

seits werden neue Identitäten aufgebaut, die auf Kenntnissen des Deutschen als Standardsprache beruhen, und eine Steigerung des Minderheitenbewusstseins ist zu beobachten, wobei noch völlig unklar ist, wohin diese Entwicklungen führen werden. Die Beiträge zeigen zugleich verschiedene methodische, insbesondere neue soziolinguistische Zugangsmöglichkeiten und können der weiteren Forschung Impulse geben.

Mannheim

NINA BEREND

RACHEL FOURNIER: Perception of the tone contrast in East Limburgian dialects. Utrecht: LOT 2008. 171 p. (Dissertation Series. 196). € 20,19

1. Objective and contents of the thesis

Many dialects in Limburg, in the southeast of the Netherlands, and the adjacent regions in Germany and Belgium are characterized by two tonal accents, called Accent1 and Accent2. The dialect of Roermond, for instance, has the minimal pair *haa's* 'hare' – *haa's* 'glove', where the subscripts denote the word's accentual quality. These two examples are taken from FOURNIER's thesis (cf. p. 20). The precise phonetic realization of the two accents depends on a number of factors, as previous research has established. One factor is *focus*. This means that, under focus, the realization of the two accents differs from their realization outside of focus. Another factor is *position* in the sentence, implying that the realization of the two accents in sentence-final position differs from their realization in sentence-internal position. The third factor determining the realization of the accents is intonational *melody*. The realization of the accents in a question differs from their realization in a declaration. In her thesis FOURNIER points out that "[...] it is quite exceptional to find a language or language family in which tonal contrasts vary drastically along so many dimensions" (p. 11). This special status of the Limburg dialects (and their German sisters) has triggered intensive research in the past (cf. p. 11). However, these earlier studies "[...] have concerned themselves with the *production* (my emphasis, B.H.) of the tone contrast and have paid little attention to its *perception*" (p. 11). In FOURNIER's view, this is an important shortcoming, and the goal of the thesis, therefore, is to fill this gap (cf. p. 11). To this end she carries out various experiments.

The first experiment is presented in chapter two. This is a cross-dialectal experiment, in which the dialects of Roermond and Weert are compared. The first dialect has 'real' tonal accents, in the sense that f_0 is acoustically prominent, whereas duration is much less important, as previous studies have shown (cf. GUSSENHOVEN 2000a,b). In the dialect of Weert the opposite obtains, even to the extent that, according to earlier work, duration is the only feature distinguishing the two accents (HELMANS / GUSSENHOVEN 1998, HELMANS 2003). It is the objective of the first experiment to find out what the consequences are, perceptually, of this crucial difference. The most important results of this experiment are the following.

In Weert the recognition scores of the contrast between Accent1 and Accent2 are invariant under different prosodic conditions. More specifically, the contrast between the two accents is perceived in focus position and also in non-focus position. It is also perceived both in final position and in non-final position. In Roermond the situation is quite different. Speakers of this dialect do not perceive the contrast in words that are not in the focus position, nor in final position. In other words, in any context that can be characterized as [–focus, –final] the contrast is not perceivable. These results, FOURNIER notes (cf. pp. 65–66), confirm the results that have been found by GUSSENHOVEN and HELMANS at the level of production.

Another result is that the speakers of the two dialects respond differently to the way in which words are presented. For the speakers of Weert it does not matter much whether stimuli are presented within the context of a sentence, or excised from a sentence, that is, presented in

isolation. Under both conditions speakers of Weert can perceive the contrast equally well. The speakers of Roermond, on the other hand, have more difficulty in perceiving the contrast when words are isolated from their context. This shows that the speakers of Roermond tend to rely on sentence information to a larger extent than speakers of the Weert dialect.

Again, in FOURNIER's view both outcomes are in agreement with phonological analyses proposed by GUSSENHOVEN and HEIJMANS (cf. p. 66) in the publications mentioned before. They have established that in Roermond the contrast between Accent1 and Accent2 is essentially one of absence versus presence of a high tone on the second mora of the stressed syllable. In Weert, on the other hand, the contrast is basically one of length, not of tone.

In the second experiment, presented in chapter three, the role of all factors, focus, position and melody, is systematically investigated in one dialect only, Roermond. The main results of this experiment are as follows.

In words that are not in focus or in final position, the contrast is not perceived, which confirms one of the results of the first experiment. What the second experiment adds is that the neutralization does not materialize as a chance-level recognition of Accent1 and Accent2 individually. Instead of this there are fairly high scores for Accent2 and low ones for Accent1. One of the explanations for this bias towards Accent2 is, according to FOURNIER, the predominantly flat realization of both accents in this environment. Perceptually this might easily be associated with Accent2, because this accent is realized as flat in a number of contexts (cf. p. 88).

One other interesting result is that there seems to be an ongoing trend towards neutralization of the two accents in Roermond. In non-final, focused words with the interrogative melody the perceivability of the contrast decreases. This is caused by the fact that one of the speakers providing the stimuli pronounces Accent2 with a slight rise in this environment. Since the Accent1 is also pronounced with a rise in this environment, albeit a steep one, recognition scores of the contrast drop in this environment. After a follow-up test FOURNIER uncovers that the slight rise is quite representative for younger speakers. From this FOURNIER concludes that the contrast between the two accents is on its way of becoming neutralized in this particular environment (that is, words under focus, in non-final position, carrying the interrogative melody).

The fourth chapter is dedicated to the dialect of Venlo. A characteristic feature of this dialect is that it has more intonational melodies than the dialect of Roermond, according to FOURNIER, who bases herself on GUSSENHOVEN / VAN DER VLIET (1999). In addition to the usual declaration melody it also has a continuation melody. Furthermore, instead of just one question melody it has two: a low and a high question melody. One of the goals of chapter four is to find out to what extent the contrast between the two accents is perceived in the various positions (focus final, focus non-final, non-focus final, and non-focus non-final) under various intonational melodies.

It turns out that, in Venlo, basically, the same results are obtained as in Roermond. In all positions the contrast is perceived quite easily, with the exception of unfocused words in non-final position. In this environment the contrast is not perceived, confirming earlier results of GUSSENHOVEN and VAN DER VLIET. There is one small, but interesting twist, though. FOURNIER discovers that the older speakers perceive the contrast with greater ease than younger speakers. In Roermond there is no such difference between generations. On the basis of this fact FOURNIER concludes that in Venlo the contrast between Accent1 and Accent2 might very well develop in the direction of neutralization.

FOURNIER is interested in Venlo for a second reason. She wants to uncover to what extent phonetic salience determines the recognition of the accentual contrast. To investigate this it is important to study a system that is not stable, since "[...] a relation between salience and [...] contrast perception is more likely to be found in less stable situations" (pp. 92–93). Being located at the extreme periphery of the tonal area, Venlo might very well be such a relatively unstable system.

To define phonetic salience FOURNIER develops both objective (acoustic) and subjective (perceptual) criteria. The subjective measures are obtained from native speakers of Venlo, and from speakers who do not have any knowledge of the Venlo dialect, or any other Limburg dialect, for that matter.

An interesting result is that native and non-native listeners strongly agree on the degree of phonetic salience of the phonetic contrasts. Furthermore, there is only a weak correlation between the subjective criteria and the recognition rates. Basically, the same can be said about the objective criteria she has developed to determine phonetic salience. All in all, phonetic salience only plays a minor role in the perceivability of the accentual contrast, even in a dialect like Venlo which is located at the periphery of the tonal area.

Chapter five has a completely different objective. Being so special, in the sense that so many factors determine the realization of the accents (focus, position and melody) the Limburg dialects might very well help us to pin down the location in the brain where various tonal phenomena are processed. This, in fact, is the goal of this chapter. To this end FOURNIER developed a test to record brain activity with the help of a Magneto-encephalography (MEG) system. Two sets of speakers participated in this experiment: speakers of standard Dutch who did not have any knowledge of any Limburg dialect, and speakers of Roermond. Both sets had to listen to data from Roermond. The results of this test are as follows.

When just the difference between Accent1 and Accent2 is accessed, there is relatively strong activity in the left hemisphere (LH). This is true for both sets of speakers, both the native speakers of Roermond and the ignorami. When just the intonational melodies are accessed, the non-speakers of Roermond again have strong activity in the LH. The speakers of Roermond, however, exhibit strong activity in the RH. When both the two accents and intonational melodies have to be accessed simultaneously, again the non-speakers of Roermond activate their LH, whereas in the brain of the native speakers there is strong activity in the LH as well as in the RH. On the basis of these results, FOURNIER concludes that it is rather fruitless to try to "[...] reconcile our results with findings based on other languages [...]" (p. 142). It just seems an undeniable fact that the processing of intonation is allocated to the different parts of the brain in speakers of different languages. Why this should be the case eludes our understanding, FOURNIER seems to suggest.

2. Some questions

While this thesis, no doubt, presents some interesting results, it suffers, in my view, from one important shortcoming. No attempt is being made to embed the main results or claims in a theoretical framework existing in the relevant scientific domain. This lack of theoretical depth has some important consequences of various types. I will now give three arguments substantiating my claim that this thesis lacks theoretical depth. The first argument has to do with the relevance of doing perception tests *in this particular case*. The second argument focuses on theoretical aspects of phonological length. In the third argument I reflect on the interpretation of brain activity.

2.1. Should we be amazed by Roermond and Venlo?

One of the results of the thesis is that in Venlo and Roermond the native speakers of these dialects do perceive the contrast, except in non-focus, non-final position. This perfectly matches the results obtained in the work by GUSSENHOVEN (2000a,b) on Roermond, and GUSSENHOVEN and VAN DER VLIET (1999) on Venlo. In these publications the realizations of the two accents are measured from the point of view of production. All relevant positions and all relevant melodies are taken into account. In sum, due to this thorough work, we know in detail how the two accents sound in these two dialects, in various positions in the sentence and under various sentence melodies. Taking this knowledge into consideration one could legitimately ask whether it is amazing that the speakers of these two dialects do indeed perceive what GUSSENHOVEN and his colleagues have already measured from the point of view of production.

Of course, whether we should be amazed or not depends exclusively on how the results of the perception tests (done by FOURNIER) relate to the production measurements (done by GUSSENHOVEN and colleagues), and crucially, how both sets of results relate to phonetic theory. For

instance, if it turns out that the Limburgers do not perceive the contrast in non-focus, non-final position, and if this correlates with the fact that the difference between the two accents in this position is well below the JND-threshold (just noticeable difference), then we cannot really be amazed by this fact. This is so, because we can safely assume that Limburgers are human beings. Since we also know that human beings cannot perceive differences below the JND-threshold, it is really not amazing at all that Limburgers do not perceive the contrast in the non-focus, non-final position. In other words, given what phonetic theory has established it would be entirely predictable that the contrast is not perceived in non-focus, non-final position. We should therefore not be amazed at all by this fact. The problem I have with FOURNIER's thesis is that we just cannot judge. The absence of a link with phonetic theory does not allow the reader to assess the significance of FOURNIER's results with respect to Venlo and Roermond. Are they surprising, or do they add something to phonetic theory? Or are they perhaps entirely predictable, given what we know about JND-thresholds, and given the detailed phonetic measurements of GUSSENHOVEN and VAN DER VLIET? In sum, what I miss in this thesis is some kind of embedding in some version of phonetic theory.

2.2. Isn't Weert amazing?

One important assumption by FOURNIER is that in Weert the contrast between Accent1 and Accent2 is one of length, not tone. As I have shown above, on the basis of this assumption it is possible to make sense of some of the differences between the Weert-based perception and the Roermond-based perception of the accentual contrast.

Yet, if we consider what this means from the perspective of phonological theory, there are reasons to be highly amazed, I think. A somewhat underestimated property of Limburg accentual systems is that, in certain environments, the distribution of the two accents is entirely predictable. Thus, in the environment Short vowel + Sonorant consonant + Stop, only Accent2 can occur. One can verify this easily by checking dictionaries of Limburg dialects. They all converge on this point. One dictionary I would recommend is KATS (1985). Two examples from the dialect of Roermond, taken from the KATS dictionary are *lam²p* 'lamp' and *sjtom²p* 'blunt'. In my impression this is also true in Weert. This impression is based on fieldwork I have done in Weert in December 2008. Thus, in Weert the two words just mentioned are pronounced with a long vowel. Now consider what this means from the perspective of the theory of phonological length. To express the fact that Accent2 is predictable we postulate a rule (or constraint) accounting for this regularity. If it is assumed that, in Weert, Accent2 is basically a long vowel at the phonological level, then we need a rule (or constraint) lengthening a short vowel before the consonant cluster Sonorant + Stop. Surely, this is a very strange rule indeed. There are many languages where long vowels are *shortened* before consonant clusters, but there are no languages where they are systematically lengthened in this environment. The point I am making is that it is easy enough to say that in Weert the opposition between the two accents is one of length at the phonological level. However, one should motivate such a claim, and in any case one should do so if it is an important ingredient in one's interpretation of perception tests. FOURNIER does not motivate her hypothesis that in Weert the contrast between the two accents is based on length. If she would have done so, she would have been amazed by the exotic nature of this dialect.

There are other arguments that make it highly debatable that in Weert the contrast between Accent1 and Accent2 is one of phonological length. Let me point out just one. If it really were true it would mean that Weert has changed in the following way. At some stage it probably was an ordinary Limburg dialect, having a tone based accentual contrast. For FOURNIER (following GUSSENHOVEN and his coworkers) this means that words with Accent2 have a high tone on the second mora. In a word like *lam²p*, then, the nasal consonant (the second mora) would have a high tone. At the subsequent stage, Weert erased its high tones, and compensated for them by lengthening the short vowel. Thus, *lam^Hp* (which is GUSSENHOVEN's representation for Accent2 at the lexical level) changed to *la:mp*. This predicts that, cross-linguistically, the loss of tones can

lead to compensatory lengthening effects. This might be true or not (probably not) but the point is that FOURNIER should have been aware of this, since it follows from an important hypothesis in her thesis, one which helps her to interpret the difference between the perception tests performed by people from Roermond and Weert.

2.3. Is Dutch amazing?

The fifth chapter of the thesis aims to understand more about the location of brain activity when Limburg accents and intonation are processed. The idea of developing such a test is very interesting in itself. Also, the results FOURNIER has found are interesting indeed. In fact, they are quite intriguing, depending on the theory one adopts. FOURNIER presents various theories that are concerned with the question where in the brain tonal contrasts and intonational melodies are processed. One recurring theme in the literature she discusses is the hypothesis that tonal contrasts are processed in the left hemisphere, whereas intonation, at least according to some authorities, seems to be bound to the right hemisphere. The interesting thing about FOURNIER's findings is that Limburgers seem to confirm this, at least, this is my understanding of her results. When just the accentual contrast is processed the Limburgers activate their left hemisphere. When just the intonation is processed, then they activate the right hemisphere, exactly as predicted by at least some of the theories FOURNIER discusses. Finally, when both the accent contrast and the intonation melodies are processed simultaneously, the Limburgers activate both hemispheres. In short, the brain of the average Limburger behaves as expected from the point of view of some authorities mentioned by FOURNIER.

It is the Dutch brain that shows puzzling behaviour. No matter what is being processed (only the accentual contrast, only the intonational melodies, or both accentual contrast and intonational melodies simultaneously) it is just the left hemisphere that is activated. This is unexpected, because, according to some of the theories FOURNIER cites intonation should activate the right hemisphere. On the basis of these results FOURNIER reaches the rather disappointing conclusion mentioned above. Her conclusion implies that it is just a random fact about a particular language where exactly tone or intonation are being processed.

I would like to suggest that this is perhaps a premature conclusion. Perhaps it is indeed possible to make interesting claims about the area in the brain where tone and intonation are being processed and, most importantly, why languages behave differently in this respect. It is a remarkable thing about most Limburg dialects that they have rather simple intonational melodies. In fact, according to HERMANS (2009) there is some evidence to the effect that there is only one intonational melody: the question intonation. The declarative intonation is not really an intonational melody in the strict sense, because it is assigned by so called "default rules". One argument showing that the declarative melody does not have the same phonological status as the question melody comes from the facts of phonetic interpolation. There is no interpolation between the high tone assigned in declaration and the low tone assigned to the right edge of a phrase (the so called "boundary tone"). On the other hand, in the question melody there is interpolation between the high tone of the question melody and the low tone assigned to the end of the phrase. This entails that in question, but not in declaration, the syllables located in between the high tone and the low tone at the edge are pronounced in function of how remote they are from these tones. In other words, the closer a syllable is to the high tone the higher the pitch is with which it is pronounced, and likewise, the closer a syllable is to the low boundary tone the lower its pitch is. If it is true that the phonological status of declarative and interrogative tones is entirely different, then it follows that Limburg dialects have one and only one truly intonational melody, in the sense that there is only one melody that is associated with meaning. In that case one could say that the Limburg intonational system is very simple indeed. Strictly speaking Limburg dialects have only *one* melody!

On the other hand, it is also well known that Dutch has a whole inventory of intonational melodies. In this sense, Dutch is a rich or complex language, as has been shown in the work of

GUSSENHOVEN, among others (cf. GUSSENHOVEN 2004 for an overview). It seems to be the case, then, that it is not a matter of tone and intonation *per se* which decides where in the brain processing will take place. It rather seems to be decided in the following way. Contrastive phenomena seem to be processed in the LH, be they of a segmental or of a tonal nature. This is much in line with the literature quoted by FOURNIER, and it accounts for the processing of contrastive segmental phenomena and also for the fact that contrastive tone is processed in the LH. This hypothesis also explains that in Limburg dialects the two accents are processed in the LH. It follows from the fact that they are contrastive. With respect to intonation one would have to develop the hypothesis that it depends on the nature of the intonational system where it is processed in the brain. If the system is rich, as in Dutch, intonational melodies are processed in the left hemisphere. If, on the other hand, they are of sufficient simplicity, as happens to be the case in Limburg dialects, they are processed in the right hemisphere.

Of course, it is not clear at all whether this is correct. But this is not the point. The point I am trying to make is that FOURNIER is overly pessimistic in her conclusion that it cannot really be predicted whether tone or intonation activates the left or the right hemisphere. I would like to claim that this is not necessarily true. If phonological theory would have been taken seriously then FOURNIER might have been able to come up with an interesting hypothesis about this question, making interesting and testable predictions. The idea would then be that the tones of declaration in Limburg have a different status from the tones of the question melody, explaining why in Limburg dialects intonation activates the right hemisphere, while in Dutch it activates the left hemisphere.

Interestingly, it would have been fairly easy for FOURNIER to test this hypothesis. She suggests, again following GUSSENHOVEN / VAN DER VLIET (1999) that Venlo is unlike Roermond in that it has quite a lot of intonational melodies. If this is true, then Venlo would be like Dutch in the sense that it is also a complex intonational system. If the hypothesis presented above is correct, then it should be the case that speakers of Venlo activate their left hemisphere, and not their right hemisphere when they process intonation only.

3. Conclusion and some additional remarks

To summarize, I think that some of the data and results presented by FOURNIER are quite interesting. But I also think that the thesis lacks theoretical depth. This has the following consequences. Firstly, it is not clear how to interpret the result that Roermond and Venlo neutralize the accentual contrast in certain positions, and do not neutralize it in other positions. Is this a strange result, or is it perhaps entirely predictable, given the work done by GUSSENHOVEN (and colleagues), on the one hand, and the expertise provided by modern phonetic theory, on the other? Secondly, it is not clear at all whether the hypothesis that in Weert the accentual contrast is replaced by a length contrast has acceptable consequences. In any case it would mean that we would have to allow for systematic vowel lengthening before consonant clusters, and for high tones triggering compensatory lengthening. Both phenomena are marginal or even non-existing. Thirdly, FOURNIER'S conclusion that it must be stipulated on a language particular basis where in the brain tone and intonation are processed is too pessimistic. If she would have relied on phonological theory she might have developed a more interesting hypothesis, one that would have brought her to Venlo again.

The lack of theoretical depth is my main objection against the thesis. Apart from this I have two less important points. On page 11 FOURNIER says that the literature about Limburg dialects (and their German sisters) has paid only little attention to perception. This, I think, does not do justice to two very important works that do present perception tests, and even in a very elaborate way. These works are JONGEN (1972) and SCHMIDT (1986). These two sources just should not have been overlooked by FOURNIER.

Another point concerns the two sections containing the two grammars of Roermond and Venlo. Both sections are entirely taken from GUSSENHOVEN (2000a,b) and GUSSENHOVEN / VAN DER

VLIET (1999). In my view these two sections are totally superfluous, since they are completely disconnected from the perception tests. It would have been nice, if instead of these two grammars, FOURNIER would have developed a grammar of Weert. Such a section would have been very important, because it would perhaps have shown us how the phonology of vowel length in Weert works. I surely would have welcomed it, because to me vowel length in Weert is just a mystery.

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Amsterdam

BEN HERMANS

DIETRICH HOFMANN / ANNE TIERK POPKEMA: *Altfriesisches Handwörterbuch*. Unter Mitwirkung von GISELA HOFMANN. Heidelberg: Winter 2008. XXXVI, 603 S., 1 Kte., separ. Siglenliste. € 88,-

Wörterbuch, Grammatik, Textedition und Sprachgeschichte – dies sind die vier Grundpfeiler jeder wissenschaftlichen Beschäftigung mit einer Sprache. Die „Friesische Philologie“ oder „Frisistik“, wie sie jetzt genannt wird, zählt zu den sprachwissenschaftlichen Fächern, die bereits in der Frühzeit germanischer Sprachwissenschaft, noch bevor diese Namen überhaupt aufkamen, über ein großartiges Wörterbuch und über eine Textedition verfügte, welche sämtliche seinerzeit verfügbaren mittelalterlichen Texte enthielt: KARL FREIHERR VON RICHTHOFENS „Friesische Rechtsquellen“ und sein „Altfriesisches Wörterbuch“, beide 1840 erschienen. Zu Letzterem teilt der Verfasser in seiner Vorrede mit: „Aus einem register zu meinen friesischen rechtsquellen ist mir unter den händen ein umfangreiches wörterbuch erwachsen“. Dieser Bezug auf die Edition brachte es mit sich, dass zu jedem Lemma Textzitate aus den „Rechtsquellen“ aufgenommen bzw. Verweise auf Textnummern gegeben wurden. Im Jahre 1961, 120 Jahre nach Erscheinen, wurden beide Werke nachgedruckt, das Wörterbuch, weil es noch immer unersetzt und unentbehrlich war – ähnlich übrigens JOHANN ANDREAS SCHMELLERS „Bayerisches Wörterbuch“ von 1827/1837 – und