krahmer & Swerts 1998).
distribution, whereas in Italian the differences in information status are solely reflected in gradient accent differences. This difference can be illustrated by looking at $F_0$ maxima, which are commonly assumed to be a reliable acoustic correlate of prominence. Table 3 contains the relevant $F_0$ values for the Dutch and Italian NPs in the various contexts, used in the perception test. This table indeed reveals a close correspondence between $F_0$ maxima and perceived prominence for Italian in that the prominence ranking of words strongly covaries with the $F_0$ values. For Dutch this correspondence breaks down. In particular, the $F_0$ values for the NN context are by far the highest, while words in this context are not judged to be the most prominent, and, for the prefinal word, CC and CG have essentially identical $F_0$ values while the latter are judged to be much more prominent. The high $F_0$ values in both Italian and Dutch for NN probably result from the aforementioned discourse effect; it is well-known that onsets of discourse units are pronounced with a relatively high pitch range (see e.g., Swerts & Geluykens 1994).

Table 3: $F_0$ maxima (Hz) of prefinal and final word for Dutch and Italian NPs in the four contexts CG, NN, CC and GC. For readability the word of interest is capitalized.

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<td>109</td>
<td>120</td>
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4. DISCUSSION

In this paper, it was found that Italian and Dutch both signal information status prosodically, but in a rather different way. In Dutch, accent distribution is the main discriminative factor: new and contrastive information are accentuated, while given information is deaccentuated. Ne unwess and contrastive accents were not intonationally different, yet a post hoc test revealed that listeners could distinguish a contrastive intonation from a newness one, because contrastive accents generally were the sole accent in the phrase and always had the shape of a nuclear accent even in non-default positions. In Italian, distribution is not a significant factor, since within the elicited NPs both adjective and noun are always accentuated, regardless of the information status. This does not entail that givenness is not encoded in Italian prosody, because even though given information is reaccented, a gradient difference was found in that given accents are always judged to be less prominent (mainly due to a lower pitch range) than other accents. Contrastive accents are judged to be more prominent only in the prefinal case. Thus, both Dutch and Italian speakers can use prosodic means to signal givenness, and Dutch speakers have the additional possibility to make a systematic prosodic distinction between newness and contrastiveness. That Dutch speakers can make more prosodic distinctions than Italian ones can perhaps be attributed to the fact that the Dutch prosodic repertoire, so to speak, is larger than the Italian. The Dutch speakers in our experiment can either accentuate or deaccentuate a particular word, and, additionally, have the possibility of placing a nuclear accent in a non-nuclear position. As a result, a Dutch listener can rely on two different information sources, namely accent distribution and accent type, to determine whether something is given, new or contrastive. The Italian speakers can accentuate or reaccentuate a particular word, but, of course, the net effect is the same either way: the word in question receives a pitch accent. Thus Italians cannot use distribution to mark information status within NPs, but they can use relative gradience. This is most clear for the accents associated with given words, which consistently receive a low pitch, but also, in the case of prefinal words, there appears to be a slight tendency to associate single contrasts with a relatively high pitch range. Italian listeners can make use of only one parameter to derive information status, which may partly explain why the Italian data are less pronounced than the Dutch. It should be added that Italian, being a non-plastic language, has other means besides prosody of marking information status. For instance, it has a freer word-order than plastic languages such as Dutch, and it is known to exploit this freedom to mark information status. However, the constraints of the experimental paradigm apparently did not offer enough room for Italian speakers to use word-order as an indicator of information status. Therefore it would be interesting to look for an experimental set-up in which speaker have more freedom to describe a particular state of affairs. This might also shed a different light on the reaccentuation/deaccentuation debate, given that Ladd claims that deaccentuation of complete NPs within a sentence is quite possible in languages like Italian, which is supported by data from Avesani, Hirschberg and D’Imperio.

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5. REFERENCES