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## THE LONG AND SHORT OF (æ)-VARIATION IN DANISH

A PANEL STUDY OF SHORT (æ)-VARIANTS IN DANISH IN REAL  
TIME

by

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### **Abstract**

*After a brief introduction on studies of real time change in general, we focus on the well-known variable of short (æ) in Danish. We study this variation in the speech of 43 speakers from Næstved and Copenhagen respectively. The 43 informants were recorded twice with an interval of around 20 years. They were at the time of the first recording between 25 and 40 years of age and may thus be classified as adults past the critical age for language change. The study shows that speakers do indeed change during their life span but that the changes are not predictable in the sense that some speakers show an increased*

*use of the innovative variant, while others show a decrease. The consequences for the apparent time hypothesis as well as for the Labovian model of linguistic change are discussed.*

## **0 Introduction**

The purpose of the LANCHART project is among other things to test the apparent time hypothesis by completing a large scale survey in real time. The apparent time hypothesis has been summarized by Milroy and Gordon as follows:

Differences across generations of speakers are interpreted as evidence of language change in accordance with the *apparent time hypothesis*. This principle maintains that people of different ages can be taken as representative of different times. Thus the speech of a 75-year-old of today represents the speech of an earlier period than does the speech of a 50-year-old or a 25-year-old. Comparing these three speakers synchronically allows the researcher to draw diachronic inferences about developments over the last 50 or so years. (2003, 35)

One of the presuppositions behind this thinking concerns the controversial critical age hypothesis, so central to the discussion of foreign language acquisition (the idea is celebrated in the classical Lenneberg 1967, cf. the interesting discussion in Chambers 1995, 84-101, and more recently Sankoff 2004).

Obviously, a key problem with the apparent time hypothesis is age-grading. Age-grading (Hockett 1950) refers to the hypothesis that certain speech features will be characteristic of certain age periods, and that speakers will adopt these age-delimited features for a time and then abandon them when they leave the specific age period.

A crucial question is when (socio)linguistic acquisition stops. If language acquisition is a life long ongoing process which never stops, the apparent time hypothesis would be doomed to be refuted at the outset since it would be impossible to know what the speech of the 25-year-old would be like in 25 years (Milroy and Gordon 2003, 36). Early in his career Labov stated his belief in the tenet that sociolinguistic structures are in place once the adolescence is finished, though it should be noted that elsewhere he discusses this tenet in the light of the character of the variable in question (Labov 1972, 133ff).

A thorough discussion of age-grading is found in Chambers 1995 (169-185). In connection to age-grading, Chambers also discusses the relative stability of the speech of adults:

For the stages of life beyond young adulthood, our best evidence indicates that once the features of the sociolect are established in the speech of young adults, under normal circumstances those features remain relatively stable for the rest of their lives. Even when linguistic changes take root in the speech of younger people in the same community, the older people usually remain impervious to it, or nearly so. That is perhaps a linguistic reflex of the conservatism that often accompanies aging, (...) but it is also a function of the slowing of the language-learning capability beyond the critical period. (1995, 184ff)

According to this, we would expect adult speakers to be relatively stable in their use of linguistic features.

It should be noted that no one disputes that movers (covering both geographical and social movers) may imitate features of the speech community which they wish to join, actually, those situations furnish the best evidence for the thesis since it has been shown, beginning with Payne's study of the King of

Prussia condo in Philadelphia (Payne 1980), that such newcomers (in this case even children) do not acquire all of the system or only acquire it to a certain degree (cf. Chambers 1995, 86ff). For the same reason in this paper we shall only refer to informants who have not moved but rather have stayed all their life in the same place.

In Chambers 1995, Milroy and Gordon 2003<sup>1</sup> as elsewhere in the sociolinguistic literature, the apparent time hypothesis stands unrefuted. In recent years however evidence has begun to accumulate that informants may change during their life span (this is mainly due to the sustained work of Gillian Sankoff on this topic, cf. Sankoff 2004, 2005, 2006, 2007 but also Nahkola and Saanilahtis 2004 paper is central). An interesting discussion of the consequences for the Labovian model of change (Labov 1994, 83) may be found in Meyerhoff 2006 (p. 127 ff.). In a new model Meyerhoff introduces a distinction between gradual and abrupt change, abrupt change being typically associated with age-grading whereas lifespan change (the novelty in the model) is gradual for the community and abrupt for the individual.

The resulting model is this:

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<sup>1</sup> It should be noted that Milroy and Gordon follow Labov's lead in making the stability of adult sociolinguistic structures dependent on the type of variable: "Thus the basic assumption of the apparent-time hypothesis – that an individual's speech remains stable throughout life – seems to be reasonably secure if we understand it to apply to particular types of features (those that do not attract social awareness) and to cover the course of one's adult life only." (Milroy and Gordon 2003:37)

<i>Type of Change</i>	<i>Individual</i>	<i>Community</i>	<i>Synchronic pattern</i>
1. Stability – no change	Invariant	Invariant	Flat, no slope with age
2. Age-grading	Changes abruptly	Invariant	Steady increase/decrease with age
3. Lifespan change	Changes abruptly	Changes gradually	Steady increase/decrease with age
4. Generational change (change over ‘apparent time’)	Invariant	Changes gradually	Steady increase/decrease with age
5. Community-wide change	Changes abruptly	Changes abruptly	Flat, no slope with age

Table 1: Relationship between variation and change in the individual and the community, after Meyerhoff (2006: 144).

We note that this has complicated the relationship between the synchronic patterns and the type of change since there are only two patterns but five types of change. This is due to the fact that in the synchronic patterns it is impossible in a principled way to tease out the individual and the community. This can only be done by performing a real time panel study. Thus in his discussion of the problem of apparent time versus real time in the 1994 volume, Labov concludes:

We thus have two firm bodies of evidence on the stability of phonological systems. One set, consisting of trend studies, shows that variables operating at high levels of social awareness are modified throughout a speaker’s lifetime, with consistent age-grading in the community. The other set, including

community, family and individual studies, shows that the phonological categories that underlie the surface variation remain stable. Between these two is a vast array of data concerning the phonetic realizations of vowel systems, which show quantitative and qualitative differences across generations. These indicate that generational change rather than communal change is the basic model for sound change. As the panel studies based on reinterviews of the same subjects proceed, we will be able to state with more certainty how much age-grading is present in these records. (1994, 111)

It is the purpose of the present paper to add to the “vast array of data concerning the phonetic realizations of vowel systems” in order to contribute to the investigation of the role of age-grading and real time change.

### **1. The LANCHART Panel study**

In the following we report on a panel study re-interviewing 43 informants from two cities in Denmark, viz. the capital, Copenhagen, and Næstved, a regional centre situated almost 100 kilometres to the South of Copenhagen and thus by all measures within the dominance of the capital. The informants are 24



Copenhagens, all of whom participated in both the Copenhagen S1 study<sup>2</sup> (which was carried out in 1986-1988, cf. Gregersen and Pedersen 1991) and the LANCHART S2 study in 2005-06 and 24 Næstveders of whom 19 participated in the Kristiansen S1 study in 1986-89 and 24 in the LANCHART S2 study from 2005-07. The informants have been selected so that there are six in each cell evenly distributed among the two genders and the two social classes which we work with, the Working Class (WC) and the Middle Class (MC). We did not fully succeed in filling out this table for the Næstved data set since we had too few of the original informants to choose from.

	Copenhagen		Næstved	
	S1	S2	S1	S2
WC F	6	6	6	4
WC M	6	6	6	3
MC F	6	6	6	6
MC M	6	6	6	6
Totals	24	24	24	19

Table 2: Number of informants in old (S1) and new (S2) studies, Copenhagen and Næstved, cf. the introduction to this volume.

### 1.1 The phonetic variable (æ) before alveolars and syllable boundaries

At the turn of the century, there was only one "a-sound" in Danish: a back low vowel [ɑ]. During the first few decades of the 20th century, this [ɑ] split into two contextually conditioned allophones: the original [ɑ] before velars and

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<sup>2</sup> S1 refers to the first of the two panel studies in any study of real time change and similarly S2 to the second, cf. above chapter XX:XX

dorsals, and a fronted allophone [æ̟] before alveolars and syllable boundaries<sup>3</sup>. This has since led to the emergence of two sociophonetic variables, front (æ̟) and back (ɑ̟). This paper is concerned with the variation of (æ̟), which has a raised variant [ɛ̟] in addition to the majority variant [æ̟]<sup>4</sup>.

## 1.2 Classification of variants

The coding of the sociophonetic variables in the LANCHART project is carried out by having trained listeners classify tokens of the variables. Each variable has two primary variants, but coders are allowed to indicate when a variant is more extreme than either of the two primary variants, e.g. higher or lower than [ɛ̟] or [æ̟], and also whether they cannot determine if the variant is in between the two primary variants, e.g. a variant that is neither clearly [ɛ̟] nor clearly [æ̟].

Tokens are classified independently by two listeners and their classifications are compared to each other by a third listener. In cases of disagreement, the third listener decides which of the two classifications he or

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<sup>3</sup> This is somewhat simplified, since a preceding /r/ as well as an (underlying) /r/ in succeeding syllables complicates the phonetic conditioning, cf. Holmberg 1991 and Davidsen-Nielsen & Ørum 1978. However, this has been taken into account in the investigation of the variation that is the focus of this paper.

<sup>4</sup> The transcription here is non-normalized IPA which differs from other expositions of Danish vowels in the use of the Cardinal Vowel symbols (cf. Grønnum (2005)). We use conventional parentheses to denote sociophonetic variables and square brackets to denote their phonetic realization. Note that both of the variables mentioned here are allophones of the morphophoneme |a| according to Basbøll (2005).

she agrees with. The coding has been carried out in two stages: A set of twelve informants were singled out for extensive coding of the entirety of the recordings they participated in, in the corpus. This subset is referred to as the Exploratory Corpus, and forms the basis for selection of passages for coding in the corpus proper. For these interviews, *all* tokens of each variable have been classified by the coders.

In the corpus proper, at least 40 tokens of each variable were singled out for classification by the group of coders. Otherwise the procedure is the same, with two listeners classifying the tokens independently and a third coder checking for agreement.

## **2 Results for the individual informants – do they change in real time?**

### **2.1 Copenhagen**

It is possible to test the null hypothesis for 43 of the informants, 24 Copenhageners and 19 in Næstved. Of the 24 Copenhageners, 6 change their distribution of variants significantly in real time (see table 3).

The results are intriguing. The first three informants in table 3 have significantly less [ɛ], i.e. they have in fact become categorical [æ]-users and thus they have simply lost a variant. But the last three informants change significantly in the opposite direction: they use more [ɛ]s in the new recordings. The [ɛ] variant, as mentioned above, certainly at least *was* a

socially significant and often stereotyped working class symbol but note that those who have shown an increase of [ɛ] all come from the Middle Class. The level of [ɛ] characteristic of the last informant in the table, an [ɛ]-percentage of 41 is simply not what the MC men are supposed to have. And yet both he and his brother (the second to last) have changed significantly from their S1 recording to their S2 recording.

One explanation might be if they had changed class affiliation from the S1 study to the S2 study, but that may be dismissed at once since they have both been academics for the whole period and the one that changes most significantly has even been promoted to a considerably higher post now than he had then. It might be a relevant explanation, however, for the WC man who changed significantly to becoming a categorical [æ] user. He has in fact changed class and is now no longer WC, if he ever was<sup>5</sup>.

Finally to complicate things further: The MC woman who changed to becoming a categorical [æ] user is actually the sister of the woman who changed the other way. Thus, while the increases for the two male informants who are brothers, might have been interpreted as reflecting a tendency to revert later in life to speech patterns that were typical for the environment in

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<sup>5</sup> His family background was at the time of the S1 MC, but his own position was that of a musician out of job. Hence he was, correctly we believe, classified as WC at the time of S1. He is now obviously MC since he is an estate broker.

which the speaker grew up, the difference between the two sisters indicate that this cannot be a general tendency.

Gender	Social class	Study	Direction of change	% [ɛ]	% [æ]	n	Significance
F	WC	S1	↓	18	82	44	
		S2		0	100	42	***
M	WC	S1	↓	20	80	44	
		S2		0	100	42	***
F	MC	S1	↓	10	90	39	
		S2		0	100	45	**
F	MC	S1	↑	2	98	42	
		S2		24	76	41	***
M	MC	S1	↑	5	95	41	
		S2		28	73	40	***
M	MC	S1	↑	21	79	43	
		S2		41	59	51	**

Table 3: The results of the six informants from Copenhagen who changed significantly. The recordings are sociolinguistic interviews. The test used here, and in the other calculations in the paper, is Fisher's exact test, since the data are very unequally distributed among the cells of the table, which makes the  $\chi^2$ -test unsuitable. \*\* indicates  $p < 0.05$ , \*\*\* indicates  $p < 0.005$ .

## 2.2 Næstved

In the Næstved data set the [ɛ] proportions are generally higher and we shall come back to this in the next section. For the moment we concentrate on the individuals and their possible change in real time. Of the 19 informants who have been recorded both in S1 and S2, we have 5 shifters. Thus, in these two

data sets, in total around a fourth of the informants do in fact change significantly in real time:

Gender	Social class	Study	Direction of change	% [ɛ]	% [æ]	n	Significance
M	WC	S1	↑	17	83	46	
		S2		48	52	46	***
M	WC	S1	↑	12	88	52	
		S2		44	56	41	***
M	MC	S1	↓	48	52	44	
		S2		23	77	43	**
M	MC	S1	↓	26	74	43	
		S2		7	93	44	**
M	MC	S1	↓	41	59	44	
		S2		18	82	38	**

Table 4: The results of the five Næstved informants who changed significantly in real time. The test used is Fisher's exact test. \*\* indicates  $p < 0.05$ , \*\*\* indicates  $p < 0.005$

It is noteworthy that all the five shifters from Næstved are males. Two of the five are from the WC and they shift upwards, i.e. towards using more [ɛ] in the S2 recordings whereas the three MC informants all change significantly towards using less [ɛ] (interestingly the opposite direction of their 'class-mates' in Copenhagen). None of the speakers were or are now categorical [æ] speakers, again in contrast to the Copenhageners. Obviously, a division between the two classes invites us to speculate along the lines of class

determination but we shall postpone the discussion of this feature till the next section.

We note that we have now shown that adult individuals may in fact shift in their quantitative use of a socially salient variant of a well known variable in real time. Life span changes may be more common than we had thought before. Around a fourth of our informants shift significantly, some of them highly significantly. Neither in Copenhagen nor in Næstved is there any agreement as to the fate of the variant in question and thus the direction of change. We find shifts both upwards, towards using more [ɛ] variants, and downwards, towards using less [ɛ]. This leads us to think that the social salience of this variant is not the pertinent explanation for the shifts.

### **3 Change in real time - variation at group level**

Looking at the individual variation gives us interesting results regarding the apparent time hypothesis. Looking at the variation at group level gives us another perspective on the variation, and makes it possible to hypothesize about the spread of the raised variant of (æ) across communities.

An important hypothesis in the LANCHART Project is that linguistic change in Danish primarily spreads from Copenhagen to other speech communities in the country. This is what is referred to as *the standardization model* (see Jensen, this volume, Kristiansen, this volume). If the use of raised

short (æ) represents a change in progress, according to this model we would expect:

1. that the use of raised (æ) is highest among the Copenhagen informants.
2. an increase in the use of the variant in both the Copenhagen and the Næstved speech community.

In the analyses below we will test these expectations on the data.

### **3.1 The overall picture**

Overall, there is no significant change in use of the [ɛ] variant of short (æ) among the Copenhagen informants as a group (figure 1). They use approximately the same amount of [ɛ] in the Copenhagen S1 study and the S2 study. So, from this perspective, it looks as if nothing has happened in Copenhagen regarding the informants' use of the variant. However, we know from the individual results above that there are indeed individuals who use different proportions of the variant in the two recordings. We will get back to the issue of the relationship between individual behaviour and group results below.



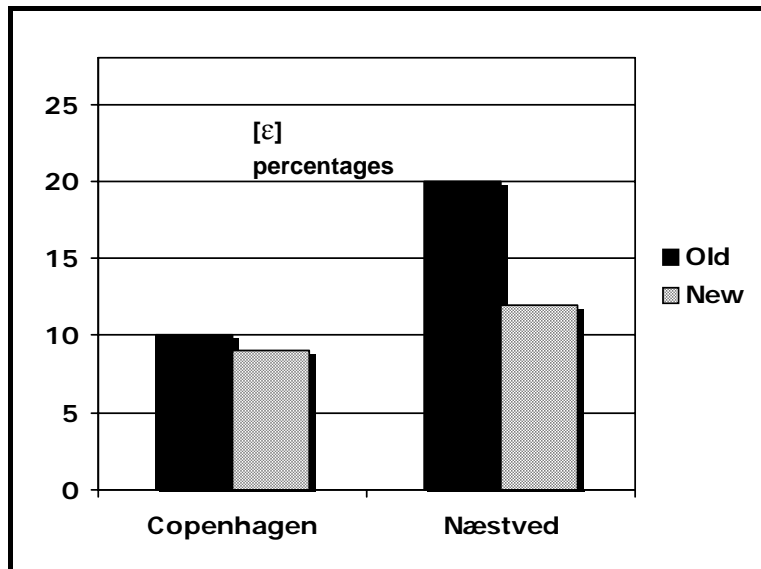


Figure 1: The percentages of [ε] in Copenhagen and Næstved S1 (old) and S2 (new) results.

In Næstved, on the other hand, the difference between the old and the new recordings is statistically significant ( $p < 0.005$ ) and quite large. Actually, the amount of [ε] in the S1 recordings is almost double the amount of what we find in the new recordings (a drop from 20% to 12%). Thus, it seems that very different things are happening in the two communities.

Analysing the results in relation to the standardization model, several things are worth noting. First of all, the hypothesis that the Copenhagen informants would have a higher proportion of [ε] than the Næstved informants is not supported by the facts. On the contrary, the Næstved informants have a

much higher amount of the variant than the Copenhagen informants in the old recordings. This suggests another explanation: The S1 recordings must have been made when the use of the variant had already peaked in Copenhagen.

Secondly, in the new recordings, the amount of [ɛ] used by Copenhagen and Næstved informants is almost the same (9-12%) and not significantly different. This supports the latter interpretation above, namely that the use of the variant had already peaked in Copenhagen prior to the time when the S1 recordings were made. Since Næstved is, compared to Copenhagen and according to the standardization model, delayed in the processes of linguistic change, it is not surprising that the decrease in use is seen later in Næstved than in Copenhagen. We will go into more detail below as we analyse the data divided into subgroups.

### **3.2 Gender and socio-economic status**

The data has been collected so as to represent different socio-economic backgrounds and gender equally (see Gregersen, this volume, for an introduction to the LANCHART project). Figure 2 shows the use of the [ɛ] among the Copenhagen informants, divided into subgroups based on socio-economic background and gender.

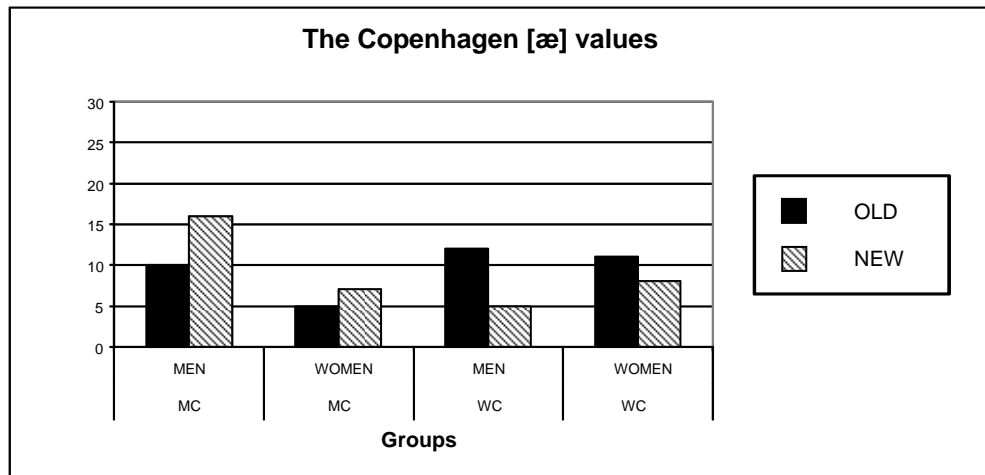


Fig 2: The Copenhagen [æ]-percentages for the subgroups.

The amount of [ɛ] is significantly higher among working class (WC) speakers than among middle class (MC) speakers in the old recordings ( $p < 0.05$ ), but higher among MC speakers than WC speakers in the new recordings ( $p < 0.05$ ). This is a result that merits a few comments. It has to do with the relationship between individuals and groups in analyses like these. Most of the MC speakers are, as we mentioned above in our study of the behaviour of individuals, not changing significantly from the first to the second recording. However, the difference between the old and new recordings of two of the MC male speakers is large enough to influence the MC group as a whole. This is in a sense problematic, but we see no way in which we can possibly solve this problem. Thus, we point to the fact that these two speakers have a very

important influence in this group, but we do not feel that we can leave them out of the analysis, or in other ways change their influence in the corpus.

As can also be seen from figure 2 the use of [ɛ] seems to be related to socio-economic background and not to gender, and this actually proves to be the case when we examine the results statistically. We find that in both the old and the new recordings, there are class differences, but neither in the old nor in the new recordings do we find statistically significant differences in the use of the [ɛ] variant related to gender. The lack of a gender distinction in Copenhagen might indicate that the variation is no longer a change in progress. If gender distinction is often seen in connection to changes in progress, a lack of distinction might be an indicator of stagnation.

Thus, in Copenhagen the use of [ɛ] seems at first glance to be related to socio-economic background, but the relationship changes to the opposite from the old to the new recordings. As we have seen, this is in fact due to the behaviour of two individuals. If we focus on the other MC informants, there is no statistically difference between the S1 and the S2, and no class difference in the S2.

In the Næstved data, on the other hand, the situation is quite different (figure 3). In both the old and the new recordings, there is a difference between male and female speakers with regard to the use of [ɛ], where men have a

higher proportion of [ɛ]. In the old recordings there is also a difference according to socio-economic background, where MC speakers use more [ɛ]'s than WC speakers.

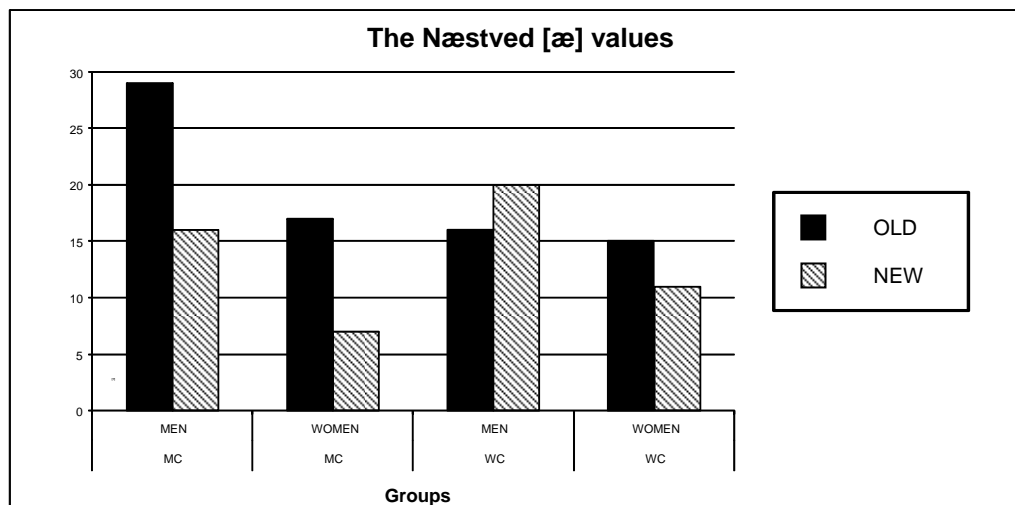


Fig 3: The Næstved [æ]-percentages for the subgroups.

In Næstved then, the frequent use of raised [ɛ] is characteristic of male speakers, whereas in Copenhagen there are no gender differences.

#### 4 Comparing subgroups in the two communities

The interaction between gender, socio-economic background and geography becomes clearer when we view the results of the subgroups separately, and compare the two communities.

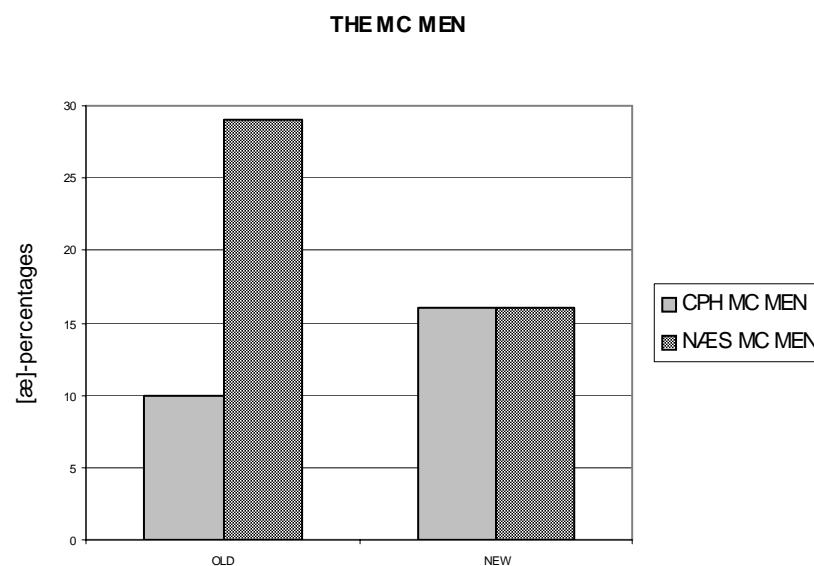


Fig. 4: The Copenhagen (grey) and Næstved (checkered) MC men compared, old and new recordings.

Figure 4 shows the amount of [æ] among the MC male speakers in old and new recordings in both Copenhagen and Næstved. In the old recordings there is a huge difference between Copenhagen and Næstved speakers' use of the variant, where Næstved MC male speakers use [æ] three times more than the Copenhagen MC male speakers. In the new recordings however, there is no difference between Copenhagen and Næstved at all, which is mainly a consequence of the considerable decrease in use of the variant with the Næstved speakers.

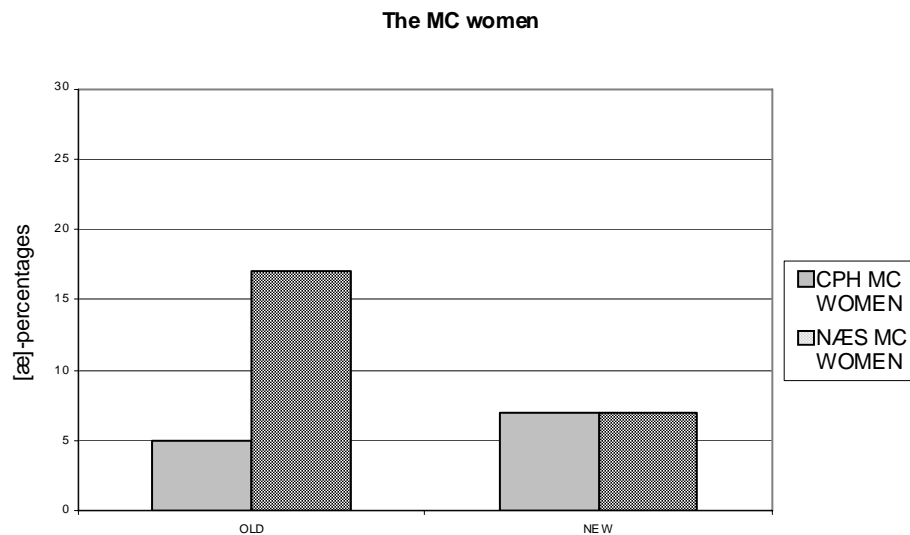


Fig 5: The Copenhagen (grey) and Næstved (checked) MC women compared, old and new recordings.

The same pattern is seen when we turn to the MC female speakers (figure 5). In the old recordings the Næstved MC female speakers use four times as many [æ]'s as the Copenhagen speakers ( $p < 0.005$ ), while they use the same amount of the variant in the new recordings. Thus, the pattern for the MC speakers is this: Twenty years ago the use of [æ] could be seen to be a Næstved phenomenon much more than a Copenhagen phenomenon, but in the new recordings the Næstved MC speakers have changed their use of the variant to

the same level as the Copenhagen speakers. This suggests an interpretation of the results along the same lines as given in section 3.1 above, namely that what used to be a new variant of short (æ) primarily gaining ground in Copenhagen speech, has not followed a development towards completion, but presumably peaked in Copenhagen speech prior to the time when the S1 recordings were carried out. This seems a reasonable interpretation of the MC data. However other explanations must be applied when we turn to the WC data.

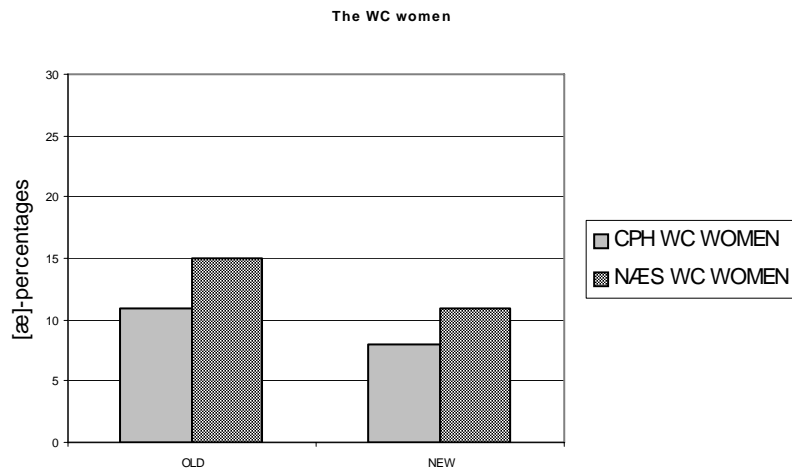


Fig. 6: The Copenhagen (grey) and Næstved (checkered) WC women compared, old and new recordings.

Judging from figure 6, both Copenhagen and Næstved WC female speakers seem to show a decrease in their use of [æ], but the difference is not statistically significant. Furthermore, the Næstved WC female speakers seem to have a higher proportion than the Copenhagen WC female speakers both in



the old and in the new recordings, however these differences are not significant either. Thus, for the WC women, there are no differences between the two communities, and nothing has happened from the S1 to the S2 recordings regarding the use of [ɛ].

On the other hand, the pattern of parallel decrease seen from figure 6 is quite interesting, even though it not statistically significant. Instead of converging towards a common end point (as the MC speakers), the amounts of [ɛ] in the two groups seem show a parallel decrease. Since neither the S1 difference, nor the S2 difference is statistically significant, though, they can both be regarded as being the same distributions. This means, that whereas there was a difference between middle class women from Copenhagen and Næstved at the time of the original study, which has since disappeared, there never was a difference between the *working class* women of Copenhagen and Næstved in the time span covered by our recordings.

In this case then, comparing the results to the predictions based on the standardization model, we find that interpretation is not straightforward. According to the standardization model, the fact that there are no differences between the two communities of working class women either in the S1 study or in the S2 study, and no difference between S1 and S2 recordings of the same group, might be given two explanations. One possible explanation is that the speed of change is for some reason slower among the WC women, than

among other speakers. This seems unlikely though, unless it could be supported by data on e.g. a very low mobility of this subgroup so that they in particular would be more or less restricted to local communication. Another explanation might be that the development has come to a stop for these speakers, and that it already had so at the time of the S1 study. This also seems unlikely, since the WC women are not the group with the lowest amount of [ɛ], but if we view the results in relation to results from the other subgroups, we find interesting relations.

So far, the standardization model has, at least to some degree, been able to account for the patterns of variation we have analysed. The results of the WC male speakers, however, do not fit the model at all.

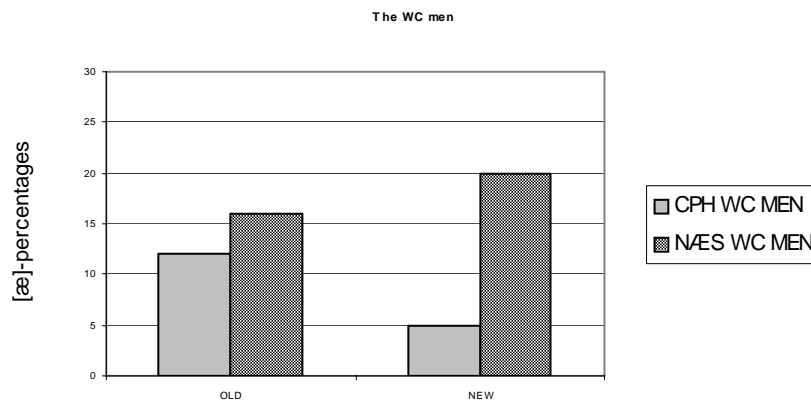


Fig. 7: The Copenhagen (black) and Næstved (checkered) WC men compared, old and new recordings.

The WC male speakers show a development where the Næstved speakers in both old and new recordings have a larger amount of [ɛ] than the Copenhagen speakers. This is not unexpected compared to the other results. Furthermore, like the WC female speakers, the WC male speakers do not significantly decrease their use of the variant from the old to the new recordings. Though Fig.7 shows an increase in the use of the raised variant this increase is not significant (the average [ɛ]% for the S1 is 16 while it rises to 20 in the S2,  $p=0.2934$ ). The Copenhagen WC male speakers, however, agree with the general Copenhagen tendency to decrease the use of [ɛ] and this decrease is highly significant at the group level ( $p<0.005$ ). Together these two developments result in a highly significant difference between the Copenhagen WC males and the Næstved WC males in the new recordings ( $p<0.005$ ).

*This pattern cannot be explained by the standardization model.* The WC men in Næstved do not change in the direction predicted by the standardization model, in fact they do not change significantly at all, cf. fig.7 above. Furthermore, the difference between the Copenhagen and Næstved groups is - again contrary to the prediction - larger in the new recordings than in the old. Thus, the standardization model is not sufficient to account for all the patterns described here. It does, however, account for three out of four, which makes the WC men stand out as an exception from the general picture.

Why do the WC male speakers not live up to the predictions of the standardization model? It seems unlikely that they are just delayed compared to the other groups, and will change towards a smaller amount of [ɛ] at a point in the future. It is more likely that somehow the [ɛ] has acquired a regional social meaning in the Næstved speech community. The MC pattern clearly shows a development where the use of [ɛ] has changed from being quite specific to Næstved, to showing no difference at all between MC speakers from Næstved and Copenhagen. Instead, the WC male speakers from Næstved are now in the lead regarding the use of this former Copenhagen variant. This might also explain why the WC female speakers from Næstved have not decreased their use of the variant. The difference between men and women is still significant, due to the WC men using it more, which means that the women did not have to decrease their use in order to keep this difference. The results also suggest a kind of cross-over pattern, where use of this particular variant has changed from being typical for one subgroup to being typical for another when we compare the social classes in the two speech communities. According to standard interpretations this might indicate a change in the social meaning of the variant, so that in Næstved it now carries social meanings connoting working class maleness.

This admittedly speculative interpretation cannot, however, be verified with data on language use alone. In our opinion, an obvious way to test the

idea is by the use of highly controlled studies of language attitudes, where only one linguistic feature (in this case the [ɛ]) is the controlled factor varying between speech samples (Campbell-Kibler 2005, Plichta and Preston 2005).

### **5 Patterns of change**

The analysis of the group results has yielded different patterns of variation and change. The first pattern – valid for the MC speakers in this study - is *the convergence pattern* where the two groups start at different points, but are converging towards a common target. The second one is the pattern for the WC female speakers, which we might call *the constant level pattern*. However we also mentioned a tendency for this group towards what we have labelled *the parallel change pattern*. Here, the groups start at similar points, and show a steady decrease. This pattern is only a tendency in the data and cannot be supported statistically, though. Finally, we have seen a sort of modified *cross-over pattern* that leads us to suspect that the social meaning of [ɛ] has changed in the period between the first and the second recordings at least for WC male speakers.

It should be noted that there are two preconditions for this interpretation to make sense. First, it is obvious that *the speed of converging to Copenhagen speech must have increased from the S1 recordings to the S2*. Otherwise it would not make sense that there is a difference between the Næstved and the

Copenhagen figures in the original studies. This difference must necessarily be interpreted as indicating a slower convergence to the (new) lower values in Copenhagen at the time of the S1 study. The Danish research tradition is unanimous in pointing to the [ɛ] as being a Copenhagen (specifically a Copenhagen WC) shibboleth (cf. section 2 above) and this is the basis for the idea of an earlier peak in Copenhagen, a peak that was reflected in the higher figures for Næstved at the time of S1. This difference is not there any longer in the S2 figures (except for the WC males). That must indicate a higher speed of convergence. That the speed of convergence has risen in particular for the MC speakers might be interpreted, along the lines of regional dominance, to mean that the Næstved and Copenhagen MC speakers simply participate in the same speech community at the time of the S2 study.

The WC speakers do not, however, participate in the Copenhagen speech community, i.e. they do not participate in the general Næstved decrease of the use of the raised variant. This leaves them isolated with their high proportion of [ɛ]. The difference in the use of [ɛ], which was non-existent in the S1 recordings is now significant ( $p < 0.005$ ). Since the women have decreased their use of the [ɛ] variant, the [ɛ] is at the time of S2 a significant variant in the Næstved speech community as such, distinguishing between the genders ( $p < 0.005$ ) with the traditional pattern of the MC women at one end and the WC men at the other. There is thus some evidence that the [ɛ] which

used to be a reliable social class marker in Copenhagen is now a gender variant in Næstved.

When Kristensen and Jørgensen carried out their study of adolescents in Næstved (Kristensen & Jørgensen 1994) at the time of the Kristiansen S1 study, they noted a prevalence of the raised short a-variant among the young working class men. This has apparently persisted and the generality of this feature for the WC males comes out in the results from the Kristiansen S1 and even more pronounced in the LANCHART S2. So, Næstved is indeed a separate speech community which celebrates the use of the raised a-variant to indicate maleness and WC-ness? The link from actual use of a variant to aspects of social meaning connected to it is certainly not straight-forward. In a recent paper Johnstone and Kiesling (2008) warn us not to fall prey to the intentional fallacy. In particular, by analyzing overt attitudes to Pittsburghese and the use of the same variable by Pittsburghers, they show in detail that signalling and use may be different things.

There are certain problems connected to the use of conscious, i.e. overt, language attitudes only (Kristiansen 2001, 2003, Maegaard 2005). However, it is obvious that we need other types of data to make more solid interpretations of social meaning connected to specific variants. In this particular connection, it should be noted that the signalling of maleness is done in so many other ways, the fundamental frequency for one, so that this cannot be the sole

function of this use of a specific vowel quality and a specific percentage level of this vowel quality at that.

Actually, the data tell us only that a specific group of informants have a significantly higher level of use of one or the other feature, but in order to establish the nature of a particular variant's social meaning we need independent evidence stemming from e.g. language attitudes studies which control for the (various levels of) use of this specific variant and which open the gates to unconscious attitudes as well as conscious ones (Kristiansen this volume, Maegaard 2007, Pharo & Kristiansen 2008, Labov 2008). Another way to approach the study of the social meaning potentials of a certain variant is by means of detailed interaction analysis (cf. Beck Nielsen, Fogtmann and Juel Jensen, this volume, Podesva 2007).

## **6. Discussion and conclusion**

We have seen that around a fourth of the informants in this panel study of short (æ) in Danish shift their patterns of use significantly in real time. This happens even though they are adults, i.e. as a life span change. The change may not, however, be explained by the uniform agreement of the speech community to move in one direction since the speakers do not agree as to which direction their changes take.



Nothing in our data may help us to decide whether this change was abrupt for the individual as the Labov-Sankoff model predicts, or whether it was the outcome of a gradual accumulation of de- and increases respectively. Evidently, the Labov-Sankoff model is a model of change. Maybe it is not directly valid for variables which are constantly involved in variation without this leading to change at least in the period we have studied, i.e. 20+ years?

A possible explanation for the facts about the variation as to [æ]-variants in two Danish communities presented above is to point to the nature of the surrounding society. In a post modern society the previous markers may have lost their iconic value. What used – and there is no denying the fact that this was, until the 1960s at least, a marker of Copenhagen WC speech – to be a socially significant variant, the object of correction and ridicule, has now been adopted by Middle Class speakers of impeccable standing and with no particular WC identity except perhaps a WC family background as with the two brothers from Copenhagen. This could be taken as an indication that this variant is available for everyone to use and thus has no fixed social meaning.

But the results we have presented here are not random. The confusing fact is that the two communities are very different. In the Copenhagen community, the S2 results feature a highly significant difference between the WC males and the MC males. But the difference is that the MC men have

significantly *more* of the raised variant previously supposed to be a symbol of the WC. In Næstved it is the opposite.

In Copenhagen the rise of the raised [ɛ] among the MC men has not only led to a difference inside the MC class between men and women ( $p < 0.005$ ) but it has also led to a reintroduction of class in the pattern. In the S2 results the difference between the classes is significant ( $p < 0.05$ ). So what in Næstved is demonstrably now only a gender variant ( $p < 0.005$ ) isolating the WC men with their high values, has in Copenhagen become a variant that in fact isolates the MC men from all other groups. Actually the Copenhagen S2 pattern reminds us suspiciously of the Næstved S1 pattern: the MC men have the highest value and this value is significantly higher than that of all the other groups. The only difference is the level of use which was much higher in the Næstved S1. If anything the Næstved S1 pattern might 'explain' the Copenhagen S2 pattern if we could only reverse the direction of dominance!

History may take us part of the way towards an understanding of the way [ɛ] is being used today. The history of this particular variant is so much still with us that it must have some influence on the current pattern of usage. Just as the 2<sup>nd</sup> person pronoun still retains some of its intimate flavour even when used as a generic pronoun (cf. Juel Jensen, this volume) so the raised variant of (æ) still retains some of its history as a Copenhagen WC variant while being used more generally and more widely by people who do not

belong to the Copenhagen WC (but rather to the Næstved WC or the Copenhagen MC). To all extents and purposes in Copenhagen this variable has lost its obvious interpretation as tied to a specific group which originally had the privilege of access to it, whereas in Næstved these historical privileges have been reasserted by the WC men while the MC men have given up their claim to it.

### **References**

- Basbøll, Hans. 2005. *The Phonology of Danish*. Oxford: Oxford University Press.
- Beck Nielsen, Søren, Torben Juel Jensen and Christina Fogtmann. This volume. "From community to conversation – and back". *Acta Linguistica Hafniensia* 41. XXX
- Campbell-Kibler, Kathryn. 2005. *Listener perceptions of sociolinguistic variables: The case of (ING)*. Ph.D. thesis. Stanford university.
- Chambers, J.K. 1995. *Sociolinguistic Theory*. Oxford: Blackwell.
- Davidson-Nielsen, Niels and Henning Ørum. 1978. "The Feature "Gravity" in Old English and Danish Phonology". *Acta Linguistica Hafniensia* 16.

- Gregersen, Frans and Inge Lise Pedersen, eds. 1991. *The Copenhagen Study in Urban Sociolinguistics*. Copenhagen: Reitzel.
- Grønnum, Nina. 2005. *Fonetik og fonologi. Almen og dansk*. (3<sup>rd</sup> edition). Copenhagen: Akademisk forlag.
- Hockett, Charles F. 1950. "Age-Grading and Linguistic Continuity". *Language* 26, no. 4:449-457.
- Holmberg, Henrik. 1991. "The sociophonetics of some vowel variables in Copenhagen speech". In *The Copenhagen Study in Urban Sociolinguistics*, edited by Frans Gregersen and Inge Lise Pedersen. Copenhagen: Reitzel. 107-239.
- Juel Jensen, Torben. This volume. "Generic pronouns in real time. Developments in use of generic *du* in late 20<sup>th</sup> century spoken Danish". *Acta Linguistica Hafniensia* 41. XXX
- Johnstone, Barbara and Scott Fabius Kiesling. 2008. "Indexicality and experience: Exploring the meanings of /aw/-monophthongization in Pittsburgh". *Journal of Sociolinguistics* 12, no. 1:5-33.
- Kristensen, Kjeld and Jens Normann Jørgensen. 1994. *Moderne sjællandsk. En undersøgelse af unge sjællænderes talesprog*. Copenhagen: Reitzel.
- Kristiansen, Tore. 2001. "Two Standards: One for the Media and one for the School". *Language Awareness* 10, no. 1:9-24.

- Kristiansen, Tore. 2003. "The youth and the gatekeepers: reproduction and change in language norm and variation". In *Discourse Constructions of Youth Identities*, edited by Jannis Androutsopoulos and Alexandra Georgakopoulou. Amsterdam: John Benjamins.
- Kristiansen, Tore. This volume. "The macro-level social meanings of late-modern Danish accents". *Acta Linguistica Hafniensia* 41. XXX
- Labov, William. 1972. "Hypercorrection by the Lower Middle Class as a Factor in Linguistic Change". In William Labov: *Sociolinguistic Patterns*. Philadelphia: University of Pennsylvania Press.
- Labov, William. 1994. *Principles of Linguistic Change. Volume 1: Internal Factors*. Oxford: Blackwell.
- Labov, William. 2008. "The cognitive status of sociolinguistic variables. Cognitive capacities of the sociolinguistic monitor". Plenary lecture at *The Sociolinguistics Symposium 17 (SS17)*. Amsterdam: Vrije Universiteit.
- Lenneberg, Eric. 1967. *Biological Foundations of Language*. New York: John Wiley & Sons.
- Maegaard, Marie. 2005. "Language Attitudes , norm and gender. A presentation of the method and results from a language attitude study". *Acta Linguistica Hafniensia* 37: 55-80.

- Maegaard, Marie. 2007. "Udtalevariation og -forandring i københavnsk. En etnografisk undersøgelse af sprogbrug, sociale kategorier og social praksis blandt unge på en københavnsk folkeskole". *Danske talesprog* 8. Copenhagen: Reitzel.
- Meyerhoff, Miriam. 2006. *Introducing Sociolinguistics*. New York: Routledge.
- Milroy, Lesley and Matthew Gordon. 2003. *Sociolinguistics. Method and Interpretation*. Oxford: Blackwell.
- Nahkola, Kari and Marja Saanilahti. 2004. "Mapping language changes in real time: a panel study on Finnish". *Language Variation and Change* 16: 75-92.
- Payne, Arvilla. 1980. "Factors controlling the acquisition of the Philadelphia dialect by out-of-state children". In *Locating Language in Time and Space*, edited by William Labov. New York: Academic Press.
- Pharao, Nicolai and Tore Kristiansen. 2008. "Attitudes and Language Change in Real Time: Evidence from Denmark". Paper given at the Sociolinguistics Symposium 17, Amsterdam.
- Plichta, Bartłomiej and Dennis Preston. 2005. "The /ay/s Have It. The Perception of /ay/ as a North-South Stereotype in United States English". *Acta Linguistica Hafniensia* 37:107-130.

- Podesva, Robert . 2007. "Phonation type as a stylistic variable: The use of falsetto in constructing a persona". *Journal of Sociolinguistics* 11, no. 4: 478-504.
- Sankoff, Gillian. 2004. "Adolescents, young adults and teh critical period: two case studies from *Seven Up*". In *Sociolinguistic Variation: Critical Reflections*, edited by Carmen Fought. Oxford: Oxford University Press.
- Sankoff, Gillian. 2005. "Cross-sectional and longitudinal studies in sociolinguistics". In *Sociolinguistics/Soziolinguistik: An International Handbook of the Science of Language and Society/Ein internationales Handbuch zur Wissenschaft von Sprache und Gesellschaft*, edited by Ulrich Ammon, Norbert Dittmar, Klaus J. Mattheier and Peter Trudgill. Berlin: Mouton de Gruyter.
- Sankoff, Gillian. 2006. "Apparent time and real time". In *Encyclopedia of Language and Linguistics* vol. 1 (2<sup>nd</sup> edition), edited by Keit Brown. Oxford: Elsevier.
- Sankoff, Gillian. 2007. "Lifespan life and language change". Plenary lecture at *The 18<sup>th</sup> International Conference on Historical Linguistics (ICHL 2007)*. Montréal: Université du Québec à Montréal.