

A dialect with ‘great inner strength’? The perception^{*} of nativeness in the Bergen speech community

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Abstract. This article presents the results of a listening experiment designed (1) to test whether or not ‘natives’ of a speech community (here, Bergen in Norway) can judge speakers of their dialect as ‘native’ or ‘non-native’ and (2) to test their perception of degrees of mixing of their own dialect with another (that of the so-called ‘Stril’ rural districts surrounding Bergen). The results indicate that while the perception of nativeness is not an all-or-nothing matter, Bergen is more ‘perceptually focused’ than many other urban speech communities. It is found that the most ‘Bergened’ Stril voice on the test tape is rated as ‘native’ by most of the judges, suggesting that fluency in a second dialect is possible at a relatively late age (in this case, 16). In the perception of dialect mixing, it was found that morpho-lexical features combine with other features in a complex way to lead to a ‘percept’ of a voice sample: rather than the features from different levels always co-varying, a low use of morpho-lexical features from the rural dialect may be compensated for by a high use of other rural features. The converse is also possible, leading to similar overall percepts. Finally, a model of the judges’ attribution process is suggested.

1. Introduction – the ‘speech community’

This article addresses an issue which lies at the centre of Labovian sociolinguistics: that of the ‘speech community’. This is an important notion since it is in some sense taken as a prime, that is, as a given unit of analysis. In order to make clear the importance of the notion, I begin by making some remarks concerning both its definition and its application in sociolinguistic studies.

Labov has defined the speech community as follows:

The speech community is not defined by any marked agreement in the use of language elements, so much as by participation in a set of shared norms; these norms may be observed in overt types of evaluative behavior, and by the uniformity of abstract patterns of variation which are invariant in respect to particular levels of usage (1972:120).

^{*} This article is a revised and expanded version of Kerswill (1982).

Labov is making two points here. The first is that speakers within a speech community all evaluate linguistic features in the same way. In other words, a particular vowel quality, or a particular grammatical form, is thought of by everybody as being characteristic of a certain type of speaker; in Labov's own approach, 'type of speaker' has most often been taken to refer to a speaker's position on a social class continuum. Of course, linguistic features signal all kinds of possible classifications of speakers, including those based on sex, age, ethnicity, membership of certain professions, membership of football supporters' clubs, and so on. The important thing is that a member of the speech community will agree with other members on what the linguistic features signal.

In my own study of rural in-migrants in Bergen, the issue of whether the in-migrants share the same evaluative norms as the native Bergeners was of central concern, and is fully discussed in Kerswill (1993) and Kerswill (1994); however, in this article I focus on the second point Labov seems to be making in the quotation above. By talking of the 'uniformity of abstract patterns of variation', he implies that the language varieties in use in a speech community are relatable in a systematic way. In practice, this means that the speech varieties, or accents or sociolects, on the whole share a common core of syntactic structures, morphological categories, and phonological units or phonemes. The differences between the varieties on these levels of linguistic analysis are largely describable as differences in low-level rules. For a number of reasons, sociolinguists have concentrated on the phonology, and have found that the variation there has largely been intra-phonemic rather than inter-phonemic.

This analysis of the relationship between varieties within the speech community begs the question of how to analyse the variation outside southern England and North America, where the model was first developed and successfully applied. Outside these areas, for example in Northern England, Germany, Italy and Scandinavia, and more generally in societies where there are large dialect differences and standard varieties are more remote from the spoken vernaculars, we find rather extensive morpho-lexical variation. By 'morpho-lexical variation', I mean that the relationship between 'equivalent' forms even in a monolingual community is not statable in terms of intra-phonemic variation but is instead largely unpredictable and therefore lexical, involving the use of different phonemes. In most cases, there will also be differences in phonemic inventory. I mention morpho-lexical variation here because, as will become clear, such variation is pervasive in Norway, both between dialects of different regions and within geographically limitable speech communities, such as Bergen (see Kerswill 1996a for a comparison of the

situations in southern England and western Norway). The problem is the following: once one allows variation of this sort into a speech community model, how can one draw the line between varieties which belong and those which do not? We may then be forced to discard the criterion of linguistic relativeness and concentrate instead on the first criterion, that of shared evaluation of linguistic varieties.

However, it is clear from this discussion that, regardless of the size and type of the linguistic differences between the varieties, the total linguistic range of a speech community is nonetheless limited. This means that there will also exist (elsewhere, but also spoken by 'outsiders', particularly immigrants) varieties which do not belong to the speech community in question. I mentioned earlier that a part of Labov's definition of the speech community involves a like evaluation of the linguistic features or varieties in use; it presumably follows from this that varieties which do not 'belong' to the speech community will be identified by members as not belonging, and that their evaluation will depend on a number of other factors, for example the community's being part of a larger, perhaps national speech community.

It is the idea of the identification of a native member of the speech community that will be addressed in this article. This is an important issue because so much sociolinguistic analysis depends on the linguist's, and presumably also the native listener's, ability to identify what is and what is not a part of a given speech community. This article presents a method of testing native listeners' ability to accept or reject different sorts of speech as 'native'.

2. Discreteness in judgements of nativeness?

Testing for judgements of 'nativeness' can be done by presenting 'native listeners' with samples of speech which differ, in an externally motivated and quantifiable way, in linguistic features which the linguist believes to be criterial for the speech community being examined. We cannot, of course, expect perfect agreement among the judges as to which samples are 'native' and which are not. Also, if the information is elicited carefully, it is likely that the samples will differ in the degree to which they are judged to be different from canonical native speech. These differences of judgement can be systematic, though they relate to a complex sociolinguistic reality, as Kerswill & Williams (1999) show.

This raises a further question. Speech communities presumably differ in the degree to which they are set off linguistically from other communities with which they are in contact: is this degree of difference

reflected in the natives' judgements? That is, are listeners from a less clearly (linguistically) defined speech community more tolerant of, or perhaps less sensitive to, non-native traits? Kerswill & Williams (1999) address this question, and find that listeners in a northern English city, Hull, are very much better able to identify speakers from their own city than are listeners from the southern towns of Reading and Milton Keynes when confronted by voices from their home towns. In that study, it was argued that the linguistic distinctiveness of Hull led to the high recognition rates, while the extensive dialect levelling in the South led to the poor rates there. The issue of linguistic distinctiveness is raised here since Bergen is normally thought of as being very clearly set off linguistically (and socially) from its rural hinterland, by lay people and dialectologists alike.

3. The Bergen speech community

Dialectologists have for a long time asserted that Bergen speech occupies a special position among Norwegian dialects. There seem to be two reasons for this. First, all varieties of the Bergen dialect share a number of morpho-lexical features which set them off sharply from the surrounding rural dialects (Kerswill 1994: 45-48); Bergen is unique among Norwegian towns in this respect. Secondly, dialectologists have been at pains to argue that the dialect has developed more or less independently (Kolsrud 1951: 104; Rundhovde 1962: 395), probably as a result of extensive and protracted language and dialect contact since the city became affiliated to the Hanseatic league in the early Middle Ages (Kerswill 1991). This apparently independent path has led to what Kolsrud called the 'great inner strength' of the dialect (Kolsrud 1951: 104; my translation), and to a certain internal cohesiveness (Larsen and Stoltz 1911-12: 273), which nonetheless may have waned somewhat in more recent years (Nesse 1994). So, we might hypothesise that Bergeners show rather great sensitivity to language varieties that differ only slightly from the 'native' varieties.

In order to test this, we can either take samples of speech from different dialects, increasing the geographical distance from Bergen; or we can take the speech of people from the hinterland who have migrated to Bergen and have modified their speech in the direction of the Bergen dialect, and see how close to the latter the migrants have to come before being accepted as native. For practical reasons, I have chosen the second approach, using samples of speech recorded as part of the Bergen study.

Linguistically, the rural migrant speakers in the study appear to lie on a continuum from 'urban (Bergen) dialect' to 'rural dialect'. This means that the speakers will probably be judged as 'more or less urban or rural'. The notion of a 'rural-urban continuum' needs a further explanation. Rural migrants interlard their speech with varying amounts of Bergen dialect, largely by mixing in a number of morpho-lexical features and by modifying certain phonological and suprasegmental features (see below, Section 4). Some migrants use a minimal amount, if any, of these Bergen elements, while others use them to such an extent that they resemble native Bergeners.

It is this scale of 'Bergensisation' that constitutes the continuum. In hypothesising it, we are in fact looking at a rather different issue from the nativeness problem: that of degrees of dialect mixing. But is the continuum in any sense real for Bergeners? Is it unidimensional, or do different features pattern differently? Do Bergeners perceive rural migrant speakers as occupying a particular position on the scale? If not, the alternative is that they are perceived simply as being different by a certain amount from the Bergen dialect, but not along any particular scale. This would signify that the Bergeners are not sure of the origin of the speakers.

As it happens, rather strong stereotypes are associated with people from a particular group of rural districts to the north and west of Bergen, to such an extent that Bergeners actually have their own derogatory term for them, *stril* (Kerswill 1994: 30-1; Kleiven 1972, 1974; Gullestad 1975: 256). Over the centuries, there has been much ill-feeling between Bergeners and the rural 'Strils' because of the great economic and social differences that existed (though these feelings have decreased a lot since the early 1970s). This means that there has been a strong awareness of Stril speech in Bergen, and that one would expect Bergeners to recognise it when they hear it.

The perception test to be presented below tests two separate questions:

1. What conditions does a speaker have to fulfil in order to be accepted as a 'native' Bergener? Is there evidence of discreteness in Bergeners' acceptance of a sample as native or not native, or is this acceptance a rather gradual affair? One would expect 'discreteness' in these judgements to be associated with low tolerance, and 'gradualness' with high tolerance in the Bergeners' 'nativeness' judgements.
2. Are Bergeners able to detect different degrees of dialect mixing in the speech of Stril migrants? If they can, we have some evidence at least for a 'dialect difference metric'. Because of the strong external motivation for a Stril-Bergen distinction, this is probably also

evidence that the perceived differences are placed along a Stril-Bergen continuum of the type we have hypothesised. If we find that Bergeners cannot tell the difference, then either we have got the wrong linguistic measure or the continuum is irrelevant.

4. *A perception test*

Appendix 1 lists some of the most important differences between the Stril and Bergen dialects. In particular, there are a large number of morpho-lexical differences, covering much of the morphology and most function words. There are also low-level phonological differences, as well as differences in phonological inventory and in suprasegmentals.

For the test tape, nine voices were selected, differentiated by their ‘Bergensisation’ as determined by their use of these features. At the two extremes were a native Bergener and a Stril speaker who was still resident in her native district. In between were three speakers who claimed to have native or near-native command of the Bergen dialect and four speakers with different degrees of what might be called ‘morpho-lexical Bergensisation’, as measured by an index. On the tape, the voices were sequenced in such a way that the difference between adjacent voices was as large as possible.

At the same time, a further hypothesis was tested: that a person is not able to acquire native competence in a new dialect after the ‘critical age for language acquisition’ (Lenneberg 1967). This was approached by taking, as two of the voices, two different samples from the speech of one person who had moved to Bergen at the age of 16, using extracts from her ‘Stril’ guise and from her ‘Bergen’ guise; she claimed that her Bergen guise was usually taken to be the ‘real thing’ – a claim that is eminently testable.

Each of the nine samples lasted for about a minute, and there was a pause between each. The samples consisted of very short excerpts of speech strung together, in the hope that this would reduce the judges’ exploitation of content-related cues to the origins of the speakers. The judges were 37 people from Bergen and the urbanised parts of the immediately surrounding area. Eight of them (seven adults and one adolescent) were resident in London, while the remaining 29 were adolescents aged 15 to 18 on an English language summer course in Brighton.¹ They were given a response sheet (see Appendix 2) in the form

¹ I am very grateful to Kari Bråtveit for running this experiment for me in Brighton, as well as for putting me in touch with Bergeners in London.

of a 6 by 9 matrix. The six columns had the following headings, written in Norwegian:

1. Native Bergener	2. Almost, but not quite Bergen dialect	3. Stril mixed with a large amount of Bergen dialect	4. Stril mixed with a medium amount of Bergen dialect	5. Stril mixed with a small amount of Bergen dialect	6. "Pure" Stril
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The task was to put a cross, in the appropriate row for each voice, under the heading they thought best described the voice. At the same time, the judges were asked to indicate, if they could, what factors had influenced their choice. After the end of the test, they were asked to fill in some details on their social background on the bottom of the sheet.

5. Results

5.1 Agreement between judges

Before we can say anything about the results, we need to know if the judges agree amongst themselves in their ratings. We can do this by calculating Kendall's coefficient of concordance;² this figure turned out to be high ($W=.8087$), giving a significance level of better than 0.0001. This means that the judges showed a very high degree of agreement, and we can go on to analyse the data further.

The next step is to look for systematic differences in the behaviour of the judges, despite the homogeneity indicated by the coefficient of concordance. Earlier, I implied that not all the judges were from Bergen itself. This may be relevant to the way in which they perform the judgements; indeed, in an English study, Kerswill and Williams (1999) demonstrate that judges' social networks and regional origins can be crucial. To test for any effect that this might have, the 31 adolescent judges were divided into two groups according to the following criteria, on the basis of the information they had been asked for on the answer sheet:

² I would like to thank Dr P. Callow of the Cambridge University Computer laboratory for help with the statistical analysis presented in this article. All the tests were carried out using the package SPSS-X.

1. Those brought up in Bergen, with neither parent from the Stril districts (n=14); this gave the most nearly native Bergen group.

2. The rest (n=17).

One might hypothesise that Group 1 would be more able to detect small deviations from the Bergen dialect, and that this would show up in the ratings for the marginal voices. However, applying a series of Mann-Whitney tests to compare the two groups' ratings of each of the 9 voices did not yield a significant difference for any of the voices. We have to conclude, then, that what seemed to be the best motivated criterion, based on the information to hand, for dividing the judges has no effect on their performance. From now on, I shall treat the 37 judges as a single, relatively homogeneous group.

5.2 Correlation with an external measure of dialect mixing

Next, we compare the ratings of each judge with an external measure of dialect mixing; this is the morpho-lexical index, which was alluded to earlier (for an explanation of the index, see Kerswill 1994: 72-5). The goal of this index is to capture the amount of mixing in such a way that frequently occurring features counted for more than others, while preventing topic-related fluctuations in the frequencies of individual features from influencing the outcome. The set of 9 ratings by each individual judge was compared to the morpho-lexical index scores for each voice by calculating Spearman's rank-order correlation coefficient. For all except one of the judges, the correlation turned out to be significant; for all but 6 of the remaining 36, the correlation was highly significant ($p < 0.01$). This means that there is extremely strong agreement among the judges on something contained in the samples, and a major part of this is evidently variation on a scale of morpho-lexical Bergenisation.

On the other hand, without looking more closely at the actual distributions, we are not really in a position to make an unequivocal claim that this scale accurately reflects the hypothesised Stril-Bergen continuum. We now turn to a discussion of these distributions.

5.3 Distribution of scores: the 'Stril-Bergen continuum'

Figure 1 is a histogram of the ratings for each voice. The voices are arranged according to the rank of the mean of the ratings they received; their position on the tape is shown by the code number after the letter 'V'. A score of exactly 1 would indicate that all the judges rated a particular

voice as being that of a 'native Bergener', while a score of 6 would indicate that they all rated the voice as 'pure Stril'. The fact that the scores range from 1.57 to 5.78 shows that the whole scale was used by the vast majority of judges. This suggests that the judges had no difficulty in hearing a difference between the voices.

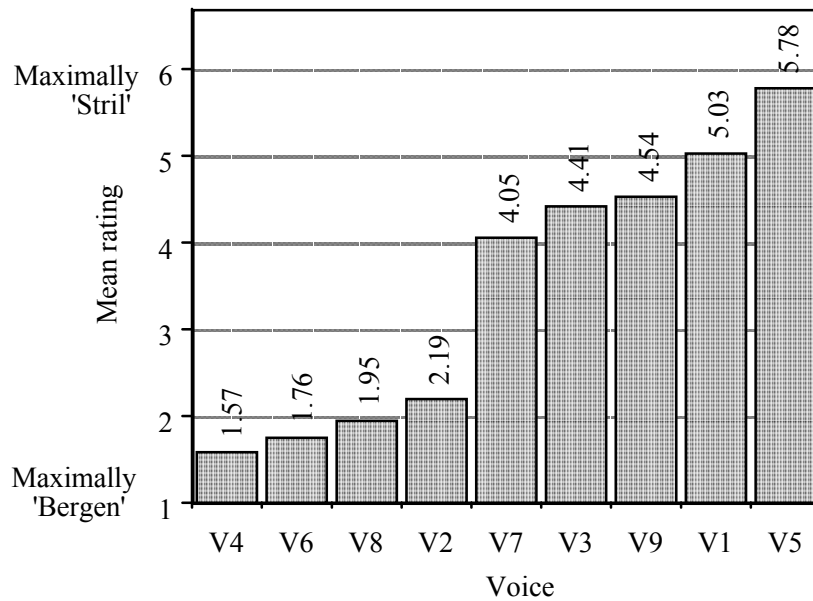


Fig. 1 Mean ratings of the nine voices

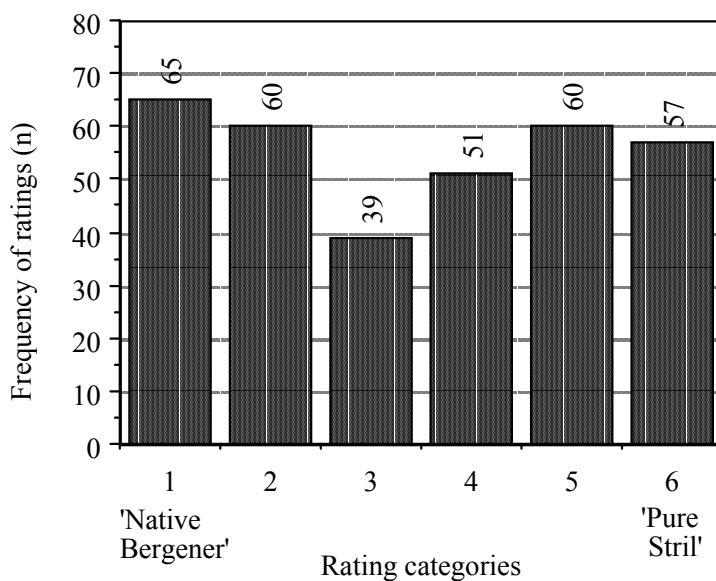
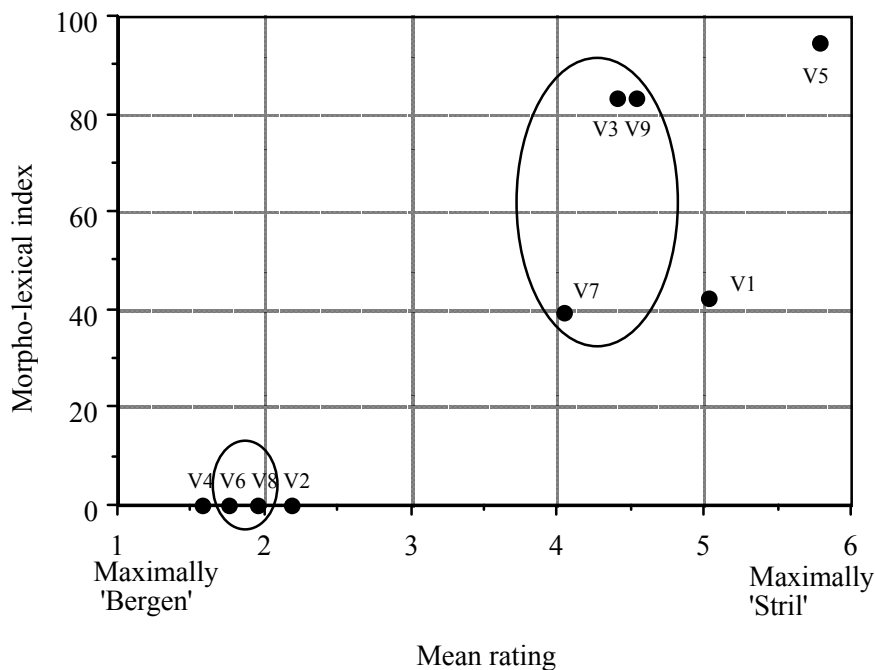


Fig. 2 Frequency distribution of ratings

However, the plot of the frequency of each rating shown in Figure 2 suggests a certain polarisation of the scores, with high and low ratings being favoured over the intermediate ones. There are at least two possible reasons for this. First, people may have a tendency to ‘pigeonhole’ others in terms of their social and linguistic characteristics; and second, the polarisation may correspond to something linguistic. Figure 3 again shows the ratings, this time plotted against the morpho-lexical index for the voices. It looks very much as if the polarisation of the ratings corresponds to a similar polarisation of the index, as can be seen from the presence of the cluster at the bottom left of the diagram and the (more widely spread) cluster at the top right. As we saw earlier, Mann-Whitney tests showed a significant association between each individual judge’s ratings and the morpho-lexical index; this diagram can be thought of as a visual representation of the association between the combined judges’ ratings and the index. Clearly, the polarisation corresponds to something linguistic, part of which is our measure of morpho-lexical differences.



Note: The two ellipses group together voices whose ratings are not significantly different from each other.

Fig. 3 Correlation of mean ratings and the morpho-lexical index (from Kerswill 1993: 48)

But does the index correspond specifically to a 'Stril–Bergen continuum'? I think it does, for the following reason. The Bergen and Stril dialects obviously share many features, without which they would not be mutually intelligible. Therefore, if Bergeners are not aware of the *specific* characteristics of Stril dialects, then when they are asked to place a Stril speaker on our Stril–Bergen rating scale, one would expect them to take note of the shared features, and simply assign the voice a rating somewhere in the middle of the scale as a sign of their uncertainty about the specific dialect features. But this does not happen. Instead, the judges make use of the full rating scale in a way that correlates closely with the independent linguistic measure. Moreover, the morpho-lexically most 'Stril' speaker is almost consistently rated as 'pure Stril' (she gets a rating of 5.78); in other words, the judges' perception of nativeness extends to recognising unmixed, native Stril speech as well. This score is corroborated qualitatively by the only two comments that any of the judges made on this speaker; these were 'few words which are used in Bergen' (*'få ord som brukes i Bergen'*) and 'completely Stril' (*'helt stril'*). The Stril–Bergen linguistic continuum has, therefore, some reality for Bergeners: the Stril rural dialects form a part of a Bergener's passive competence, doubtless because of the close contacts between the rural districts and the city, leading to a high degree of familiarity.

5.4 *The perception of nativeness*

As we have already seen, there are two distinct clusters of voices in Figure 3. These two clusters show rather different things, and the range of issues one might look at differs for each. For the 'bottom left' group, we can raise the issue of how the linguistic border between 'native Bergen' and 'non-Bergen' is constituted. For the 'top right' group, this is clearly not relevant, since none of the voices is perceived as remotely resembling Bergen dialect. Instead, for this group we can look at the perception of dialect mixing.

We start by looking at the issue of nativeness in relation to the group at the bottom left. All the four voices are given much the same rating, near the Bergen end of the scale. Yet there are significant differences between the ratings – only the middle pair, which are enclosed by an ellipse, are not significantly differently rated. This means that, taken as a group, the judges are hearing something in these voices that differentiates them, and that the native Bergener (V4) is significantly more often rated a Bergener than even the most 'Bergened' Stril speaker (V6). Since all four have a morpho-lexical index score of zero (that is, their speech contains a

combination of marked Bergen features and shared features, with no marked Stril features), there are no cues on this level of linguistic analysis. What, then, are they latching onto?

Looking at the judges' written comments provides some clues. One judge wrote, of voice 6, that it 'lacks the broadest Bergen intonation' (*'mangler det helt brede, bergenske tonefallet'*), while voice 8 had 'broad intonation; only Bergen words' (*'bredt tonefall, kun bergenske ord'*). Even though the same judge actually wrote of voice 4, the genuine Bergener, that 'a few words are not quite like the Bergen dialect' (*'noen få ord er ikke helt bergenske'*), her comments strongly suggest the importance of suprasegmental features. If we return to the last item in Appendix 1 ('Suprasegmentals'), we get a clue as to what these features might be. In fact the three voices rated as most Bergen-like, 4, 6 and 8, consistently use the Bergen pattern in polysyllabic toneme 2 words, while all the rest, including V2, use the Stril pattern (this is discussed in greater detail in Kerswill 1994: 94-8). We must, of course, assume that segmental phonetic differences may have had some effect, though the most important consonantal variables, those contained in /r/ and /ç/ (see Appendix 1), consistently had Bergen realisations in these four voices.

The results show that we must reject the idea of the 'categorical' perception of native Bergen and non-Bergen dialect, because all of the four most Bergen-like voices are perceived as natives by some and as non-native by others – and this includes the native Bergen voice. This fact alone means that there is no clear-cut distinction, at least in people's perception, between Bergen and non-Bergen dialect. The results also suggest that the criteria that people use are morpho-lexical, suprasegmental and (probably) low-level phonetic; I would suggest that, when there are very great morpho-lexical differences, these are more salient than other types of difference. Segmental and suprasegmental differences come more to the fore when the morpho-lexis does not differentiate particular voices. A case in point would be the perception of V2 as significantly less 'Bergen' than V4, V6 or V8: her toneme realisations are measurably different from theirs (her intonation (*'tonefall'*) was specifically mentioned by one judge). Yet, even when she is compared to speakers who use a relatively small proportion of Stril morpho-lexical features (V7 and V1), she receives a very much higher 'Bergen' rating than they do – most probably because of the complete absence of these features in her speech. Later, we shall explore how segmental and suprasegmental features can nevertheless counterbalance those on the morpho-lexical level.

Although agreement on the identification of the 'true' Bergener does not reach 100 percent, there is nonetheless a small but significant

difference between the identification of his voice and that of V8, the most Bergened Stril migrant. The judges appear to be sensitive to extremely fine pronunciation differences (even a close examination of V8's toneme realisations did not reveal any differences from the Bergen pattern: see Kerswill 1994: 150-2). The fact that careful phonetic analysis cannot easily reveal the pronunciation cues to the identifications means that the Bergen speech community must be seen as 'perceptually focused', in the sense discussed in Kerswill & Williams (1999) (see also Le Page 1978 for a discussion of the wider notion of 'focusing'). This claim, of course, implies that there are communities which are less 'perceptually focused', and that the position of Bergen as 'focused' must therefore be seen in a comparative light. An approach to this comparison is provided by the Kerswill & Williams study. It appears that, in England, there are great differences in the degree of perceptual focusing in different towns, these differences being related to social and demographic factors, especially mobility, and the linguistic factors of dialect levelling and rapid language change. The comparison also tells us about the validity of the 'speech community' notion itself, since it may turn out that the degree to which it can be defined on linguistic criteria alone will vary considerably.

5.5 *An excursus: second-dialect acquisition*

We turn briefly to the issue of second-dialect acquisition. This study provides evidence that an adult can acquire a different dialect with native-like fluency – so long as the criterion we apply is an acceptance by a majority of native listeners. (Making this proviso enables us to allow for Payne's (1976) finding that some phonological rules of a dialect are not learned by people who moved to a new dialect area even at a very young age.) V8 and V1 were spoken by the same person, who had moved to Bergen at the age of 16. In V8, she was speaking what she herself called *bergensk* ('Bergen dialect'), in V1 *stril* ('Stril dialect'). She maintained that, when she was speaking *bergensk*, nobody could detect that she was not a Bergener. This is in very large measure confirmed by the judges' ratings. For V8 (*bergensk*), 20 of the 37 judges gave a rating of 'native Bergener'; this compares with 27 native ratings for the 'real' native, V4. For V6, who claimed not to speak native-like Bergen dialect, the judges gave 14 native ratings, while for V2, they gave only 4. (See Chambers 1992 and Kerswill 1996b for a fuller discussion of second-dialect acquisition.)

5.6 *The perception of dialect mixing*

Let us now consider the results for the five voices on the right-hand side of Figure 3. Here, we are dealing with the perception of degrees of dialect mixing. As can be seen, the correlation of the judgements and the morpho-lexical index is relatively poor, since there is a wide spread; on the other hand, the slope is in the expected direction, and the most 'Stril' speaker, V5, is very consistently judged as 'pure Stril'.

Why is there such a discrepancy between the ratings and the morpho-lexical index? The answer to be proposed here is complex. First, we look at the three voices whose ratings were not significantly different from each other (these are enclosed by the right-hand ellipse). The distribution of the ratings for each of these is shown in Figures 4a–c.

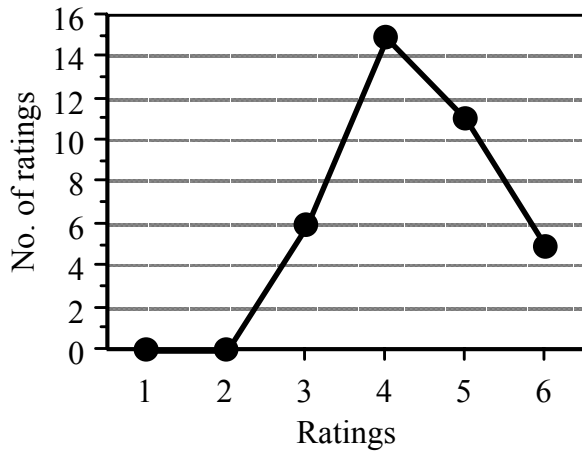


Fig. 4a: Distribution of ratings for voice V3

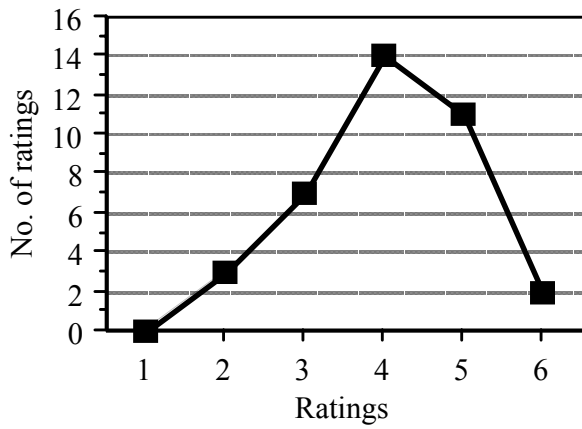


Fig. 4b: Distribution of ratings for voice V7

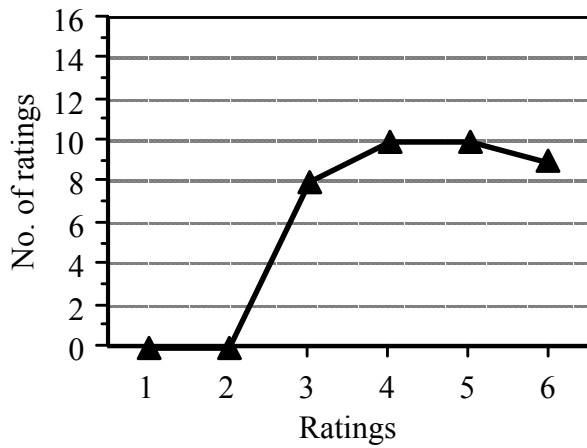


Fig. 4c: Distribution of ratings for voice V9

Fig. 4 Frequency distribution of ratings for three intermediate voices

Looking at the distributions for V3 and V7 (Figures 4a and 4b), we can see that they are very similar, with a strong representation of the intermediate-to-high Stril ratings of 4 and 5. On the other hand, few judges rate them as ‘pure’ Stril, and none thought they were Bergeners. Despite this great similarity in ratings, their morpho-lexical indexes are very different (83.3 for V3, 39.3 for V7). Looking back at Figure 3, there appears on the other hand to be a good correspondence between ratings and indices for V3 and V9. But if we examine the *distributions* of the ratings, we see that they are rather different: although the range of ratings is the same, there is a much more even distribution between them for V9, suggesting greater disagreement between the judges than for V3 or V7. Before suggesting reasons why judges might disagree, I will consider how they arrive at their impressions of a speech sample on the basis of the linguistic evidence presented to them.

How do we account for the mismatch between ratings and morpho-lexical index? The mismatch suggests that the judges are also attending to features other than the morpho-lexis. This seems likely to be the case from a comparison of the ratings for V3 and V7; for these voices, the distribution of ratings is quite similar. The great discrepancy in the index suggests that, in the case of V7, a high frequency of Stril features on levels other than the morpho-lexical may somehow be compensating for the low morpho-lexical index. (If we instead take V3 as our example, the converse would of course be the case.) This could lead to an equalisation in the overall percept of ‘Strilness’ or ‘Bergeness’ in the two voices.

An examination of the voices in the extracts gives some indication that this might indeed be the case. Table 1 shows some of the individual dialect markers used by V3 and V7 (‘dialect markers’ referring to features that are unique to one of the two dialects, and not shared or ‘unmarked’). All of these except /r/, /ç/ and the toneme 2 realisation contribute to the morpho-lexical index shown at the top of the table, and it comes as no surprise to learn from the table that V3 greatly outstrips V7 in the number and consistency of her Stril features. The anomaly we must explain is why, despite his low index of 39.3, V7 is nevertheless perceived as predominantly ‘Stril’, to virtually the same extent as V3. The answer may lie in the *salience* (Trudgill 1986; Kerswill & Williams 2000) of some of the Stril features he uses. This undoubtedly applies to V7’s realisation of /r/ as [r], which is part of the Bergeners’ stereotype of Stril speech: it is notable that in this case it is V3 who does not use the marked Stril variant. A comment on V7 by one of the teenage judges gives a further clue: according to her, his ‘intonation wasn’t quite Bergen’ (*tonefallet var ikke helt bergensk*), suggesting that she recognised the relatively high Bergen

content of his morpho-lexis. While /r/ and intonation are quasi-immanent features, a comment by another judge suggests the importance of single items in forming an impression of a dialect: he noted that V7 uses the Stril form /ulja/ of the word *olje* 'oil', as against Bergen /uljə/. It is as if V7's use of these Stril features compensates for his low use of Stril morpho-lexis, while V3's use of the relatively unmarked [ɛ] 'counterbalances' her high morpho-lexical index, giving rise to two percepts which, to our judges, are very similar to each other.

Table 1 Stril and Bergen dialect features used by voices V3 and V7 on the test tape

	Voice V3: female aged 34		Voice V7: male aged 45	
Morpho-lexical index:	83.3		39.3	
Variable	Variant used	Stril or Bergen?	Variant used	Stril or Bergen?
fem. definite suffix in <i>tida</i> 'the time'	/ti:ɛ/	Stril	/ti:ɛ/	Stril
stem form of verb: <i>bu</i> 'live'	/bʊ:/	Stril	/bʊ:/	Stril
realisation of toneme 2	high-fall	Stril	high-fall	Stril
past tense verb form: <i>gjekk</i> 'went'			/jik/ /jek/	Bergen Stril
noun plural suffix	-/ɑ/, -/ə/	Stril	-/ər/ -/ɑ/	Bergen Stril
<i>vi</i> 'we'	/me:/	Stril	/vi:/	Bergen/ unmarked
velar-palatal alternation before article suffix in <i>ettermiddagen</i> 'the afternoon' and <i>vingene</i> 'the wings'			/ɛtərmida:gən/ /vɛŋəna/	Bergen Stril
palatal for velar in <i>begge</i> 'both' and <i>lenge</i> 'a long time'	/bɛjə/ /lɛŋə/	Stril Stril		
past tense verb form: <i>jobba</i> 'worked'	/jobɑ/	Stril	/jobət/	Bergen
past tense verb form: <i>voks</i> 'grew'	/voks/	Stril		
/r/	[ɛ]	Bergen/ unmarked	[r]	Stril
/ç/	[ç]	Bergen/ unmarked	[ç]	Bergen/ unmarked

NOTE: Features marked as 'Bergen/unmarked' are either used by younger Stril dialect speakers (in the case of [ɛ] for /r/) or else they occur in a minority of Stril dialects (in the case of /vi:/ for *vi* and [ç] for /c/).

However, it must be emphasised that it is difficult to prove that particular features contribute individually to the perception of a dialect, especially when the researcher is using authentic speech as test materials. In compensation, the method adopted here suggests that different constellations of features coming together in different voices can form a range of percepts that listeners evaluate as being in some sense equivalent. In our specific case, two voices with different characteristics are placed on the same point on an urban-rural speech scale that seems to have some reality in the Bergen region. As far as the listeners themselves are concerned, they are mainly (but not entirely) unaware of the particular features involved; instead, dialects are perceived as entities, and it is individual features *in combination* that lead to the overall percept.

We return briefly to the ratings for V9 as compared to those for V3. We have already noted that, while the two voices had virtually identical average ratings and morpho-lexical indices, this belies the fact that the distributions of their ratings is different, with a more even spread of scores for V9 (compare Figures 4c and 4a). It turns out that, while the index score was the same, other variables were different. This is most obviously true of two of the frequent phonetic variables, /ç/ and /r/, as shown in Table 2 (for clarity, the table repeats the information for V3 given in Table 1). V9 uses the marked Stril variant of both variables. We cannot easily demonstrate that these sounds were specifically used in the attribution process. However, it is likely that they contributed to the discrepancy in the spread of ratings, with raters differing in the degree of importance they attached to them. Given the range and complexity of cues, even in short extracts, it is not surprising that listeners do not attend to the same cues in forming an impression of a dialect. We should therefore expect a lack of consistency in raters' judgements, such as those we have found for V9 and in this study generally.

Table 2 Variants of two phonetic variables used by V3 and V9

	Voice V3: female aged 34		Voice V9: male aged 41	
Morpho-lexical index:	83.3		83.4	
Variable	Variant used	Stril or Bergen?	Variant used	Stril or Bergen?
/r/	[ɾ]	Bergen/ unmarked	[r]	Stril
/ç/	[ç]	Bergen/ unmarked	[cç]	Stril

5.7 *The attribution process*

At several points in the preceding discussion, we have come up against discrepancies in the relationship between the linguistic index and the ratings on the one hand, and differences in the spread of ratings on the other. I suggested earlier that the judges formed a homogeneous group with regard to their ratings; despite this, individual differences might have been masked, and these might be what is reflected in the disagreements between the judges. There is not space here to explore these differences further, but the reader is referred to Kerswill and Williams (1999) for a treatment of them in terms of a number of social and social-psychological parameters. For present purposes, I shall briefly outline a model of the process by which the judges might have arrived at their ratings, bringing out the complexity of the process.

First, we consider the range of features that might be attended to. In the specific case discussed here, these include the following:

- Suprasegmentals (e.g., toneme realisations, but also characteristic dialect intonation)
- Sub-phonemic differences (e.g., /r/ and /ç/, but also several vowels)
- Lexical items and function words whose form is marked for dialect (e.g., /ulja/, but also a number of others)
- Differences in inflexional morphology (which compose much of the morpho-lexical index)
- Syntactic differences (e.g., use of *vera* 'be' as an auxiliary in some Stril dialects, instead of the more widespread *ha* 'have')
- Voice quality

In addition, we can mention the following features which are not normally associated with dialect differences, but which contribute to the formation of an impression of the speaker's personality and background:

- Choice of speech styles more or less associated with either the oral or the written mode (reflected in register of vocabulary and in syntactic complexity and completeness)
- Articulatory explicitness
- Speaking rate
- Pitch range
- Topic

Some of these factors are explored by Williams, Garrett and Coupland (1999) in their social psychological exploration of Welsh teenagers' recognition of and attitudes to regional accents of Welsh English.

As for the process of attribution itself, it may be direct or mediated. A **direct attribution** process involves the identification of criterial dialect characteristics, and the direct inference that the speaker is a user of that dialect. The direct perception of dialect mixing would simply be the assessment of the proportion of features from Dialect A and Dialect B. This is essentially the approach of linguists, but there is evidence from judges' comments in this study that lay listeners can also apply it.

Mediated attribution, on the other hand, is multifaceted. One aspect is related to the issues discussed by the proponents of the Matched Guise method (Lambert, Hodgson & Fillenbaum 1960), in which subjects are shown to be willing to attempt to judge social and personal characteristics of speakers on the basis of accent or language alone. Applying this insight to dialect recognition, we can interpret a judge's strategy as follows: 'The speaker sounds to me as if she or he has the following social and personal characteristics. Somebody with these characteristics speaks language variety X'. Evaluations of personal and social characteristics project back onto the linguistic characteristics, thereby influencing the linguistic judgements the judges are asked to make. This works in the following way: for example, a slow speaking rate may traditionally and stereotypically be associated with Strils, and Strils may be stereotypically considered 'rural'. If this is so, we would get one (or both) of the following associations, in which the attribution of linguistic characteristics is mediated by a social evaluation:

- (i) person speaks slowly => person is a Stril => person must speak Stril dialect
- (ii) person speaks slowly => person is rural => person is a Stril => person must speak Stril dialect

As already mentioned, dialect perception is mediated not only by voice characteristics such as those mentioned in this section, but also the social and linguistic characteristics of the judges themselves (Kerswill & Williams 1999; Williams et al. 1999).

6. Conclusion

We can draw the following conclusions from this study:

1. Linguistic criteria may be useful to the sociolinguist in delimiting a speech community. This is shown by the highly significant agreement between the judges on the degree to which a voice is Bergen-like, and by the highly significant, though not perfect, correlation with one particular external measure of 'Bergeness', the morpho-lexical index (Sections 5.1 and 5.2).
2. Nonetheless, the judgements of 'nativeness' are relative, not absolute (Sections 2 and 5.4). This research shows that judgements in Bergen are relatively sharp compared to those in other communities, such as those in southern England. Judgement patterns lead to the conclusion that Bergen is 'perceptually focused'.
3. Native listeners in Bergen can on the whole perceive degrees of mixing between Bergen dialect and another dialect, that of the 'Stril' districts, with which they are familiar. The fact that they can accurately identify unmixed, 'pure' Stril speech suggests that they are aware of a linguistic continuum specifically between these two dialects. This can be attributed to familiarity resulting from intensive contact resulting from (past) in-migration to the city and (present) out-migration to new residential districts in the countryside.
4. There is fairly strong evidence that native-like competence in a new dialect can be acquired at least as late as the age of 16, that is, well after the 'critical age for language acquisition', and that this competence can be combined with code-switching (Section 5.5).
5. In the perception of dialect mixing, morpho-lexical cues are utilised, though the extent varies between judges (Section 5.6). In speech production, morpho-lexical variation does not necessarily co-vary with variation on other linguistic levels: there is evidence of a low index being compensated for by a high use of Stril dialect features on other levels to give a percept of a strongly rural speech variety. Conversely, a high index can be balanced by a low use of other Stril features to reduce the percept of a rural variety.
6. Finally, the attribution process was shown to be complex, depending on a response to a complex set of linguistic and paralinguistic cues, and on the social characteristics of the judges.

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APPENDIX 1

Key differences between Stril and Bergen dialects (beginning)

Stril (rural dialects)		Bergen (urban dialect)	
1. Nouns – definite article			
4 classes, 3 grammatical genders: /kɒpən/ ‘the cup’ (masculine) /çy:rɛ/ ‘the cow’ (‘strong’ feminine) /vi:su/ ‘the song’ (‘weak’ feminine) /hæ:sɛ/ ‘the house’ (neuter)		2 classes, 2 grammatical genders: /kɒpən/ ‘the cup’ (common gender) /çy:rən/ ‘the cow’ (common gender) /vi:sən/ ‘the song’ (common gender) /hæ:sə/ ‘the house’ (neuter)	
2. Nouns – plural forms			
Indefinite	Definite	Indefinite	Definite
masc. & fem. (2 classes):		common gender (1 class):	
-/ɑ/	-/ɑnə/ (mainly m.)	-/ər/	-/ənə/
-/ə/	-/ənɑ/ (mainly f.)	-/ər/	-/ənə/
neuter:		neuter:	
Ø	-/ɛ/, -/ənɑ/ (younger)	Ø, -/ər/	-/ənə/
3. Verbs			
Infinitive suffix: /ɑ/ /skri:vɑ/ ‘write’		Infinitive suffix: /ə/ /skri:və/	
Present tense of ‘weak’ verbs 3 classes: /kasta, çø:rə, tɛ:l/ (‘throw, drive, count’)		One class: /kastər, çø:rər, tɛlər/	
No suffix on present tense of ‘strong’ verbs /çɛ:m, skri:v/ (‘come, write’)		Suffix /ər/ /komər, skri:vər/	
4. Function words			
Pronouns			
Most are lexically different in Stril and Bergen dialects, e.g.:			
/hu:, dɑ:, me:, hednɑ, de:, dəirɑ/ (‘she, it, we, her (poss.), you (pl.), their’)		/hun, de:, vi:, hunəs, døkər, di:əs/ The Bergen dialect forms /hunəs, døkər, di:əs/ vary with Standard <i>bokmål</i> /hɛnəs, de:rə, de:rəs/ (Nesse 1994)	
Prepositions and adverbs			
Most are lexically distinct, e.g.:			
/mydлу, jø:nu, jo:., to:., fro:/ (‘between, through, at, of, from’)		/mɛlom, jɛnom, hus, ɑ:v, fra:/ (‘between, through, at, of, from’)	

Appendix 1 (concluded)

Stril (rural dialects)	Bergen (urban dialect)
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5. Content words

There are lexical (non-predictable) differences in much basic vocabulary, e.g.:

/gʊ:t, ɛʌ, vɛrtɑ/ ('boy, eye, become')	/gʊt, ø:gə, bli:/
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6. Morphophonemics

Velar-palatal alternation, e.g.: /flɛk/, /flɛçən/ ('spot, the spot') /vɛg/, /vɛçən/ ('wall, the wall')	Absence of velar-palatal alternation: /flɛk/, /flɛkən/ /vɛg/, /vɛgən/
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7. Vowels

10–13 short and long vowels, depending on dialect and speaker's age	8 short vowels, 9 long vowels
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8. Consonants (main differences)

/ç/: [çç]; in connected speech: [ç] /r/: [r, r, ɾ] (people born before c. 1950) [ʀ] (people born after c. 1950)	[ç] [ʀ]
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9. Suprasegmentals

The realisation of the two Norwegian tonemes or word accents is different in Stril and Bergen dialects, particularly in toneme 2 polysyllables (as below). Some Stril dialects lack the tonemic distinction altogether. (For fuller discussion, see Kerswill (1994: 83-90).)

TONEME 1: *påleggja* 'compel':

¹pɔ:lɛjja

¹pɔ:lɛgə

TONEME 2: *pålegget* 'the sandwich filler':

¹pɔ:lɛjje

¹pø:lɛgə

APPENDIX 2

Response sheet given to judges:

	innfødt bergenser	nesten, men ikke helt bergensk	stril med et sterkt innslag av bergensk	stril med et middels innslag av bergensk	stril med et lite innslag av bergensk	“ren” stril
1						
2						
3						
4						
5						
6						
7						
8						
9						

Translation of response sheet:

	Native Bergener	Almost, but not quite Bergen dialect	Stril mixed with a large amount of Bergen dialect	Stril mixed with a medium amount of Bergen dialect	Stril mixed with a small amount of Bergen dialect	“Pure” Stril