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The development of umlaut and the dialectal position of Dutch in Germanic

Buccini, Anthony Francis, Ph.D.

Cornell University, 1992
THE DEVELOPMENT OF UMLAUT
AND THE DIALECTAL POSITION OF DUTCH
IN GERMANIC

A Dissertation
Presented to the Faculty of the Graduate School
of Cornell University
in Partial Fulfillment of the Requirements for the Degree of
Doctor of Philosophy

by
Anthony Francis Buccini
January, 1992
BIOGRAPHICAL SKETCH

Anthony Francis Buccini was born on 6 January, 1958 in Jersey City, New Jersey. He earned a Bachelor of Arts degree from Columbia University in New York City in 1979. He studied further at the Katholieke Universiteit Leuven in the Faculties of Medicine and Philosophy and Letters before enrolling in the Ph.D. programme in the field of Germanic Studies at Cornell University in 1982. He received his Masters degree from that institution in 1985. In 1988-89 he conducted doctoral research at the Katholieke Universiteit Leuven with the support of a Fulbright-Hays Fellowship. Since 1989 he has been employed as a faculty member of the Department of Germanic Languages and Literatures at the University of Chicago.
To my parents
ACKNOWLEDGEMENTS

My graduate studies in both Germanic and linguistics began and ended in Belgium at the Katholieke Universiteit Leuven, first as an auditor in the programme of Germanic Philology and finally as a Fulbright research scholar. It is my hope that this dissertation will prove to be a contribution to the study of Dutch and the history of the Low Countries, and that it may thus stand as a token of my gratitude to my teachers and many friends in Flanders. Among them I wish to thank in particular Professors Jan Goossens and Odo Leys of the KUL who, in various ways, provided me with much help and inspiration. I would also like to thank my friends in Flanders who helped deepen both my knowledge and appreciation of their language in all its diversity, from the North Sea to the Maas, most especially Gerda Eggermont, Jan Vandierendonck, Pol Stuyven, Pol Spaeppe, Lucas van Langendonk, and Reinhilde Hons. I also acknowledge with pleasure the support of the Fulbright-Hays programme which, in addition to providing funds for a full academic year in Leuven, also provided further funds for an extension of that stay as well as for research-related travel.

In the years between my two extended stays in Belgium I studied at Cornell University where I studied Germanic and historical linguistics with Professors Jay Jasanoﬀ and Frans van Coetsem, Romance linguistics with Professors Carol Rosen and Frederick Agard, and Old English with Professor Thomas Hill. Professors van Coetsem and Rosen served as members of my thesis committee together with Professor Jasanoﬀ who
served as committee chairman: to each of them thanks are due for their contributions to this work. I should add that it was through my study of language contact with Professor van Coetsem that I became interested in the fundamental issues discussed in this thesis. For that and his constant encouragement and belief in my work and abilities I owe him a particular debt of gratitude. I thank Professor Jasanoﬀ for his valuable criticism of numerous speciﬁc points in this work and more generally for his central rôle in my training as an historical linguist.

I also wish to thank for their support my colleagues and students at the University of Chicago during past two and a half years, most especially Professors Bill Darden, Eric Hamp and Kostas Kazazis.

Particular thanks are also due three friends in Ithaca, who, in addition to offering much encouragement through the years, have also provided indispensable logistical support for the latter stages of this project. They are Ingrid Arnesen, Angela Mennitto, and Thomas Chase Young. The last mentioned I thank too for his invaluable help in matters linguistic, editorial and computational.

Finally, I acknowledge with pleasure the generous support of my parents and brother, Ernest, throughout the course of my studies.
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"Progress in evolutionary linguistics demands that we abandon the descriptivist and anti-explanatory ideal which was, in fact, that of the Neogrammarians, just as it is that of today's substance-shunning formalists, the ideal of those who prefer rigorous formulations to the patient and fragmentary elucidation of linguistic reality in all its aspects. We shall leave behind us metachronic equations, which ignore time, just as we outstrip the theories of those who ignore phonic and semantic substance. We shall refuse to consider a phonetic change outside of the context where it takes place, the paradigmatic context in all cases, to which the syntagmatic context should be added in the case of 'conditioned' changes. It is essential to examine carefully such repercussions as this change may have had in the process of communication, since these repercussions inform us about the conditioning of the change. Finally, we should never forget that there has never been an isolated change, and that what we may at times extract from a context for the convenience of research is never anything but one aspect of a more general evolutionary process."

André Martinet
CHAPTER ONE
INTRODUCTION

Erst aus der niederländischen Schlüsselstellung wird der Aufbau des Germanischen verständlich.

Theodor Frings

1.1 DUTCH BETWEEN ENGLISH AND GERMAN

To anyone who is familiar with the three major West Germanic standard languages, it is an obvious fact that with respect to a number of linguistic features Dutch takes an intermediate position between English and German. Moreover, beside those features with respect to which Dutch takes an intermediate position, there is also a notable group of features which Dutch shares with English over against German and a similarly notable group of features which it shares with German over against English.

Among the more obvious respects in which Dutch can be considered to take an intermediate position is its lexicon. To some degree, this lexical intermediacy involves native Germanic vocabulary, but in these cases it is unfortunately often difficult to assess the age and significance of the lexical
agreements and disagreements; that is, it is not always easy to tell where one has to deal with genuinely ancient lexical differences, differing patterns of retention from original competing pairs (as is perhaps the case with the word for 'wheel', Du. 'wiel, rad'; Ger. 'Rad'), or with differing expansions of more or less recent innovations or borrowings (e.g., Eng. 'Saturday, Wednesday'; Du. 'zaterdag, woensdag', Ger. 'Samstag/Sonnabend, Mittwoch'). To an even greater degree than with the native Germanic vocabulary, the lexical intermediacy of Dutch between English and German is merely a reflexion of the differing relations the three languages have had with French: whereas English has borrowed extensively and German relatively little from French, the amount of Dutch borrowing from French falls somewhere in between, with the result that, where German often expresses a given notion with a native Germanic word or one built from native Germanic elements, English and Dutch employ the same borrowing from French.

Two other features of Dutch which show a development intermediate to the developments of English and German are its treatment of grammatical gender and final syllables. Of course, English has given up virtually all traces of the inherited Indo-European and Germanic gender system while German has to this day maintained well the tripartite system of masculine, feminine and neuter genders. Dutch, on the other hand, is generally said to have merged the masculine and feminine genders into a single, so-called 'common' gender which contrasts with the neuter gender. As regards the question of final reduction, the example most frequently cited is that of the treatment of the infinitive ending. Again, German, with
the infinitive ending [-ən/-ən], takes the more conservative position, having carried reduction out to the least degree, and English, with no infinitive ending, takes the most innovative position. Dutch, with the ending [-ə], stands squarely in the middle.

Another feature of Dutch which can be seen as showing a development intermediate to those of English and German is that of its system of nominal plural formation, though, in fact, one might equally regard this as a feature in which Dutch and English more or less agree over against German: while English, excepting a few relic forms, shows only one plural marker (-s), and Dutch shows but two (-en, -s), German shows a relatively complex system of plural marking employing not only suffixation but also root vowel ('umlaut') alternations. Thus, while it is true that the Dutch system is more complex than that of English, the difference is actually quite small when seen in perspective of the far greater complexity of the German system.

Among the features most often cited in which Dutch and English agree over against a differing treatment in German is yet another which has, ultimately, to do with morphological reduction, namely, the formal merger of accusative and dative forms in English and Dutch versus the maintenance of that distinction in German. A phonological feature which in some sense, at least, may be said to be shared by these same two languages is their basic maintenance of the inherited Germanic system of obstruents, which contrasts with the systematic innovation-- the 'Zweite Lautverschiebung'-- which the German obstruent system underwent (cf.,
Eng. 'pound, tide, make'; Du. 'pond, tijd, maken'; Ger. 'Pfund, Zeit, machen').

In a great many respects, however, Dutch resembles German far more than it does English. Among the more salient features which the two continental languages share is, for example, a greater maintenance of distinctive personal endings in the conjugation of the present tense. In this case too one can argue that Dutch really takes an intermediate position between English and German, depending to what degree one admits into the reckoning archaic and literary forms (e.g., Eng. 'thou' and Du. 'gij' forms) but at the same time it remains that the standard English pattern of marking overtly only one person deviates from an essentially similar and more complex patterning in the other two languages:

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>Dutch</th>
<th>German</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 sg.</td>
<td>I make</td>
<td>ik maak</td>
<td>ich mache</td>
</tr>
<tr>
<td>2</td>
<td>you make</td>
<td>jij maakt</td>
<td>du machst</td>
</tr>
<tr>
<td>3</td>
<td>he makes</td>
<td>hij maakt</td>
<td>er macht</td>
</tr>
<tr>
<td>1 pl.</td>
<td>we make</td>
<td>wij maken</td>
<td>wir machen</td>
</tr>
<tr>
<td>2</td>
<td>you make</td>
<td>jullie maken</td>
<td>ihr macht</td>
</tr>
<tr>
<td>3</td>
<td>they make</td>
<td>zij maken</td>
<td>sie machen</td>
</tr>
<tr>
<td>2 honorific</td>
<td>--</td>
<td>U maakt</td>
<td>Sie machen</td>
</tr>
</tbody>
</table>

Another feature of verbal inflexion on which German and Dutch agree is the use of two, essentially lexically determined (though with some minor semantic conditioning) perfect auxiliaries ('to have' and 'to be') where English has but one ('to have'). Finally, German and Dutch agree on a number of basic syntactical features, specifically mandatory placement of the finite verb in second position in (most) main clauses and in final position in subordinate clauses.
Though a number of other features could be added to the list, those discussed here are sufficient to give a general idea of the nature of the more obvious structural differences and similarities between the three languages. In the following table we summarise the features discussed above:

<table>
<thead>
<tr>
<th>Feature</th>
<th>English</th>
<th>Dutch</th>
<th>German</th>
</tr>
</thead>
<tbody>
<tr>
<td>vocabulary</td>
<td>XY</td>
<td>XYZ</td>
<td>YZ</td>
</tr>
<tr>
<td>gender</td>
<td>1</td>
<td>moderate</td>
<td>3</td>
</tr>
<tr>
<td>final reduction</td>
<td>heavy</td>
<td>suffix</td>
<td>light</td>
</tr>
<tr>
<td>plural marking</td>
<td>syncretism</td>
<td>suffix</td>
<td>root, suffix</td>
</tr>
<tr>
<td>acc./dat. sync.</td>
<td>no shift</td>
<td>syncretism</td>
<td>no syncretism</td>
</tr>
<tr>
<td>2nd cons. shift</td>
<td>2 forms</td>
<td>no shift</td>
<td>shift</td>
</tr>
<tr>
<td>pres. marking</td>
<td>have</td>
<td>3 forms</td>
<td>4 forms</td>
</tr>
<tr>
<td>perf. aux</td>
<td>SVO</td>
<td>be/have</td>
<td>be/have</td>
</tr>
<tr>
<td>word order</td>
<td></td>
<td>SVO/SOV</td>
<td>宋V0/SOV</td>
</tr>
</tbody>
</table>

While it is clear from this list of features that Dutch is in some real sense structurally intermediate between English and German, the actual historical nature of that intermediate position is not readily apparent. A closer inspection of the list shows one major theme to which can be linked five or six of the features. The theme is 'reduction', both morphological and phonological, and the features of gender distinction, plural marking, accusative/dative case syncretism, and verbal conjugation can all be seen as specific aspects of a general increase in the tendency to reduce over the whole Germanic language area. But a similar variability in the historical rate of morphological and phonological reduction can also be recognised in the North Germanic group of languages, in which Icelandic and, to a lesser extent, Faroese have been markedly more conservative or resistant to reduction than Danish, Swedish and Norwegian. From this perspective
then, there seems to be little reason to regard these features involving reduction as indicative of any particularly closer genetic relationship between English and Dutch than that between Dutch and German.

Of the remaining features, we can say that the distribution of lexical items across the three languages, especially in so far as this involves relative amounts of borrowing from French, can hardly be a good indicator of genetic relationships. On the other hand, the differences in word order seem rather more significant, as do those in the consonantal systems resulting from the German development of the second consonant shift, but since in the one case Dutch must be grouped together with German and in the other with English, there seems to be no further conclusion possible than that Dutch does indeed stand linguistically between English and German, forming a transitional zone or bridge between them. This conclusion, especially in light of the geographical position of the Dutch language area, can hardly be considered very surprising, for it is a widely attested fact that geographical relationships are usually directly reflected in linguistic structures: the nearer two dialects or related languages are to one another, the more linguistic features they share. While from a descriptivist and comparativist standpoint, lists of linguistic features such the one offered above are of interest in and of themselves, to the historian and to the historical linguist it is clearly of central concern to attempt to explain how both the similarities and differences between the bordering languages developed and in this way to sort out original common inheritance from contact-induced convergence or divergence and so ultimately to determine the earliest recoverable genetic relationships.
between the languages or dialects involved. These historical concerns are not very well served with simple lists of features like the one discussed above for two basic reasons. First, the features are not ordered historically or evaluated for their structural significance. Second, in looking at standard varieties of the languages involved we look at a body of data that is more or less severely limited and not fully representative of the language area as a whole. In other words, any attempt to sort out the genetic and contact-developed relationships that lie behind complex structural relationships like those between English and Dutch and German must necessarily not only do the obvious and analyse the chronological stages of development leading up to the current one but must also recognise the distortion that arises from comparisons of standard varieties and consider those dialectal relationships that are hidden or obscured beneath nationally oriented labels.

In the introduction to their book on language contact and genetic linguistics, Thomason and Kaufman (1988: 1ff.) call attention to an aspect of the Neogrammarian controversy which has received far less notice and comment than the well-known issue of the regularity of sound change, namely, the question of the existence of so-called 'mixed' languages. The two issues are ultimately related to one another at a variety of levels and it is therefore not surprising that on both topics it was one and the same scholar, Hugo Schuchardt, who most clearly and forcefully expressed the dissident position. For Schuchardt, the Neogrammarian views, as propounded by Müller and others, on both the exceptionlessness of sound laws and the existence of mixed languages were doctrinaire and
exaggerated. In the case of the issue of language mixture, Schuchardt's response to Müller's claim that no truly mixed language existed was, however, equally extreme: he claimed rather that there existed no completely unmixed language.¹

Obviously, of central importance to this issue is what precisely is meant by the term 'mixed'. Since virtually all languages can be shown to be lexically impure, that is, to include lexical items borrowed from other languages, Müller's and hence Schuchardt's use of 'mixed' clearly refers then to other aspects of language, specifically the more structured domains of morphology and syntax. From this perspective, Müller's claim can be seen as a reflexion of the Indo-Europeanist and Germanist focus of his time on the demonstration of genetic relationships between languages by means of the method of comparative reconstruction. On the other hand, Schuchardt's reaction to it can be seen as a reflexion of his own familiarity with pidgin and creole languages, as suggested by Thomason and Kaufman (1988: 2). It can, however, also be seen as a consequence of the inevitably different view of historical linguistic relationships which Schuchardt had as a Romanist: whereas Indo-Europeanists and Germanists had not only to trace the developments of the daughter languages but also to reconstruct the proto-language from which they were to be derived, the Romanist at that time felt fairly confident in his knowledge of the supposed Romance proto-language, namely (Vulgar) Latin, and therefore was inclined to concentrate not so much on the unitary starting point but rather on the

¹Cited in Thomason/Kaufman (1988: 1) and also in Bailey (1980: 144). The original statements were: "Es gibt keine Mischsprache" (Müller), and "Es gibt keine völlig unmischte Sprache" (Schuchardt).
process of dialectal fragmentation. It is surely in large measure for this reason that the serious study of language contact began among Romance linguists such as Ascoli and Schuchardt.

Subsequent reactions to Schuchardt's position have been varied, running the full gamut from outright rejection to full-fledged acceptance. In more concrete terms, these rejections have ranged from the view that the inner core of a language, its morphology and syntax as well as the most basic part of the lexicon, are by and large impervious to external linguistic influence and may therefore always be reliably used for the establishment of genetic relationships, to the other extreme view that language 'mixture', even at the level of the inner grammatical structures, is so common that all languages are to be regarded as having gone through stages of 'creolisation' and therefore not to be traceable back in a straight line to a single ancestral proto-language.

Thomason and Kaufman, on the basis of their extensive research on language contact, come to the following conclusions. First, while they partially agree with the Schuchardtian view that contact-induced influence at the grammatical level is reasonably common, they do not accept the extreme notion that all or almost all languages ought thus to be seen as having gone through creolised stages and being at their very cores 'mixed' and unclassifiable in terms of the traditional family tree model. The excess

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2 The notion that the Romance languages are all to be traced directly back to a unitary form of popular Latin, traditionally called Vulgar Latin, has since Schuchardt's time been brought into question, as for example by Leonard (1978). For a brief discussion of Latin/Romance relationship with further references, see Van Coetsem/Buccini (1990: 200-202).

3 See the citations of Mühlhäusler and Bailey in Thomason/Kaufman (1988: 2-3).
of the latter position they see as a reflexion of "a confusion about the nature of genetic relationship as a historical hypothesis," and the former as a reflexion of "an underdifferentiation of the linguistic results of contact" (Thomason/Kaufman 1988: 3). These authors further conclude that there are indeed some languages which are in a real sense mixed, such as, but not exclusively, pidgins and creoles, and these language cannot be classified genetically. Most languages, however, are in their view not mixed and for these the traditional family tree model remains applicable.

Though I agree in general with Thomason's and Kaufman's views on the question of language mixture and its implications for genetic linguistics, I disagree with them on at least one centrally important point. First, I donot accept their view that linguistic mixing in the sense discussed above may take place either through 'borrowing' or through what has traditionally been referred to as 'substratum' influence (1988: 3-4). At best, the claim that genuine linguistic mixing at any and all structural levels can occur as a result of borrowing represents either an unfortunate and imprecise application of the term 'borrowing' or else an actual confusion of the processes at work. It is my contention that 'borrowing', if defined in contrast to the sort of transfer usually involved in 'substratal' influence or language shift, cannot normally or commonly involve the more structured domains of language. To this question I will return at several points in the following study.

A further point of disagreement is perhaps too the view, to be argued here, that a language such as Dutch can reasonably be seen as showing the marks of 'language mixture'. The position taken in the
present study comes close to the viewpoint of Bailey and Mühlhäusler, though I must state my belief that the criticism that Thomason and Kaufman and others have levelled against Bailey's excessive use of the terms 'creole' and 'creolization' are to be accepted. In this regard, I call attention to Markey's distinction between a creole in the more traditional sense and what he calls a 'fusion creole', that is, a language which is specifically the result of the mixture or crossing of only two languages (1981). Though I have not employed Markey's term here, the distinction he makes is a useful one, and, as I hope here to demonstrate, the Dutch case can indeed be seen as a 'fusion creole' though not as a creole tout court. In a certain sense, my argument concerning the development of Dutch is very much in accord with Thomason's and Kaufman's statement that "the label 'genetic relationship' does not properly apply when transmission is imperfect" (1988: 10), that is, in those situations where there is among a given population a widespread and more or less sudden shift from one language to another. Judging, however, from their discussion of the question of simplification induced by dialect contact within Germanic, it seems they would reject a good part of what is claimed here to be contact-induced change (1988: 315-321).

Any discussion of a contact-induced genesis of a given language necessarily involves the question of the relationship of the language in the broader linguistic sense of a 'diasystem' with the narrower definition of a language in terms of its standard variety. Specifically, while any widespread case of language shift inevitably involves the creation of a new linguistic system, a crossbreed which cannot be directly derived from either
of its parent systems, not all such crossbreeds come to be raised to the status of a standard variety which subsequently has the opportunity to exercise an influence over a more or less heterogenous group of related dialects. Thus, while it is quite clear that the Norse/English contact in the Danelaw of England resulted in the local creation of a 'mixed' Norse/English system, this crossbreed never gained primacy among the English dialects, perhaps not even regionally within the Danelaw, though it clearly did serve as the means for the introduction of a great number of Nordicisms into the English dialect continuum, including the dialects which made a major contribution to the development of the English standard variety. It would therefore be quite inappropriate, if not absurd, to claim that English, either as the totality of English dialects or as the standard variety of English, ever became genuinely mixed or crossbred with Norse. And we can say the same, though even more forcefully, in the case of the English contact and 'mixing' with French.4

In the Low Countries, on the other hand, it was in my view precisely those dialects which ultimately played the greatest rôle in the formation of the standard variety of Dutch which were the progeny of the crossing of Ingvæonic, essentially 'pre-English' in character, and Frankish. For this reason, it does seem reasonable to speak of an historically locatable beginning or origin of the 'Dutch language', at least in so far as we then refer to the history of the standard variety. In the case of the eastern

4That English was 'creolised' through its contact with French has, however, been recently claimed by Bailey and Maroldt (1977). Arguing convincingly against this view are both Van Coetsem (1988: 131-132) and Thomason and Kaufman (1988: 306-315).
dialects of Dutch, however, their participation in this blessed event is only secondary and indirect: put another way, they remained essentially purely Frankish and came under the influence of Ingvæonic not directly but only through the intermediary of the Ingvæonised Frankish of the west.

1.2 ORIGINS OF THE DUTCH LANGUAGE AND THE DEVELOPMENT OF UMLAUT

The Dutch language area is clearly identifiable as essentially Frankish in character, an identity which receives expression in the usual name for the 'old' period of the language, that is, 'Old Low Franconian'. Indeed, there is no demonstrably early and structurally important isogloss that separates the Dutch dialects from their immediate eastern neighbours, the Ripuarian Frankish dialects of the Lower Rhine. Even today, after many centuries of diverging cultural and linguistic orientations, the dialects on both sides of the Limburgish/Ripuarian border exhibit a remarkably high degree of structural unity. Of course, the High German consonant shift, or perhaps better, lexical reflexes of the High German consonant shift, have reached the Dutch and Belgian borders and spilled slightly over them, albeit in a very modest way, into officially Dutch-speaking territory. From the other direction, linguistic influences from the more westerly cultural centers of the Low Countries have also left their

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5Here we refer to the occurrence in the southern part of the Dutch province of Limburg and a large part of the adjoining Belgian province of Limburg of a restricted set of lexical items with the shifted -k in place of the usual -g, namely in the pronouns iech, miech, diech, uuch, the wordouch (Du. 'ook', Ger. 'auch'), and, in a more limited area, the derivational suffix -lich (Du. '-lijk', Ger. '-lich').
mark in Limburg and even to a small degree further east. The result of this long history of contrary and shifting tugs from both east and west, not to mention from the Romance-speaking south, is a dialect geographer's delight, a fact evidenced by the attention devoted to the area by such great scholars as Wrede, Frings and Kloeke as well as by many very capable Netherlandicists.

Within the grand dialect continuum that extends from the Channel coast into the German Rhineland there are naturally a number of significant isoglosses and more or less clear-cut major dialect areas. One such area is comprised of the westernmost Dutch dialects and includes the three coastal areas of the Low Countries, namely those of Flanders, Zeeland and Holland. In part, what links these three regions linguistically and opposes them to the rest of the Low Frankish dialects are the numerous 'Ingvæonisms' which they exhibit. By 'Ingvæonisms' we mean features which correspond to ones found specifically in English, Frisian, and to a degree in Old Saxon. The term itself, as well as the very nature and date of some of the correspondances have been brought into question, most notably by Hans Kuhn (1955), and in some respects this criticism has been well founded and a necessary antidote to the indiscriminate use of the term in referring to linguistic parallels of any sort. However, Kuhn's assignment of all the Ingvæonic parallels to the development of a North Sea community well after the period of tribal migrations seems equally excessive in another direction. In this dissertation then we will use the term 'Ingvæonic' and in doing so refer to the kind of West Germanic spoken by the tribes which invaded and settled Britain and to those
features which distinguished that sort of West Germanic from other, continental varieties.

As mentioned above, the westernmost dialects of Dutch exhibit a great number of Ingvæonisms in the broadest sense of the term, ranging from various lexical items to certain syntactical structures. Discounting those which are or may be attributable to later cross-Channel contacts or which represent parallel developments dating from well after the period of the tribal migrations, there remains a considerable amount of evidence that points to a genuine linguistic connexion between England and Friesland and the eastern Channel coast. This evidence has survived in part as sporadic relics in the coastal dialects which display specifically Ingvæonic phonological and morphological features. That these are not simply borrowings is borne out by the occurrence of these same features in onomastic evidence from the early Middle Ages. In particular the toponymic evidence points to at least a partial settlement of the area by Ingvæonic or, perhaps more accurately, Anglo-Saxon and Frisian groups.

Aside from the onomastic evidence there is some historical evidence that would support this view and, to our knowledge, none that clearly refutes it. Of course, historical information for the period of the migrations and just after is scanty at best and any conclusions based on it must therefore be drawn with a certain amount of caution. This aspect of the topic at hand will be discussed further below but let it suffice to say for now that the historical evidence, while not in and of itself conclusive, gives strong indications of a probable settlement of Ingvæonic peoples along the entire Channel coast.
Though they have received a great amount of scholarly attention through the years, the relics of Ingvæonic in the westernmost Dutch dialects constitute by no means the basis of a major dialect division. Rather, the major dialectal divisions of Dutch involve the operation and function of ɪ-umlaut with the relevant isoglosses running from north to south and dividing the language area roughly into three groups. Starting from the German border, we have first an eastern group, comprised of the dialects of Limburg, eastern North Brabant, and the eastern parts of Gelderland and Overijssel. In these dialects, ɪ-umlaut has developed essentially as it has in the German dialects and its reflexes survive in a number of morphological rôles such as plural formation, diminutive formation, and verbal inflexion. The following are examples of the survival of umlaut reflexes in morphological alternations from the Limburgish dialect of Maastricht, as described by Houben (1905):

- Nominal morphology (pp. 55-56): *boum/bōım* 'tree (sg./pl.)' (cf. NHG *Baum/Bäume*); *bōkl/beuk/beukske* 'book (sg./pl./dim.)' (cf. NHG *Buch/
Bücher/Bühlein (pp. 32-33); mōës/mōis/mōiske'mouse (sg./pl./dim.) (cf. NHG Maus/Mäuser/Mäuschen (p. 34).7

• Verbal morphology: valla'to fall' vs. vèls, vèlt (2nd, 3rd sg. pres.) (cf. NHG fallen/fällt, fällt; hava'to hold' vs. hëls, hëlt (cf. NHG halten/hält, hält) (p. 72).

Moving west we come to the central dialect group which is comprised primarily of the dialects of Brabant and Utrecht. In this area umlaut also appears to have developed as in German, as evidenced by the great number of lexical items in these dialects which still reflect the operation of that sound change. Examples of such lexicalised instances of umlauted vowels can be found in such words as greun 'green', gelever 'to believe', kees 'cheese', which are comparable to the forms found in the eastern dialect area but contrast with the forms of the western dialects and the standard language (groen, geloven, kaas).8 In this central area, however, in contrast to the German and eastern Dutch dialects of Frankish, umlaut alternations have been wholly effaced from the morphology (e.g. central muis/muize/muiske'mouse (sg./pl./dim.), slapen/sla(a)pt 'to sleep/sleeps' vs. eastern slapen/sleeph.

Finally, we come to the western coastal region consisting of the Flemish, Zeeuws, and Hollands dialects. In these dialects we find virtually no evidence for the regular operation of i- umlaut except in the case of WGmc. ā which shows a lexical, though not morphological, distribution

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7In Houben's transcriptions <eu> is a front rounded mid vowel [ø] and <őe> is a back rounded high vowel [ű]
8For an overview of the modern dialect situation, see the discussion in Daan/Francken (1972: 59ff.).
of umlauted forms essentially the same as in the other Frankish dialects (e.g. lexicalised umlaut in vallen/vellen ‘to fall/to fell’ but no morphological umlaut in vallen/valt ‘to fall/falls’). According to most scholars, the distribution of fronted reflexes of WGmc. ā also reflects the operation of umlaut in the coastal dialects, though this is by no means a certainty. Indeed, fronted and non-fronted reflexes of WGmc. ā in the west do not coincide with umlaut patterns derivable from comparative evidence; rather, they often show no immediately apparent conditioning and in some cases present us with seemingly chaotic lexical and geographical distributions.\(^9\) Thus we find forms in which no umlaut conditioning factor existed but which do have fronted vowels, as in western beuter ‘butter’ and vul ‘full’ (cf. standard Du. boter, vol), others which did contain an umlaut conditioning factor but show no fronting, as in mog ‘gnat’ (cf. Eng. midge) and slotel ‘key’ (cf. standard Du. mug, sleutel), as well as others which conform to the expected distributions of umlaut reflexes. I should also point out here that the reflexes of WGmc. ā also do not show any umlaut conditioned split but do show an unconditioned fronting to ā, as in huis, muis etc. Moreover, this unconditioned fronting of ā to ā is not restricted to the western group of dialects, but extends through the central group (e.g. muis/muize), with the isogloss more or less falling in with the eastern group of isoglosses, especially in the far south.

While outside the Low Countries Dutch has generally received much less scholarly attention than some of the other Germanic languages,

\(^9\)The characterisation of the situation as "chaotic" is Goossens' (1980: 34).
it is nonetheless quite surprising, especially in light of the vast body of literature in Germanic linguistics devoted to the topic of umlaut, that the unique development, or better, non-development of the phenomenon in western Dutch has been so neglected. The topic clearly deserves attention, not only for its central place in the history of the development of Dutch but also for the possible light it might shed on the general development of umlaut in Germanic.

A review of the literature on the question of umlaut in the coastal dialects, to be carried out below in Chapter 3, unfortunately does not prove very enlightening. In general, scholars have accepted the traditional 'explanation' that has been canonized in the Neo-Grammatician handbooks. According to this view, umlaut, in effect, simply "ran out of steam" in the west, affecting there only the short vowels and leaving the long vowels and diphthongs untouched. Though this interpretation of the data cannot be absolutely refuted, at least as a descriptive account of the facts, it is nonetheless less than wholly satisfying for at least two reasons.

First, it confers an utterly unique status upon the western dialects within the whole of Germanic while not offering any palpable structural motivation for this singular development. Of course, such a unique failure to develop a phonological mutation common to the rest of a language family obviously cannot be rejected out of hand. Yet umlaut is a change at the segmental level which seems to be linked closely to suprasegmental features that are, indeed, shared within the language family, as evidenced not only by the general development of umlaut in
Germanic but also of umlaut and infection in Celtic and metaphony in Romance.\footnote{For a discussion of the notion of metaconditioning, the family-wide development of umlaut, and the question of the relative dating of its development with respect to the fragmentation of the proto-language, see Van Coetsem and Buccini (1990: 200-202).}

It should also be pointed out that the handbooks let pass without comment the fact that the alleged western Dutch \( i^- \) umlauting of short vowels only is also exceptional in operating differently according to the length of the vowel involved. In all the other surviving Germanic dialects, \( i^- \) umlaut affects both long and short vowels in wholly parallel fashion.\footnote{In both North Germanic and High German there are cases of umlaut failure which are related to the length or 'weight' of the prominent syllable and thus, in an indirect way, to the length of the vowel potentially subject to umlaut. These cases of umlaut failure will be discussed in section 2.4 below.} Finally, the traditional view of umlaut in Dutch is unsatisfying because it fails to make any meaningful connexion between the umlaut data and other bodies of dialect data.

In this latter regard, it is especially striking how, despite a recognisable similarity in dialectal distributions, a connexion between the western zone of umlaut failure and the distribution of Ingvæonic relics in the Dutch dialects has rarely been seen, a notable exception being in the later work of Heeroma (1965: 20-22). Ostensibly, the reason for this has been quite simply that, judging from O\!ld English, where umlaut developed particularly early on, an Ingvæonic influence in the coastal area can hardly have brought with it a weak inclination toward umlaut. Some authors such as Van Loon, who refer to the western dialects as
'Ingvæonic', obscure this obvious and important point: if 'Ingvæonic' is to be in any way, a meaningful term, it must include Old English, and with the inclusion of Old English, it would seem very hard to imagine a closely related dialect so utterly different with regard to the very basic and general phonological process of umlaut.

Of course, the coastal dialects of Dutch are not 'Ingvæonic' in any real sense of the word: they are indisputably Frankish. But from the evidence of the numerous relics of Ingvæonic in those dialects, they are clearly a kind of Frankish that has at some time been in close contact with Ingvæonic. It will be claimed here that it is in this contact between Ingvæonic and Frankish where lie the origins not only of those relic forms but also of the failure of umlaut. Further, I believe that it is, at least in part, in this contact and its disruption of the umlaut process where lie the origins of the so-called western 'spontaneous palatalizations'. These phonological developments, together with the morphological developments with which they were intimately linked, can be seen to lie at the very core of the development of Dutch as a distinct branch of West Germanic.

1.3 OVERVIEW OF THE PRESENT WORK

In this dissertation I argue that a full understanding of the place of Dutch within Germanic can only be achieved if one considers carefully the historical and linguistic evidence that points to an intense contact between Ingvæonic and Frankish dialects of West Germanic in the Merovingian
and early Carolingian periods. Though the occurrence of such a contact has long been recognised, it has generally not been analysed from a structural standpoint and therefore has been insufficiently appreciated as a linguistic event with far-reaching consequences. Specifically, it is claimed that Dutch is the product of a language shift, in which Ingvæonic speakers of the western half of the Low Countries gave up their native dialect in favour of the Frankish of the socially dominant class of the Frankish empire. In the course of acquiring Frankish, the Ingvæonic population imposed many lexical items from their native language onto Frankish. A more significant consequence of this contact was the imposition of an Ingvæonic articulatory basis onto the Frankish of the coastal zones, a transfer which led to subsequent phonological changes in that coastal Frankish which were parallel to changes found in the Ingvæonic dialects of England and Frisia.

The central argument of this dissertation is that one of the major crucces in the history of Dutch, namely its peculiarly limited development of i-umlaut, can best be explained in terms of the Ingvæonic/Frankish contact envisioned here. This limited development of i-umlaut, which stands out markedly from the full development of i-umlaut found in all other Germanic dialects, can be shown to have been the result of the imperfect acquisition of Frankish by the Ingvæonic speakers, who failed not only to learn what was then in Frankish a surficial phonetic rule but moreover generally failed to acquire the vocalic distinctions of Frankish in unaccented syllables and thus too the umlaut conditioning factors. More generally one can say that this Ingvæonisied Frankish gave up almost all
root-vowel alternations and can be characterised as having strongly simplified phonological and morphological systems in comparison to those of the non-Ingvæonised Frankish dialects to the east.

In preparation for the discussion of the proposed explanation of the peculiar development of umlaut in Dutch in Chapter 3, there is presented a broader analysis of umlaut in Germanic. The Germanic umlaut developments are the subject of Chapter 2. In that Chapter, I attempt to offer a comprehensive and coherent view of the umlaut process in Germanic as a relatively unified one. The general similarities of the dialectal umlaut developments throughout all the surviving Germanic dialects save Dutch are seen as the result of a higher-order, meta-conditioning of the process in the prosodic structure shared by all Germanic languages, that is, as an instance of 'drift' or 'Entfaltung'.

This general and extensive discussion of Germanic umlaut is included for the following reasons. First, it is intended to demonstrate the grave weaknesses of the two most current and extremist views of Germanic umlaut, namely the view proposed by (American) structuralists that all Germanic umlaut developments can be assigned to a unitary proto-stage of Germanic, and the opposing view that all Germanic umlaut phenomena are purely 'einzeldialektisch' and therefore essentially unrelated. Second, the more reasonable, unified view of Germanic umlaut presented here helps highlight the truly peculiar nature of the Dutch developments and thereby helps justify the attempt to explain those developments by means of language-external factors, i.e., as the result of language contact. An essential part of this presentation is therefore the
study of instances of umlaut failure elsewhere in Germanic, and in particular of the Old Norse case of umlaut-failure in light stems (section 2.4.2).

Of significance both for the general development of umlaut in Germanic and the particular case of the failure of i-umlaut in Dutch are the findings presented here for the relative chronology of umlaut development in the different dialect branches of early Germanic. It is demonstrated here that with respect to umlaut developments, the traditional dialect grouping of West Germanic is not applicable. Rather, it is necessary to distinguish between North Sea Germanic or Ingvæonic dialects and what are called here 'South Germanic' dialects, that is, the forerunners of later Middle (Frankish) and Upper (Alemannic and Bavarian) German. It is shown that, as regards umlaut, the North Sea and North Germanic dialects form a macro-dialect grouping, with very similar patterns of development which contrast sharply with the patterns of umlaut development seen in South Germanic. Among the differences in umlaut development between the North Sea and South Germanic dialect groups are differences of both the relative and absolute chronologies of specific umlaut developments. The recognition of the great difference in the rate of umlaut developments in the two branches is of central importance to an understanding of the dynamics of the linguistic contact between Ingvæones and Franks in the Low Countries, the contact by which the Dutch language was formed.
CHAPTER TWO

UMLAUT AND UMLAUT FAILURE IN GERMANIC

"One further point may perhaps be made, which, though of debatable theoretical significance, is at least of potential practical usefulness. This is the comparison with the other Old Germanic dialects in which umlaut also took place. If some difference in umlaut between Proto-Nordic and, say, Old English can be correlated, clearly and unequivocally, with some other difference between these languages, e.g. in the conditions and chronology of the syncope, this is likely to contribute towards an explanation in the sense...of a reduction to a simpler immanent pattern of the historical process involved. At any rate, whatever the correct dialectological interpretation of umlaut in Old Germanic may be, the comparison can never become detrimental, and may well prove useful, to the analysis of umlaut in the individual dialects..."

Hreinn Benediktsson

2.1 THE MECHANICS OF UMLAUT

Before proceeding on to an analysis of the development of umlaut in Germanic, it will be necessary first to address briefly more general questions of phonology which are relevant to the Germanic and Dutch
umlaut developments. Specifically, it will be necessary to examine the patterns and mechanisms of vocalic distance assimilations both in Germanic and beyond in order ultimately to gain a better perspective on the special case of Dutch. Such a general discussion is not only warranted by the possible light it might shed on the specific cases at hand but demanded by the terminological confusion which has arisen in the literature on vocalic distance assimilations. Unfortunately, practical considerations make it impossible to include here a genuinely detailed cross-linguistic survey of umlaut phenomena, a project which, even after more than a hundred years of research on umlaut, has yet to be carried.\footnote{The very brief survey to be presented below is based on more extensive, unpublished research by this writer (Buccini 1991 (Ms.b)).}

2.1.1 'Umlaut' and Related Phenomena

Given the considerable number and variety of conditioned vowel changes and morphophonemic alternations in the history of the Germanic languages as well as the great number of studies that scholars have devoted to the development of those languages, it is not surprising that the term 'umlaut' has been used in a very wide range of applications. Following Sonderegger (1959:2-3), these applications can be placed in three general categories:

1. Umlaut in the widest sense, referring to all progressive and regressive assimilations of vowels to other vowels or to consonants, including both contact and distance assimilations.

2. Umlaut in a narrow sense, here with several subvariants in use, including the following:
a) progressive and regressive distance assimilations between vowels.
b) only regressive distance assimilations between vowels.
c) regressive distance and contact assimilations of vowels to vowels or consonants.
d) regressive distance and contact assimilations of vowels to vowels.

3. Umlaut in the narrowest sense, referring only to regressive assimilations of vowels to palatal vowels or consonants, though here too with some further subvariants, including the following:
a) only regressive assimilations of vowels to ı, ı̈ in the following syllable.
b) only regressive assimilations of vowels to ı, ı̈ in the following syllable or to a following palatal consonant.

For those scholars who use the term umlaut in the narrow or narrowest sense, other terms are necessary to denote the phenomena included in the wide sense, which they do not consider in their own use of the term. One such term, which itself has come to have a rather complex and not always consistent usage is the term 'breaking' (German 'Brechung'). The applications of this word can be grouped in two general categories (cf. Szulc 1964:12):
a) a variety of conditioned diphthongizations in Old Norse (e.g. e > ia, io), Old English (e.g. e > eo) and Old Frisian (e.g. i > iu).
b) the lowering of short vowels in Germanic and in particular in Gothic, Old High German and Old Saxon (e.g. i > e, u > o).

In so far as these are all developments which were conditioned by either the following consonantism or the vocalism of the following
syllable, they could also be included under the umlaut heading, where umlaut is used in either the wide or one of the narrow senses discussed above, though clearly not in the narrowest sense, that is, where umlaut is restricted to only palatal assimilations. That the term 'breaking' has been used in reference both to the above mentioned diphthongisations and to the lowering of short vowels can be traced back to Grimm's usage. According to him, the two results, diphthongisation and lowering, were but differing final outcomes of what was essentially the same change; for him, the Gothic digraphs <ai> and <au> indicated 'broken' (i.e. diphthongised) short vowels, and the monophthongal, lowered reflexes of

2In the case of Old Norse 'breaking', the diphthongisation of e > ia, io is traditionally said to have been conditioned by the presence of nonaccented -a in the following syllable, as in Olc. hjarta < *herta 'heart'. See Noreen 1892: 60-63. In Old English studies, the term breaking is usually employed in reference to the diphthongizations of æ > ea, e > eo, i > io etc., which were conditioned by the following consonantism (X, l, r + cons., X, y), as in neaht < *nāht 'night'. For details, see Campbell 1959: 54-60. Also in Old Frisian studies, breaking refers to the conditioned diphthongization of i > iu as in siunga < singya 'to sing'. Here the conditioning factors were u, y in the following syllable. The same change is found when i stands before the consonant clusters ht, hs, as in riucht < riht. Though both these cases have be called 'breakings', Steller treats them separately; in the former case, he talks of umlaut, in the latter of breaking (1928: 11).

In the case of the lowering of short vowels, we again find a mixture of consonantal and vocalic conditioning. In Gothic, the conditioning is almost exclusively consonantal (i > e, u > o before X, b, h). In Old High German and Old Saxon, the conditioning was vocalic, in the form of a nonaccented -a in the following syllable, though in some cases the conditioning has been attributed to the following consonantism (Braune/Eggers 1987: 33). For the relationship between consonantal and vocalic conditioning as well as the question of the dating of these changes to the proto-language or to the dialectal period, see Van Coetsem/Buccini 1990.
Old High German and Old Saxon were secondary, local developments from earlier diphthongs (Szulc 1964:11). In general, Germanicists have ceased to use the term in reference to the lowering of short vowels, presumably for the good reason that it is unlikely that the lowered monophthongs can be viewed as secondary results of an earlier diphthongisation or breaking. Nevertheless, the use of 'breaking' in reference to all the various conditioned diphthongisations of short vowels persists to this day and likely will continue, thanks to its ubiquitous use in the standard literature and its picturesque quality.

It is certainly in part due to a kind of academic provincialism that Germanicists have hardly ever looked outside the Germanic languages for help in understanding the process of umlaut. But in their defence one must add that the development of a broader perspective on the subject has clearly not been aided by the fact that scholars in other fields, most notably Romance linguistics, who have come across developments much like those in Germanic, have often chosen to use different terminology in discussing them. Naturally, different names give at least superficially the

3There have been, however, a few who have done so, such as Van Haeringen (1918), who occasionally draws parallels between developments in Germanic and those in Romance, Celtic and the the 'Kambera' dialect of the Polynesian island of 'Soemba'. Van Haeringen exercises much caution in his use of unfamiliar material.

Awedyk (1975) devotes the entire first chapter of his monograph on umlaut and breaking to similar phenomena in non-Germanic languages: it is, however, a chapter of but three pages, offering an unorganised list of material to which he later refers in defense of his umlaut-through-epenthesis view.

A better known attempt to draw parallels between Germanic umlaut and developments in other languages was made by Erik Rooth (1937), using especially data from the Celtic languages.
impression that they refer to different phenomena, though in fact the differences may be relatively trivial in nature. In the case of Romance studies, scholars have generally chosen to use a different term in spite of the fact that from the very start of the discussion of the umlaut-like developments in Romance, the parallelism with the Germanic developments was recognised. As in the field of Germanic, there has not been total agreement among Romance linguists as to what exactly the range of the term should be. Of course, given the natural prominence of the various Romance languages in the actual writing of studies in Romance linguistics, it follows that there has been some resistance to the acceptance of the foreign term. Scholars in that field have instead shown a preference for the (greco-)romanised calque, 'metaphony' (Italian 'metafonisi' or 'metafonia', French 'metaphonie') or a term more exclusively Romance in its use, 'inflection' (Spanish 'inflexión', French 'inflexion'). These three terms have all been employed in the literature to refer to distance assimilations of accented vowels to following nonaccented vowels, though, as in Germanic, some scholars have grouped

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4 Already in 1879, Foerster recognised the similarity of the Romance developments to those in Germanic and consciously chose to employ the term umlaut (originally set between quotation marks).

5 In recent decades this term has continued to be used by Hispanic and French scholars, but otherwise appears seldom in the literature. It should be mentioned, however, that the term found some limited currency for a time among Germanists, starting with Meillet in his *Caract. gén. des langues germaniques*, where the word was used in place of the term 'umlaut'. Van Haeringen (1918), in his dissertation on umlaut and breaking, employed the term in its Dutch form ('inflexie') as the broader term under which the somewhat differing umlaut and breaking phenomena could be included.
these changes together with certain consonantly conditioned vocalic changes. Nevertheless, one can see a trend for usage among Romance linguists to stabilise, with the term metaphony in reference only to vowel-to-vowel assimilations slowly coming to oust the other terms.

Against this general trend has gone Clifford Leonard, author of what is the only book-length study devoted to vowel-to-vowel distance assimilations in a Pan-Romance perspective (*Umlaut in Romance*, 1978). Leonard’s study focuses on the process by which there is "the substitution of a phonemically higher vowel (or partially higher diphthong) for a lower vowel, under stress, when the posttonic vowel itself is, or can be inferred to have been at an earlier time, phonemically high" (1978: 201). This process he calls 'umlaut' and he explicitly rejects both the terms 'infection' and 'metaphony' on the grounds that they have too often been used in reference to other, essentially different phonological processes, specifically contact assimilations, consonantly conditioned assimilations, and 'vowel harmony' (1978:201). For Leonard then, metaphony is too broad a term, for it can be used to refer to all of these vocalic assimilations (thus like the term 'umlaut' in the widest sense, as used by Kock and Noreen (Sonderegger 1959: 2)). Finally, he rejects the term 'vowel harmony' in referring to the processes with which he is concerned, for the reason that in his view vowel harmony properly is used in reference to atonic developments. The difference between umlaut and vowel harmony he

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6Here we refer specifically to the raising of the high mid-vowels before certain consonant clusters, as in Tuscan *pugno* < *pognu*, *vince* < *venci(t)*. For a discussion of the relationship between vocalic, consonantal and also syllable structure conditioning in Romance, see Van Coetsem and Buccini (1990: 198-216).
sums up in the following way: "I intend the term umlaut to mean only this, a Fernharmonisierung produced in stressed vowels by the unstressed vowel of the following syllable. I wish to reserve the term vowel harmony to mean an anticipation (and paradigmatic variabiliy) in a pretonic or in an unstressed penult vowel" (1978:201).

While Leonard's definitions of the terms 'umlaut' and 'vowel harmony' represent sound working definitions within the field of historical Romance linguistics, they only make partial reference to the actual structural differences which underlie the surficial differences between the vowel-to-vowel developments of the type best known from Germanic and those best known from such languages as Finnish and Turkish. To distinguish better between these two types of distance assimilations, we can profitably look to recent discussions of vowel harmony by theoretically oriented phonologists. While phonologists have proposed a number of features which have been said to characterise vowel harmony phenomena, such as the syntagmatic directionality of the assimilation, the nature of the harmonic control (i.e., phonological, as in the so-called "dominant" harmonic systems of Igbo, Akan and Kalinjin, or morphological, as in the root-controlled "directional" harmonic systems of Finnish, Turkish and Mongolian), the actual phonological feature involved in the harmonic alternations (i.e., systems based on different features such as [±thigh], [±round], [±advanced tongue root] etc.), and the extent of the domain of the harmonic agreement. In this writer's view, it seems only the last of these can properly serve as a superficial basis for

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7 For a detailed discussion of the question of the definition and taxonomy of vowel harmony, see Clements (1976).
distinguishing between vowel harmony and other kinds of vocalic
distance assimilations, at least if, as I think we must, we intend to anchor
our definition to those classical cases (i.e., Finnish and Turkish) for which
the term first was used: the domain or range of the assimilatory effect in
vowel harmony is the phonological word. If we start on this premise, it is
clear that the well-known distance assimilations in Germanic as well as
those in Romance mentioned above cannot be called 'vowel harmony',
since these phenomena all involve assimilations between vowels in
adjacent syllables.\(^8\)

What has just been termed above a superficial feature by which
vowel harmony can be distinguished from other kinds of vocalic distance
assimilations points directly to a deeper and linguistically more
fundamental functional feature: vowel harmony is a demarcative feature
of the prosodic system of a language. More specifically, it is the application
of an articulatory setting, as defined by Laver (1980: 12-22), at the prosodic
level of phonological organisation, by which strings of morphemes are
bound together as phonological words and (to some degree) set against
neighbouring words in the spoken chain. Harmonic agreement is
therefore an active, 'synchronic' phonological process. From an historical
standpoint, vowel harmony processes generally tend to be quite stable,

\(^8\) As always is the case, there are some exceptions to this claim, namely,
those instances in Germanic where the umlaut conditioning factor and the
accented vowel subject to mutation are separated by (at most) one other
unaccented vowel. These cases are relatively rare and do not constitute a
major exception to the claim made here. They will be discussed briefly in
section 2.3.4 below.
remaining as more or less automatic rules over many generations and even centuries.

If we take the essential nature of vowel harmony to be one of a prosodic, demarcative feature which operates across the domain of the phonological word, it is obvious there are many vowel-to-vowel distance assimilations which fall outside this definition. Among these are the local assimilations (i.e., between adjacent syllables) in Romance which Leonard considers instances of vowel harmony ("an anticipation (and paradigmatic variability) in a pretonic or in an unstressed penult vowel" (1978:201)).

Such local assimilations of a vowel in a nontonic syllable to a vowel in an adjacent tonic (or even nontonic) syllable are extremely common in the languages of the world and within Germanic are best known from the North Germanic dialects. If we focus simply on the qualitative change from the input to output, such distance assimilations appear to be of the same sort as many of those which fall under Leonard's definition of umlaut, i.e., the assimilation of an accented vowel to the vowel of an adjacent, unaccented syllable, as in the case of the raising of accented high mid vowels which took place in Southern Italian dialects (e.g., */vénnere/ 'to sell' > */vénnērə/ vs. */vīnni/ 'you (sg.) sell' > */vīnna/ ) or the raising

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9 The examples Leonard offers are from the Southern Italian dialect of Servigliano (S. Marche): "/ventōsa/ 'ventosa' beside its masc. /vintūsu/, or /piédoko/ 'io predico' beside 3rd sing. /prēdaka/" (loc. cit.).

10 Sec., for example, Haugen (1982: 38): "[U]nstressed i [I] and u [u] are written alternately i/e and u/o in ONw (outside SWNw) and in OSw (Västergötland, Skåne). They are written i and u when the preceding stressed vowel is high: iy u iē uē ei ɵy au, e and o when it is mid: e ɵ o eē oē o. When the stressed vowel is lower mid or low, usage is complex and varied..."
of Proto-Germanic *e to i (*/esti/>/ist/). Indeed, from a purely articulatory standpoint of vowel production, there is no difference. However, the difference of the direction of the two kinds of assimilation with respect to the accentual contour of the word is of central importance, both from a diachronic and from a synchronic perspective: local distance assimilations of unaccented vowels to the quality of neighbouring accented vowels generally resemble vowel harmony systems in that they can probably remain over extended periods of time active, synchronic rules within the phonological component of the grammar of a language. The basis for this potential stability is to be expected in light of the fact that the conditioning element in the vowel-to-vowel relation is the relatively stable prominentm, accented vowel. In this respect, these local assimilations do indeed resemble classical vowel harmony systems, or at least those of the classical "directional", root-controlled type, and it is presumably for this reason that Leonard and some other linguists have been willing to treat them as cases of vowel harmony. From this writer's perspective their local application and thus their lack of any prosodic function makes them in a very fundamental way different from vowel harmony.

At a purely synchronic level, the difference between local assimilations of unaccented vowels to accented vowels and local assimilations of accented vowels to unaccented vowels is somewhat more difficult to characterise. If we look at the two types, however, from a diachronic standpoint the difference becomes more apparent. Again, in the former case it is the relatively more salient and stable prominent or accented vowel which is the conditioning factor in the vowel-to-vowel
relation. The assimilation is then in these cases a genuine one, where a
given vocalic feature (e.g., [+high]) comes to be spread and shared over a
two syllable span. While it is true that these assimilations result in the loss
of the full independence of the unaccented vowel to the conditioning
accented vowel, they cannot be seen as compensatory processes in any
meaningful way, insofar as there is a spread and maintenance of a
particular qualitative feature across the two syllables.

When vowel-to-vowel assimilations in which the spread of a
qualitative feature goes from an unaccented vowel to a neighbouring
accented vowel also results in the maintenance of that feature over the two
syllable span, they cannot be distinguished from assimilations in which the
spreading feature originated in an unaccented vowel.\textsuperscript{11} From a diachronic
standpoint, however, such local vowel-to-vowel relationships are rarely
seen to be stable. Instead, the historical development which is generally
observed for such sequences can best be characterised not as one of feature
sharing but rather as one of feature shifting, for the unaccented vowel
from which the assimilation originates typically is subject to reduction.
This reduction results in the gradual loss of distinctive features in the

\textsuperscript{11}Note that in many or all vowel harmony systems which have been
termed "dominant" harmony systems, that is, those in which the
harmonic control is associated with the occurrence of any one of the
vowels of the "dominant" set (typically, any vowel with the feature
[+advanced tongue root]), harmonic control is fixed with respect either to a
semantic prominence (i.e., the root morpheme of the phonological word)
or to a specific syntagmatic position in the word (e.g., the first syllable) or
the occurrence of the accented syllable. Thus, in such languages, the
harmonic control point can and typically does occur alternately in accented
and unaccented syllables: any morpheme that contains a dominant vowel,
will serve as a trigger for the harmonic spread of the dominant vocalic
feature throughout the phonological word.
unaccented vowel, including (or even especially) the feature involved in the assimilation. The accented vowel which has undergone the assimilation is obviously not subject to reduction and insofar as the assimilated feature is maintained in that vowel but not in the unaccented vowel whence it spread, we must speak of a compensatory shift, as illustrated below:\(^{12}\)

\[ 'V[-\text{high}]CV[+\text{high}] > 'V[+\text{high}]CV[+\text{high}] > 'V[+\text{high}]CV[\text{height neutralised}] \]

The historical process by which such a compensatory feature shift occurs obviously necessarily involves a deautomatisation of the vowel-to-vowel relationship, for the process of reduction, which ultimately results in the obliteration of the conditioning environment of the assimilation, would otherwise result in the simple reversion of the mutated, accented vowel back to its unmuted quality. Thus, the maintenance of the mutated quality of the accented vowel after the loss of the conditioning environment implies the passage of the assimilation from one of automatic phonological rule or phontactic constraint to a nonconditioned morphologisation (or lexicalisation) of the accented syllable with a new, distinctively mutated vowel. At least potentially, the loss of morphological or lexical information contained originally in the unaccented vowel’s quality passes over to and is borne by the accented vowel. It is this process of a local vowel-to-vowel assimilation,

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\(^{12}\)The lack in this passage of concrete examples of distance assimilations with reduction of the conditioning factors and compensatory maintenance of the mutated vowel will itself be compensated in the following sections.
accompanied diachronically by reduction of the unaccented conditioning factor, that ought properly to be termed "umlaut".

We can thus recognise the following types of vowel-to-vowel distance assimilations: 1) local assimilations (either from accented vowel to nonaccented vowel or vice versa) in which the span of the spread feature is maintained; 2) unbounded vowel-to-vowel assimilations in which the spread of the feature serves as a prosodic (demarcative) feature; 3) local vowel-to-vowel distance assimilation in which the assimilation proceeds from an unaccented to an accented vowel, the former of which is subject diachronically to reduction. This third case we have defined as 'umlaut' proper, the second case is clearly vowel harmony. For the first case, which in the literature is indiscriminately referred to either as umlaut or as vowel harmony, ought to bear its own appellation in order that we avoid conceptual confusion, and I therefore suggest that we reserve the relatively neutral (in English, at least) term "metaphony" for these local, automatic and essentially functionless distance assimilations.

2.1.2 Umlaut as a Phonological Process

It was claimed above that a workable taxonomy of vocalic distance assimilations must necessarily make reference to both synchronic and diachronic aspects of their operation and development. In particular, it is claimed that we can distinguish both vowel harmony and umlaut on the one hand from what has been termed here 'metaphony' on the basis of functionality. Metaphony involves surficial, automatic assimilations with
no higher order function either at the synchronic or diachronic levels. Vowel harmony and umlaut do have higher order functions: vowel harmony is a synchronically applied, demarcative mechanism within the prosodic component of the phonology of a language, while the functional aspect of umlaut belongs to the diachronic aspect of a language.\footnote{The distinction between vowel harmony as a demarcative mechanism and umlaut as a compensatory mechanism has been claimed previously by McCormick (1990 Ms.).} While I believe that the claim of synchronic functionality for vowel harmony is hardly controversial, there might well be objections raised to the claim of a diachronic function of any phonological process. As generative linguists have emphasised, speakers of a given language ordinarily do not have access to the historical development of a language, a limitation which is especially and unquestionably true for children during the process of their acquisition of the grammar of a language. At first glance then, it seems absurd to think of an historical process as a functional element in the grammar of a language. This claim therefore needs some elaboration.

I believe that of central importance to the understanding of how umlaut develops is a distinction which can be made between 'macrodiachrony' and microdiachrony'. With the term 'macrodiachrony' \[i\] refer to processes whose course of development spans relatively large periods of time. These large periods of time have no upper limit; that is, depending on the specific process in question, they can span over many generations of speakers of a language. The lower limit of time in a macrodiachronic process can lie within the span of one single generation's place in a language and, indeed, 'historical' change can take place even
within the course of an individual speaker's use of a language. From a formal standpoint, we might want to speak of macrodiachronic processes as one's involving changes at the level of grammatical competence, either for the speech community or for the individual.

Such macrodiachronic changes of linguistic competence can be generally distinguished from the microdiachronic changes which take place in the physical realisation of speech production from moment to moment. Here we refer to what is more generally known as "synchronic variation", an established term but one which is ultimately an oxymoron. Of particular relevance to the question of umlaut development are microdiachronic variations in phonological production which are directly related to variable rates and styles of speech. It is generally recognised that the discrete, 'segmental' nature of sounds in connected speech is subject to blurring under higher rates of production: the higher the rate, the more the tendency for speech sounds to lose their segmental character. Indeed, it is to my knowledge one of the oldest and least challenged notions in historical linguistics that all assimilations reflect a tendency on the part of speakers to minimise the amount of articulatory energy expended in the course of communication. It is an obvious and also empirically verifiable fact that the increased effort necessary to articulate speech at a higher than normal rate demands articulatory short-cuts, short-cuts which are potentially limited only by the demands of distinctiveness and communication. In this regard, it is extremely unlikely that vocalic distance assimilations are in any fundamental way different from contact assimilations. It should also be pointed out that there is no absolute
division to be drawn between differing rates of speech and differing styles or registers of speech. There is, moreover, a very general if not necessarily universal correlation between phenomena typical of higher rates of speech and those typical of less monitored or less careful styles of speech. These are, in turn, often relatable to sociolinguistic parameters of variation: that is, phenomena typical of higher rates and/or less-monitored styles among one social group may be typical of a more neutral rate and style for another social group within one and the same speech community. For examples of such correlations one need not look too far. In American English, one can point to the use of reduced forms such as 'gimme' for 'give me', 'gonna' for 'going to' etc., which occur in the speech of virtually all speakers of American English but for different social (ethnic, socio-economic, geographical) groups, these forms may occur in a broader or narrower range of rates and styles. A more strictly phonological and far-reaching variable feature which can be related both to rates and styles and sociolinguistic groupings is that of the deletion of word final -t in consonant clusters in American English (as well as other varieties of English).¹⁴

It is in the context of this rate and style related variability that the compensatory function of umlaut development must be seen. Specifically, the transition from an automatic to a nonautomatic phonological relation should be seen as occurring in the course of generational transfer. If we

¹⁴For a discussion of the variable reduction of -t in final clusters in the Black speech communities of New York City and Detroit, see Labov (1972: 216-226). Though this feature is more widespread (and more thoroughly studied) in Black American English than in other varieties, it is probably present in some styles in the speech of all American social groups.
assume, as I think we must, that umlaut begins as a rate and style related coarticulatory or assimilatory effect, children acquiring a language in which such a vowel-to-vowel assimilation is beginning to develop will be confronted by a range of realisations of accented-unaccented vowel sequences. At the one end of the range, in more conservative (i.e., slower, more monitored) styles, neither assimilation of the accented vowel to the quality of the unaccented vowel nor reduction of the unaccented vowel will occur. At the other end of the range, in more innovative (i.e., faster, less monitored) styles, assimilation and possibly reduction of the unaccented vowel may well occur. While it is possibly or even probably true that children in the course of language learning acquire fairly specific phonological targets, it is also true that the same physical and pragmatic factors which affected their parents' speech production will lead to the development anew in the children's speech of a full range of styles and thus of mutated and reduced forms. In essence, if there is a shift downward of the target (or targets) with respect to the range of styles (from more monitored/slower rate to less monitored/faster rate) in the course of generational transfer, mutation and reduction will with time come to be present in an ever wider part of the range of styles.\textsuperscript{15}

Attempts to explain the mechanism of umlaut have in general failed to address the question of the passage of the umlaut vowel-to-vowel relation from automatic to nonautomatic. In particular, the structuralist

\textsuperscript{15}In effect, differences between the speech of one generation and the speech of another with respect to degrees of assimilation and reduction are probably quite similar (though perhaps more subtle) to those which can be seen between the speech of different social groups within a given community.
view (to be discussed in detail further below in this chapter) has been unsatisfactory in this regard. The structuralist view of umlaut focusses on the process of the passage of mutated phones from formal allophonic to phonemic status. The most basic means by which this passage is achieved has, of course, been viewed as the process of reduction, by which the conditioning of allophonic variants is removed. As mentioned above, however, as long as a syntagmatic relation remains automatic, removal of the conditioning ought to lead not to independent status of the positional variant but reversion of the variant to its neutral quality. And as long as mutated vowels and the conditioning factors of the mutation consistently coöccur, there seems to be no apparent motivation for children not to learn and internalise in their grammar the relation as an automatic phonotactic constraint, just as children do in the course of learning languages with vowel harmony.

I believe this apparent paradox leads us to two conclusions. First, the loss of automaticity in the vowel-to-vowel relation cannot be a simple and direct result of the mechanical process of reduction. Second, the process must involve a period during which essentially similar surficial output for two coeval generations must have different 'underlying' phonological structures for those two generations. Specifically, there must in the process of generational transfer be a stage when children, faced with forms with variable degrees of mutation and reduction in their elders' speech, reinterpret the distribution of vocalic features in the V-V sequence according to the model of a more progressive style. For this generation that carries out the reinterpretation, the process can be said to be
compensatory in that the morphological or lexical information that is primarily felt to be borne in the unaccented, mutation-inducing vowel by their elders, becomes for them to be instead primarily associated with the mutated quality of the accented vowel. This shift in the assignment of grammatical information from the unaccented to the accented vowel need not lead to an abrupt and wholesale switch to rendering only reduced unaccented vowels, but clearly once the shift takes place, the rendering of distinct qualities in the old umlaut-conditioning vowels becomes superfluous. The natural tendency toward minimising the amount of energy expended in motor activities will, however, naturally favour the 'institutionalisation' of the reduced variants of those unaccented vowels.

In light of the foregoing discussion, it might do well for us to reconsider the aforementioned notion that speakers of a language do not have access to its history. One might wish to revise that claim slightly and acknowledge that to some degree they do, at least at the 'michrodiachronic' level of variation, which is always present in the language learner's model. If the model of umlaut development presented above is at all correct, then it seems reasonable to view the process as one that is inherently diachronic in nature and thus quite different from vowel harmony or the surficial distance assimilations which I have termed 'metaphony'.

2.1.3 Patterns of Umlaut Development

Umlaut, defined as a diachronic, compensatory vowel-to-vowel assimilatory process in which an accented or prominent vowel is
assimilated to an unaccented or nonprominent vowel in a neighbouring syllable, is best known from the historical developments of the Germanic languages. It is, however, a process which has taken place in a considerable number of other languages around the world. As mentioned earlier in this section, a cross-linguistic survey of umlaut phenomena has yet to appear and for practical reasons cannot be included in the present study. A preliminary version of such a survey has, however, been carried out by the writer (Buccini 1991 Ms.) and some of the findings of that study, though they be tentative, will be presented briefly here in the belief that they lend support to the interpretation of the course of umlaut developments in Germanic presented below in this chapter.

The languages and language families investigated in the aforementioned survey were the following: Romance (Southern Italian dialects, Portuguese, Sardinian, Romanian), Celtic (Irish and the Brittonic languages), Rotuman, Sinhalese, Bengali, and South Dravidian (Tamil and Malayalam), as well as Germanic. A striking finding of this study is that all of these languages have undergone umlaut processes in the course of their historical developments which involved assimilations of vocalic height. These raising and lowering assimilations have most often affected mid vowels but in many cases also high vowels, with both front and back vowels having been generally affected in parallel fashion. The unaccented vowels which conditioned these assimilations are, not surprisingly, low vowels in the case of lowering and high vowels in the case of raising. It is interesting to note too that in those languages in which there was distinctive vocalic length at the time of the development of the
raising/lowering umlaut (Germanic, Celtic and Sinhalese), long vowels were not affected by the changes.

While all these languages have undergone raising/lowering umlaut, only some of them have developed umlaut assimilations which involve fronting or backing (or rounding) assimilations. Among these are the Germanic languages, some Italo-Western dialects of Romance, and Sinhalese. We should note too that in Old Irish, the development of glides after the accented vowels in 'VCV sequences (e.g., *mathi > maith 'good', ), though usually regarded as a secondary result of the colouring of the intervening consonant by the unaccented vowel, can also be regarded as an instance of umlaut without in any way denying the obvious fact that consonantal colouring did occur and played a central and distinctive rôle in Old Irish phonology. In the case of Rotuman, we can similarly view the process which has been seen by some phonologists as a synchronic rule of epenthesis as an historical process of umlaut infection (i.e., glide development) somewhat similar to that found in Old Irish.¹⁶

A particularly striking fact is that in each of the languages mentioned above in which there have been fronting/backing umlaut developments, there is clear evidence that the fronting/backing umlaut was preceded by a period of raising/lowering umlaut. Moreover, in contrast to the raising/lowering umlaut developments, fronting/backing umlaut affected both long and short vowels in those languages which had distinctive vocalic length at the time of the development of the process, though in Sinhalese, as in Germanic, the operation of fronting/backing

umlaut is not directly sensitive to vocalic length tout court but rather to
syllablic weight (i.e., a short vowel followed by a a consonant cluster is
treated in the same fashion as is a long vowel).\textsuperscript{17}

The following are some of the tentative conclusions drawn from the
survey of umlaut developments:

1. There are two basic patterns of umlaut development, one
involving mutations only of vocalic height ('raising/lowering'), the other
involving other kinds of mutations, most especially ones involving
fronting (and/or unrounding) and backing (and/or rounding)
('fronting/backing').

2. Both kinds of umlaut coöccur with reduction of unaccented
syllables and in particular with reduction of the vowels of posttonic and
especially final syllables, where the umlaut conditioners are most
frequently located.

3. The two kinds of umlaut possibly or even probably stand in a
fixed chronological order: raising/lowering umlaut seems necessarily to
precede fronting/backing umlaut.

4. The two kinds of umlaut seem to correlate with differing relative
degrees of reduction. Raising/lowering umlaut generally coöccurs with
partial reductions of the vowels in posttonic syllables, that is, reductions in
length and/or reductions in the total number of vocalic distinctions
maintained in posttonic syllables. Fronting/backing umlaut generally

\textsuperscript{17}For a discription of the umlaut developments of Sinhalese, see Geiger
(1938: 18-26).
coöccurs with stronger reduction of postonic vowels, especially in final syllables, often leading to merger in a central vowel or total loss.  

5. The development of raising/lowering umlaut does not necessarily lead to the development of fronting/backing umlaut. Rather, both the umlaut and reduction processes may halt and give way to metaphonic changes that recolour unaccented syllables, as has happened in Bengali and Brazilian Portuguese. Similar developments can also be found to some degree in North Germanic.

From these conclusions and most particularly from this last point it seems that the evidence examined here bears out the suggestion put forth by Van Coetsem et al (1981: 300) that "umlaut may be typical of a language with D [dominating] type prominence [while] vowel harmony may prove to characteristic of a language with ND [nondominating] prominence," where the two accent types are defined as follows (loc. cit.):

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18 It should also be pointed out that while the definition of umlaut employed here includes already a link between the distance assimilation and the reduction of the unaccented conditioning factors, instances of local distance assimilations in which the assimilation proceeds from unaccented to accented vowels without concomitant reduction are at best rare. Thus, the claim that umlaut is necessarily linked to reduction is not simply an empty one which follows directly from the formulation of the definition of umlaut. To the writer's knowledge, no local distance assimilations have been described in the literature in which the accented vowel is mutated but no reduction of unaccented vowels takes place. The one possible exception to this correlation is found in Chamorro. The Chamorro case is, however, an anomaly in other respects too: it is the only language I have found in which an umlaut-like process (assimilation of the accented to the unaccented vowel) proceeds syntagmatically from left to right (e.g. gúma 'house' vs. júma 'the house'). For descriptions and discussions of the Chamorro facts, see Topping (1968, 1969), Chung (1983) and Halle/Vernaud (1987).
"In a language with D type prominence, prominent syllables are perceived or interpreted as more salient at the expense of the nonprominent syllables, regardless of the physical correlates. On the other hand, in a language with ND type prominence, the perceived salience of prominent as against nonprominent syllables is less pronounced. This clearly implies a close interrelationship between prominent and nonprominent syllables. Cross-linguistically, prominent syllables exhibit varying degrees of dominance. Therefore, our typological distinction... is not absolute, but represents a continuum."\(^{19}\)

This intimate link between umlaut and reduction points directly to its 'higher order', compensatory process discussed earlier.

A final point which needs to made before we proceed on to consider the specific development of umlaut in Germanic is the degree to which umlaut appears to be very often an areal feature. The occurrence of umlaut throughout the Germanic languages as well neighbouring Celtic and Italo-Western Romance makes it necessary to regard the phenomenon

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\(^{19}\)One of the points of difference between the two accentual types involves the treatment of prominent and nonprominent syllables in historical change: "Umlaut is not unique in this restriction. In languages that have rules like umlaut we also find things such as breaking and diphthongization that operate only within the prominent syllable. In other words, phonological processes appear to occur selectively, singling out either the prominent or the non-prominent position, or affecting the two positions in different ways" (McCormick 1990 (ms.), section 2.10). This claim bears up for the historical developments in Germanic, Celtic and Romance. Whether it is also true for the other languages in which umlaut has occurred is a question which deserves further study.
as an areal feature for Western Europe. That the two Indo-Aryan languages, Sinhalese and Bengali, both border on South Dravidian languages in which umlaut has developed point to the phenomenon being an areal feature for the eastern and southern parts of the Indian subcontinent, a point which has already been made by Bright (1966), who also points to the occurrence of similar raising/lowering umlaut effects in the histories of Munda languages which are spoken in this area.

While there are obvious differences in detail between the umlaut developments of the individual languages and dialects of languages included in these areas, the general similarities are rather more striking. Naturally, the closely related languages or dialects are, the greater is the degree of similarity in the specific realisations of umlaut in them. It does not, however, seem that the similarities of such developments as umlaut and reduction in related dialects necessarily involve continued contact through the historical periods in which these developments occur. Rather, strongly parallel developments may continue to occur in two such languages or dialects for extended periods well after they come to be geographically separated. In such cases we recognise the phenomenon termed 'drift' by Sapir and, within a specifically Germanic context, 'Entfaltung' by Höfler (to be discussed further below). Umlaut, like vowel harmony, ought thus to be seen as a phenomenon which is metaconditioned by a specific kind of prosodic structure or structures and represents a gradual expression of the interaction of that prosodic structure with the segmental level of phonological structure. Thus, it must be recognised that the parallel developments of similar forms of umlaut
throughout a language family or among unrelated languages which have been in contact and form some manner of Sprachbund may be the result not of direct sharing of the umlaut principle per se but rather of the sharing of the higher order prosodic structure that over time gives rise to umlaut assimilations and nonprominent reduction.\textsuperscript{20}

\textsuperscript{20}Cf. the discussion of this notion with regard to the umlaut developments in Germanic and Romance in Van Coetsem/Buccini (1990).
2.2 Recent Views on Umlaut in Germanic

As briefly discussed in section 2.1, the Germanic languages have undergone both forms of umlaut (raising/lowering and fronting/backing) in the course of their developments from Proto-Germanic. It was further claimed that the two forms of umlaut belong to different periods of development, with the raising/lowering umlaut preceding the fronting/backing umlaut and the ordering of the two periods probably being essentially related to different stages in the process of reduction in nonprominent syllables.

The relative and absolute dating of the Germanic raising and lowering umlauts have long been a subject of controversy and, in particular, the relative dating with respect to the periodisation of early Germanic has been a point of great disagreement. This disagreement has been based in large measure on differing interpretations of the degree and nature of the diversity of dialectal treatments across the Germanic languages. The opinions expressed on the matter have ranged from, at the one extreme, the position that all Germanic umlaut phenomena are dialectal developments and that there was thus not even a tendency toward the development of umlaut in the periods of Proto- and Common Germanic, to the opposite extreme, namely that all umlaut phenomena had their actual phonetic beginnings in the 'Grundsprache' before any significant dialectal divergence and isolation occurred.

The most consistent and vociferous proponent of the view that all umlaut developments in the Germanic languages belong wholly to the histories of the individual dialects has been Cercignani, who has espoused
this view in a number of articles (1979, 1980a, 1980b, 1986). He bases his position on two central arguments. First, he argues that the lack of any evidence for the development of umlaut in Gothic proves the impossibility that umlaut was a feature of the Proto-Germanic stage which preceded the split into Northwest Germanic on the one hand and Gothic (and East Germanic) on the other. Second, he argues that dialectal differences in conditioning and output of umlaut rules, most especially in the case of umlaut conditioned by $u$, point to the impossibility of umlaut having begun in the Northwest Germanic stage, out of which developed the various North and West Germanic dialects. For clarity's sake we should give some details of the developments in question.

At issue here are the raising and lowering changes that affected the reconstructed short vowels of Proto-Germanic. The starting point for these developments was the following asymmetrical system, which itself was the result of an unconditioned merger of IE $\ddot{a}$ and $\ddot{u}$\textsuperscript{21}

\textbf{PROTO-GERMANIC SHORT VOWELS}

\begin{center}
\begin{tabular}{ll}
i & u \\
e & \\
a \\
\end{tabular}
\end{center}

The lowering changes affected only the high vowels ($i \rightarrow e$, $u \rightarrow o$) and the raising affected only the mid vowel ($e \rightarrow i$). In Cercignani's view, the following umlaut developments \textit{may} be taken as being common to all the

North and West Germanic languages, though not necessarily belonging to a Northwest Germanic proto-language (1980a: 126-127):

1) the change */e/ > */i/ before a high front vowel or semivowel (i-umlaut), as well as before a cluster plus consonant: PIE */medʰjos/ (cf. Lat medius) > PGmc */meðjaz/ > Oic. mijr, OE midd, OFris. midde, OS middi, OHG mitti (Go. midjis) 'mid'; PIE */wentos/ (cf. Lat ventus) > PGmc. */wenðaz/ > Oic. vindr, OE OFris. OS wind, OHG wint (Go. windz) 'wind';

2) the changes */i/ > */e/, */u/ > */o/ (>*/o/) before a low or mid vowel, except when a high front semivowel or a cluster of nasal plus consonant intervenes (a-umlaut): PIE */wiros/ (cf. Lat vir) > PGmc. */wiraz/ > Oic. verr, OE OFris. OS OHG wer (Go. wair) 'man'; PIE */krnom/ (cf. Skt. śrngaṃ) > PGmc. */hrnan/ > Oic. OE OFris. OS OHG horn (Go. haurna) 'horn' — but PIE */kuntos/ (cf. Gk. kun-) > PGmc. */huntaz/ > Oic. hundr, OE OFris. OS hund, OHG hunt (Go. hunds) 'hound, dog'.

Cercignani rightly points out that, although highly similar raising and lowering changes obviously have also occurred in the pre-history of Wulfila's Bible Gothic, they have just as obviously operated under totally different conditionings as can be seen from the actual attested distributions of high and mid short vowels in that language. The Gothic distribution is, of course, well known and based generally not on an umlaut conditioning but rather a very straightforward consonantal conditioning: in Gothic, the
short high vowels \(i\) and \(u\) were lowered to \(e\) and \(o\) and the short mid vowel \(e\) was maintained when they occurred before the consonants \(\mathcal{b} (=\mathcal{x})\), \(\mathcal{b}\) (=\(\mathcal{v}\)) and \(r\). In all other cases, the high vowels are maintained and the mid vowel \(e\) was raised to \(i\) (see, e.g., Krause 1968: 77-78, 84-87, Mossé 1956: 54-56).

All evidence that has been proposed by others for the operation of umlaut in later stages of Gothic or in other branches of East Germanic is explicitly rejected by Cercignani either as unreliable or as irrelevant to the issue of umlaut in Germanic (1980b: 209ff.). With regard to the apparent exceptions to the consonantally conditioned distribution of the nonlow short vowels in Bible Gothic, including those which may point to some traces of umlaut conditioning, Cercignani (1984, cf. 1986) offers arguments to show that in one way or another, the consonantal conditioning rule of Gothic was not applicable. We will return to this question below.

Cercignani is by no means alone in regarding the Bible Gothic evidence as conclusive proof of the absence of umlaut in any Proto- or Common Germanic stage. Wienold (1967) also rejects the notion that umlaut may have developed in Gothic, arguing along several lines, among which is a well-founded rejection of Gamillscheg's alleged evidence of instances of East Germanic umlaut preserved in loan words that have survived in various Romance dialects.\(^\text{22}\) The centre of Wienold's

\(^{22}\)The evidence involves such loan words as Tuscan \textit{rucciare} < *\textit{rotiare} from Go. \textit{*wrotojan 'to burrow'}, and Italian \textit{sgarucciare} from Go. \textit{*gawrotojan} where the Romance forms allegedly show raising of \(\mathcal{o}\) to \(u\) before yod. As others have pointed out, any raising involved here is more easily attributable to internal Romance developments. In particular, one must take into account the differences in place of accent between Germanic and
argument is, however, that "if umlaut had developed in Gothic, it should have become apparent... after the loss of the conditioning element," as in the feminine i-stem declension, where *anstiz yields Go. ansts, not *ainsts (1967: 192-193). Interestingly, Cercignani, who generally agrees with the position for which Wienold argues, himself rejects this evidence as inconclusive: he cites Antonsen's objection to such reasoning, stating "that in Gothic as well as Old High German instances of this type are the result of morphological restructuring and not of a regular phonological development" (Cercignani 1980b: 208).

Others who have seen the Bible Gothic evidence as conclusive proof against any Pan- or Proto-Germanic umlaut tendency have emphasised the historical and geographical aspects of early Germanic dialect grouping. Most notable among these is Bennett, who argues that the assumption of

Romance, for word-initial root syllables of the former very often end up as pretonic syllables in Romance, and pretonic vowels have been, with various differences between the dialects, subject to changes, including commonly raising. A more significant reason to doubt the validity of arguments based on such loanwords (and one which has generally gone unnoted by Germanicists) is that almost all Italian dialects and, indeed, arguably almost all Italo-Western dialects, have themselves undergone raising umlaut of mid vowels exactly like that posited for East Germanic by Gamillscheg on the basis of the loanwords. Finally, we should add that the alleged raising umlaut that Gamillscheg posits, as in the form cited above, involves the raising umlaut of a long vowel, something otherwise unknown in Germanic, for in the other Germanic dialects long vowels have only been subject to fronting (and marginally to backing or rounding) umlaut. The claim could perhaps for some be salvaged by means of an appeal to the notion that Gothic had abandoned distinctive length in its vocalic system, but this claim is itself unproven and likely unprovable and the likelihood that Romance-internal sound changes could account for the raising remains.

See Wienold (1967: 185-186) with references to further literature.
umlaut for Germanic demands an unlikely sequence of sound changes to account for the attested Binble Gothic distribution:

"So long as the concept of Proto-Germanic a- and i-umlauts is regarded as valid, the supposed Gothic development of the sounds in question must remain complicated, involving such phonologic zigzags as \( i \rightarrow e \rightarrow i \rightarrow e \) and \( u \rightarrow o \rightarrow u \rightarrow o \) beside \( e \rightarrow i \rightarrow e \) and \( u \rightarrow o \rightarrow u \)" (1952: 349).

The zigzags in question pertain to the developments of such forms as PGmc *wīraz, in which one would have to posit PGmc a-umlaut of \( i \rightarrow e \), followed by raising to \( i \) in the course of a general Gothic raising of short mid vowels, and finally a lowering back to \( e \) conditioned by the \( r \) consonantism. For Bennett, the means by which we can escape the need to posit such unlikely sequences of changes is to look to the historical and geographical circumstances of early Germanic:

"[T]he first native Germanic evidence for a-umlaut appears to belong to the late 4th or early 5th century, and the first native evidence for i-umlaut to the 6th. By this time the Goths had been separated from the North and West Germanic peoples for six or seven hundred years. Lower Moesia, where Wulfila is supposed to have written his Biblical translation, is more than a thousand airline miles from the approximate center of the Proto-Germanic homeland; by the route that the Gothic migrations followed, the distance is closer to two thousand miles. Under these circumstances, a spread of i-umlaut from North and West Germanic into Gothic would have been
remarkable indeed. And if Wulfila died about the year 383, he had been dead about two centuries before the first native Germanic evidence of i-umlaut was recorded" (1952: 241-342).

A very similar view which is only superficially at all more advanced is that offered by Awedyk (1975), who sees i-umlaut as the outward expression of a "tendency towards palatalization". We should point out here that this tendency is in Awedyk's formulation not equatable with any such inertial tendency of an articulatory basis as was discussed in section 2.1 above. Rather, Awedyk's articulatory tendencies are expressly "psycholinguistic" in nature (1975: 57), though it is never made clear what exactly is meant thereby. In any event, his notion of the failure of umlaut to develop in Gothic is based on geo-psycholinguistic factors:

"The absence of umlauted vowels in Gothic and the failure to mark umlaut except of PG [a] in Old High German are due to the spatial factor (similarly Szulc 1964: 89). In Gothic as well as in Old High German and Old Low German the tendency towards palatalization was weaker than in central dialects like Old Frisian and Old English. The tendency was the weakest in Gothic, and therefore it was not reflected in spelling" (1975: 56).23

23 Awedyk's citation of Szulc is only partly justified. While it is true that Sculz also speaks in terms of geography and differing degrees of intensity in the phonological processes at issue, he very clearly sees (though does not clearly formulate) a relationship of segmental developments to suprasegmental features, and links the process of reduction to the mechanics of umlaut, though his own theory involving syllabic peaks is itself not without problems (see Antonsen's review, 1966). Szulc' comments on Bennett's discussion of Gothic are worthy of note: "Bennett
Of course, the idea that the tendency toward palatalisation or umlaut in general was weaker in some dialects than others is likely correct, but it is merely a restatement of what we already know from the data: some dialects carry out umlaut earlier and to a greater extent than others. Even if one is inclined to characterise these processes as being due to psycholinguistic tendencies, it remains that there ought to be more strictly (and observable) linguistic and systemic aspects to these differences in tendency. Satisfied with his proposed 'explanation' at the psycholinguistic level, Awedyk offers none, and his treatment of the question of umlaut in Gothic and at the Proto- or Common Germanic stage is therefore unsatisfying. Bennett's is no better. Indeed, Bennett's view of the mechanisms of the spread of sound changes is clearly founded on a very strict application of Schmitt's 'Wellentheorie' ('wave theory').

Clearly implied in Bennett's discussion is a sense that change must necessarily spread from dialect to dialect, through direct contact. As Szulc (1964: 87) points out, such a view ignores utterly the possibility of systemically directed tendencies in development, which Gothic, to some degree at least, ought to have shared with the rest of Germanic. From this perspective, given the fact that all other Germanic dialects develop umlaut to some greater or lesser degree, a more precise

hat zweifellos recht, wenn er sagt, dass die Goten sich von den übrigen germanischen Stämmen getrennt hatten, noch bevor der Umlaut zu wirken begann. Er übersieht aber dabei, dass der Umlaut nur eine äussere Manifestation bestimmter, das gesamte Sprachsystem umfassender Gesetzmassigkeiten gewesen ist. Daher müssen wir, wenn wir die Umlautlosigkeit im Gotischen erklären wollen, zunächst das Fehlen jener sprachlichen Tendenzen plausibel machen, die eine Überlagerung der Silbengipfel hinderten" (1964: 87).

24For a brief discussion with references, see Nielsen 1989: 112ff.
statement of the nature of the Gothic deviance from the general Germanic pattern is clearly needed.

The notion of systemically directed change within a family of related dialects or languages is generally attributed to Sapir, though others before him had expressed similar views. As a specific antidote to the excessive application of the wave model of sound change was Höfler's 'Entfaltung' theory intended, which in its original presentation was illustrated with analyses of certain sound changes within Germanic, of which umlaut figured most prominently (1955/1956). For Höfler the general similarities of umlaut development in Germanic bespeak a clear relationship that transcends differences of detail between the various dialects, but, given those differences, one which must involve a more general or higher-order determinant:

"Das, was in der zweiten Hälfte des ersten Jahrtausends im ganzen germanischen Siedlungsraum 'um sich zu greifen' beginnt, sind also keineswegs die Umlauts-Erzeugnisse (denn die sind örtlich recht verschieden, und, vor allem, sie sind neue Phoneme), sondern es ist der Umlauts-Vorgang" (1955: 58).

As regards the possibility of spread according to the 'wave model', Höfler does see a place where it may have played a part in the development of Germanic umlaut, but not actually in the umlaut developments themselves but rather in their higher-order cause:

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25 The issue is discussed by Nielsen (1989: 135ff.), who offers some citations and references.

Wienold, in his refutation of the alleged occurrence of umlaut in Gothic and thus its pan-Germanic character, specifically discusses Höfler's 'Entfaltung' theory and its application to umlaut. He concludes that Höfler's view of umlaut is untenable, in part because its treatment of Gothic is founded on the ultimately useless evidence of East Germanic loan words in Romance presented by Gamillscheg, which are presented by Höfler as evidence for the ultimate development of umlaut in East Germanic after the period of Wufila's Gothic, when umlaut had not yet developed.26 Wienold also objects to Höfler's "lack of clarification as to whether Entfaltung refers to matters purely linguistic or to extralinguistic factors," citing a passage by Höfler on the High German consonant shift in which Höfler "combines two causal references, one linguistic:

26See Höfler's discussion (1955: 58, 1956: 34-40) and Wienold's criticism (1967: 186-188). See also footnote 22 above in this section.
"Aspirationscharakter', one psychological : 'Intensitätssteigerung'" (1967: 189). Rejecting what he sees as Höfler's unclear notion of Entfaltung, Wienold offers his own view:

"A linguistic interpretation of the notion of Entfaltung in terms of the current theory of phonological change could probably be reduced to the following basic principle. Before the separation of a linguistic community (of whatever specific type), some phonemes develop allophones conditioned by specific features of their environment. After separation of this community and the resulting divergent developments of the emerging languages, the allophonic variants are phonologized upon loss of the conditioning feature in their environment. The similarity in the condition of the allophonic variation is the 'cause' of the similarity of the result in the separate languages. This, of course, frees Entfaltung of all its 'mysterious' aspects" (1967: 189).

Wienold obviously accepts this allophonic view of Entfaltung, since he argues on the basis of the lack of umlaut in forms such as Go. ansts discussed above, that umlaut did not exist in Proto-Germanic.

Wienold's structuralist interpretation of Entfaltung is, as he himself notes, an outgrowth of Twaddell's famous analysis of the development of umlaut in Old High German and comparable to the views expressed on umlaut in Germanic by a number of other scholars, most notable Antonsen and Penzl. Whereas Wienold, however, from this structuralist perspective, concludes that umlaut did not belong to the Proto-
Common Germanic period, these others scholars do. Indeed, if Cercignani can be portrayed as the champion of the one extreme view, that all umlaut phenomena in Germanic are 'einzeldialektisch', Antonsen may be seen as the champion of the opposite extreme position, that all umlaut phenomena can be traced back directly to the Proto-Germanic period. Antonsen takes as his starting point Hockett's (1958) interpretation of the Old English digraphs <ea, eo, io> not as diphthongs, as they traditionally have been viewed, but rather as monophthongs. These digraphs, used to represent the 'breaking' and 'velar umlaut' (see above, section 2.1.1) products are taken by Hockett as attempts to represent respectively [æ, ø, ï] and makes the following statement concerning vocalic assimilations (1958: 595, cited by Antonsen 1961: 215):

"From the point of view of realism in phonetic change, particularly in assimilations, it is certainly as likely that a back-umlauting of front unrounded vowels should produce unrounded back vowels as it is that a front-mutating of back rounded vowels should produce front rounded vowels. The same applies to the modification of vowel color by a following consonant: 'breaking' is a loaded term stemming from the habit of talking about letters instead of sounds, and prejudices reinterpretation."

In Antonsen's view, the reinterpretation of the Old English digraphs as representing back unrounded vowels has a number of important implications for the question of Germanic umlaut:
"First of all, it eliminates the need for assuming the development of a short monophthong to a 'short diphthong' and back to a short monophthong in the history of English vocalism from the West Germanic stage through Middle English; it eliminates the need for assuming that allophonic variants were designated in the orthography; it provides a reasonable explanation for the choice of the spellings ea, eo, io, and accounts for the relationship of these short nuclei to their long counterparts ēa, ēo, īo, which derive from Proto-Germanic diphthongs and result in Middle English long monophthongs. Most important of all, however, the new interpretation provides us with a sound basis for viewing mutation in the Germanic languages as a single uniform process traceable to the Proto-Germanic stage, as is most strikingly illustrated by the parallelism which now becomes apparent between mutation in Old English and in Old Icelandic" (1961: 216-217).

The striking parallelism between Old English and Old Icelandic is the apparent shared symmetry of i- and u-umlaut in these languages, which in Antonsen’s view represents a conservative trait of these languages.

The development of umlaut in Proto-Germanic envisioned by Antonsen involved the simultaneous and wholly parallel mutation of the short vowels under the influence of following /-a/, /-i/, and /-u/ (1961: 219). Thus, in Antonsen’s view, mutation itself is not at all staggered nor is it directly linked to reduction: Any apparent staggering is simply a
reflexion of the staggered process of reduction, which is the mechanism by
which mutated allophones are raised to phonemic status. The order of
reduction was first /-a/-, which brought about the phonemicisation of [e]
and [o], then /-i/-, which brought about the phonemicisation of [y], [ø], [æ],
and finally /-u/-, by which the back (and central) unrounded allophones
[u], [ʌ], and [œ] achieved phonemic status. The result of these mutations
was according to Antonsen the following twelve vowel system (1961: 220):

<table>
<thead>
<tr>
<th></th>
<th>FRONT</th>
<th></th>
<th>CENTRAL</th>
<th></th>
<th>BACK</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIGH</td>
<td>/i/</td>
<td>/y/</td>
<td>/u/</td>
<td>/u/</td>
<td></td>
</tr>
<tr>
<td>HIGH-MID</td>
<td>/e/</td>
<td>/ø/</td>
<td>/ʌ/</td>
<td>/o/</td>
<td></td>
</tr>
<tr>
<td>LOW-MID</td>
<td>/æ/</td>
<td>/æ/</td>
<td>/a/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOW</td>
<td></td>
<td>/a/</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Following Antonsen, Draye (1984: Vol. 1, 26ff.) takes this line of reasoning
to its logical conclusion, positing umlaut mutations of Proto-Germanic
long vowels and diphthongs as well. For the long vowels, however, no a-
umlaut mutations are assumed since none of the daughter languages show
any such development. The long vowel system posited by Draye is the
following (1984: Vol. 1, p. 28):

27This formulation is obviously founded on the assumption that IE /i/
and /e/ had completely merged in the early development of Germanic and
thus had only three distinct short vowels before the reduction process
raised the mutated phones to independent status.
For the diphthongs, the following umlaut products are posited (1984: Vol 1, p. 33): 28

<table>
<thead>
<tr>
<th>PGmc</th>
<th>no umlt</th>
<th>i-uml</th>
<th>u-uml</th>
<th>a-uml</th>
</tr>
</thead>
<tbody>
<tr>
<td>*ei</td>
<td>ei &gt; ii &gt; ī</td>
<td>ei &gt; ii &gt; ī</td>
<td>āw &gt; āw &gt; ā</td>
<td>āe &gt; āe &gt; āe</td>
</tr>
<tr>
<td>*eu</td>
<td>āu</td>
<td>āy &gt; āy</td>
<td>āu</td>
<td>āu &gt; āo</td>
</tr>
<tr>
<td>*ai</td>
<td>æi</td>
<td>æi</td>
<td>æw</td>
<td>æi &gt; æe</td>
</tr>
<tr>
<td>*au</td>
<td>æu</td>
<td>æy</td>
<td>æu</td>
<td>æu &gt; æo</td>
</tr>
</tbody>
</table>

The clearest statement of the reasoning behind this view of Germanic umlaut is given by Antonsen (1965: 24-25; cf. 1964: 181): 29

"There can be no doubt that the umlaut allophones arose at a time when the full endings were still present, and there is no reason to assume that the assimilations involved in a-umlaut occurred before those involved in i- or u-umlaut, nor is there any reason to assume that the i-umlaut of /e/ preceded the i-

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28 For technical reasons, we use here the symbols employed by Antonsen.
29 Penzl, at least in earlier publications, also shared the view that umlaut was a Proto-Germanic development at the allophonic level: "All types of 'umlaut' must have had their beginning in the late PGmc. allophonic variation of accented vowels influenced by following vowels in weak-stressed syllables..." (1972: 33).
umlaut of /a/. The presence of reflexes of mutation allophones in all dialects and the absence of any 'Rückzugsgebiete' demand that we consider the various umlauts to be the result of a single phonetic tendency which was active in the Proto-Germanic period."

It should be noted that, combined with the view of the very close relationship between graphemes and phonemes which Antonsen and other structuralists have expressed, it becomes in principle always possible to reconstruct phonemic variation which ought not ever to be graphically represented until a change of phonological status from allophonic to phonemic.³⁰

Voyles (1981b: 256-257) raises the following objections to Antonsen's view of Germanic umlaut. First, he points out that in many of the texts in certain of the early attested Germanic languages, namely Gothic, Old High German, and Old Saxon, no graphic evidence whatsoever is found for many or all of the mutated vowel qualities posited by Antonsen. Given that these texts often show some orthographic representation of subphonemic features, it is for Voyles "inconceivable" to think that, if, for example, Gothic had inherited all the posited Umlaut allophones, "that at least one of these numerous occurrences would not have been recorded graphemically at least once in the text, say in a form like the past subjunctive nuti 'he might have enjoyed' appearing as *nwti or the like for *[nũti]. But such forms in these languages do not occur" (p. 256).

³⁰N.B. Antonsen's arguments in favour of Hockett's interpretation of the Old English digraphs cited above: "...it eliminates the need for assuming that allophonic variants were designated in the orthography" (1961: 216).
Second, Voyles states that the "positing of early umlaut allophones complicates enormously any unified account of the history of these languages in that one must assume that many of these purported allophones were subsequently changed in numerous enviroments" (loc. cit.). As an example he offers the case of OHG suohhen 'to seek', which from an Antonsenian view ought to have been [syøXeŋ]. However, "one must assume a change of [yø] to [uo] to account for ModHG suchen, not *süchen or *seuchen" (loc. cit.). Finally, he adds that "for a language like Dutch, one would have to assume the loss of all umlaut allophones except /e/ i-umlauted from /a/" (loc. cit.).

Though to some degree valid, Voyles' objections are not quite so devastating as he believes and, in fact, the two points he raises are one. A grave weakness of the Antonsenian view of umlaut is that, in spite of the apparent simplicity gained in positing a single step of totally symmetrical umlaut in the parent language, there is created the problem of having to account for the loss of many of the umlaut allophone in the daughter languages. Though the process is never clearly elucidated by Antonsen, it is through secondary loss of these allophones that dialectal differences in umlaut development must arise. Thus, while it is perhaps reasonable to expect that if all the umlaut allophones had been present in Gothic or Old High German, then they would have sporadically found graphic expression, it remains possible for one to argue that in some cases they eventually did, while in other cases the allophones were lost for some reason. In the specific case of a form like OHG suohhen, it should be noted that some (Frankish) dialects of German do in fact show an umlauted
vocalism is this form, and the question of the source of NHG *suchen* involves questions of dialect contact as well as that of the loss of umlaut allophones. Voyles' comment on umlaut in Dutch, which he clearly sees, in some sense at least, as the sort of 'Rückzugsgebiet' the existence of which Antonsen denies, will be discussed below in section 3.1.1. He offers a very concise statement of his own view of umlaut in Germanic: "[When a comprehensive history of Germanic umlaut is finally written] the investigator will find that umlaut was a similar phenomenon manifested in a number of Gmc. languages, a rule which when once added tended to extend itself in different Gmc. languages in somewhat different directions and in both phonologically and morphologically conditioned environments. That is, umlaut will turn out to be an instance of 'drift'" (p. 257).

Before turning to our own criticisms of what might be termed the 'one-fell-swoop' theory of umlaut in Germanic, that is, the view in which all umlaut assimilations developed simultaneously and before the dialectal fragmentation of Germanic, let us first briefly return to Cercignani's theory of the purely 'einzeldialektisch' character of all umlaut phenomena in Germanic. It is in some ways difficult to criticise Cercignani's view of umlaut in anything more than general terms without simply presenting in full an alternate view: in denying any real connexion between the umlaut phenomena of the various Germanic languages, he very much seems to reject the goal of scientific endeavour, namely to analyse the ways in which things are connected. This negative judgement of his work is justified on the basis of the fact that he does, in fact,
repeatedly slip up and concede that there must be some real connexion between umlaut phenomena, only to shrink again and again from any meaningful discussion of that connexion. In his defence, it can be said that he clearly sees at least some of the problems inherent to the 'one-fell-swoop' theory advanced by Antonsen and others, but strait-jacketed with hopelessly outdated notions of exceptionless sound change, he clearly has no alternative but simply to ignore the real problem, for in the end, the extreme 'einzeldialektisch' view is nothing but that, an escape from rather than a solution to the problems of Germanic umlaut.

If there is one point of agreement between the two camps of extreme views on Germanic umlaut, it seems to be that the prosodic structure of Germanic served as a sort of pre- or metacondition for the development of umlaut, a view which, however vaguely formulated, was clearly the central point of Höfler's analysis:32

31This point is made painfully obvious in Kylstra's critique of Cercignani's work: "Im weiteren Verlauf des Aufsatzes [Cercignani 1980a] zeigt sich Widerspruchvolles. Auf S. 129 ist die Rede von 'remarkable similarities in both trends and results'. Allerdings ist 'bemerkenswert ähnlich' nicht dasselbe wie 'gleich' ('the same'), aber diese Formulierung bedeutet doch eine Schwächung. Weder die Grundtendenzen noch die Ergebnisse sind dieselben, aber es zeigen wohl auffallende Ähnlichkeiten. Es heißt jetzt nicht mehr: Es könne im Protoiranischen keine Umlautphänomene geben, weil Tendenzen und Ergebnisse nicht die gleiche sind, sondern: obwohl Tendenzen und Ergebnisse auffallende Ähnlichkeiten aufweisen, könne es im Protoiranischen trotzdem keine Umlautphänomene geben. Dieses 'trotzdem' wird nicht auf befriedigende Weise begründet."

32Cf. the following two statements:
Antonsen (1965: 23): "As Fourquet, van Coetsem, and Makaev have emphasized, the shift and stabilization of the accent in Germanic resulted in the disruption of the autonomy of the syllable which was characteristic of Indo-European. It is by means of this shift that the changes described by Verner's Law assume structural significance. It is also this shift which determines the future fate of all weakly stressed vowels. We also have
"Hingegen besteht, was den expiratorischen Akzent betrifft, gewiß eine Kausalkette folgender Art: Bei sämtlichen Germanen ist eine stufenweise zunehmende Konzentration des expiratorischen Akzentes auf die Hauptsilben eingetreten; dadurch (oder doch in kausalem Zusammenhang damit tritt ein Verfall der Nebentonsilben ein, teils bis zum Wegfall, teils nur bis zur Intensitäts- und 'Farb'-Einbuße der Nebentonvokale. Aber während die Nebentonvokale ihre Farbe (ihre alte, volle 'Qualität') verlieren, gewinnen die erhaltenen Haupttonvokale eine Umfärbung in der Richtung auf die Qualität, die 'Farbe' der farbverlierenden Nebentonvokale" (1955: 62).

We might further conclude that the majority of Germanicists therefore reject the old notion, represented in Bennett's discussion of Gothic, that...
umlaut spread throughout the Germanic languages by means of direct contact, according to Schmitt's 'wave model, that is, as a borrowed feature.

In my estimation, both of these extreme views of Germanic umlaut are founded on the same two deficiencies. The first is a lack of appreciation of and discomfort with the notion of 'drift' or 'Entfaltung'. On the one hand, the particularists, as represented by Cercignani and perhaps Voyles, while willing to accept the notion of some manner of prosodic metaconditioning operating across periods and languages within the language family, somehow cannot bring themselves to include prosodic structures as integral parts of the phonology of languages and/or a language family. Lurking behind this position is the incorrect notion that prosody and segmental phonology are neatly divisable, a notion which is bound to distort any analysis of a phonological process which is at its very heart the diachronic interaction of prosodic and segmental structures. The universalists, as represented by Antonsen, fall prey to the selfsame error, but relieve the discomfort of having to recognise genuinely the concept of 'Entfaltung' by resorting to the reification of all umlaut at the better trusted segmental level in the form of allophones in the proto-language:33

33 At times, one has the feeling that Antonsen himself recognises the exaggeration of his approach but is willing to live with it in order that other, more pernicious misconceptions are laid to rest: "We have cause to be wary of assertions that umlaut is a common Germanic phenomenon, but not Proto-Germanic, or that mutation arose in the individual dialects. From the structural point of view there is an element of truth in such statements, but they give the erroneous impression that there is no direct connection between the mutations found in the various dialects, and— even worse in my opinion—they lead to the assumption that umlaut arose in one dialect and spread to the others" (1965: 25).
"During the last few decades several scholars have been critical of the advocacy of latent tendencies, which 'may degenerate into a mentalistic playground (Markey 1976: 11). A theory which now seems to be generally accepted posits subphonemic variation in the accented vowels in umlaut conditions, i.e. before a, i, u in the following syllable" (Nielsen 1989: 137).

This discomfort with the notion of drift is, of course, justifiable, insofar as the linguistic features connected with drift have too often been attributed to ill-defined ideas such as Awedyk's 'psycholinguistic' tendency toward palatalisation, discussed above. The view of drift based on the notions of the articulatory and prosodic bases briefly discussed above in section 2.1 and below in section 3.2, however, are founded very much on observed features of actual linguistic structure. Clearly, the model of the mechanics of drift offered here does involve very much the positing of 'subphonemic' variation which is at the heart of the universalist interpretation of Germanic umlaut. In my estimation, the universalist view is flawed in its rejection of the notion that there is a direct relationship between the mutation process and the reduction of nonprominent syllables. For, despite a general acceptance of the centrality of the prosodic changes in Germanic and the "disruption of the autonomy of the syllable" that reigned in earlier stages of the language, Antonsen and Penzl attribute nothing more than an indirect rôle to reduction in umlaut, namely, as the means by which mutated allophones achieve phonemic status.
The other shared deficiency of both the particularist and universalist approaches to Germanic umlaut is their failure to recognise the very clear two-stage development of the process throughout the Germanic languages. Here I refer specifically to the development from an earlier stage of raising/lowering umlaut to a later stage of fronting/backing umlaut, to be discussed in detail in section 2.3 below. This deficiency is obviously more strongly manifested in the universalist views of Antonsen (and Draye), where any graduality in the development of subphonemic mutations is expressly rejected. The motivation for this assumption, either on the basis of the actual linguistic evidence of Germanic or for any theoretical reasons is unclear and to my knowledge has not been argued at all. In the particularist view, the confusion of the two periods of umlaut is both less apparent and less absolute: Cercignani, for example, does speak of 'earlier' and 'later' umlauts, though he consistently sets the terms off in quotation marks, betraying obviously a certain mistrust of the notions. In this regard, we must recall that, in part, the refutation of umlaut in Proto- or Common Germanic on the basis of a denial of any reflexes of umlaut in Gothic, shifts between arguments concerning the fronting i-umlaut, for which there indeed is no Gothic evidence, and the raising/lowering umlaut for which there is evidence (to be discussed below).

It is hoped that one of the contributions of the present work to the study of umlaut in Germanic is the support of the view of a two stage development of umlaut offered by the cross-linguistic survey of umlaut phenomena briefly discussed in section 2.1.3. Given that there are several languages in which only raising and lowering umlaut effects are found, it
clearly is possible for nonprominent-to-prominent vocalic assimilations to involve only features of height without significant, concurrent fronting and backing effects. In light of this fact and the evidence from several languages in which both raising/lowering and fronting/backing umlaut occurred (to wit, the Celtic languages, some Romance dialects, and Rotuman) which points to a fixed or at least unmarked order of the two types, we must consider seriously the possibility that the same relative chronology of the two umlaut types also obtained in Germanic.

To the degree that one accepts the possibility that Germanic uumlaut passed through two more or less distinct stages, the motivation for embracing either of the extremist positions discussed above vanishes. Germanic uumlaut was, as has been generally assumed, metaconditioned by prosodic developments. The period of raising/lowering uumlaut surely dates roughly to the period of transition from a common proto-language to the earliest dialectal fragmentation (if a unitary proto-language ever did exist). The period of fronting/backing uumlaut, which I believe can be shown to have occurred at widely differing dates in the various dialects, began later, after the beginnings of the migrational expansion and further dialectal differentiation of the Germanic peoples. But this is not to say that one can resolve the controversy by claiming that raising/lowering uumlaut was Proto-Germanic and fronting/backing uumlaut was post-fragmentation and therefore 'einzeldialektisch'. Rather, I deny that this question is either relevant or even terribly interesting. What is of interest is which specific features were still shared and which were not. Clearly, we can see a pan-Germanic prosodic structure, as in Celtic and Italo-Western Romance,
which metaconditioned the development of umlaut in all dialects. Dialectal variations, surely present already at the earliest stages of umlaut development, arise in the details of the interaction of the prosodic metaconditioning and the more or less dialect-specifics of 'segmental' articulation.

As mentioned above, both of the extremist views of umlaut are driven into their respective positions by the lack of means of reconciling higher-order similarity and lower-order diversity: that is, they were unable to relate satisfactorily the details of umlaut developments in one dialect to those of other dialects. Cercignani has simply declared the problem nonexistent, while Antonsen has instead turned the problem on its head, replacing the need to explain different patterns of change with the need to explain different patterns of loss of change.\(^{34}\)

One of the central mechanisms, by which dialectal diversity arises in the course of a wide-scale, metaconditioned change such as umlaut, is the process of 'reconditioning', as proposed by Van Coetsem & Buccini (1990). In essence, reconditioning is an application of the sociolinguistic notion of variable conditioning in a diachronic context: sociolinguists have found that there are certain rules displaying a basic uniformity of both input and output but variation along social parameters in the conditioning of that rule. Such synchronic variation along social parameters can obviously have parallels along temporal and geographical parameters as well. Just as

\(^{34}\) For a parallel outside Germanic, see Maiden (1987) who regards Schürr's and Leonard's views of umlaut in Romance as very much 'one-fell-swoop' theories, which then demand essentially impossible accounts of umlaut loss in a variety of dialects.
we can meaningfully analyse the interrelationship of coöccuring, variable conditionings at the synchronic level, it stands to reason that we can similarly analyse the temporal and geographical reflexes of synchronic variation. As discussed in Van Coetsem & Buccini (1990: 179-181), one form of reconditioning is already well established in the literature of historical linguistics, namely the reconditioning of a phonological rule to a morphological rule, as in the case of the development of umlaut in the history of German and other languages. Of more direct concern to us here, however, is the possibility of reconditioning from one phonological conditioning to another.

To return now to the issue of umlaut in Germanic, it will be necessary to discuss the development of raising/lowering changes and the relationship of the deviant path Gothic took to the path (or paths) which the other Northwest Germanic languages took. In this discussion I follow closely the analysis presented by Van Coetsem (1968, 1988b, and also Van Coetsem & Buccini 1990: 185-198).

As discussed above in this section, a number of scholars have taken the apparent lack of clear vowel-to-vowel conditioned changes in Gothic as solid proof that umlaut in Germanic is, at best, a Northwest Germanic phenomena or else a wholly 'einzeldialektisch' development.\textsuperscript{35} Van Coetsem has repeatedly emphasised, however, that although the conditionings differ, both Gothic and Northwest Germanic exhibit clearly

\textsuperscript{35}Note that Penzl (1988a: 498ff.) takes the position that Gothic did not develop umlaut and that it was therefore a "Nordic-West" (i.e., Northwest) Germanic phenomena, in apparent disagreement with his earlier view expressed in Penzl (1972: 33) and cited above.
the development of the very same changes affecting the short vowels: That is, they share raising and lowering changes of the nonlow short vowels with the same inputs and outputs. The following examples will serve to illustrate the changes:

**NORTHWEST GERMANIC:** lowering/ *a*-umlaut
  raising/ *i*-umlaut and before checked nasal

  e.g.:
  - PGmc *yaira > OE, OHG *wer; ON *verr; PGmc *nista > OE, OHG *nest;
  - PGmc *juka > OE *geoc; OHG *joh; ON *ok; PGmc *gulpa > OE, OHG *gold,
    ON *goll
  - PGmc *esti > OE *is; OHG *ist; PGmc *bendan- > OE *bindan, OHG *bintan,
    ON *binda

**GOTHIC:**
  lowering/ *₁ h₃, r₃
  raising/ *₁ consonants other than *₁ h₃, r₃

  e.g.:
  - PGmc *yaira > Go. *wair, Go. *waihts (cf. OHG *wiht); Go. *sauhts (cf.
    OHG *suht);
  - PGmc *kueman > Go. *qiman (cf. OHG *kueman), Go. *bindan, *ist.

Set side-by-side, the essential identity with respect to input and output of the two languages' rules is apparent and justifies the attempt to analyse the relationship between the dialectal conditionings and see if these conditionings might not be best regarded as historical reflexions of earlier synchronic variation:

**NWGmc:** i→e/ *a*-umlaut

**Gothic:** i→e/ *₁ h₃, r₃

**NWGmc:** e→i/ *i*-umlaut and before checked nasal

**Gothic:** e→i/ *₁ consonants other than *₁ h₃, r₃
While the Gothic raising and lowering changes appear to have been wholly conditioned according to the quality of the immediately following consonantism, the Northwest Germanic developments show a mixture of consonantal and vocalic (umlaut) conditioning. Given that the two kinds of conditionings can coöccur, Van Coetsem has proposed viewing the syntagmatic relations in terms of the following 'sequential patterns', in which the first V represents the accented vowel, C the following consonantism, and the second V the following nonaccented vowel:

**SEQUENTIAL PATTERNS (Van Coetsem 1968, Van Coetsem/Buccini 1990)**

- **Umlaut-conditioning:** \[ \overline{VCV} \]
- **Consonant-conditioning:** \[ \overline{VC(V)} \]
- **Interaction:** \[ \overline{VCV} \]

In this third case, the two sequential relations can have different effects, in which case they are in competition with one another, or they may exercise the same influence, in which case they are in coöperation. In the case of the raising and lowering changes in question, the effects of the conditionings all simply involve adjustments of one degree of vocalic height. Van Coetsem further distinguishes between a *changing* effect and a *preserving* effect which an environment can have, as is illustrated in the following cases (Van Coetsem 1988, Van Coetsem/Buccini 1990: 188):
VCV  umlaut-conditioned change:  *esti > *isti
     umlaut-conditioned preservation:  *neman- > neman-

VC(V) consonant-conditioned change:  *bendan- > bindan-
     consonant-conditioned preservation:  *bundan -> bundan-

VCV  competition change:  *bendan-> bindan-
     preservation:  *bundan > bundan

V-CV cooperation change:  *bendis-> bindis-
     preservation:  *bundi- > bundi-

To develop further this notion of the interaction of consonantal and vocalic conditionning, we can recognise three possible relationships an environment might have with respect to a given change, such as 'raising' or 'fronting': the environment may favour the change, may be neutral with respect to the change, or it may disfavour or inhibit the change. We can symbolise these relationships in the following way:

C+: consonantism that favours a given mutation
C0: consonantism that is neutral with respect to a given mutation
C-: consonantism that disfavours a given mutation

V+: vocalism that favours a given mutation
V0: vocalism that is neutral with respect to a given mutation
V-: vocalism that disfavours a given mutation

If we further specify the relationship for both following consonantism and the following vocalism, as it seems we must for languages in a period of umlaut development, we arrive at the following possible complex environments:
\[
\begin{array}{ccc}
_C^+V^+ & _C^0V^+ & _C^-V^+ \\
_C^+V^0 & _C^0V^0 & _C^-V^0 \\
_C^+V^- & _C^0V^- & _C^-V^- \\
\end{array}
\]

Using this formalism we can represent the following three situations involving the conditioning of a given change \(X > Y\): 1) a situation in which vocalic conditioning dominates completely; 2) a situation in which consonantal conditioning dominates completely; 3) and a situation in which the two kinds of conditioning coöperate.

**Vocalic Conditioning Dominant in \(X > Y\)**

\[
\begin{array}{ccc}
YC^+V^+ & YC^0V^+ & YC^-V^+ \\
YC^+V^0 & YC^0V^0 & YC^-V^0 \\
YC^+V^- & YC^0V^- & YC^-V^- \\
\end{array}
\]

**Consonantal Conditioning Dominant in \(X > Y\)**

\[
\begin{array}{ccc}
YC^+V^+ & YC^0V^+ & YC^-V^+ \\
YC^+V^0 & YC^0V^0 & YC^-V^0 \\
YC^+V^- & YC^0V^- & YC^-V^- \\
\end{array}
\]

**Coöperation of Vocalic and Consonantal Conditioning in \(X > Y\)**

\[
\begin{array}{ccc}
YC^+V^+ & YC^0V^+ & YC^-V^+ \\
YC^+V^0 & YC^0V^0 & YC^-V^0 \\
YC^+V^- & YC^0V^- & YC^-V^- \\
\end{array}
\]

Thus far, we have treated neutral and disfavouring environments in the same way. It is, however, also possible that the consonantal and vocalic conditionings which disfavour the change could play a more active rôle, in which case there could be instances in which the two conditionings are in direct competition, as shown below:
Competition between Vocalic and Consonantal Conditioning in \( X > Y \)

\[
\begin{array}{ccc}
\text{YC}^+\text{V}^+ & \text{YC}^0\text{V}^+ & \text{X/Y?C}^-\text{V}^+ \\
\text{YC}^+\text{V}^0 & \text{XCOV}^0 & \text{XC}^-\text{V}^0 \\
\text{X/Y?C}^+\text{V}^- & \text{XCOV}^- & \text{XC}^-\text{V}^- \\
\end{array}
\]

This last situation existed in early Germanic. Specifically, in the case of development of PGmc \( u \), there clearly was a lowering conditioned by the presence of \( a \) in the following syllable, as in, e.g., PGmc \(^{*}juka \rightarrow OE geoc\), OHG \(^{jo}h\), ON \(^{ok}\.\) There was also a raising influence exerted on PGmc \( e \) by the consonantal environment of a nasal plus another consonant, as in, e.g., PGmc \(^{*}bendan- \rightarrow OE bindan, OHG bintan, ON binda\). While it is disputed whether there was any regular \( a \)-umlaut lowering of PGmc \(^{*}i \) to \( e \) (to be discussed below) and thus to some scholars questionable whether there could have been competition of conditioning in sequences of \(^{*}i^-NC^-a\), there clearly was competition in sequences of \(^{*}u^-NC^-a\). Here it is patent that the consonantal influence dominated and overrode the lowering effect of the unaccented \( a \), as in \(^{*}bundan \rightarrow bundan\). In terms of the formalism of the tables presented above, this case in Germanic could be described as follows: for the change \( u \rightarrow o \), \( NC \) is a (strong) disfavouring or inhibiting environment (\( C^- \)) and \(-a \) is a (less strong) favouring environment (\( V^+ \)), thus \(^{*}u^-NC^-a^+ \rightarrow u\).

If the analysis of the mechanics of umlaut development presented in the previous section was at all correct, then it follows that the possibility exists for the details of conditioning environments and their interrelationships to show variability both dialectally and through time. With respect to the geographical aspect of this variability, I appeal to the notion of the articulatory basis and the effect of fine details of articulation,
most especially in the production of consonants: differences in acoustically nonsalient details can result in gradual skewing effects that come to expression only in the course of historical developments, most especially assimilations, over more or less long periods of time.

With respect to the question of intradialectal variability of conditioning over time, it is important to remember that both the processes of nonprominent reduction and umlaut-conditioned mutation must be seen as occurring gradually, a conclusion which follows from the fact that they are processes that are rate and style related. Indeed, in the model of sound change presented here, the source of change generally is in such microdiachronic variation. It is therefore theoretically conceivable that in the course of one, gradual sound change, another sound change might begin which intersects or interferes with the first: specifically, in the period during which a vowel-to-vowel sequential relation is still automatic, a change in the manner of realisation of some consonantism may change, a change which alters the status of that consonantism as regards the vocalic sequential relation. Again, if the model of umlaut presented earlier is at all correct, and umlaut mutation begins as a phenomenon primarily limited to specific rates and styles of speech, it follows that a competing influence of the intervening consonantism, because of its direct contact with the preceding vowel, will be relatively less rate related, and its effect may more easily pervade the full range of pragmatic rates and styles. This effect, if ultimately real, surely works in tandem with the effects of reduction of nonprominent vowels to favour in
many cases consonantal over vocalic conditioning, as discussed by Van Coetsem:

"[T]here is... a difference between the V-V and VC relations...
In the V-V relation the second V occurs in nonaccented position and is subject to ongoing reduction, this entailing deterioration of the V-V relation. On the other hand, the C in the VC is part of the root and is in principle not affected by reduction, making this relation more resistant to modification... Since C in the VC relation is more stable than the second V in the V-V relation, it is not surprising that C can take over the action of the V-V relation... [S]uch an action may be based on phonological feature-sharing of the second V and of C on the first V in VCV, or it may be based on other factors, such as the frequency of the concrete realization of C" (Van Coetsem & Buccini 1990: 188-189).

This would seem to imply that consonantal conditioning is secondary to vocalic conditioning, but that can surely not be claimed as a general rule, since consonantally conditioned mutations of vowels can occur without any concomitant vocalic influence.\(^{36}\) Indeed, from the gradualist perspective advanced here, it seems reasonable to accept Roelandts' suggestion with regard to certain vocalic mutations in Germanic that, at

\(^{36}\)Cf. Van Coetsem & Buccini 1990: "From this perspective, the V-V relation seems to be the first determinant of the nature of the changes, here a raising or lowering of nonlow vowels, while the VC relation interacts with the V-V relation. This does not imply, however, that the interaction may occur as soon as the V-V relation becomes operative. Also we cannot exclude the possibility that the VC relation performs its operation independently, that is without any action from the V-V relation."
the start, the two kinds of conditioning already interact.³⁷ Again, if it is at all correct to view umlaut as a gradual sound change, it seems reasonable to assume that it gradually expands its range of application with regard to the vocalic conditioning where possible and also with regard to the intervening consonantism: where the consonantism is acoustically and/or articulatorily 'coöperative', umlaut is more likely to develop and to do so relatively early on, while, by the same logic, where the consonantism works acoustically and/or articulatorily against the V-V assimilation, umlaut is less likely to develop or else to develop only later or more weakly.

We must also bear in mind the possible effects of dialect contact in the course of a prolonged development. The greater the length of time involved in the development of some change, the greater the chance that

³⁷Concerning 'breaking' Roelandts states the following: "Es ist schwer anzunehmen, daß die konsonantisch bzw. vokalisch bedingten Brechungerscheinungen, mit sich gleichenden Resultaten, beiderseits völlig unabhängig entstanden seien. Die lexikalische und räumliche Verbreitung der Varianten kann kaum durch eine Entwicklung von konsonantischer nach vokalischer Bedingung, oder umgekehrt, stattgefunden haben. Sie läßt sich besser aus einem anfangs kombinierten Lautwandel erklären, nach dem entweder der Konsonantismus (durch Abschwächung der unbetonten Vokale) oder wirksam geblieben sind" (1989: 183).

We must also note that Roelandts takes a similar stance with regard to the raising/lowering mutations of Germanic, for which he assigns priority to the combined influence of consonantal conditioning of r and h (ɬ) with a following low vowel: "Von genetisch-evolutivem Gesichtspunkt aus läßt sich das betreffende Material am besten erklären durch die Annahme, daß die e- und o- Varianten in Verbindungen von r und h mit offenen Vokalen entstanden sind und sich von dort aus lexikal und räumlich weiterverbreitet haben in Stellungen vor r/h mit andern Vokalen, bzw. vor anderen Konsonanten mit offenen Folgevokalen" (1989: 179).
it will be affected by contact between communities with slightly differing articulatory bases and thus differing details of the conditioning of the change. These contacts generally tend to lead toward a simplification of conditioning, that is, a move toward more transparent and/or more general conditioning (see below, section 3.2).

Outside of Germanic, we can find examples of these gradual expansions of umlaut from a core of most favourable conditionings. With regard to the expansion of vocalic conditionings, a fairly clear-cut case can be found in the umlaut developments of Italian dialects, where Maiden (1987) has found strong evidence that in both the cases of the high mid vowel raising and of the low mid vowel diphthongisation, the first (and geographically most wide spread) vocalic conditioner has been -i, with the symmetrical development of conditioning to include -u being almost certainly secondary. In light of this and other Germanic facts to be discussed below, it should be pointed out that the characterisation of raising/lowering umlaut as tending to be generally more symmetrical in its operation than fronting/backing umlaut must be seen as very relative, with the degree of symmetry in conditioning, at least, being linked to the time the change has to develop.

With regard to consonantal influence, we find clear cases of interaction or interference with vowel-to-vowel developments in the raising and lowering of short vowels in pre-Old Irish. In this language, the

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38Cf. the discussion of the development of fronting umlaut of a in Italian dialects in section 3.3. The gradual spread of umlaut of a to e in some southern Italian dialects from the environment before i to the environment before u is especially clear (discussed in detail in Buccini 1991 Ms. d).
lowering of i was blocked by intervening -nd- (the same 'preserving' effect as in Germanic), while, at least in Thurneysen's formulation, the raising of e and o shows a fairly complex interaction with the intervening consonantisms: "[raising is found] when e or o is separated from the influencing vowel only by a single (lenited) or geminated (unlenited) voiced consonant, or by cc, or by certain consonant groups of which nd, mb, ml, mr, db, ddr, gg/are well attested" (Thurneysen 1980: 47).39

With these considerations in mind, we now return again to the question of the relationship of the Gothic raising and lowering changes to those of Northwest Germanic.

Penzl, one of the original champions of the Twaddelian structuralist interpretation of umlaut, now sees Gothic as a dialect which did not share in any of the umlaut developments (1988: 498): "...[T]here is no evidence for any kind of Proto-Germanic umlaut in Gothic anywhere: Gmc. *e and *i simply coalesced, no o ever developed out of *u." Penzl's statement is, however, somewhat misleading. The Gothic evidence is by no means unambiguous, as many scholars, including Cercignani,40 have already

39Unfortunately, our knowledge of Old Irish dialects is extremely limited, owing to the apparent early development of a literary standard (O’Rahilly 1932: 16-17). It would be highly interesting to examine these Irish developments from the standpoint of variable conditioning through time and dialect space, though such a study may be ultimately unfeasible.

40Cercignani (1980b: 212): "The only umlaut which can tentatively be postulated for Pre-Gothic, namely the change */e/ > */i/ before */-i/, is also the one that would have been produced by the strongest determinant on te vowel that was most vulnerable to it. One could assume that the conditions of this change– which would have failed only when a 'breaking' determinant intervened (e.g. in saibilp < */seʰwið(i)/ < *seʰweði/ 'sees'– were subsequently obscured by a more extensive raising of */e/ to */i/, which occurred irrespective of the following vocalism but invariably
noted, for although there is no positive proof of the operation of either raising or lowering umlaut, there is, in fact, only negative evidence in the case of the lowering a-umlaut of *u. In the case of the raising of *e to i, it is generally impossible to tell through what stages of conditioning the generalised raising of Bible Gothic passed before reaching the state attested in Wulfila's text. A more accurate statement of the Bible Gothic evidence would then be that it shows no clear traces of an a-umlaut lowering but is ambiguous with regard to the operation of i-umlaut raising. Note that Cercignani, despite recognising the ambiguity of the evidence, prefers to see the Gothic treatment of PGmc *e as the result of a "general raising", thus, of a 'spontaneous' change, probably determined by "unstable idiolectal factors, i.e. by nonsegmental features (whether prosodic, paralinguistic, or nonlinguistic) like pitch, loudness, tempo, rhythmicality, tension, voice quality, etc." (1980b: 213), citing Samuels (1972) in support of this claim.41 In citing Samuels, however, he seems to have failed to notice Samuels' comments regarding the nature of isolative or spontaneous change:

"The history of some of them shows that the feature was lost
[i.e., in an assimilatory change] first in some contexts only, and
its loss was then gradually generalised. It suggests that

failed when a 'breaking' determinant intervened: /fill/ < */fellan/ 'fell, skin' but saiwan < */sefwanan/.

41 The passage cited here is a continuation of the one cited in footnote 40 in this section: "The idiosyncratic situation of Gothic with regard to umlaut phenomena would rather seem to favour the postulation of a general raising of */e/ except when immediately followed by a 'breaking' determinant. Such a change could easily be explained as a product of systemic adjustment..." (1980b: 212).
isolative change may have the same origins as conditioned change, but that, for reasons that are not immediately obvious, it is extended to include all contexts" (1972: 20-21)

Given the evidence of mixed vocalic and consonantal conditioning of raising in all of the other Germanic dialects, it seems simply perverse to claim without some particular and weighty evidence that the generalised raising in Gothic did not involve both sequential relations in the course of its development. The attested stage of Wulfila's Bible would represent then a stage in which the raising/lowering changes had been fully reconditioned to a very straight forward consonantal conditioning.

One might claim that the negative evidence for vocally conditioned lowering (a-umlaut) in Gothic constitutes sufficient grounds to reject wholly the notion that Gothic had at some time before its attestation known umlaut conditioning. However, as claimed in Van Coetsem & Buccini (1990: 195), although there is no direct evidence of the operation of umlaut in Bible Gothic, there is "circumstantial evidence for it." This evidence includes the following (195-197):

1) Other dialects of Germanic with apparent historical ties to East Germanic and specifically Gothic, while showing umlaut conditioning, also show patterns of consonantal conditioning similar to that of Bible Gothic. Specifically, "while Proto-Germanic u is consistently represented as au before rin Gothic (waurpün, -baurd, haurn, baurn, daun), it is reflected in Old Gutnish [on the Baltic island of Gotland, Sweden] as either o or u depending on what follows the r(orbu, borb, horn, but burg, dun)" (p. 196). In addition to the Gutnish material, I should also point out that on
the Swedish mainland, in eastern Östergötland, o from PGmc *u is found almost exclusively before r and / plus dental consonant (*borp, korn, orka, vs. spur, kul, uk bura, pula, lufa fulk, mulka).\textsuperscript{42}

Another such dialect of Germanic is the fragmentarily attested language commonly called Crimean Gothic. While the materials for this language are extremely limited and therefore difficult to interpret, it seems quite clear that they do reflect an East Germanic dialect of some sort (N.B. the form ada 'egg' (Bible Go. *addi) exhibits unmistakably East Germanic 'Vorschärfung') and also show apparent instances of a-umlaut of PGmc u to o, as in goltz 'gold' (vs. Bible Go. gulp and boga 'bow' (cf. OE boga).\textsuperscript{43}

Finally, we might add to this evidence that of loan words of East Germanic origin, such as in the case of Old Church Slavonic sjemü, which points to a Germanic form at variance with the Bible Gothic form hilms (Van Coetsem & Buccini 1990: 197).

2) There is the evidence of apparent exceptions in Bible Gothic to the reigning consonantally conditioned distribution of short nonlow vowels. At issue are the following forms (Cercignani 1984: 316):

a) items with i for expected ai[e] (hir[i]and ni[h]
b) items with alleged ai for i (bair[i], jain[s], waila, and ai[b]au)
c) items with u for aú (nauh, duhpe, duve, etc.)
d) items with alleged au for u (nau[h] and au[t])

\textsuperscript{42}See Hesselman 1945: 22 (also cited by Roelandts 1989: 179). Hesselman goes on to say the following: 'Hur man än ställer sig i denna fråga, är det tydligt att gutn., östsv. u för fvn. o innebär en tillnärmning till östgermanska språk (gotiskan)” (loc. cit.).

Of particular relevance to the discussion at hand are the forms *hiri* '(come) hither!', *waila* 'well', *jains* 'yon', and possibly *bairis* 'bitter'. Particularly in the first three cases, it seems quite possible to interpret these as residual examples of an earlier umlaut conditioning. Concerning these cases, Van Coetsem states the following: "From our perspective, such an explanation is quite possible and makes more sense than the various etymological explanations that have been proposed for such words, etymologies which were based on the neogrammarian-inspired assumption that the Gothic consonantal conditioning could not have exceptions" (Van Coetsem & Buccini 1990: 197).

The Bible Gothic development or, better, apparent nondevelopment of umlaut must be seen in a more general perspective. Though the language seems to have been especially conservative in many respects, this impression is obviously largely a reflexion of the fact that it is the only Germanic language attested to any considerable extent from the classical period (albeit late in that period), well before any of the others. It is important to note that with respect to another major Pan-Germanic (morpho-)phonological feature, namely the alternations arisen through the operation of Verner's Law, Wulfila's dialect shows massive simplification through levelling to a degree not attained in other dialects until many centuries later, if at all. And while I by no means intend to imply that the apparent absence of umlaut in Bible Gothic is simply the result of massive analogical levelling, it seems not at all inconceivable that

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44 For a detailed discussion of some of the possible etymologies for these forms, see Cercignani 1984 (cf. 1980b: 209), who finds no cause to see any of them as residual cases of umlaut.
social circumstances which somehow favoured the aforementioned simplification at the morphophonological level may have also led to the simplification at the phonological level which is manifested in the transparent (re-)conditioning of the distribution of the short high and mid vowels. In the end, the view advanced by Cercignani, Wienold and others, that the negative evidence for umlaut which Bible Gothic presents us proves umlaut to be an 'einzeldialektisch' phenomenon', is both simplistic and misleading, at least if one approaches the problem with anything more than a superficial view of sound change in general and how umlaut and consonantal conditioning are interrelated in particular.
2.3 THE TRANSITION FROM RAISING/LOWERING TO FRONTING/BACKING

In the previous section I presented an overview of recent theories concerning the development of umlaut in Germanic, including my own. It was concluded that both the particularist and universalist views of Germanic umlaut are extreme and ultimately untenable. In concrete terms, I have insisted on the necessity to recognize two or more distinct periods of umlaut development, the first involving raising and lowering changes and the second fronting and backing changes. I have furthermore claimed that the first period of raising and lowering changes belongs to the last stage of the presumed Germanic parent language, thus approximately at and just after the beginning of the Christian era. I have further argued that, whatever the dialectal status of Germanic at the time, the process of umlaut itself must be considered a common Germanic feature, intimately tied to a particular prosodic structure shared throughout the Germanic speech area (and probably to some degree in neighbouring Celtic and Romance speaking territories as well). In this regard, I have, by means of the notion of reconditioning, attempted to show how the apparent lack of participation in raising/lowering umlaut in Bible Gothic can be related to the mainstream of Germanic developments.

In this section, I will focus on the Northwest Germanic dialect group and sketch the general trends of development of raising/lowering umlaut in those dialects. I will also attempt to address what I see as the central problem of umlaut development in Germanic, namely the transition from raising/lowering to fronting/backing umlaut. Since the concern in Chapter 3 will be with the developments in Dutch and the neighbouring
West Germanic dialects, I will focus more on that branch of Germanic, most especially on the North Sea or Ingvæonic and Frankish dialects, and will not attempt to give a comprehensive treatment of North Germanic developments here. It should be noted too that, given the early death of most varieties of East Germanic and the lack of any substantial attestation of whatever East Germanic dialects survived into the later Middle Ages, I will no longer be specifically concerned with that branch of Germanic, since it sheds no direct light on the question of the development of fronting/backing umlaut.

2.3.1 On the Dialectal Identity of the Early Runic Inscriptions

Given that the first period of umlaut occurred centuries before the attestations of any of the North and West Germanic dialects began in earnest, our understanding of the steps involved in its development is obviously very much dependent on comparison of and reconstruction from those later attestations. We do, however, also have as an aid in this reconstruction the corpus of runic inscriptions in the older (24 letter) futhark, the vast majority of which have been found in the south of the Scandinavian peninsula (i.e., southern Norway and Sweden) and in Denmark and have been dated to the period 100-550 A.D.\textsuperscript{45} As Nielsen (1989: 5) notes, the language represented in these inscriptions has traditionally been considered to be 'Primitive Norse' (Danish urnordisk) though "within the last few decades there has been an increasing tendency

\textsuperscript{45}This dating is that assumed by Antonsen (1975a). Nielsen assigns the inscriptions to the period A.D. 200-500 but acknowledges that some recent finds may be slightly earlier than 200 (1989: 5, 12).
to regard the language as the common basis of the North and West Germanic languages, i.e. all the Germanic languages with [the] exception of Gothic (East Germanic)."

In light of the early dates of these inscriptions, they are, despite their limited and often inscrutable offerings, potentially of great importance for the study of the development of umlaut. For this reason, I will briefly examine possibly relevant evidence from runic. Before doing so, however, I feel it is important first to consider more carefully the nature and dialectal identity of the inscriptions. I base this discussion in large part on the most recent and comprehensive study of the inscriptions, namely Antonsen (1975a).

In the corpus of inscriptions which Antonsen attributes to his "Northwest Germanic" language, dating from about 100 A.D. to 550 A.D., he identifies the following changes from early Proto-Germanic (1975a: 26-27):

1) nonroot */i/ > /u/ finally and when followed by */i/.
2) nonroot */e/ > */i/ before final */z/.
3) nonroot */e/ > */i/ before final */i,j/.
4) */i, e/ in third syllables is lost.
5) */j/ > */i, */w/ > */u/ when final or before a consonant.
6) final */nz/ > */nn/.
7) final */n/ after nonroot syllable is lost.
8) final */d/ after nonroot syllable is lost.
9) medial */gw/ > */w/.
10) root */e/ > /i/ before */i,j/ or nasal plus consonant.
11) root */æ/ > /a/.
12) root */ɔ/ > /o/.
13) nonroot */ai/ > */æi/,*/au/ > */ɔi/.
14) nonroot */æ/ > */e/,*/*ɔ > */ɔ/.
15) root */u/ > /o/ before /a/ and former */æ, ɔ/.

Antonsen indicates that these rules are chronologically ordered, though "the ordering of rules 9-13 cannot be definitely established" (1975a: 26). Whether all these changes are presumed to have occurred before the onset of the runic transmission circa 100 A.D. is not expressly stated but is implied.

In Antonsen's view, Northwest Germanic "can be considered the parent language not only of the later Scandinavian, but also of the Ingvæonic West Germanic dialects [for] there are no features in the inscriptions which would contradict this assumption" (1975a: 26). Among the earliest of the older runic inscriptions, however, Antonsen also finds some which can already be attributed to West Germanic and others to East Germanic. In the case of those which he attributes to East Germanic, the basis of the attribution is "the loss of nonroot */a/ (except as a connective) even when nasalized, the devoicing of final */z/, and the neutralization of the voice contrast before /s/" (loc. cit.). As Ingvæonic (West Germanic) inscriptions he classifies those in which there appear the following features: loss of unnasalized nonroot */a/ (except as a connective), */i/, and final */z/, and consonant gemination (loc. cit.). Thus, he sees West Germanic as both descendant and contemporary of Northwest Germanic.
If the archaeological datings are approximately correct, it will be seen that East Germanic and West Germanic are distinct from Northwest Germanic already at 200 A.D., while NwG continues on until approximately 550. This chronology might seem to be a contradiction in terms. It might be argued that if NwG is a parent of (Ingv.) WG, then the two could not coexist from 200-550. Such an assumption is clearly faulty, since it would mean that Dutch no longer exists, since Afrikaans has now become a distinct linguistic entity. NwG underwent a restriction in its geographical distribution after the splitting off of Ingv. WG, but the linguistic features of that part of the NwG area which did not undergo WG changes remained essentially the same and the language lived on" (1975a: 27).

The relationship of East Germanic to Northwest Germanic is, according to Antonsen, different from that of Ingvæonic to Northwest Germanic, since each of the two branches have undergone changes which did not occur in the other.

The nature of the language which was employed in the early runic inscriptions is not really known. It has, of course, been repeatedly pointed out by some that the relative homogeneity of the language over a vast area (all of Scandinavia and northern Germany) and a considerable span of time must raise at the very least the possibility that these writings reflect the spread of a supraregional, 'literary' koine which, like virtually all writing systems, did not readily accept changes as they developed in the spoken language. In addition to the possibility that runic writing was based
on such a koine, there is the added problem for the linguist that a great many of the inscriptions are on archaeological items which are quite movable and clearly need not have been made or inscribed in the places where they later were found. Finally, the dating of objects and their inscriptions are inherently approximate and the potential for inaccuracies and distortions in any relative chronology of linguistic changes arises, particularly if the linguistic developments in question are represented by very few inscriptions.

To whatever degree it is true that these considerations make it difficult to interpret the runic evidence in terms of early dialect geography, it is nonetheless also true that the inaccuracies of the archaeological interpretations of the runic evidence are mitigated by the fact that the language which those inscriptions represent was itself variable and subject to gradual drift along both temporal and geographical parameters. Thus, with a view of language as variable and internal change as gradual drift, great accuracy in dating and location is not as necessary for the linguist as it otherwise might seem, especially if we bear in mind that a) virtually all written forms of language show a certain degree of conservatism and, closely related to that, a more or less supraregional character which tends to suppress or delay the expression of (local) innovations of the spoken language, b) this suppression of innovation in writing is itself related to the same tendency that exists in certain, more formal, careful, and slower styles of speech, which often serve as the models for the written forms.

Bearing these matters in mind, it seems necessary to reconsider the early runic evidence and the criteria for the assignment of dialectal
provenance used by Antonsen. As mentioned above, it is quite possible that any given object bearing an inscription may, through trade or theft, have ultimately come to be found in a place very far from its place of origin. It seems, however, that if we are to derive any benefit from the runic material at all, we must first proceed on the assumption that the inscriptions can be associated roughly with the geographical and temporal location that archaeologists have assigned them and see if the material fits into a coherent picture of the early dialectal developments of Germanic.

Below is a list of all the early runic inscriptions included in Antonsen's study which have been found outside of Norway and Sweden: ignored here are inscriptions from those countries on the assumption that they unambiguously represent early forms of Germanic which developed into North Germanic. The vast majority of the remaining inscriptions are from the Danish islands, Jutland and northern Germany, with a few others from places scattered throughout Europe. In this list we have grouped the inscriptions according to Antonsen's own groupings of dialectal provenance. The criteria he used have been mentioned above and involve primarily the treatment of short vowels in final syllables and PGmc final */z/*. It should be noted too that a number of the inscriptions which he lists as belonging to Northwest Germanic have received that designation by default: that is, they lack any forms which may have shown a special dialectal treatment.46

46 Antonsen offers the following cautionary notes on dialect assignations (1975a: 28): "...[I]f there are no forms in an inscription before 600 A.D. which could display EG, WG, or NG characteristics, we have no recourse but to assign it to NwG. As a result, some assignations may actually be erroneous, but there is no way to compensate for the error. This is
EARLY RUNIC INSCRIPTIONS OUTSIDE NORWAY AND SWEDEN BY DIALECT

NORTHWEST GERMANIC INSCRIPTIONS:
2. Thorsberg chape. Schleswig-Holstein, Germany. 200 A.D.
3. Thorsberg shieldboss. Schleswig-Holstein, Germany. 200 A.D.
5. Himlingøje clasp 2. Sjælland, Denmark. 200 A.D.
7. Dahmsdorf spearhead. Brandenberg, Germany. 250 A.D.
8. Vimose comb. Fyn, Denmark. 250 A.D.
9. Vimose chape. Fyn, Denmark. 250-300 A.D.
10. Vimose woodplane. Fyn, Denmark. 100-300 A.D.
15. Kragehul spearhaft. Fyn, Denmark. 300 A.D.
16. Kragehul kniveshaft, Fyn, Denmark. 300 A.D.
23. Gallehus gold horn 2. South Jutland, Denmark. 400 A.D.
24. Garbølle wooden box. Sjælland, Denmark. 400 A.D.
59. Darum bracteate 1. Jutland, Denmark. 450-550 A.D.
60. Darum bracteate 2. Jutland, Denmark. 450-550 A.D.
61. Femø bracteate. Island of Femø, Denmark. 450-550 A.D.
62. Fyn bracteate 1. Fyn, Denmark. 450-550 A.D.
63. Nebenstedt bracteate 1. Niedersachsen, Germany. 450-550 A.D.
65. Års bracteate 2. Jutland, Denmark. 450-550 A.D.
66. Højstrup bracteate. Sjælland, Denmark. 450-550 A.D.
67. Körlin bracteate. Pomerania, Poland. 450-550 A.D.
68. Wapno bracteate. Poznan, Poland. 450-550 A.D.
69. Ølst bracteate. North Jutland, Denmark. 450-550 A.D.
70. Sievern bracteate. Land Bremen, Germany. 450-550 A.D.
71. Sjælland bracteate 2. Sjælland, Denmark. 450-550 A.D.
86. Skrydstrup bracteate. South Jutland, Denmark. 500-550 A.D.
87. Sønder Rind bracteate. North Jutland, Denmark. 500-550 A.D.
88. Lellinge bracteate. Sjælland, Denmark. 500-550 A.D.

EAST GERMANIC INSCRIPTIONS:
94. Næsbjerg clasp. South Jutland, Denmark. 200 A.D.
95. Vimose sheathplate. Fyn, Denmark. 200-300 A.D.
96. Kowel spearhead. Volhynia, USSR. 250 A.D.
97. Pietroassa gold ring. Wallachia, Roumania. 300-400 A.D.

undoubtedly the major reason for the overlap of about 175 years between
NwG and NG, although we must also reckon with the possibility that
phonological changes may be hidden behind a conservative orthography."  
47From Antonsen 1975. Inscriptions bearing only the futhark have not
been included. The numbers are those used by Antonsen.
98. Szabadbattyán buckle. Central Hungary. 400-425 A.D.

WEST GERMANIC INSCRIPTIONS:
100. Værløse clasp. Sjælland, Denmark. 200 A.D.
103. Skodborg bracteate. South Jutland, Denmark. 500 A.D.
105. Charnay clasp. Saone-et-Loire, France. 550-600 A.D.
106. Beuchte clasp. Niedersachsen, Germany. 550-600 A.D.

Of particular interest here are the inscriptions which Antonsen has assigned to East Germanic and West Germanic, which are presented here:

NON-NORTHWEST GERMANIC INSCRIPTIONS

EAST GERMANIC INSCRIPTIONS:
94. Næsbjerg clasp. South Jutland, Denmark. 200 A.D.
   warwynnis: 'Warawins [i.e. caring friend]'

95. Vimose sheathplate. Fyn, Denmark. 200-300 A.D.
   awings: 'Awings [i.e. descendent of Awa]'

96. Kowel spearhead. Volhynia, USSR. 250 A.D.
   tilarids: 'Goal-pursuer'.

97. Pietroassa gold ring. Wallachia, Roumania. 300-400 A.D.
   gutaniowihailig: 'Sacrosanctum of Gothic women'.

98. Szabadbattyán buckle. Central Hungary. 400-425 A.D.
   marings: 'Marings [i.e. descendent of Mar(h)s; or horseman]'.

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WEST GERMANIC INSCRIPTIONS:

99. Vîmose buckle. Fyn, Denmark. 200 A.D.
   (I) aadagast (II) laasauwi:ja:
   'Andagast [i.e. eminent guest] Luck-Luck'

100. Værløse clasp. Sjælland, Denmark. 200 A.D.
    alugod: 'Alugod [i.e. magic-good]'.

    (I) niuwila (II) lîbu: 'Niuwila [i.e. little newcomer]. Summons'.

103. Skodborg bracteate. South Jutland, Denmark. 500 A.D.
    aujaalawinaujaalawinaujaalawinjalawid
    'Luck, Alawin [i.e. alifriend], luck, Alawin, luck, Alawin,
    good harvest, Alawid [i.e. all-leader]'.

105. Charnay clasp. Saone-et-Loire, France. 550-600 A.D.
    (II) :upfaþai : id (III) dan : liano
    [up faþai iddan liano] 'To husband, Iddo [i.e. doer] Liano'.

106. Beuchte clasp. Niedersachsen, Germany. 550-600 A.D.
    (II) buirso: 'Buriso [i.e. little daughter]'.

If we compare their geographical distribution with that of the Northwest
Germanic inscriptions, we find that they overlap to a considerable degree.
In the cases of two of the East Germanic inscriptions, the Kowel spearhead
from Volhynia in the USSR and the Pietroassa gold ring from Romania,
the locations of these finds correspond to independent historical evidence
we have for the migrations of East Germanic peoples through these areas.
The same can be said for the Szabadbattyán buckle found in central
Hungary, though here, the greater proximity to areas of known settlement
by West Germanic peoples and the possibility of alternate readings of the
inscription (e.g. Krause 1970: 90), make it perhaps less certain that the
inscription is, in fact, East Germanic. Similarly, on geographical and
historical grounds, it would by no means be surprising if the inscriptions found on the Charnay clasp (Saone-et-Loire, France) and the Beuchte clasp (Niedersachsen, Germany) show West Germanic features.\footnote{The Charnay clasp inscription shows a possible Ingvæonism in the form of nasal loss before a voiceless fricative in the preposition \textit{up} (< *unþ, cf. OE \textit{ud}, Go. \textit{unþa-}, OIr. \textit{un-}). Otherwise, it shows no features of interest to us here.} This last mentioned inscription as well as the other East and West Germanic inscriptions are found in the same areas as are many Northwest Germanic inscriptions, namely northernmost Germany and Denmark.

Again, we must recognise the possibility that any given object may have been manufactured and inscribed far from its ultimate archaeological resting place. It seems, however, worthwhile to consider the possibility that these inscriptions were native to the general geographical area in which they were found. To do so, we must first consider briefly the specific 'dialectal' features on which Antonsen's assignations were based:\footnote{For further discussion of some of these readings, see also Antonsen 1975b and Knirk's (1977) criticisms of Antonsen.}

- Inscription 94 (1975a: 73). The Næsbjerg clasp (South Jutland, ca. 200 A.D.) contains the form \textit{warawnis} which should be read as \textit{warawnis} from PGmc */war-a- + wen-i-z/*. The basis of the East Germanic assignation is the devoicing of PGmc. *-z to -s. In all other respects, the form could pass for Northwest Germanic. Of course, the raising of \textit{e} to \textit{i} in the second element of the compound would traditionally receive a different explanation depending on the form's dialect provenance: if East Germanic, the raising is part of the general raising of *e, and if Northwest...}
Germanic, it is a simple case of (raising) i-umlaut (cf. OÈ *wine, OHG *wini, OIC. *vînir*).

- **Inscription 95 (p. 73).** The Vimose sheathplate (Fyn, 200-300 A.D.) contains the form <awings> from PGmc. */aw-ing-a-z/, which, as in the previous case, shows devoicing of PGmc *-z* to -s. It moreover shows the reduction of *z* in the final syllable, which corresponds exactly to the treatment we find in Wulfila's Gothic.

- **Inscription 98 (p. 74).** The Szabadbattyán buckle (Hungary, 400-425 A.D.) offers the form <marings> from PGmc. */marh-ing-a-z/, according to Antonsen. It thus shows the same dialectal features as does the inscription on the Vimose sheathplate.\(^5\)

- **Inscription 99 (p. 75).** On the Vimose buckle (Fyn, 200 A.D.) there are two forms, each of which shows dialectal colouring. First there is <aadagast>, presumably to be read as <andagast> from PGmc. */and-a + gast-i-z/*. The dialectal features which point to this form's West Germanic character are the loss of PGmc final *-z* and also the reduction of the *i* of the final syllable, as can be seen from comparison with the other attested forms of the word: OE *jiest*, OHG *gast*, OS *gast*, OIC. *gest*, Go. *gasts*. The other form in this inscription is <laasauwija> which Antonsen derives from a PGmc. form */læs-a-/* plus */awja-/* with the agent suffix */-jönte/*.

\(^5\)Krause offers another reading: *Mār(i)ng s(egun) d(eda)*"M. machte den Segen." This reading would point to a South (i.e., traditional West) Germanic origin, but it is clearly rather speculative. See also Antonsen's note on the reading of an extra <d> rune at the end of the inscription (1975: 74).
gemination *awja > awwja ("with /-ija/ leveled from stems with long root syllables" (1975a: 17).

We should add here a further comment on the form <-gasi> in this inscription. When compared with the other attested forms in the Germanic dialects, it resembles most closely the forms in Old High German and Old Saxon, in which the -j of the final syllable seems to have been reduced without causing fronting umlaut as it did in Norse and English. There obviously exists a variety of possible explanations for this form: Aside from the possibility that the inscription actually represents a South Germanic dialect and that the buckle was transported north into Denmark, there is also the possibility that the spelling masks an actual fronted vowel, either on account of a lack of an appropriate graph (i.e., the fronted a not being identical to the existing short e) or through the use of a traditional spelling for the morpheme. Given the probable koine-like nature of the language of the inscriptions, this last explanation seems the most likely.

• Inscripton 100 (pp. 75-76). The Værløse clasp (Sjælland, 200 A.D.) has the form <alugod> from PGmc. */al-u + g5d-a-z/, again with total reduction of the final syllable after a heavy or long accented syllable.

• Inscripton 101 (p. 76). The Skonager bracteate (Jutland, 450-550 A.D.) shows West Germanic consonant gemination in the form <niuwila> from PGmc. */new-ja-/ plus the diminutive suffix */-il-5n/ (newja > newwja).

• Inscripton 103 (p. 76-77). The Skodborg bracteate (South Jutland, 500 A.D.) contains two forms which show loss of of final *-z and also the reduction of the *j of the final syllable: <alawin> from PGmc. */al-a +
wen-i-z/ (cf. 94, 'East Germanic' Næsbjerg clasp, discussed above); <alawid> from PGmc. */al-a + wed-i-z/. Both forms show raising umlaut of *e to *i. It should also be noted that these forms represent exceptionally early cases of reduction of final -i after a light root syllable (cf. OE wine, OHG wini).

• Inscription 106 (p. 78). The one linguistic form of the Beuchte clasp (Niedersachsen, 550-600 A.D.), <buirso>, is interpreted by Antonsen as deriving from */bur-is-5n/. Though Antonsen does not comment on it, it is conceivable that, if his etymology is correct, the apparent reversal of <r> and <i> might represent a very early, 'epenthetic' spelling of a fronting i-umlaut. In this regard, we should note that Niedersachsen is one of the areas on the continent from which the Germanic settlers of Britain came, in whose dialects fronting umlaut was almost certainly well underway in the sixth century.

Following this paragraph is a list of the early runic inscriptions from outside Norway and Denmark grouped, not according to Antonsen's dialect assignations, but rather by the region in which they were found: Northern Germany (Schleswig-Holstein, Niedersachsen, Bremen), Jutland, Fyn, and Sjælland. If we take these inscriptions as native to this general region of Denmark and the adjoining part of Germany, the possibility arises that the side-by-side occurrence of differing features, particularly with respect to the treatment of final syllables, represent dialect-internal variation. This possibility seems especially strong when we take the following factors into consideration. First, reduction is very much related to speaking rate and style and probably spreads gradually from faster tempi.
and more informal styles throughout the full range of styles employed in the speech community. It would be quite natural then that the appearance of reduction in writing would be resisted and, as in the inscriptions from Denmark and northern Germany, occur only sporadically, until they not only dominated most or all speech styles but also gained acceptance in the graphic tradition. Second, the geographical distribution of the early inscriptions with dialectal colourings is striking: aside from being found in the isolated texts scattered outside northern Europe, they occur only in Denmark and northern Germany, and not at all in Norway or Sweden. Thus, the geographical distribution of inscriptions in the older futhark points to the beginnings of a dialectal division: in Norway and Sweden we have one dialect, lacking any traces of loss or devoicing of final *-z or reduction of the preceding vowel, while in Denmark and northern Germany, we have another dialect in which those changes have begun in the spoken language and sporadically find expression in writing. This early dialectal division would seem then to correspond in a general sense to one that we know from later stages of Germanic, that is, the division between North and West Germanic. The correspondence, however, is hindered by two apparent inconsistencies. The first of these is that, while in later times, Norway and Sweden are obviously North Germanic and northern Germany equally obviously West Germanic (according to the traditional view of West Germanic), Denmark must be seen as switching its linguistic allegiance between the time of the older runic inscriptions and the early Middle Ages. The second of these inconsistencies is the fact that two of the texts seen by Antonsen as deviant, dialectally-coloured texts,
are identified with East Germanic, an identification borne out by the linguistic facts not only of Wulfila’s Bible Gothic but probably also some of the runic inscriptions found in eastern Europe. In other words, included in our proposed dialect area in which West Germanic features are seen to be developing and in variation with the older forms, we also find East Germanic features which, following the same reasoning, must also have been in variation with the others. From a dialect-geographical view, however, the claim of an East Germanic presence in this area is hardly plausible.

**EARLY RUNIC INSCRIPTIONS BY REGION**

**NORTHERN GERMANY**

NW 2. Thorsberg chape. Schleswig-Holstein, Germany. 200 A.D.
NW 3. Thorsberg shieldboss. Schleswig-Holstein, Germany. 200 A.D.
NW 7. Dahmsdorf spearhead. Brandenberg, Germany. 250 A.D.
NW 63. Nebenstedt bracteate 1. Niedersachsen, Germany. 450-550 A.D.
NW 70. Sievern bracteate. Land Bremen, Germany. 450-550 A.D.
W 106. Beuchte clasp. Niedersachsen, Germany. 550-600 A.D.

**JUTLAND**

NW 4. Nøvling clasp. North Jutland, Denmark. 200 A.D.
NW 23. Gallehus gold horn 2. South Jutland, Denmark. 400 A.D.
NW 59. Darum bracteate 1. Jutland, Denmark. 450-550 A.D.
NW 60. Darum bracteate 2. Jutland, Denmark. 450-550 A.D.
NW 65. Års bracteate 2. Jutland, Denmark. 450-550 A.D.
NW 69. Ølst bracteate. North Jutland, Denmark. 450-550 A.D.
W 103. Skodborg bracteate. South Jutland, Denmark. 500 A.D.
NW 86. Skrydstrup bracteate. South Jutland, Denmark. 500-550 A.D.
NW 87. Sønder Rind bracteate. North Jutland, Denmark. 500-550 A.D.

**FYN**

NW 8. Vimose Comb. Fyn, Denmark. 250 A.D.
NW 9. Vimose chape. Fyn, Denmark. 250-300 A.D.
N W 10. Vimose woodplane. Fyn, Denmark. 100-300 A.D.
E 95. Vimose sheathplate. Fyn, Denmark. 200-300 A.D.
N W 15. Kragehul spearshaft. Fyn, Denmark. 300 A.D.
N W 16. Kragehul knifeshift, Fyn, Denmark. 300 A.D.
N W 62. Fyn bracteate 1. Fyn, Denmark. 450-550 A.D.

SJÆLLAND (AND FEMØ)
N W 5. Himlingøje clasp 2. Sjælland, Denmark. 200 A.D.
W 100. Værløse clasp. Sjælland, Denmark. 200 A.D.
N W 24. Garbølle wooden box. Sjælland, Denmark. 400 A.D.
N W 66. Højstrup bracteate. Sjælland, Denmark. 450-550 A.D.
N W 71. Sjælland bracteate 2. Sjælland, Denmark. 450-550 A.D.
N W 61. Femø bracteate. Island of Femø, Denmark. 450-550 A.D.
N W 88. Lellinge bracteate. Sjælland, Denmark. 500-550 A.D.

ELSEWHERE
E 96. Kowel spearhead. Volhynia, USSR. 250 A.D.
E 97. Petroassa gold ring. Wallachia, Roumania. 300-400 A.D.
E 98. Szabadbattyán buckle. Central Hungary. 400-425 A.D.
N W 67. Körlín bracteate. Pomerania, Poland. 450-550 A.D.
N W 68. Wapno bracteate. Poznan, Poland. 450-550 A.D.
W 105. Charnay clasp. Saone-et-Loire, France. 550-600 A.D.

The allegedly East Germanic inscriptions in question are those of the Næsbjerg clasp from southern Jutland and of the Vimose sheathplate from Fyn, both dating from the third century. In the former of these, the inscription bears an apparent case of the devoicing of final *-z only, while in the case of the latter both devoicing of *-z and reduction of the preceding short *-i-. It is, of course, always quite possible that such isolated instances of some phenomenon may just have been 'Fehlschreibungen' or, as discussed above, simply represent genuinely East Germanic forms incidentally imported on the backs of bought or stolen goods. It is, however, also possible that, like the early instances of West Germanic-style reductions, these forms may also be native and linguistically motivated. While it is true that the treatments of final *-z and *-s within each of the
various Germanic dialects are quite consistent, it is also true that there is considerable disagreement between those dialects. This dialectal diversity renders it difficult to think of all the Germanic treatments pointing back unambiguously to one, Proto-Germanic distribution. Idiosyncratic treatments of final *-z are specifically known from the Ingvæonic dialects, where we generally find retention of *-z as -s in the nominative and accusative plural of masculine a-stem nouns, as in OE dagas 'days', OS dagas versus OHG taga, ON dagar (cf. Go. dagos). In this regard, we should also point out that not all the Ingvæonic dialects agree on this feature, for in Old East Frisian we find nominative/accusative plurals of strong nouns (after large-scale conflation of declensional paradigms) in -r, e.g. degar. In light of these facts and the apparent variable treatment in the runic inscriptions, it seems likely that there was a period of some instability or confusion in the realisation of certain morphemes. We should also note that in the two instances of -s for expected -z found in Denmark, the final consonant appears as a morpheme marking the nominative singular, a morpheme which was, judging from the
co-occurrence of the overtly West Germanic inscriptions, already in the process of being lost completely.\textsuperscript{52}

If, as we claim, the 'East Germanic' inscriptions can in fact also be interpreted as representing a transient and variable stage in the West Germanic development of final reduction, this increases the relative presence of West Germanic, dialectally-coloured inscriptions in the Danish/northern German runic dialect area. We must now address the other of the inconsistencies regarding our proposed dialect geography, namely the identity of Germanic in Denmark.

The inconsistency is, as stated above, that we are claiming that the Germanic in Denmark during the period of the early inscriptions was West Germanic (or at the very least, in the process of becoming West Germanic), while the Germanic in Denmark known from later times is clearly North Germanic in character, forming a dialect continuum with Swedish that is abruptly broken off in southern Jutland and Schleswig, where it meets Frisian and Low German. Indeed, most Germanicists and runologists have traditionally regarded the early runic inscriptions as representing the earliest stage of development in North Germanic, calling that stage 'ældre

\textsuperscript{52}Further support for the notion that the Næsbjerg clasp and Vimose sheathplate forms in \textit{-s} are native West Germanic forms may possibly be adduced from the two forms attested in inscriptions from the Rhineland, \textit{Aflims} and \textit{Vatviims}. These forms are generally taken to be dative plurals comparable to such Norse forms as \textit{-gestumR} (Stentoften stone incipient, 600-650). Though there are serious difficulties involved in the interpretation of these forms, not the least of which being the difficulty of dating their inscriptions and the possibility of other language (e.g., Latin) interference, they may be seen to fit into a general pattern of uncertainty of the status of final \textit{-s/-z} before the development of \textit{z > r} and ultimate loss of \textit{-z/-r} in the various dialects.
urnordisk' (e.g., Skautrup 1944: 17ff.). In more recent times, there has, however, been a growing tendency to see the language of the inscriptions rather as a stage preceding the development of either North or West Germanic, that is, as the ancestral stage to both of them, as Antonsen clearly intends with his designation 'Northwest Germanic'.

Nevertheless, many scholars, especially in Scandinavia, persist in calling the runic language 'urnordisk' and, in fact, Antonsen's suggestion that

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Haugen (1976: 123-124) offers the following comments on the designation of the language of the runic inscriptions: "The language of the oldest runic inscriptions (before 550-600), which we here call Runic to avoid commitment on its exact status, is tradionally known as urnordisk (from German Urnordisch). We here translate this term as Proto-Scandinavian; others have called it Primitive Scandinavian (PSc) or Proto-Norse. We suggest that the term PSc. should be reserved for the reconstructed late NGmc (or NWGmc) which is the ancestor of the later Sc languages. It is not at all certain that these two--PSc and Runic--are identical. Kuhn has maintained that there is no form in Runic that 'could not be the ancestor of any WGmc form' (Kuhn 1955: 45). We recall that many of the oldest inscriptions are bunched in Jutland and adjacent islands where Angles, Jutes and Heruleans lived until well into the period of the inscriptions. Krause has characterized Runic as 'a Common Proto-Scandinavian forged by the Heruleans' (Krause 1966: 39). Makaev has called it 'a special Runic koine, the first supradialectal literary variant in the history of the Gmc languages', created by 'that linguistic community which included all of late Gmc after the separation of Gothic' (Makaev 1962: 122). Antonsen maintains that such hypothetical constructions are needless and that Runic should simply be regarded as NWGmc as this was spoken in the third century A.D. (Antonsen 1965: 36)."
some of the inscriptions found in Denmark bear West Germanic features has met with hostile but poorly supported criticism from some.54

If we bear in mind, however, the relatively few facts that we know about the historical developments of the Danish area during the period of the older runic inscriptions, it is anything but surprising that these texts show some traces of West Germanic affiliation and not any overt signs of specific membership in the North Germanic branch. First, with regard to the earliest known Germanic inhabitants of Jutland, that is, the tribes known from early classical sources such as the Cimbri, Teutones etc., we have no knowledge of any particular dialectal affiliation they might have had. And, indeed, conventional wisdom has always assumed that at the time of their appearance in history in the course of the first century or so before Christ, there were as yet no significant dialectal divisions within Germanic. Whether that view is true or not, we know for certain that the Germanic tribes which ultimately settled in Britain in the fourth, fifth, and sixth centuries, had been located during the beginning and early part of the early runic period in northern Germany and southern and central Jutland. Though there is no historical evidence that links the tribes of northern Jutland (Cimbri, Teutones etc.) with the Anglo-Saxon invasion of Britain,

54See, for example, Knirk’s review (1977), which begins with the following statement, placing runic clearly within the ‘nordisk’ branch of Germanic: “Runeinskriftene i den eldre fubark er Skandinavias eldste språklig monumenter og de viktigste kildene til filologenes viten om urnordisk. Disse inskriftene gjenpeiler det urnordske språket og dets utvikling i nesten 600 år, og de er blant de eldste vitnesbyrd om de germanske språkene overhodet” (p. 172).

there is archæological evidence that points to the island of Fyn being culturally very closely linked to central Jutland and in particular with the Angeln area of the peninsula. 55

As regards the rôle of the indisputably North Germanic Danes in the production of the early runic inscriptions of modern Denmark, it seems unlikely that they had any, at least until the very end of the period. The reason for this is simply that the Danes were most likely originally inhabitants of southern Sweden who entered the Danish islands and ultimately Jutland in the wake of the movements south- and westward by large portions of the original inhabitants of these areas, i.e., the Angles, Jutes, Warnes, and Heruli:

"In Jutland and Sjælland the departure of many of the older peoples for the south had left a gap, which was filled by the emergence of the Danes from the Scandinavian peninsula (Brønsted 1938-40, 3: 257; Elgquist 1952: 106). They are reported by Jordanes to have driven a people called the Heruleans (Heruli) out of this area, possibly in the third century (Wessén 1927 thinks in the fifth). By 500 they were certainly masters of the whole peninsula to the Ejder River, which for centuries remained the traditional border between Scandinavians and Germans" (Haugen 1976: 106-107). 56

55See Todd (1987: 64ff.) for the archæological groupings and references to the literature.
56Cf. Skautrup (1944: 19): "Om folkenes historie ved vi meget lidt. Dog må vi vistnok regne med, at der også på dansk område i folkevandringstiden er foregået ret store og afgørende forskyndinger. Hos Jordanes (500tallet) anføres: 'Sveerne er i dette folk (c: de nordiske stammer) kendte som
The departure of Angles, Jutes and others for points west and south and the arrival of the Danes did not necessarily or even probably involve a complete shift in the population of Sjælland, Fyn and Jutland. Rather, some of the (Proto-)Ingvæonic inhabitants likely remained behind and were ultimately absorbed into the dominant (Proto-)Norse Danish population.\(^57\) The process probably occurred in stages, affecting Sjælland first and Jutland last, especially if later reports (8th cent.) of the long-standing sparseness of the population of southern Jutland are to be at all believed (Bede I.15 (Shirley-Price 1968: 56)). Thus, throughout most of the period of the early runic inscriptions, there is no reason whatsoever to assume that the population of Denmark was any more North Germanic than was that of northern Germany.\(^58\) The historical evidence and the

\[^{57}\text{Had some of the tribes that settled England been located originally on the Danish islands, it would be easier to understand the origins of the English heroic traditions which involved so centrally peoples whose homes were in Sweden.}\]

\[^{58}\text{This statement must be softened slightly with a recognition of the (likely) possibility that Sjælland and Skåne were a transitional zone,}\]
runic evidence discussed above agree in pointing toward a West Germanic and more specifically Ingvæonic dialect of Northwest Germanic in these areas, and a more conservative, Proto-Norse dialect of Northwest Germanic in Norway and Sweden during the period of ca. 100-500 A.D. In calling those inscriptions from Denmark and northern Germany which happen not to bear any overtly West Germanic or Ingvæonic features 'Northwest Germanic' and those which do 'West Germanic', Antonsen exhibits justifiable caution. Such caution is, however, ultimately misleading, for it implies that the two categories of inscriptions belong either to discrete stages in the history of one dialect or to geographically separate dialects, thus obscuring the quite plausible and, in my view, likely possibility that we are, in fact, dealing with textual reflexions of variation and change in progress in one and the same, early Ingvæonic dialect.59

though how exactly that transition manifested itself in terms of linguistic and/or cultural features obviously cannot be determined with any certainty or precision. It also seems quite reasonable to assume that the northernmost part of Jutland may have similarly been a transitional zone with the areas across the Skagerrak and Kattegat (In this regard, we should also point out that the inundations which brought about the creation of these channels and thus the joining of the Baltic to the North Sea, are believed only to have happened some time shortly before Christ.) In other words, the dialectal relationship of Ingvæonic to Norse probably showed very roughly a similar geographical form to that of Danish to Norwegian and Swedish in later times.

59It should be pointed out that Nielsen (1989: 5-6) has tentatively suggested what I have expressly claimed here: "It should be noted that Denmark (with Slesvig and Skåne), which has the largest concentration of the older runic inscriptions, probably was not definitely subjugated by the Scandinavian Danes until the 6th century, so that the southern boundary of North Germanic (the river Eider in Slesvig) was only fixed in this century. Also the possibility should be taken into account that some of the participants in the Anglo-Saxon emigration in the 5th and 6th centuries came from what were later to become Danish areas."
The notion that the early runic inscriptions found within the political boundaries of the modern state of Denmark are 'Danish' in any sense beyond this is patently wrong. While the perpetuation of this notion in popularising works written from a Danish or Scandinavian standpoint must be suffered, it should once and for all be banished from the scientific literature.  

One further issue concerning the dialectal identity of the older runic inscriptions needs to be addressed here, namely, the status of PGmc ǣ (i.e., PGmc ē < IE ē) in the inscriptions. Though an important problem in the study of Germanic and one for which there are strongly diverging views, it has received relatively little attention. The reflexes of PGmc ǣ in the dialects are well known: in Gothic, it occurs as ē in Old English as ē (Anglian and Kentish) and ǣ (West Saxon), in Frisian as ē in Old Saxon as both ē and ā, in Upper German and Frankish as ā, and in Norse as ā.  

One of the two basic views concerning PGmc ǣ is that after the departure of the East Germanic tribes, ǣ developed to ā in Northwest Germanic, thus in all the remaining Germanic dialects. This view, however, obviously necessitates that we posit a further change of this Northwest Germanic ā back to ē and ultimately ē in the North Sea or

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60 E.g., Moltke, who, in discussing the famous Gallehus inscription and the two gold horns from southern Jutland, ca. 400 A.D., clearly in Ingvaenic territory and exhibiting no single dialectal feature attributable to North Germanic, writes: "Hvad véd vi da om disse to horn og om Lægæst, Høltes søn? Vi véd, at hornene er gjort i Danmark, fordi Lægæst med nordske runer og i nordisk (nordgermansk) sprog skriver..." [emphasis added: AFB] (1976: 73).

61 E.g., Bible Go. jēr, slēpan (cf. Crimean Go. schlipen) vs. OHG jār, slāfan, ON ā etc.
Ingvæonic dialects of English and Frisian. In this view, the Old Saxon dual
treatment presumably represents only a hesitant tendency to join in with
the Ingvæonic innovation. The motivation for this interpretation of the
data is hardly overwhelming. It has, for example, been suggested that,
since the Ingvæonic dialects exhibit a special treatment of PGmc Æ before
nasals, namely ð,62 it is most reasonable to derive both this ð and the
general æ or e from the intermediate quality æ.63 This argument is not
very compelling, since it is by no means inconceivable that the influence of
the following nasal brought about the shift gradually all the way from æ,
with this phone falling together with PGmc æ < æηX, as well as the
specifically North Sea Germanic extensions of this change to sequences of
YNC, where C could be any voiceless fricative (e.g. fyl < *flmf, and more
relevantly, ðs < *ans-).

The alternative explanation is that the development of æ > æ
occurred independently in two areas, the Upper German/Frankish (i.e.,
South Germanic) area and the Norse area, leaving a conservative North
Sea Germanic area between. In addition to the not so terribly compelling
satisfaction of Occam's razor (i.e., it is uneconomical to posit unnecessary
changes without direct evidence for them), there are other reasons to
favour this latter view, which I will present in the following chapter.

62E.g., OE mōnap 'month', edōn 'done', nōmon 'they took' vs. (West
Saxon) dēd 'deed', hēr 'hair', bēron 'they bore'.
63Campbell 1959: 51: "It is tempting to assume, though not definitely
demonstrable, that Prim. Gmc. æ > æ in the form of West Gmc. from
which OE and OFris. were derived, just as it did in OHG, OS, and ONorse,
and that this æ was then subject to change in two directions, becoming æ
before nasal consonants, æ (or e) elsewhere. Such a double development
of æ would be parallel to the OE and OFris. treatment of a."
These arguments have to do with the place of the development of PGmc \(\bar{\alpha}\) in the broader patterns of development of long vowel and diphthong systems of the various dialects and also with the evidence provided from the Dutch language area, which was too often overlooked in the early discussions of the problem by scholars not actively concerned with Dutch.\(^{64}\)

Antonsen assumes the validity of the first view, that is, of a general development of \(\bar{\alpha}\) to \(\tilde{\alpha}\), without comment or explanation in his description of the Northwest Germanic language of the older runic inscriptions (1975a: 5), as Nielsen also does (1989: 6). In part, Antonsen's claim seems to be intimately tied to his controversial views regarding the original significance of the rune <\(\ddot{\alpha}\)>, which we will not be able to consider in detail here. Ultimately, the two issues are not, however, necessarily directly linked. In essence, his claim is the following: the older futhark has five vowel runes which are used in a fairly well understood way. Each of these runes was used to represent a distinct vocalic quality and vocalic length was simply ignored in spelling, as shown below (1975a: 2):

\[
\begin{align*}
/\bar{\alpha}, \tilde{\alpha}/ & \quad /\bar{\epsilon}, \tilde{\epsilon}/ & \quad /\bar{o}, \tilde{o}/ & \quad /\bar{i}, \tilde{i}/ & \quad /\bar{u}, \tilde{u}/ \\
<\ddot{\alpha}> & \quad <\ddot{\epsilon}> & \quad <\ddot{o}> & \quad <\ddot{i}> & \quad <\ddot{u}>
\end{align*}
\]

In addition to these five vowel runes, however, there was also a sixth vowel rune, which was used only marginally and not with a value on which scholars universally agree. Antonsen contends that the original value of this rune <\(\ddot{\alpha}\)> was \(\bar{\alpha}\), and dates to a period when \(\bar{\alpha}\) and \(\tilde{\alpha}\) were

\(^{64}\) A notable exception to this ignorance of Dutch is Campbell's 1947 article.
vowels of clearly different quality, yielding a perfect one-to-one correspondence of distinct vowel qualities to different vowel runes for the Proto-Germanic vocalic system (again, distinctive length being graphically ignored), as shown here (1975a: 4):

/æ/ /a/ /e/ /ʊ/ /œ/ /ʌ/ /i/ /i/ /('<\) / (> /<M>

That reflexes of PGmc ō came to be spelt with the same rune originally used for PGmc ò is apparently taken by Antonsen to be a clear sign of the development of ō to ò:

"Instead of the ò-rune, the oldest inscriptions have ō in root syllables, e.g. makija < PG */mækijan/, corresponding to the well-known change of PG */æ/ > /a/ in this position. The use of the ō-rune (originally = /a/) for the new /a/ resulted from system balance and the ignoring of the contrast length/tenseness" (1975a: 5).

This interpretation of the use of the rune (<') for PGmc ō is clearly at variance with my own views, since I have claimed above that the early runic inscriptions from modern Denmark and northern Germany represent an early stage of Ingvæonic or North Sea Germanic and also that that branch of Germanic did not participate in the development of ō to ò.

Since the original nature of the (<') rune is of no particular significance to us here, that issue will be set aside. It should, however, first be shown that that question has no bearing on the status of PGmc ō in early Ingvæonic. The argument is the following: while it is clearly true that the rune (<') was used in the early inscriptions for sounds which
earlier almost certainly had approximately the phonetic values [ā] and [œ] in Proto-Germanic, thereby indicating a qualitative (but not quantitative) merger of the two sounds, it is by no means necessary that the sound in which the two vowels merged had the quality of [a] but could just as easily have been [œ]. In this regard, we need but remember that the Ingvaëonic dialects not only had œ over against the ā of the South and North Germanic dialects, but also underwent the change of inherited *ā to *œ, as in OE dæʒ, stæf, OFr dei, stef vs. OHG tag, stab, ON dagr, stafr. In other words, the use of <œ> says nothing about the phonetic qualities of the two sounds which qualitatively merged, only that they did merge. In South and North Germanic, this merger came about by means of the lowering and backing of the long vowel, while, in this writer's view, it came about in North Sea Germanic by means of a fronting and raising of the short vowel. In this regard then, the treatment of PGmc *œ and *ā in the early runic inscriptions gives no dialect indication whatsoever.

A final note on this topic which should be added here concerns the treatment of the PGmc diphthong *æi in accented syllables. One of the more salient characteristics of Old English is its development of this diphthong to the long monophthong ā, a change which surely had at the least its beginnings on the continent before the departure of the Ingvaëonic speakers for Britain. It should be added that Frisian, in a complicated way, to be discussed briefly below in Chapter 3, and Norse, in a fairly straightforward way, also participated in this change, but to a far more limited degree. In Norse, it was consonantally conditioned by a following ȝ or r, as in fāða < fæþiðo, sār < *saira (Haugen 1982: 30, cf. Noreen 1970: 50-51).
In the early runic inscriptions, there are two instances of a spelling \(<a>\) (\(<\text{ñ}\>\)) for accented \(<\text{ai}>\) (\(<\text{ŋ}i>\)), one of which is usually dismissed simply as a 'Fehlschreibung'. This occurrence is in the inscription of the Lindholm amulet from Skåne, circa 300 A.D., where the form \(<\text{hateka}>\) (=haitē + eka) is found (Antonsen 1975a: 37). The other form is found on the Rö stone, from Bohuslän in Sweden (ca. 400 A.D.), where the spelling \(<\text{facido}>\) for \(<\text{fa}cidō>\) is found (the latter form attested on the Vetteland stone, Rogaland, Norway, ca. 350 A.D.).\(^{65}\) Whereas this form \(<\text{fa}cido>\) is a probable forerunner of what we later find in Old Norse, the other form, \(<\text{hateka}>\), shows the monophthongisation in a position where it is not expected for Norse. A number of explanations of this apparently deviant form are possible, ranging from the usual dismissal of it as a spelling mistake, to seeing the inscription as one borne on a borrowed or stolen object from an Ingvæonic (and specifically pre-English) dialect area, to viewing it as belonging to the dialect transition zone between North Germanic and North Sea Germanic (N.B. that it was found in Skåne).

Be that as it may, it is striking that in none of the runic inscriptions which we have claimed likely to be from North Sea Germanic areas, no monophthongal spelling of accented PGmc \(^{*}\text{ai}\) occurs.\(^{66}\) While this may

\(^{65}\)Antonsen also dismisses this occurrence as a mistake on the basis of the coöccurrence in the same inscription of the form \(<\text{sa}ir>\), which, according to Neogrammariam notions of how sound laws work, ought not to be possible. Of course, one, the other, or both of the spellings could be mistakes, but as argued above, it seems better to assume first that they are not mistakes and instead seek reasonable linguistic explanations.

\(^{66}\)In Antonsen's corpus I count a total of only five occurrences of accented PGmc \(^{*}\text{ai}\) from outside Norway and Sweden: \(<\text{aisg}, \text{hait}, \text{aiwuidai}, \text{waiga}, \text{haitika}>\).
very well be only a reflexion of chance, given the meager number of total cases attested, one should also remember that if, as claimed above, \(<\text{œ}\>) was used for vowels with a front quality (\(\ddot{a}, \ddot{e}\)) in North Sea Germanic areas, this rune would not have been an appropriate spelling for the monophthongisation product of "æi". Given this, it would not seem at all surprising that the digraph would long be maintained then (as it clearly was for the value [e] in unaccented syllables (Antonsen 1975a: 5)) and simply treated as a complex graph for a single sound [a]. In this regard, it should be remembered that in the period of the great migrations, the English and the Frisians shared several innovations in their use of the futhark precisely for the rendering of the reflexes of PGmc "\(\ddot{a}, \ddot{e}\), and "æi". Specifically, they developed a new rune, \(<\text{œ}\>\), with the Old English name "\(\ddot{a}c\) 'oak' for \(\ddot{a}c\) "æi". The generally accepted origin of this rune, proposed by Page (1973: 45), is that it is derived directly from the earlier digraph \(<\text{œ}\>\) (cf. Quak 1990: 358; Seebold 1990: 425). Similarly, the Anglo-Frisian rune \(<\text{œ}\>\), with the Old English name "\(\ddot{a}s\) 'god', signifying the long o developed through nasalisation and compensatory lengthening of a, has been explained as a derivative of the original digraphemic spelling \(<\text{œ}\>\) (Page 1973: 44). The original \(<\text{œ}\>\) rune lived on in Anglo-Frisian with the value of [œ] (Old English name æsc 'ash-tree'), as would be expected.

To conclude this excursus on the dialectal identity of the early runic language, we can say that, though admittedly based on rather scanty materials, the graphemic evidence of the various early runic inscriptions is at worst silent on the proposed Ingvæonic identity of the Danish and north German inscriptions and in some cases provides some evidence for and on
no occasion any real evidence against that proposal. It seems reasonable therefore to accept the view of Antonsen of the language represented in these inscriptions:

"From the phonological, morphological, and syntactic points of view, NWG can be considered the parent language not only of the later Scand., but also of the Ingv. WG dialects. There are no features attested in the inscriptions which would contradict this assumption" (1975a: 26).

We can go one step further, however, and also state that the inscriptions from Denmark and northern Germany can be taken as attestations of a (pre-)Ingvæonic dialect of this Northwest Germanic, while those from Norway and Sweden obviously ought to be seen as representative of a default, (pre-)Norse dialect of Northwest Germanic, since they do not exhibit any particular innovations. These conclusions from the bits of linguistic evidence discussed above conform very well with the nonlinguistic historical evidence for the settlements and migrations of the Germanic tribes. One final point should be added here in anticipation of the discussion of the runic evidence for the development of umlaut and reduction. While it is often assumed that Northwest Germanic, as represented in the inscriptions, can be considered the parent dialect of all the North and West Germanic dialects, this assumption may, in fact, be misleading if not simply wrong.67 It is easy to understand the reasoning

67The bipartite division of Germanic into East Germanic on the one hand and North-West Germanic has since the 1950's become something of an unchallenged assumption among Germanicists. See, for example, Penzl's discussion centered on the inscription of the Gallehus horn (1988a: 502): "[T]he language of the horn is Proto-Nordic-West Germanic. Adamus
behind the notion that texts which show no dialectal features which would preclude the possibility of their representing an earlier stage of some range of later, different dialects, may be seen as representing a common proto-stage for all those dialects. Yet, when dealing with texts of such limited extent as the runic inscriptions, there is a danger that the desire to label such texts as being evidence of a real, common proto-language will obscure the perhaps subtle ways in which the corpus as a whole points in another direction. Falling prey to this mistake is unnecessary when there is nonlinguistic, historical evidence available to help decide the issue. In the case at hand, it is clear that the runic inscriptions were made at a time when (pre-)Ingvæonic peoples lived in Denmark and northern Germany and the future direct ancestors of the users of Old High German were already living to the south in central and southern Germany. Whether the Gallehus horn inscription could be pre-High German is interesting and useful, but there is no reason to believe that it actually was pre-High

(1962: 158) saw in it "North-West Germanic", the stage II after Common Germanic. Hans Kuhn (1955) called it "Spätgemeingermanisch". However, it cannot be labelled Common Germanic because it is not the ancestral language for Gothic. We would have to have *hultijaz and *burna [sic!] for a Proto-Gothic. Elmer Antonsen (1975[a]) only included Ingvæonic as derived from Northwest Germanic, his term for the Gallehus language. But it can also be the basic language for High German: it is even theoretically possible that the runes written <k> in ēk, <t> in holtijaz and tawido were to be pronounced as strongly aspirated..."
German: it was, almost certainly, written by an Ingvæonic speaker.\textsuperscript{68} Thus, the evidence from the Ingvæonic area ought not to be taken as evidence for a "West Germanic" or "Nordic-West Germanic" parent language, unless evidence from the later attested South Germanic dialects makes that conclusion obviously plausible.

2.3.2 Early Runic Evidence of Umlaut and Reduction

We now turn to the runic evidence for the development of umlaut and reduction. If we look again at the list of features (presented earlier in this section) which Antonsen (1975a: 26-27) sees as predating the writing of the runic inscriptions, we should note the following. Only four of the features separate this language from East Germanic, namely features 6)

\begin{itemize}
\item \textsuperscript{68}N.B. Antonsen claims to find one feature in the older futhark corpus which excludes the German dialects: "Morphologically, the most striking feature is the leveling in the \textit{ōn}-stems, which clearly separates NwG from East and South Germanic (Istvonic, Erminonic), although the pronominal adjective ending for the masc. acc. sg. -\textit{ô̂n} (cf. Go. -\textit{an}) and the strong past participle in -\textit{ina} (Go., OHG -\textit{an}) might also be mentioned. The apparent differentiation between nouns and adjectives in the masc. nom. pl. of o-stems may date back to PG" (1975a: 26).
\item Nielsen (1989: 7) offers another morphological feature pointing runic away from a simple identification with the pre-stage of a unitary West Germanic: "Early runic exhibits a-vocalism (IE *-\textit{on}-) in the gen./dat. sg. masc. n-stem suffixes (cf. \textit{keban} (Belland), \textit{halaiban} (Tune)) as do ON (\textit{hana}), OE (\textit{honan}), OFris. (\textit{skeleta}) and OS (\textit{hanan}) in contradistinction to the -\textit{en}- ablaut variant in the stem suffixes of OHG (\textit{hanen}, -\textit{in}) and in OS (\textit{hanen}), cf. Gothic (\textit{hanins}, \textit{hanin})." Note also the similarity of Nielsen's conclusions to those expressed here (1989: 11): "Our discussion has shown that Old English (Old Frisian, Old Saxon) exhibits striking parallels with runic, parallels which to a large extent are shared also by Old Norse, but not by Old High German... If in other words \textit{North-West Germanic}, as the runic language has been called, is supposed to include (pre-)Old High German, we must reject the term."
\end{itemize}
final */nz/ > */nn/, 11) root */ǣ/ > */ā/, 14) nonroot */ǣ/ > */ē/, */o/ > */ō/, 15) root */u/ > */o/ before */a/ and former */ǣ/, 5/. Of these, only the last two have any relevance to the questions of umlaut and reduction in Germanic and in the case of 11) root */ǣ/ > */ā/. As was suggested above, there is good reason to doubt that this change applied in the Ingvæonic areas. Feature 14) nonroot */ǣ/ > */ē/, */ō/ > */ō/ involves reduction and 15) root */u/ > */o/ before */a/ and former */ǣ/, 5/ the lowering umlaut of PGmc */u/. We should note that Antonsen assumes the raising umlaut of PGmc */e/ to */i/ to have occurred in East Germanic. The bulk of the remaining changes shared by all the Germanic languages involve reductions of nonprominent syllables.

**COMMON GERMANIC**

**nonprominent syllables**

1) nonroot */ī/ > */u/ finally and when followed by */i/.
2) nonroot */e/ > */i/ before final */z/.
3) nonroot */e/ > */i/ before final */i,j/.
4) */i, e/ in third syllables is lost.
7) final */n/ after nonroot syllable is lost.
8) final */d/ after nonroot syllable is lost.
13) nonroot */ai/ > */ǣ/, */au/ > */ō/.

**prominent syllables**

10) root */e/ > */i/ before */i,j/ or nasal plus consonant.

---

69E.g., rule 6) */zn/>*/nn/, ōn-stem gen. sg. PIE */-on-es/> PGmc */-an-ez > NWGmc */an/(cf. Go. */ons/, e.g. tuggons). Concerning rule 11, see the discussion in the previous section. Rule 14) nonroot */ǣ/>*/ē/, e.g., tawide < */tawidō*/₅/>*/ō/, fem. nom. sg. ōn-stem, hleunō, lebrō, 1st sg. pret. wk class 1 faihidō, tawidō. Rule 15) root */u/>*/o/ under a-umlaut conditions, see below in this section.
NORTH AND WEST GERMANIC
nonprominent syllables
14) nonroot */ǣ/ > */ē/; */ĕ/ > */ō/.

prominent syllables
15) root */u/ > */o/ before /a/ and former */ǣ, ē/.

As for the runic evidence of umlaut, only two changes are very well attested. The first of these is the raising of PGmc *e to i before a following i, i or ï. The change is attested in both the Norse (Norway and Sweden) and Ingvaëonic (Denmark and Germany) dialect areas, though by chance more examples occur in Norse. The following examples are listed according to the inscription number assigned by Antonsen (1975a):70

10. *weliz > wiliz (Fyn, 100-300 A.D.)
21. *bergingōi > birg(i)ngu (Norway, 350 A.D.)
27. *breiōz > brijoz (Norway, 400 A.D.)
33. *berbijaz > þirbijaz (Norway, 400-450 A.D.)
45. *legēje > ligī (Norway, 450 A.D.)

As would be expected from the evidence of the later dialects, checked nasals also condition this raising in the runic texts:

36 &37. *eng- > i(n)g- (Sweden, 450 A.D, Norway, A.D.)71

There is also one attested instance of raising conditioned by a following -u, though, as Antonsen (p. 65) notes, this may well be a case of analogical

70 Antonsen analyses these forms as follows: wiliz 2nd sg. pres. opt. 'to want'; birg(i)ngu, (pers. name) fem. dat. sg. ā-stem, root berg- 'save', cf. OHG bēgan etc.; brijoz, fem. nom. pl. jā-stem 'three'; þirbijaz (pers. name), masc. nom. sg. iō-stem, cf. OHG dērb, OE þeorf, ligī. 2nd sg. imp. 'to lie', cf. OHG ligi.
71 Cf. OE Ing, OHG Ingo.
extension of the root vowel of the second and third person rather than a
genuine case of umlaut:

71. *gebɔ > gibu 'I give' (Sjælland, 450-550 A.D.)

Antonsen's interpretation is supported by the occurrence of the \textit{ehwu} < 'ehwɔ 'mare' (57. Skåne, 450-550 A.D.). Unfortunately, further direct
evidence is lacking for PGmc \textit{e}, but it seems reasonable to take the
treatment of the first element of the PGmc diphthong \textit{eu} as having been
essentially parallel to the single vowel. For \textit{eu}, we find the following
forms:\footnote{These forms are analysed by Antonsen as follows: \textit{hleuno}, fem. acc. sg. \textit{ðn}-stem, 'fame/protection'; \textit{leubu}, fem. nom. sg. \texti{ā}-stem, 'lief, dear'; \textit{niujið(a)} masc. nom. sg. \texti{on}-stem (diminutive) 'little newcomer'; \textit{leugaz} masc. nom. sg. 'oath-taker', cf. OHG \textit{ur-liug}, Go. \textit{liugan}, \textit{niuwila}, cf. \textit{niujið(a)}.}

10. *hleuñn > hleuno (Fyn, 100-300 A.D.)
21. *leubɔ > leubu (Norway, 350, A.D.)
56. *neujiñn > niujið(a) (Jutland, 450-550 A.D.)
73. *leugaz > leugaz (Sweden, 500 A.D.)
101. *newja + iðn > niuwila (Jutland, 450-550)

We should further note that exceptions to the raising umlaut of \textit{e} to \textit{i}
seem to be limited to forms of the word \textit{erilaz}, the exact significance and
etymological origin of which are uncertain.\footnote{Some runologists have read a number of the occurrences of this word
with initial \textit{i}-, a reading which Antonsen, however, rejects. In his view,
such readings are based on a misreading of a ligature of the \textit{M} and the \textit{R}
runes (1975a: 58).}

The lowering "a-umlaut" of PGmc \textit{u} to \textit{o} is also reasonably well
attested in the runic inscriptions. In addition to being conditioned by a
following *ə. the lowering was also caused when there followed the low long vowel *ɨ and presumably also *əː.\(^7\)

21. *burðn → borð (Norway, 350 A.D.)
23. *hurnan → horna (Jutland, 400 A.D.)
27. *wurhtɔn → worahto (Norway, 400 A.D.)
111. *wurhtæd → worte (Norway, 500-550)

In the case of the lowering before *ə, there are, however, two apparent exceptions in one of the inscriptions:

109. *wurhtæd → wurte, *kurnai → -kurnė (Sweden, 500 A.D.)\(^7\)

In addition to these, there is variation between spellings with u and o in the name 'Wolf' (116 <-wolAfA> (=wolAfz) (Sweden 600-650 A.D.), 117 <-wulafz> (Sweden, 600-650 A.D.) < *wulfaz). In addition to these instances of u for expected o, there are two instances of o for expected u.\(^7\)

23. *hultijaz → holtiaz (Jutland, 400 A.D.)
27. *duhterez → dohtriz (Norway, 400)

These well known forms have generally been taken to be clear signs that the o which had arisen through a-umlaut had passed from being a contextual variant to an independent phoneme by this time, since in both

\(^7\)These forms are analysed by Antonsen as follows: boro, fem. nom. sg. õn-stem ’son’, cf. Olc burr, borr, horna, neut. acc. sg. o-stem ’horn’; worahto, 1st. sg. pret. ind. wk. class 1 ’to work’; worte, 3rd. sg. pret. ind. ’to work’.

\(^7\)For wurto, cf. 111. worte cited above; -kurne, neut. dat. sg. o-stem ’corn’.

\(^7\)These forms are analysed by Antonsen as follows: holtijaz, masc. nom. sg., patronymic formed from hult- ’wood’; dohtriz, fem. nom. pl. ’daughter’.\(^7\)
forms \( o \) occurs in a 'high' environment (before \( i, j \)), that is, in an environment which induces raising of \( e \) and generally preserves \( u \) (e.g. 31. *gudijōn \( \rightarrow \) gudija 'priest' (Norway, 425)). The occurrences of \( o \) in these forms are seen then as the results of analogical extensions of the 'lautgesetzlich' \( o \) of the nominative into non-lautgesetzlich environments in the oblique cases. Antonsen offers, however, a more detailed explanation of the development of these and the previously mentioned exceptional cases of \( u \) for \( o \) in the following way:

"When PG */æ/ and */ɛ/ underwent raising in unstressed syllables to NWG */ē/ and */ō/, the a-umlaut of PG */u/ = [o] ceased to be a conditioned variant of */u/ before these vowels. The simultaneous raising of stressed PG */ɛ/ \( \rightarrow \) NWG */ō/ made possible the correlation of */o/ and */ō/ through system balance, so that */o/ could now be written \( \breve{o} \): \( \text{worhito} = \text{worhūō} \), and also when leveled (=[ø]: \( \text{dohturiz, holtijaz} \)). In other environments, however, e.g. \( \text{horna} \), [o] was still conditioned and therefore could be analyzed as */o/ (system balance) or as [o] before a low vowel. In EN, WN, conditioned (nonnasal) */a/ was lost and the spelling alternation \( u-o \) became arbitrary: */wulfz/ = 117-wulafz \( \sim \) 119-wolAfz (Oic. ulfr), */wörtē/ = 111 worte \( \sim \) 109 wurte (Oic. orte), */kornē/ = 109-kurne (Oic. korne), */runū/ = 120 ronu, */ginnu-/ > 119 gin^o-, and was even extended to */ū/ (and presumably */ō/): */rūnāz/ = 119 -ronoz. This arbitrary interchange (nondistinction of the contrast: high ≠ mid) also
spread to i and e and finally resulted in the elimination of \( M \) and \( \mathcal{C} \) from the younger fuþark" (1975a: 13).

In this view, the exceptional cases of \( u \) for \( o \), which are all from inscriptions found in Norway and Sweden from about 500 A.D. on, are to be seen as specifically Norse dialectal forms. In the case of the forms with \( o \) before a following high front vowel, however, the attestations are both from about 400 A.D., with one from each of the two dialect areas, Norse and Ingvæonic.

It should be noted here that several of the forms, which violate the expected \( u/o \) distribution according to vocalic (umlaut) conditioning, may be seen as possible cases in which consonantal conditioning has operated. Specifically, the form \(<\text{dohtriz}>\) may well be explained as the result of the lowering influence of the following \( \mathcal{NC} \) cluster (cf. the lowering effect of \( \mathcal{X} \) in Gothic) rather than of pure analogy. And while Antonsen's point concerning the development in Norse of the reduced spellings of the younger futhark remains valid, it is also true that the earliest forms which violate the expected V-V conditioned distribution of \( u \) and \( o \) involve consonantal environments in which the distinction may have been neutralised: in the cases of \(-rC\), there may well have been a neutralisation in favour of the lower phone and in the case of \( /w\)/\( \mathcal{NC} \) the higher phone may have been favoured. Evidence from the later dialects, to be discussed below in this section, seems to support this possibility.
Evidence for the lowering a-umlaut of PGmc *r̥to e is lacking in the early runic inscriptions with the exception of a few forms attested from Sweden in the seventh century:77

119. *hidran > hedera, *wihla- > wela (Sweden, 600-650 A.D.)
120. *hidran > hadera (= hædæra)

There is, however, also little negative evidence for the change, that is, cases where *r̥occurred before *ᾶ, ǣ, ǣ none of which are from the Ingvæonic areas:78

27. *witanda > wita(n)da (Norway, 400 A.D.)
34. *ski̞ba- > skiba- (Sweden, 450 A.D.)
45. *hinōn > hinō (Norway, 450 A.D.)

It remains for us to interpret the early runic evidence for the operation of raising/lowering umlaut in early Ingvæonic and Norse. Though the evidence from the earliest inscriptions is scanty, it seems safe to conclude that by the end of the fourth century both the raising umlaut of *e and the lowering *u were fully developed in both dialect areas. Indeed, judging from the evidence of the form holtiz from southern Jutland and dated to about 400 A.D., it seems we must conclude that the preserving effect of *ion *u was no longer operative in the Ingvæonic area. We might perhaps thereby conclude further that both the raising and lowering umlaut effects had more generally already passed or, at the very least, were

77 According to Antonsen's analysis hedera, hadera adv. 'hither; wela - 'insidious, cf. OIc velæ'to deceive'.
78 In Antonsen's analysis wita(n)da - pres. part. 'to watch, observe', cf. Go. witan 'to watch'; skiba-, cf. MHG scit 'judicial decision'; hinō, masc. acc. sg. 'this'.
then in the process of passing from automatic, phonotactic constraints to nonautomatic distributional sequences. As noted above, forms such as *dohiriz*, which clearly show a breakdown of the V-V relation can be seen either as the result of analogy after the de-automatisation of the relation or else as indications of a competing VC relation, which itself may well be a mechanism by which the V-V relation is de-automatised. Finally, the evidence for an active lowering a-umlaut of *i* to *e* seems to be lacking (except in the later southern Swedish inscriptions), though there are admittedly few cases attested in which the development could have occurred.

Evidence for the development of fronting uumlaut is found in two inscriptions from Blekinge in southern Sweden, dated to 600-650 A.D. The clearest form is the dat. pl. form of the i-stem noun *gastiz`guest*, which occurs in the Stentoften stone inscription as *gestumz*. This form unambiguously shows the phonemicisation of the fronted variant of *a*, since the uumlaut conditioning factor of the desinenence (*-imz*) has been removed through analogy in favour of a variant modelled on the u-stem desinenence.

In this same Stentoften inscription there also occurs the form *bariutip* from earlier *breutedi*, representing the 3rd person singular, pres. ind., of the ON verb *briotia* and corresponding to the later form *brytr*. This form itself only shows the raising uumlaut of *eu* > *iu* and not overtly any fronting. In the Björketorp stone inscription, also from Blekinge and dated to the same period (600-650 A.D.), however, the same verbal form occurs in the spelling *barutz*, which shows the Stentoften
form to be either an archaic variant or simply an archaic spelling. The Björketorp form shows the morphological innovation of the third person sg. desinence and thus also loss or removal of the fronting i-umlaut conditioning factor, forcing us to interpret the <u> of the accented syllable to represent [́y]. From these two inscriptions it is then obvious that by the first half of the seventh century in southern Sweden, the process of fronting i-umlaut and of the reduction to zero of final syllable short vowels had passed beyond the stage of minor phonetic variation to full-fledged, phonemicised fronting umlaut. We must assume then from the evidence that the beginnings of fronting umlaut in Norse belongs approximately to the sixth century.79

With this evidence for the beginnings of fronting umlaut in Norse in mind, we should look briefly at the evidence from the Ingvæonic areas. Here we find no overt cases of fronting mutation actually indicated by the spelling of the prominent vowel, as we do in the Stentoften form gestumz. In those several inscriptions from Denmark and northern Germany which Antonsen identifies as "East Germanic" and "West Germanic", we do, however, find cases of reduction of short vowels in final syllables analogous to the reductions exhibited in the Swedish forms

79A possible, though admittedly rather speculative, instance of an earlier indication of fronting umlaut in Norse is on the Tanem stone inscription, from Sør-Trøndelag, Norway, dated to about 500 A.D. The one form of the inscription is mairlingu, which Antonsen interprets as meaning 'female descendent of Marila' and being built from mär-i( *mær-i-)and -ling-ū(- ling-5). Cognate forms are attested in OHG Merling and Go. Merila. While the transposition of <r> and <i> may very well be the result of a mistake, it could conceivably also be an instance of an 'epenthetic' rendering of mutation (cf. our comments on the Beuchte clasp inscription buírso above.
gestumz and barutz. The reductions involve the vowels ā in the
Vimose sheathplate (awings < *awingaz) and the Værløse clasp (alugod < *alugōdaz) inscriptions. Reduction of ī in the final syllable is found twice in the Skodborg bracteate inscription (alawin < *alawiniz, alawid < *alawidiz) and once in the Vimose buckle inscription (a(n)dagast < *andagastiz). In the last form, containing as its second element the same word *gasti, found in the Blekinge form discussed above, we find the one and only case in the Ingväonic inscriptions in which we would have expected to find an instance of fronting umlaut. Of course, the spelling of the root vowel, <a> (i.e., presumably ā) bears no overt sign of mutation.

There are several possible explanations for this lack. Probably the most readily apparent one (aside from claims concerning the 'correctness' of the spelling or, for that matter, of the interpretation of the inscription) would be that no umlaut is indicted simply because fronting umlaut had not yet taken place. This claim would necessarily deny the close connexion between reduction and fronting umlaut. On the basis of cross-linguistic evidence (see section 2.1 above), it may well be better to wonder if umlaut had occurred but for some reason was not graphically rendered in the inscription. Along this line of reasoning, the most obvious possible explanation would be that the rune-carver was writing archaically and 'morphemically': that is, names containing the word gastiz were rather common and perhaps their usual spelling was quite familiar to the carver, who simply rendered the form with the fronted vowel of the spoken language in the traditional way. From the structuralist standpoint as advanced by Antonsen, Penzl and others, this explanation would be
necessary, since reduction of the final vowel would formally bring about the phonemicisation of the fronted root vowel, and in their view would ordinarily be rendered in spelling. But such a formalist approach to the matter fails to recognise the strong possibility that forms with relatively greater mutation and reduction could stand in variation with forms with relatively less. Whatever the formal status of the phones during this period of variation, a mixed rendering in writing (i.e., reduction indicated but mutation not indicated) seems easy to understand.

A further possibility, related to the one just mentioned, is that at the time of the inscription, the fronted vowel of andagast, [æ] was qualitatively intermediate to the nearest qualites with traditional graphic representation [a] <ᚦ> and [e] <ᛒ>. We pointed out above that the rune <ᚦ> in Anglo-Frisian inscriptions was used specifically for the value [æ], reflecting the general shift forward in the quality of PGmc known as Anglo-Frisian brightening. The time of this general fronting of *tiği can not be assigned a specific date but it is generally believed to have been relatively early (Campbell 1959: 52). Obviously, if the general fronting were as early as the third century, the period in which the Vimose inscription was probably made, the argument just given concerning the difficulty of rendering an intermediate sound would seem to be made void. Yet, there remains a subtle and generally unnoticed fact of Old English phonology which needs to be considered here.

The normal reflex under i-umlaut conditions of PGmc *a, pre-OE *æ, was e, as in OE bedd 'bed', betera 'better', hebban 'to raise', est 'again', lecjan to lay', nerian 'to save', rest 'rest', as stated by Campbell.
(1959: 76). Further on in Campbell's discussion of the umlaut of PGmc *a, he makes the following curious statement:

"Before consonant groups and geminates, however, there is a strong tendency to eliminate the umlaut [i.e., of *æ to e], and to restore æ from the analogy of related forms without umlaut, e.g. hæstan bind, mæstan feed on mast, læstan make firm, jeglæstan load, læhman embrace, nælan nail, pæhpan traverse, stæppan stay, stæppan step, with which the related nouns may be compared, and geæfstan arrange, hwættan sharpen, beside hwettan, lættan delay, beside lettan, with which compare the related adjectives" (loc. cit.).

To gain further perspective on this question, we should also present the description of the facts according to Brunner. He states that "das Ergebnis von germ. kurzem a ist teils e, teils æ." More specifically, e is the regular result of fronting i-umlaut of PGmc ā "vor ursprünglich einfachem Konsonanten," offering the following examples: heri(3)an 'to praise', ner(i)3an 'to save', heri 'army', tellan 'to tell', settan 'to set', weccan 'to wake', fecjjan 'to lay' = Go. hazjan, nasjan, harjis, *taljan, wakjan, lagjan (1965: 72). In a note he adds that æ in place of expected e is found in some words on account of analogy between related forms. Parallel to the citation from Campbell above, Brunner continues:

"Vor Konsonantengruppen steht normalerweise æ, doch kommt in einigen Wörtern statt dessen e vor, in etlichen stehen æ und e nebeneinander. æ steht regelmässig in: æsc Esche, ws. ljæsc Blitz, dwæscan ersticken; æsp(e) Espe;"
fæstan anheften, mæstan mästen; hælstan heften; rælsan
tadeln; næjlannageln, bæædan listig; sæðman umarmen u.
ä. Fast regelmäßig steht e in est wieder, rest Ruhe (nordh.
auch ræst, restan ruhen, ezle beschwerlich, esne Diener,
stein, stein Stamm. Neben æ findet sich gelegentlich e in
æfnan efnan ausführen, stæfnan stein leiten, außerws.
in æst jest Gast" (loc.cit.).

The comment Brunner offers on this variation between æ and e in i-
umlaut environments is the following: "Die Ursachen dieses Schwankens
zu erklären ist schwer. Vielleicht liegen satzmelodische Ursachen
zugrunde" (loc. cit.). Clearly, though unable to find any concrete
explanation for the variation, Brunner is not ready to dismiss it as the
result of analogy quite as quickly as Campbell does.

While it is quite reasonable to assume that umlauted vocalisms in,
for example, denominative verbs might be subject to sporadic analogical
replacement with unumlauted vocalisms from the related nouns, it is
unclear why this analogical process would be especially strong in a
specifically phonological environment. The phonological environment in
question is that of the 'heavy' or 'long' syllable, defined as a syllable
containing a long vowel or diphthong or a short vowel and a consonant
cluster or geminate consonant. This environment is uncontroversially
known to have played a rôle in the process of reduction in Germanic.
Specifically, reduction of final nonprominent -u in all of the early attested
West Germanic dialects as well as -i in the continental West Germanic
dialects occurred first after heavy syllables and only much later after light
syllables. Syllabic weight or length is also the environmental feature according to which "Siever's Law" applies.\textsuperscript{80}

Rather than following Campbell and taking syllabic weight as a factor according to which analogical removal of umlaut operated, it seems far better to assume that it was a factor which played a rôle in the actual development of fronting umlaut. Cross-linguistic evidence for the rôle of syllabic weight in umlaut developments can be found in the case of the developments of Sinhalese, mentioned above in section 2.1.3, and also in the development of umlaut in the other Germanic languages to be discussed below. Since syllabic weight also directly affected the rate of reduction of following nonprominent syllables in Old English as elsewhere in Germanic, there is also dialect internal evidence for postulating a genuine phonological explanation behind the tendency described by Campbell in the citation above.\textsuperscript{81}

Given that reduction of final syllable vowels certainly occurred sooner after heavy syllable than after light syllable, it follows that any umlaut effect potentially induced by those vowels subject to reduction

\textsuperscript{80}For an introductory discussion with further references see Collinge 1985: 159ff, who cites (p. 159) Sievers' own formulation of his law: "Im Indischen unbetontes (nicht svaritiertes) i oder u vor einen vocal ist consonant nach kurzer, vocal nach langer silbe ohne rücksicht auf die sonstige accentlage des wor tes."

\textsuperscript{81}For Old English, we can find direct support for this claim in the treatment of the final vowel in the nom./acc. pl. of the neuter a-stems, where we find loss of final -u after heavy root syllables (e.g., wortwords') but not after light syllables (e.g., scipu 'ships', fatu 'vats'). For the reduction specifically of final syllable i we also find evidence: after a light syllable, it is often retained but then as schwa (e.g., wine 'firend'). See Campbell 1959 144ff. for further details and examples.
would also occur sooner in heavy syllables. If we consider, however, the aforementioned umlaut developments in Sinhalese, umlaut seems in that language to have affected vowels in light syllables far more radically than those in heavy syllables: in Sinhalese, raising/lowering umlaut appears to have affected vowels only in light syllables, while fronting umlaut affected those in both light and heavy syllables. Moreover, the assimilations in light syllables were total (leading Geiger (1938) to treat the process as something other than umlaut *tut court) while those in heavy syllables were only partial. The development of PGmc *ē in Old English is somewhat reminiscent of the Sinhalese treatment, in that fronting umlaut in Old English seems to have affected vowels in light syllables more strongly than those in heavy syllables. Thus, while it follows logically from the general relationship of umlaut to reduction and the chronology of reduction in Germanic that umlaut in heavy syllables developed more rapidly than in light syllables, it is also reasonable to assume that the actual mutation of vowel quality is stronger in light syllables than in heavy syllables.

The conclusion to be drawn from these ideas is that there is a relationship between the degree of mutation and the relative length of time that the umlaut affect is operative: in other words, the sooner the loss of the umlaut conditioning factor, the less the actual degree of mutation. If we bear this in mind, an explanation of the Old English development of PGmc *ē in umlaut position becomes apparent. First, we can assume that fronting i-umlaut of PGmc *ē in heavy syllables perhaps began before i-umlaut in light syllables did and heavy syllable mutation certainly ended
before light syllable mutation. Second, we can assume that the lag in time between reductions before heavy and light syllables accounts for the further mutation of ā in light syllables. This view of i-umlaut in Old English has two direct implications for the relative chronology of that language's prehistoric phonological development. First, it implies that the development of "West Germanic" consonant gemination postdated or, at the very least, cooccurred with the beginnings of fronting i-umlaut. Second, it implies that the pre-Old English general fronting of PGmc *ā may well have also postdated the beginnings of fronting i-umlaut. The relative sequence of developments envisioned here can be represented as follows:

**HEAVY SYLLABLE DEVELOPMENTS**

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>E.g.</th>
</tr>
</thead>
<tbody>
<tr>
<td>*a</td>
<td>*a +fronting</td>
<td>*æ</td>
<td>craft</td>
</tr>
<tr>
<td>*a + i-uml</td>
<td>*æ/(e)</td>
<td>*æ/(e)</td>
<td>fæsten, ðæst/rest</td>
</tr>
</tbody>
</table>

**LIGHT SYLLABLE DEVELOPMENTS**

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>E.g.</th>
</tr>
</thead>
<tbody>
<tr>
<td>*a</td>
<td>*a +fronting</td>
<td>*æ</td>
<td>sæt</td>
</tr>
<tr>
<td>*a + i-uml</td>
<td>*e</td>
<td>*e</td>
<td>here, tellan</td>
</tr>
</tbody>
</table>

In addition to these developments, we should also add the (West Saxon) treatment of the reflexes of PGmc *ā after palatal consonants (c, ĝ, sc):

- *a after pal. cons.  *ea
- *æ after pal. cons.  *ie
- *e after pal. cons.  *ie

E.g. jeat, ceaster
E.g. jest
E.g. ciele

Traditional analyses of the chronology of pre-Old English sound changes places palatalisation of PGmc *k and *g after the general fronting of PGmc
*ə* and before the inception of *i*-umlaut, on the basis of the fact that these consonants ultimately show palatalisation before the reflexes PGmc front vowels and PGmc *ə* (including the umlauted reflexes of this vowel) but not before the front vowels which develop from the *i*-umlaut (and ultimately unrounding) of PGmc back vowels (*œ*, œ, ū, ū). This chronology is obviously at variance with the one presented here, but it is by no means the only way to account for the consonantal palatalisation before *ə* but not before fronted back vowels. The traditional view assumes that the split in the treatment of the consonants in question involves a fronting of originally specifically velar consonants. Thus, the process is conditioned by frontness of the following vowel and must occur after the fronting of *ə* but before the fronting of the other vowels through umlaut. It is, however, not at all certain that PGmc and in particular pre-Old English *k* and *g* were specifically or strongly velar consonants. First of all, with regard to the conditioning of breaking, these consonants do not exercise the velarising effect that *h* [X] does on preceding vowels.\(^{82}\) Second, it is interesting to note that in the Anglo-Frisian development of the futhark, the old symbols for PGmc *k* and *g* are maintained in use but only for the palatalised variants, while new runes were invented to render the non-palatal or velar variants (Brunner 1965: 167, Page 1973: 45-46). In light of these facts, it seems worthwhile to consider the possibility that in pre-Old English and, given the general similarity of developments

\(^{82}\)This point is argued at length by Howell (in press, section 2.3), though we should note that he views the differing behaviour of these consonants with regard to the conditioning of breaking as a matter of [X] not having been velar: in his view, the breaking effect of [X] was specifically dependent upon its weakening in postvocalic position to [h].

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in Frisian, generally in Ingvæonic, the neutral realisations of PGmc *k and *g were not velar but rather somewhat palatal. Thus, the traditional view of the split of these consonants needs to turned on its head and stated thus: PGmc *k and *g were or became in Ingvæonic more or less palatal in quality but when followed by back (and esp. rounded) vowels or, from an acoustic standpoint, grave vowels, they were realised with a specifically velar articulation. In this way, the development of the consonants before low vowels is not necessarily linked to their fronting but is the default case, as it were. Consequently, there seems to be little reason to insist on a fixed chronological relationship between palatalisation, fronting of *a and i-umlaut: we can only say that PGmc *k and *g remained specifically velar in spite of the fronting effect of i-umlaut on original back vowels.

The complex development of PGmc *ā in Old English seems to find an explanation best if umlaut is seen as having preceded or as having been roughly contemporary with some of the other sound changes which occurred before the onset of the Old English attestation in the seventh century. In particular, the behaviour of *ā in heavy syllables and subject to i-umlaut suggests that i-umlaut occurred before consonant gemination.

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83 A good parallel case lends support to this view: in the early development of French, *k and *g were palatalised when followed by *a. While it is true that *a in open syllables developed to è (e.g., mer < *mare), a front vowel, which could obviously serve as a conditioning of a palatalisation, there is no evidence that *a in closed syllables was ever fronted (e.g., chanter < cantare, chat < cattus). Moreover, the fronting was also conditioned by the first element of the diphthong au which shows in its ultimate development a tendency to become a back vowel (e.g., chose < causa, joie < gaudìa). If these consonants were originally specifically velar, it is hard to imagine from an articulatory standpoint how they might have been fronted by a simple process of assimilation.
and, moreover, that the fronting effect in heavy syllables was less strong than in light syllables. The variation observed in Old English between forms with æ and forms with e finds a reasonable explanation if we posit a pre-historic period, during which there were three reflexes of PGmc *ɜ:

- a: generally, without umlaut
- æ: in heavy syllables with umlaut
- e: in light syllables with umlaut

Perhaps in some cases, umlaut developed in heavy syllables all the way to e when the neighbouring consonantism was especially favourable to the fronting. This consonantal co-operation seems to have been the case of the West Saxon heavy syllables with initial palatal consonants, as in ȝiest. To account for the apparent 'phonological' conditioning of the analogical process described by Campbell above, we propose that the analogical levelling came about during the period after the definitive reduction of the umlaut conditioning factors after heavy syllables but before their definitive reduction after light syllables. In this way, the analogy can be seen to have been genuinely morphological:

- aCC/æCC(i) with general fronting → æCC/æCC
- aCC/eCC(i) with general fronting → æCC/eCC by analogy æCC/æCC
- aC/eCi with general fronting → æC/eC(i)

It should noted here that this particular behaviour of *ɜ in heavy syllables is not paralleled in the developments of the other vowels.

On the basis of the foregoing discussion, we can conclude that it is quite possible that fronting i-umlaut began its development in Ingvæonic already during the period of the early runic inscriptions. The evidence
from the inscriptions itself points to this conclusion by showing that the development of raising/lowering umlaut had run its course and become nonautomatic during the period, and by showing that reduction of final syllable vowels that conditioned fronting umlaut had, at least sporadically, begun. With regard to the runic form *a(n)dagast*, which apparently fails to show any fronting despite loss of the conditioning factor, we argued above that there is ample reason to believe that if the root vowel of the second element of the form *a(n)dagast* was fronted through *i*-umlaut, it nevertheless would most likely have been rendered graphically with the rune <r>.

The views expressed here find striking support in the similar views recently expressed by Collier (1987), who approaches the issue from a different perspective. Collier's concern is the traditional chronological ordering of (pre-)Old English breaking and *i*-umlaut.\(^{84}\) As in the cases of other sound changes discussed above, the traditional view found in all the handbooks has been that breaking preceded *i*-umlaut, as stated by Brooks (cited by Collier 1987: 33): "Front mutation is later than fracture, as is shown by such forms as WS. *iel'dra* (comp. of *ea/d*.... The development of

\(^{84}\) The term 'breaking' in Old English studies refers to consonantally conditioned changes affecting the front vowels æ, æ, ē, ē, i,i. Campbell describes the development thus: "The consonants which cause these changes are (1) *l,r, X* when they are followed by a consonant, (2) single *X*, and (3) single *u*. Before these consonants and consonant groups front vowels are either retracted to whichever back vowel of the language is nearest in height (so that æ > a, and occasionally e > o, i > u), or are protracted from the following consonant by the development of a vocalic glide, a process known as Breaking or Fracture" (1959: 54). Some examples of the change are *beard, heal'dan, meah* (*æ > ea*; *feoh'tan, weorpan* *seol'h* (*e > eo*; *tioh'hian, Peohtas, meos* (*i > io/ea*).
the stem vowel has been $a \rightarrow \varepsilon \rightarrow ea \rightarrow ie$; if front mutation had been earlier than fracture the development would have been $a \rightarrow \varepsilon \rightarrow e \rightarrow (eo)$. Collier shows quite convincingly that there is absolutely no need to posit the ordering of 1) breaking 2) i-umlaut, and, moreover, by positing a qualitative difference between the reflex of PGmc _DOM_ and the reflex of PGmc _ā_, a better account of the breaking developments can be offered. While the traditional view is that *"_broke to _jo_ and _e_ broke to _eo_, Collier gives clear examples of instances of umlauted *_a_ which, when broken, yielded _ie_, as in _bieldan_ < *_baljian, hliehhcan_ < *_Xlaksjan_, as did the normal breaking of *_i_, as in _hiertan_ < *_hirtan_ < *_Xertjan_, _wierd_ < *_wirpp_ < *_werpīd_85

In Collier's view then, breaking involved the following developments (1987: 42):

\[
\begin{align*}
*\acute{i} & \rightarrow /i/ \quad \text{---->} \quad /\acute{i}/ \\
*\acute{a} + \text{uml} & \rightarrow /\varepsilon/ \quad \text{---->} \quad /\acute{i}/ \\
*\ddot{e} & \rightarrow /\varepsilon/ \quad \text{---->} \quad /a/ \\
*\ddot{a} & \rightarrow /\varepsilon/ \quad \text{---->} \quad /\acute{a}/86
\end{align*}
\]

The qualitative difference between the reflex of PGmc _DOM_ and the reflex of PGmc _ā_ is well known from the history of Old High German, and will be discussed at length below.

Collier concludes that "i-umlaut preceded breaking, perhaps by as much as two centuries, and that this entails that the breaking of /e/, i.e. 'umlaut- _e_ ', in W-S was /\acute{i}/, represented orthographically as <ie>" (p. 43).

85According to Collier, the standard textbook examples of breaking of *_ito _jo_ (later becoming _eo_), _mex_, _teohhian_, and _Peohtas_ are all of questionable relevance, since the first two may have had *_e_ and the third is a loan word (1987: 43).
86N.B. Collier uses the symbol of an inverted <a>.
Concerning the absolute date of *i*-umlaut, he states "there seem strong grounds for supposing that those North Sea Germanic tribesman who invaded post-Roman Britain and are known to us as the Anglo-Saxons brought a phonetically fully developed form of *i*-umlaut with them" (p. 35). The arguments brought forward here concerning both the runic evidence and the development of umlauted *æ* in heavy syllables in Old English, together with Collier's analysis of breaking, point overwhelmingly to the development of *i*-umlaut in Ingvæonic in the third or fourth century A.D.
2.3.3 *Raising/Lowering Umlaut in Northwest Germanic*

The limitations of the runic corpus make it possible to draw only rather general conclusions about the operation of raising/lowering umlaut in the non-East Germanic dialects of Germanic. As regards the umlaut process itself, we are only able to ascertain that by the time of the onset of the older futhark transmission, the umlaut conditioned (V-V) raising of PGmc *œ* to *i* and the lowering of PGmc *u* to *o* were fully developed. In the case of the latter change, we can be reasonably certain on the basis of the Gallehus horn inscription that the V-V raising relation had passed from automatic to nonautomatic status. I have presented, moreover, arguments in support of the positing of the transition from raising/lowering umlaut to fronting/backing umlaut already in the course of the beginning or middle of the older futhark period but only in the Danish/North German area, that is, in the Ingvæonic dialect area of Northwest Germanic. The transition to fronting/backing umlaut in the Scandinavian or Norse dialect area is also evidenced in the older futhark inscriptions but appears to have occurred toward the end of the period, perhaps as much as two centuries later, toward the period of transition to the younger futhark.

The runic evidence is seriously wanting in two respects: first, the very few forms which show raising/lowering changes of PGmc short vowels are an insufficient basis for the analysis of the interaction of vocalic and consonantal conditionings. Second, the runic evidence cannot be taken, as often is done, as an indication of the state of developments in an alleged proto-language for all of the surviving Germanic dialects, thus including the South Germanic dialect group, since, as I have repeatedly
emphasised here, the inscriptions, with but a few exceptions, are all from areas known to have been settled at the time by North Sea Germanic (Ingvæonic) and North Germanic peoples. The few inscriptions which, from the location of their discovery, can reasonably be considered to have been South Germanic, offer very little linguistic information. Consequently, the course and rate of umlaut development in that branch of Germanic shall by necessity have to be reconstructed on the basis of the information from its later, medieval attestations and by comparison with what is known of the other, earlier attested branches. We will first examine further the umlaut developments in the North Sea and North Germanic dialects and then look at the chronology and pattern of the South Germanic developments in the perspective of those of the more fully attested branches.

One of the peculiar whims of chance in the runic corpus is that the majority of the forms in which a-umlaut could have occurred overlap with consonantal enviroments in which, on the basis of other Germanic evidence, the same lowering effect could well have been expected. Specifically, these forms show consonantal clusters intervening in the V-V relation of -rC- or -XC-, as in worhtio, horna, dohtriz and the possible consonantal conditioning factor of -r- occurs singly in the form boro. As briefly discussed above, -r and -X(and -X') represent the dominant lowering factors in Bible Gothic and (especially in clusters) also in the dialects of Gotland and Östergötland in Sweden (cf. discussion in section 2.2 above). In these last dialects, -XC- is also a conditioning environment for the lowering of PGmc *u to o, which makes it necessary to consider at
least the possibility that the other instances of lowering in the early runic corpus, namely the Gallehus inscription's *boltijaz and the forms of the word 'wolf' (for example, *-volafaz), also involved some element of consonantal conditioning.

If we turn, however, to the later evidence of the Ingvæonic dialects, we find that there is no reason to assume that */C*/ was an active or strong lowering environment. Indeed, the lowering of PGmc *u to o in Ingvæonic seems to have been inhibited by a relatively broad range of consonantal environments and can therefore be characterised as having operated in those dialects only to a limited degree. Thus, in Old English and Old Frisian the environments in which *u was preserved included not only the environments in which there was generally a raising influence in Germanic, i.e., before a following l, ĭ, ĭ (i-umlaut conditions) and before a checked nasal, but also in the environment before a single, unchecked nasal and after a labial consonant. In the last case, examples are particularly numerous in which the consonant after the prominent vowel is l. The development of PGmc *u in (Pre-)Old English is summarised in the following table (cf. Campbell 1959: 43-44, Luick 1914-21: 104-108):
DEVELOPMENT OF PGMC. ū in PRE-OLD ENGLISH

PGmc /u/ > [u] [o]  [CuCi  ] CoCa  
[CuÇi  ] CoCo  
[CuCu  ] CoCe  
[CuNCV  ]  
[CunV  ]  
[ CumV  ]  
[C(lab)uC ]

EXAMPLES OF PGMC *ū > ō
- ȝod'god', ȝold'gold', ȝeoc'yoke', coren'chosen', holpen'helped
  (part.)

EXAMPLES OF PGMC *ū > ū (consonantal interference with a-umlaut)
- CuNCV: swummen'swum', sprungensprung', hund'hundred; dog'
- CunV: bunor 'thunder', huniæ (k hunæ) 'honey', wunian (wunap, wunode) 'dwell' (N.B. initial labial cons.), sunu'son' (N.B. -u)
- CumV: fruma 'beginning', ʒuma 'man', sumor 'summer', sum (k suma) 'some'
- C(lab)uC: bucca 'buck', but(e)re'butter', full 'full', fuzol 'bird', wulf 'wolf', wulle 'wool' (but folk 'folk')

The developments in the prehistoric stages of Frisian appear to have been essentially the same as in Old English, although, given the late attestation of Old Frisian, there exists a greater possibility that secondary phonological (e.g., open syllable lengthening and lowering) and morphological (e.g., leveling in the strong verbs) changes intervening between the period of raising/lowering umlaut and the actual attestations of the language have to some greater or lesser degree altered the original distributions of the short nonlow mid vowels. The following examples will serve to illustrate the Old Frisian treatment of PGmc *ū (Heuser 1903: 7-8, Steller 1928: 11-12):
EXAMPLES OF PGMC *ū> ŏ
• god'god', gold'gold', dolch '(stab-)wound'

Examples of PGmc *ū> ū (consonantal interference with a-umlaut)
• CuNCV: swummen'swum', sunden'found', hund'dog'
• CunV: thunor (also thonar) 'thunder', hunig 'honey', unat 'dwells (3rd sg. prs.)', suno, sune 'son'
• CumV: sumer 'summer', sum 'some'
• C(lab)uC: but(h)ere 'butter', fuil 'full', fugel 'bird', wulf 'wolf', folk (also folk) 'folk'

With regard to their treatments of PGmc *ē and *ũ, English and Frisian again show an essentially common development. In the case of PGmc *ē raising under i-umlaut conditions and before checked nasals is, with the occasional analogical exception, wholly regular. In addition to being raised in these environments, PGmc *ē also seems to have perhaps undergone raising before single -m-, though not before a single -n- in both dialects. The evidence for these developments is, however, extremely limited. For the raising before -m- the only form cited in the handbooks is the infinitive of the verb 'to take', OE niman, OFrs nima (but also occasionally nemâ), while the counterexample to any raising effect of -n- is OE cwene 'woman'.

From the above discussion of the North Sea Germanic treatment of PGmc *ũ it should be clear that the a-umlaut lowering can be considered to have been general but to have been inhibited by a number of reasonably well-defined consonantal environments. A parallel a-umlaut lowering of PGmc *ũ is, on the other hand, not attested in English and Frisian with but

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87 See, for example, Campbell (1959: 43-44), Luick (1914-21: 103), Brunner (1965: 53).
a very few exceptions. According to Campbell (1959: 43), "[i]n OE this change is shown only by the common Gmc. words *nest* nest, and *wer* man (Lat. *nidus, vir*), and by *spec* bacon, beside *spic*" (cf. Luick 1914-21: 108-109). Campbell goes on to state that instances of the *a*-umlaut lowering of *v* to *e* is more common in the other West Germanic dialects, including Frisian, for which he offers the following examples: *leth* limb, *quec* cattle, *bevja* shake, *fretia* make peace, *levath* he lives, beside *lith* &c." (loc. cit.). Whether these examples can be taken as evidence of a genuinely old difference in the development of *a*-umlaut between Old English and Old Frisian should, however, be doubted. As noted above, the relatively late attestation of Old Frisian (thirteenth century) leaves ample room for secondary changes to have disturbed an earlier, common North Sea Germanic distribution. In particular, the lengthening and lowering of *i* in open syllables can be seen as the source of some of the forms Campbell cites (cf. Heuser 1903: 7). Instances of *e* in closed syllables may then be secondary extensions of an open syllable variant in paradigmatically related forms (e.g., from plural to singular). We must, moreover, bear in mind that by the time of the production of the earliest surviving Frisian texts, the language had already long stood under strong lexical (in *rl*-agentivity) influence from neighbouring continental Germanic languages, by means of which some words showing phonological developments deviating from the naive Frisian pattern may have entered the language. The secondary nature of these alleged instances of *a*-umlaut of *v* offered by Campbell is made more likely by the fact that virtually all (except the apparently pan-Germanic words *nest* and *wer*) occur alongside forms with *i* maintained.
The last aspect of the short vowel raising/lowering changes to be considered is the potential raising effect of nonprominent *u (i.e., u-umlaut) on *e and its preserving effect on *u. In the first case, Campbell offers a clear statement: "This change [e > i before u] is unknown in OE and OFris, but it is frequently found in OS and OHG...," as can be seen from the differing treatments of cognates such as OHG mitu versus OE medu (1959: 42). Beeler (1966: 474), Hock (1973: 329) and Cercignani (1979: 75) come to the same conclusion with regard to the situation in Old English but do not consider the Frisian situation.\(^8^8\)

In the case of the preserving effect of nonprominent *u on PGmc *u, the evidence points strongly to its operation, though a possible exception is found in both Old English and Old Frisian. The exception is OE nosu, OFrs nose,\(^8^9\) which contrasts with a number of cases in which *u appears to have been preserved on account of the following *u, though in many cases the preservation is equally attributable to one of the consonantal environments discussed above: OE duru 'door', cudu 'cud' (-ya stem), wudu 'wood' (N.B. initial labial cons.), sunu 'son' (N.B. intervening -n-);

\(^8^8\)E.g., Hock (1973: 329): "Old English also shows evidence for a retention of that contrast [of IE/PGmc /e/ and /i/ before /-u/]. It is true that u-stem doublets like fre(o)bu, fri(o)bu do occur, but they can well be accounted for by the paradigmatic leveling suggested by Marchand [1956: 349, 350]. On the other hand, however, early Old English forms like geo/u, the anglo-Saxon name for the rune g, as well as Merc. beoru (vs. bindu, bindo), with eor rather than ıo before u, seem to indicate quite clearly that e did not merge with /before u."\(^8^9\)Campbell (1959: 43, fn., 247) suggests that the explanation of the deviant development of this form may be that it is "in origin a dual formation, [with the final vowel deriving from] I-E -ouv, Gmc. -a the root vowel of nosus supports this view..."
OFrs *dure, *dore 'door', *sune 'son'. Thus, with regard to the raising/lowering changes of the inherited Germanic short vowels, English and Frisian can be considered to have essentially one and the same development.

Since the details of the North Germanic developments lie outside the central focus here, I will limit myself to a brief description. As in North Sea Germanic, the raising of PGmc *e to *i proceeded regularly under conditions of i-umlaut and before checked nasals and requires no further discussion. The North Germanic development of a-umlaut lowering, however, deserves some comment. First, as regards any vocally conditioned lowering of PGmc *i to e, North Germanic shows a development fairly similar to that of North Sea Germanic: that is, clear cases of a-umlaut lowering of *i are relatively few and include at least one of the so-called pan-Germanic cases mentioned earlier, namely ON *vere 'man'. In addition to this form, however, there are some further instances of lowered *i but these, at least in the view of Hesselman, are wholly limited to light-stems (-VC-) and (in most cases) involve the coöperation of the consonantal environment, specifically, a following -r or -r̥, as in ON *neðan 'from below', gleða 'slippery, smooth' (cf. gliða 'to glide').

Noreen (1970: 53-54) offers possible examples from Old Norwegian and Old

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90 Hesselman's (1945: 20) comments on the a-umlaut lowering of *i are the following: "A-omljudet av *i > e är ett ännu outrett kapitel. Exemplet i de nordiska språken är för och delvis osäkra, likaså i fornengelskan och i de nordliga kontinentalgermanska språken; talrikare är fallen i de sydligare tyska dialekterna. I de jämförelsevis säkra nordiska exemplen står e < *i kort stavelse framför r eller ɐ följd av a. Men erinra om den särskilt i Norge vanliga dialektala övergangen av *i > e--även y > ɵ, u > ɵ etc.--framför ɵ och om de vanliga förändringarna av vokaler framför r."
Icelandic (i.e., West Norse) with other consonantisms, such as \textit{vega} beside \textit{viga} 'to fight' and \textit{presa} beside \textit{prifa} (Ger. 'zanken').

These last possible examples of a-umlaut of PGmc \textit{"a}\textsuperscript{1} are, however, perhaps specifically dialectal West Norse instances, a possibility which seems likely when we consider the evidence for the a-umlaut lowering of PGmc \textit{"U}. In this case, we find a general split between West Norse, on the one hand, in which the lowering of \textit{"U} to \textit{\ddot{o}} has been generally carried out, and most of East Norse, on the other hand, in which the treatment of \textit{\ddot{u}} resembles to some degree the treatment found in the North Sea Germanic dialects (cf. Benediktsson 1967: 184ff.; Haugen 1982: 35). This dialectal feature within North Germanic, though given little attention in most of the handbooks, has received attention from Danish dialectologists and historical linguists (e.g., Skaustrup 1944: 36-37). The reason for their interest in the matter is that, with regard to this and a number of other features, the Danish dialects of Jutland, and most especially those of northern Jutland, often agree with the (West Norse) Norwegian dialects across the Skagerrak rather than with those of the Danish islands and southern Sweden. The lack of attention given to the question in the handbooks seems to be a result of the received interpretation of the nature of the difference, namely to attribute all dialectal differences in the distribution of \textit{u} and \textit{o} to the process of analogical leveling. Thus, West Norse is presumed to have favoured in analogy the root vocalism \textit{o} while East Norse favoured \textit{u}.\textsuperscript{1}

\textsuperscript{1}The notion that the difference is essentially a question of dialects favouring different forms in the process of paradigmatic leveling has been applied to the Danish dialectal developments by Skaustrup (loc. cit.), though in some respects the wording is ambiguous and seems to imply dialectal differences in the actual degree of umlaut development as well as differing
Without denying the possible rôle that analogical processes may have had in contributing to dialectal differences of distribution, we must conclude that in the East Norse dialects, certain consonantal environments have inhibited the lowering effect of a-umlaut, as described by Hesselman (1945: 22-23). The consonants with the strongest inhibiting influence are labials (as in North Sea Germanic), medial clusters with -/- and velars, while in particular and dentals in general have been most favourable to the lowering. A high degree of local variation, however, makes a simple formulation of the environments and their interrelationships impossible.

patterns of leveling: "For a-omlyden af > σer stillingen i Norden den, at der er mere gennemført, jo længere man kommer til vest. Forngnutisk har den ikke, i jysk og norsk islandsk er den så at sige gennemført. Her ved får vi da inden for dansk område et tydeligt dialektskil..." Skautrup (loc. cit.) offers the following examples: Old West Danish brot, bothæn, both, hol, bollen, golf; Old East Danish: brutit, buthit, buth, hul, bullæn, guif; Mod. Standard Danish brut, but, bud, hul, bulen, gulv. Skautrup sees in this dialectal split in Danish a reflexion of old tribal settlement patterns, the areas settled by the Danes proper (the eastern islands and Skåne) showing the East Norse treatment of *ū and the areas which in his view were originally settled by the Heruli, namely Jutland and Fyn, showing the West Norse treatment.

The question of the development of *ū in Danish deserves a thorough investigation, which, to my knowledge, has yet to be carried out. If the geographical distribution of the two treatments indicated by Skautrup (Jutland/Fyn vs. eastern islands) can ultimately be shown to go back to the period of the tribal migrations and just after, it is difficult to reconcile the historical and linguistic facts with Skautrup’s conclusions concerning the Danes and Heruli. A more likely explanation is that in the wake of the Ingvæonic emigration from the area, the Danes settled the eastern islands heavily while in Jutland their settlement was less intense and supplemented by other NGmc groups, some coming perhaps from southern Norway. Since the period of the NGmc settlement of Denmark dates roughly to the time that a-umlaut was operative in NGmc, the dialectal distribution of u and σ in Danish may not reflect tribal settlement patterns directly but rather the results of the spread of features (i.e., the a-umlaut of *ū) in the period following the NGmc tribes’ arrival.
without a more detailed study.\textsuperscript{92} I should note that from the standpoint of

\textsuperscript{92}Andersen (1986: 121-122) gives the following citation (translation by Andersen) from Johs. Brøndum-Nielsen's \textit{Gammeldansk Grammatik} (§56, note 3): "Very likely the different character of the neighbouring sounds (consonants) in the various words decided which of the two vowels (o or u) came to prevail. Thus o was often selected before supra-dental \textit{r}, especially in the combination \textit{rth}, \textit{rt}, \textit{rs}, \textit{rn} (and before the supradental clusters \textit{lk}, \textit{lm}); conversely, \textit{u} was preferred after the labial or labialized consonants \textit{b}, \textit{p}, \textit{f}, \textit{m}, \textit{g}, \textit{r}, \textit{h} and before dental \textit{l} (\textit{ld} etc.), the guttural fricative \textit{gh} and (in words with short root syllables) when the following syllable has \textit{u} or \textit{i}.

Andersen himself rejects totally the notion of an a-umlaut in early North Germanic and argues instead for only consonantally conditioned lowering of *\textit{U} ("...the concept of a-umlaut should be replaced by the idea of a very old lowering of \textit{u} to \textit{o}" (1986: 122)), and further: "With much reservation I feel tempted to make the following suggestion: if \textit{i}-mutation of \textit{e} to \textit{i} and \textit{a}-mutation are deleted from our inventory of umlaut and breaking phenomena, it would perhaps be possible to date these important sound changes to the later Primitive Norse period. The change of \textit{e} > \textit{i} could be seen as a case of harmonisation..." He also makes the following statement (1986: 121): "It is tempting to ask why there are no instances of \textit{a}-mutation of long \textit{u} in view of the fact that the long front vowels are \textit{i}-mutated? To the best of my knowledge no scholar has pronounced any statement on this matter. I wonder if this does not contribute to making \textit{a}-mutation rather a dubious affair."

While Andersen's recognition of the importance and indeed (in some dialects at least) primacy of consonantal conditioning in the development of \textit{o} from *\textit{U} is reasonable, his rejection of an early a-umlaut in favour of a later "harmonisation" is excessive and based on certain misconceptions regarding umlaut phenomena in general. First, his use of the term 'harmonisation' is, as discussed in section 2.1.1, symptomatic of unclear notions of the differences between umlaut and vowel harmony. Second, his reasoning is built on the assumption that consonantal and vocalic conditioning are somehow inherently separate and clearly delineated, a notion against which I have argued above. Finally, the claim concerning the lack of an a-umlaut of long \textit{u} is indicative of the failure to distinguish between the raising/lowering umlaut, which only affected PGmc short vowels, and the later fronting/backing umlaut, which affected long vowels (though not always to the same degree) as well as short vowels. This compression of the two kinds of umlaut into one is prevalent in Norse studies and seems more a reflexion of Neogrammarian traditions than of an acceptance of the views of Antonsen.
dialect geography, the strength of the VC relation in the development of *u in the dialects of eastern Denmark and southern and eastern Sweden is not surprising in light of their (original) geographical position between North Sea Germanic on the one hand and Gutnish on the other.

A last issue concerning the raising/lowering developments in North Germanic is that of the question of any raising influence exercised by posttonic u. Here again, the North Germanic situation is quite similar to that found in the North Sea dialects. While it is reasonable to assume that there was some preserving influence exercised by u on preceding, prominent *ū which, like the lowering influence of nonprominent -a, was subject to interference by the intervening consonantism, there is no real evidence for any active raising influence exercised by -u on a preceding *ē. Beeler (1966: 473) offers the following comments on the Norse developments as reflected in Old Icelandic:

"We find two such reflexes [of PIE /e/ in environments other than those before -nC- and -Ci(y)-]: (1) PIE /e/ is Icel. /e/: bera< PIE *bera-, eta< PIE *et-, ek< PIE *ek-; and (2) /ja/ ~~/j̅a/: jarðar, jarð, cf. MIrish ert, Gk. éra; fjøðr 'a tree', OHG fereh, Lat. quercus; bjørn 'bear', cf. Lith. bėras 'brown'; bjørk 'birch', cf. Lith. bėrzas, id.... [W]herever Icelandic has -ja- (or -j̅a, which is found where Proto-Norse had -u- in a following syllable) in words of IE origin, these words there have /e/. And in no single instance is PIE surely reflected as Icel. ja. Particularly significant is the maintenance of the contrast of /i/ with /e/ before -u-: the IE word for
'mead' may be certainly reconstructed as *medhu-*, and Icel.
has mjöðr; whereas the IE term for 'tree' that appears in Mod.
Eng. 'wood' is set up as *vidhu-* and this, which constitutes
almost a minimal pair with the preceding, is Icel. viðr.93

The development of raising/lowering umlaut in North Germanic, aside
from a possibly more consistent development of a-umlaut lowering, but
then only in West Norse, shows in general very much the same results as
in North Sea Germanic.

We now turn to the last of the 'old' dialects, namely Old High
German and Old Saxon. Before discussing the details of the umlaut
developments of these dialects, however, a few words must be said about
the relationship of Old Saxon to Old High German. The exact place of Old
Saxon within the early dialect groupings of Germanic has long been
discussed, with opinions falling generally into two camps. On the one
hand, there are those who take Old Saxon, as represented in the major
manuscripts of the Heliand, as the forerunner of the modern Low German
dialects and the northernmost member of a continental, 'deutsch', dialect
continuum. On the other hand, there are those, most notably Erik Rooth,
who see the Old Saxon of the Heliand as a largely literary dialect, strongly
under the influence of more southerly German dialects and, in particular,
of Frankish. For Rooth, Heliand Saxon stands in contrast to the language
of the the minor Old Saxon documents in which there appear a great many
features which point to the language's inclusion in the North Sea or
Ingvæonic dialect group. This view seems to have received further support

93Cf. Benediktsson's (1967: 187-192) detailed discussion of the change in
question, where a similar conclusion is reached.
in the recent discovery of a strongly Ingvæonic Old Saxon fragment of the Helian (the Straubing manuscript). Though the question of the dialectal identity of Old Saxon is obviously of central importance to our understanding of the early dialectal configuration and development of Germanic, it seems reasonable, especially for our present discussion, to treat Helian Saxon simply as another South Germanic dialect, albeit one somehow representing a transitional one between North Sea and South Germanic.

Once again, we can begin our discussion of the raising/lowering umlaut by stating that the i-umlaut raising effect is consistently reflected in Old High German and Old Saxon as well. However, whereas we found only relatively minor differences of detail between the various North Sea and North Germanic dialects with respect to the a-umlaut lowering effect and the u-umlaut raising effect, we find a sharp contrast between the Old High German and (to a lesser degree) Old Saxon treatments on the one hand and the North Sea and North Germanic treatments on the other hand.

The development of a-umlaut lowering in Old High German shows a far greater degree of regularity than it does in the North Sea and North Germanic dialects. Specifically, we find in Old High German very little, if any, consonantal interference in the lowering of PGmc *ū to o, and, with but relatively few exceptions throughout the Old High German dialects, V-V sequential relations reign in the distribution of u and o.94 This general

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94For a list and brief discussion (with further references) of the exceptions to the expected V-V developments, see Braune/Eggers (1987: 34). It should be noted that among these few exceptions are some which point to a
primacy of the V-V relation, illustrated in the following table, should be compared with the considerable degree of consonantal interference in Old English, illustrated in the table presented above.\footnote{This table is based on the one presented by Russ (1978: 40).}

**REFLEXES OF PGMC Ū IN OLD HIGH GERMAN**

<table>
<thead>
<tr>
<th>PGmc /u/</th>
<th>[u]</th>
<th>[o]</th>
</tr>
</thead>
<tbody>
<tr>
<td>CuCu</td>
<td>CoCa</td>
<td></td>
</tr>
<tr>
<td>CuCi</td>
<td>CoCo</td>
<td></td>
</tr>
<tr>
<td>CuÇi</td>
<td>CoCe</td>
<td></td>
</tr>
<tr>
<td>CuNCV</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This singularly regular primacy of the V-V relation in Old High German appears to point to a comparatively stronger a-umlaut lowering effect in this language than elsewhere in Germanic, an appearance which is further borne out by the fact that, in sharp contrast to the other Germanic languages, Old High German shows a frequent but by no means absolutely regular development of the a-umlaut lowering of ū to e. Thus, while North Sea and North Germanic show only a few isolated cases of this lowering (e.g., OE wer, nest; ON verh), instances of this lowering in Old High German are found in a wide variety of morphological categories (Braune/Eggers 1987: 32):

1) adjectives: *quec* (cf. OE cwid), *sméckar* (cf. OE smicer).
2) class 2 and class 3 weak verbs: *klëbhēn, lēbhēn, schwēbhēn, gewōn, jēccōn.*

consonantly conditioned lowering under the influence of -r and -k'. Of course, exceptions due to analogical extension of one or the other vocalism throughout (especially nominal) paradigms occurs in Old High German as well as in all other dialects.
3) nouns: stēg, stēga (cf. stīga, wēhha (cf. OE wīhā, lēbara, zēbar (cf. OE tīfē, lēsa, spēc (cf. OE spīc/spec).

Despite the frequency of cases of a-umlaut lowering of *ī in Old High German, there are, however, also many cases in which a-umlaut conditions existed but the change did not operate, as in the following examples (Braune/Eggers loc. cit., Benediktsson 1967: 184):

1) nouns: fisk (< *fiska, wisa, snita, skif/skēf, wijjōd.

2) weak verbs: hlinēn, bibēn (cf. OE bīlan, skidōn.

3) past participles, class I strong verbs: gibijjan, gisnitan.

Old Saxon generally does not show a-umlaut lowering of *ī, as in bītar, fisc, hlinon, likkon, nīdār, quic, quicon, skip, though, as Gallée (1910: 51) notes: "Vereinzelt finden sich formen mit e neben denen mit i," e.g., lebot/libot, leccodon/likkodon, betrun (for expected bittrun), quecsilbare etc.

The overall picture of the development of *ī before a following low vowel in Germanic is thus quite complicated, as summarised by Benediktsson (1967: 184):

"There are... distinct traces of this change [ *ī > e] but only in a very few words is it general in the entire Germanic area (*wera- < PIE *wiro-, *nesta- < PIE *nīzdo-). Otherwise, it occurs sporadically, though quite distinctly. In some cases the change is to be found perhaps only in one dialect, most frequently in Old High German, e.g., OHG quec, but OE cwic, ON kuikr, OHG skif/skēf, OE spīc/spec, ON stīge, stege, OSw. slībī slēbī. Finally, in some cases, the change is absent
in all dialects, e.g. OHG OE *fisc, ON *fiskr, OHG *bibēn, OE *bifían, ON *bifa. The most important group of forms of the last kind is the pret. part. of 1st class strong verbs, as opposed to 2nd class part. with o > u (e.g., OHG *gistigan, *gibogan, ON *stigenn bogenn)."

The interpretation of this complicated picture has long been a subject of controversy among scholars, with opinions falling generally into two camps: those who deny that there was any a-umlaut of *y outside of Old High German (e.g., Cercignani) and those who claim its development was general in Northwest Germanic. This latter view, however, necessarily demands an explanation of the widespread absence of lowered vowels in forms in which a-umlaut should have been expected to have occurred:

"The commonly accepted explanation of this vacillation is that the change i > e led to an alternation between i and e in each paradigm, e.g., nom.-acc. sg. *skēpa, but dat. *skīpōi, or nom. sg. *stīgē, but gen. *stegāni, and that later (i.e., after the rephonemicization of iː e, if this opposition ever disappeared) leveling took place in each paradigm in favor of one or the other of the two stem forms. The direction of the leveling was often different in the various Germanic dialects, and occasionally it led to the creation of doublets. As a matter of fact, the conditions for an alternation of this kind were probably present in most, or even all, of the paradigms concerned. But, of course, the fact alone that these conditions were present does not prove that the alternation arose nor
that the leveling took place; it at most makes the assumption permissible. The difficulty is that the intermediate stage, with the phonologically regular alternation, is attested nowhere" (Benediktsson 1967: 184).

Analogically-based accounts of the entire distribution of \textit{\textasciitilde}_{\textit{i}} in a-umlaut position inevitably have very much the flavour of being ad hoc and, moreover, are based on the now dubious notion of exceptionless sound change. One example of such approaches is that of Hock, who attempts to account for the dual treatment of \textit{\textasciitilde}_{\textit{i}} in nouns in the Northwest Germanic dialects through an invocation of an unattested vocative form:

"...[T]he most important motivation of doublets like \textit{quec} : \textit{cwic}, may perhaps rather lie in the assumption that in prehistoric times, Northwest Germanic, just like Bible-Gothic, had preserved the Indo-European vocative. In that case, one would expect to find the vocatives \textit{spik}, \textit{wulf}, and \textit{berg}, with early loss of the Proto-Indo-European ending \textit{-e}, and, consequently, with preservation of the original vocalism \textit{\textasciitilde}_{\textit{i}}, \textit{\textasciitilde}_{\textit{u}}, and \textit{\textasciitilde}_{\textit{e}}. The existence of vocatives like these would, of course, increase the number of cases where roots with original \textit{\textasciitilde}_{\textit{i}}- or \textit{\textasciitilde}_{\textit{u}}-vocalism had nonumlauted forms, thus providing added motivation for the occurrence of doublets. On the other hand, the motivation for doublets in original \textit{-e} roots would be decreased, relatively speaking" (1973: 344-345).

In Hock's view, subsequent syncretism of the nominative and vocative singular forms would then have given direct rise to such doublets as
*spek/*spik, while in cases such as *berg, where nominative and vocative would have had the same vocalism and for which no later dialectal doublets are found, syncretism of the two cases had no such consequence.

Hock’s arguments are, from a formal standpoint, sound, but while we should not discount completely his claims concerning a possible rôle of an old vocative in the ultimate lexical distribution of *i and *e, it nevertheless is difficult to imagine that there was sufficient use of such vocative forms as *spik/'O bacon!’ as to bring about its replacement of the presumably more frequently used nominative.

One specifically troublesome aspect of the operation of a-umlaut in Germanic is the inconsistent treatment of the past participles of strong verbs. In the participles of class II, III and IV verbs, Old English, Old Norse as well as Old High German and Old Saxon show consistently reflexes of lowering of *u to o, except, of course, in those class III verbs with a checked nasal in the root, where the consonantal environment determines the height of the preceding prominent vowel. Thus, we find such forms as OE boden, coren, holpen, stolen, boren, ON bøpenn, kosepn, holppen, stolenn, borenn, OHG gilogan, gibotan, giholpan, gislopan, giboran.

On the other hand, in the past participles of the first class strong verbs, where original *i should presumably have been subject to a-umlaut lowering, we find in these same dialects, general preservation of the high vowel, as in, for example, OE ridden, sniden, gripen, ON ripenn, snipenn, grepenn, OHG giritan, gisnitan, gigripian. As Benediktsson (1967: 185) points out, however, there are a few isolated cases of a-umlaut
lowering in class I past participles (e.g., OHG adj. *wesan* 'rotten' vs. ON *visenn*). Moreover, it is important to note that in some dialects the treatment of *ū* in past participles does not follow the pattern illustrated above: "In the earliest East Nordic (Swedish and Danish) records there is a fluctuation between *u* and *o* in a great many of these forms, and in several cases, in modern times, the form with *u* has prevailed" [e.g., *bupin*, *hulþit*, *stulín* etc.] (Benediktsson loc. cit.). This East Norse treatment may be the result of a favouring of the variant *-*ina of the past participle suffix over the more generally favoured variant *-*ana already before the operation of a-umlaut, in which case the occurrences of *u* in these forms would reflect the operation of the preserving effect of *i* on a preceding, accented *ū*. On the other hand, if we follow Krause and Nielsen (1989: 8), and assume that Norse generally opted for analogical extension of the variant *-*ina after the operation of a-umlaut (e.g. ON *gripinn/gripenn*), it remains quite possible that these East Norse occurrences of *u* are simply
further examples of the limited operation of a-umlaut even on PGmc \(\ast \ddot{u}\), as discussed above.\(^9\)\(^6\)

Thus, the developments of the root vowels in strong verb past participles in North Germanic and North Sea Germanic is consistent with the general description presented earlier: a-umlaut affected only \(\ast \ddot{u}\) consistently, albeit with some considerable consonantal interference, while \(\ast \ddot{y}\) remained for the most part unaffected. It is then only the Old High German treatment of the root vowels in class I past participles which deviates from a general pattern. In this dialect, where a-umlaut lowering developed to a greater degree than elsewhere, we must assume that it was the morphological category of the strong verb past participle which exercised its own resistance to the lowering change: that is, there was a morphological conditioning on the phonological change. That such a morphological conditioning is possible can be supported by the evidence of the development of the strong verb preterites in modern Philadelphia.

\(^9\)\(^6\)Nielsen (1989: 8-9): "In the past participle of the strong verbs the suffix -ina- (\(<\text{IE} \ast enos\) is present in early runic släginaz (Möjbro), haitinaz (Kalleby), faikinaz (Vetteland) as well as in Old English (\textit{binumine}, \textit{forslegenim}) and Old Frisian \textit{fenden}, \textit{hwenden}(i-mutated and palatalised)). The alternative suffix -ana- (\(<\text{IE} \ast onos\) is seen in OHG \textit{gibotan}, OS \textit{giboran}, OE \textit{boren} (all with a-mutation) and in Goth. \textit{budans}. The origin of the Old Norse ending in, e.g. grippin seems to be -ina-, but as there is a-mutation in classes II-IV of the strong verbs, we must assume that -ana- also existed in Old Norse, but was analogically replaced by -ina- after the completion of a-mutation (Krause 1971: 107)" [Krause, W. 1971. \textit{Die sprache der unnorischen Runeninschriften}. Heidelberg.]

Note that the Old Frisian preference for the participle marker \(\ast \text{-ina}\) was quite strong, judging from the verbs with a root final \(\ast k\) or \(\ast g\), which, under the influence of the following high front vowel, underwent palatalisation and assimilation, as in \textit{bretzen}, \textit{britzen} 'broken', \textit{spritzen}, \textit{spretzen} 'spoken' (Steller 1928: 12).
English, which have exceptionally resisted the tensing of ē and therefore offer a close parallel to the proposed Old High German restriction of a-umlaut.97 There is no reason to think that a similar, morphologically based inhibition of the lowering of *ᵻ could not also have operated in North Sea and North Germanic as well, where the a-umlaut in any event operated only weakly.

The last of the raising/lowering changes which we need to consider is that of the raising of *ē exercised by a following nonprominent u. As we have seen, this change is unknown in both the North Sea and North Germanic dialect groups. In the Old High German dialects and in Old Saxon, however, it is quite well attested. We can distinguish between groups of forms which exhibit this development: 1) those forms with original nonprominent u (e.g., u-stem nouns); 2) those (1st. sg. pres.) verbal forms with secondary u < *-ē. Examples of the first group are OHG mitu 'mead', fīhu 'cattle', fiīu 'much', and possibly situ 'custom', sibun 'seven', miluh 'milk' vs. OE meodo, fēo, feolu, seodu (also sidu), seolun, (W. Sax.) meoluc (Anglian mild).98 Old Saxon, at least in so far

97 At issue here are the strong or irregular verbal forms began, ran, swam, wan, am, can, in which the accented vowel is invariably lax, although in an otherwise consistently tensing environment. For a brief discussion, see Van Coetsem & Buccini (1990: 176-177), based on Payne (1980).

A more directly relevant but rather controversial parallel may be represented by the vocalism of the reduplication syllable in Gothic verbs, where the vowel is consistently /e/⟨ai⟩, regardless of the consonantal environment. Thus, one could argue that the preservation of /e/ in the reduplication syllable represents a morphologically conditioned inhibition on the usual distribution of /e/ and /i/ in Gothic.

98 Alternative etymologies have been offered for these last three forms. See Cercignani (1979: 75) for discussion and references to further literature.
as it is known from the Heliand (and to a degree also in some of the minor texts), clearly follows the same path as Old High German: OS *fihu, filu, sidu, sibun, miluk* (Gallée 1910: 53). Examples of the second group are the following: OHG *hilfu* 'I help', *nimu* 'I take', *gibu* 'I give', OS *gibu* 'I give', *spricu* 'I speak', *gisihu* 'I see'. Given that these latter cases are of raising occur before secondary *u*, it seems reasonable to assume that the raising change either occurred relatively late in the preliterary stage of Old High German and Old Saxon or possibly that, even if the onset of the raising occurred early on, it remained operative until the time that final -ō developed to final -u (cf. Campbell 1959: 42).99

Having reviewed the general trends in the raising/lowering umlaut developments in the various non-East Germanic dialects, we may now attempt to offer an overview of the changes. In the following table I present a summary of the foregoing discussion, indicating which raising/lowering umlaut effects operated in each dialect group. As mentioned above, for the present purposes I will include Old Saxon together with Old High German as South Germanic, bearing in mind that the dialectal placement of Old Saxon is in fact a complicated issue. I also indicate in this table very roughly the degree to which each raising or lowering umlaut effect operated: 'yes' indicates that the change in question was carried out with a great degree of regularity, 'no' that it was carried out not at all, and 'limited' indicates that the change is reflected either only very sporadically or that it was strongly restricted by consonantal

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99Cercignani (1980a: 129), citing Campbell, rejects this reasoning but offers absolutely no argument in support of his rejection.
interference. Note too that umlaut preservation effects are included in the table as well:

**DIALECTAL DEVELOPMENT OF RAISING/LOWERING UMLAUT**

<table>
<thead>
<tr>
<th></th>
<th>NGmc.</th>
<th>NSGmc.</th>
<th>SGmc.</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>i</em>-umlaut <em>e &gt; i</em></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><em>i</em>-umlaut <em>u &gt; u</em></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td><em>a</em>-umlaut <em>u &gt; o</em></td>
<td>W yes/E limited*</td>
<td>limited</td>
<td>yes</td>
</tr>
<tr>
<td><em>a</em>-umlaut <em>i &gt; e</em></td>
<td>no (/limited?)</td>
<td>no (/limited?)</td>
<td>yes</td>
</tr>
<tr>
<td><em>u</em>-umlaut <em>e &gt; i</em></td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td><em>u</em>-umlaut <em>u &gt; u</em></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

*W = West Norse, E = East Norse

The preserving effect of *i* - and *u*-umlaut operated equally strongly throughout the non-East Germanic dialects, as did the raising effect of *i*-umlaut on *
*e*. The lowering effect of *a*-umlaut, on the other hand, was only carried out regularly in South Germanic, while in all the other dialects there are varying degrees of consonantal interference that work against it. Similarly, only South Germanic carries out an actual raising of *
*e* under *u*-umlaut conditions. An overall characterisation of the operation of raising/lowering umlaut in the non-East Germanic dialects would be the following:

**Degree of Raising/Lowering Umlaut**

**Least**

North Sea Gmc/North Gmc/South Gmc

**Most**
Traditional models of sound change would demand that we interpret the raising effect of i-umlaut as the earliest step in the development of umlaut and assign it to a common proto-stage for all these dialects. While the first of these conclusions seems reasonable, the second is by no means necessarily correct. To account for the differing dialectal distributions of the raising/lowering effects we need not posit differing degrees of geographical expansion out from some innovative centre in a contiguous language area (i.e., analysis according to the wave model) but rather can think of the dialectal differences as involving metaconditioned developments with a more or less fixed relative chronological order with differing temporal ranges in the individual dialects (i.e., drift or Entfaltung). Thus, in the North Sea Germanic dialects in which raising/lowering umlaut was least developed, the period of operation of raising/lowering umlaut was shorter than in the South Germanic dialects, in which raising/lowering umlaut developed most thoroughly. We might represent these dialect differences in the following way:

<table>
<thead>
<tr>
<th>Order of Raising/Lowering Umlaut Developments</th>
</tr>
</thead>
<tbody>
<tr>
<td>i-umlaut</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Go.</td>
</tr>
<tr>
<td>NSGmc</td>
</tr>
<tr>
<td>NGmc (E)</td>
</tr>
<tr>
<td>NGmc (W)</td>
</tr>
<tr>
<td>SGmc</td>
</tr>
</tbody>
</table>

The relative order proposed here involves only the onset of each umlaut effect and its end, for we must consider the possibility that, for example, the raising effect of i-umlaut could remain active through most or all of the period of raising/lowering umlaut, being gradually joined by the later
developing raising/lowering mutations. A more detailed relative chronology of the raising/lowering umlaut effects can perhaps be inferred from the various dialectal developments, though it obviously must be quite speculative in nature. The following order seems likely: 1) the development of the raising (and high-preserving) influence of $i$-umlaut probably coöcurring with the high-preserving (i.e., counteracting any consonantal lowering influences); 2) the development of lowering $a$-umlaut of PGmc $u$, while the raising influence of $i$-umlaut and preserving influence of $u$-umlaut remain automatic; 3) the spread of the $a$-umlaut lowering effect to $y$ and the development from only a high-preserving influence to an active raising influence of $u$-umlaut. These stages are summarised below:

STAGES IN THE DEVELOPMENT OF RAISING/LOWERING UMLAUT

I  
- $i$-umlaut raising/preserving influence
- $u$-umlaut preserving influence

II
- $a$-umlaut lowering influence on $\ddot{u}$

III
- $a$-umlaut lowering influence on $\acute{i}$
- $u$-umlaut raising influence on $\ddot{e}$

$^{100}$A similar chronology of these developments has been proposed by Hock (1973: 343-344), with the one difference that he assumes that the lowering of $y$ under $a$-umlaut conditions was simultaneous with the $a$-umlaut lowering of $\ddot{u}$. On account of this assumption, he is forced to explain the removal through analogy with the, in my view, implausible, major rôle of the presumed Northwest Germanic vocative discussed above.
As can be inferred from the above tables, I see the dialectal differences in raising/lowering umlaut treatments in Germanic not simply as the result of differing degrees of development of raising/lowering umlaut, but rather also as abandonments of the raising/lowering principle at different points in the course of its gradual development.

Obviously, this proposal is not in and of itself an explanation of why there are dialectal differences in the development of raising/lowering umlaut: I have simply pushed the point which needs explanation from the question of specific raising/lowering umlaut developments back to a more fundamental and general question of change in the phonological systems of the dialects. Thus, we must yet endeavour to discover the mechanisms involved in the development away from a vocalic system highly sensitive to syntagmatic differences in vocalic height.

In the case of Bible Gothic and more generally East Germanic, the lack of linguistic evidence makes it impossible to say in which direction the vocalic systems of these dialects developed. As discussed earlier in this chapter, however, we can say with a reasonable degree of confidence that Bible Gothic abandoned raising/lowering umlaut at some point after the first of the raising/lowering stages described above: that is, after taking part in the earliest raising umlaut effect, Bible Gothic gave up completely, through the mechanism of reconditioning, vocalic conditioning in favour of a very transparent consonantal conditioning. The degree to which a-umlaut may have operated in that particular East Germanic dialect cannot be ascertained, though the Crimean Gothic and Gutnish evidence points to the strong possibility that the early and radical reconditioning to
consonantal environments was not a common East Germanic development but peculiar to Wulfila's dialect. Whatever social factors lay behind the peculiar Bible Gothic development, it seems reasonable to conclude that a central linguistic feature involved were the developments of particularly strong (i.e., influential) realisations of *r, *x and *b, which can well have been the results either of minor, language-internal shifts driven by articulatory economy or of some unrecognisable substratal influence (i.e., phonological imposition in *sl-agentivity). The clearly related developmental tendencies in the dialects of Gotland and neighbouring mainland Sweden point to the former of these, since in these dialects the same consonants have a similar, lowering effect. These Gutnish and Swedish developments also point strongly to the possibility that the lowering influence of *a and, indeed, perhaps all the raising/lowering umlaut influences began in environments where vocalic and consonantal conditioning cooperated, as suggested by Roelandts (1989).

North Sea Germanic and North Germanic seem to agree in having broken off the period of raising/lowering umlaut in the course of the second stage, that is, in the course of the development of the lowering influence of *a-umlaut, since this lowering effect has left few if any traces in the development of *y and has affected *ū only where the general (i.e., preceding as well as following) consonantal environments were most favourable. Thus, North Sea Germanic and at least part of the East Norse dialect area, if not North Germanic generally, had similar and more extensive restrictions on the lowering of *ū than did South Germanic. If we accept the claim that internal sound change tends always to develop
gradually in ever widening applications from more to less favourable environments, we might see these greater restrictions as an indication of an earlier break from the raising/lowering pattern of development. An interpretation according to traditional notions of dialect geography would incline us to view the North Sea and East Norse dialect areas as forming a central, innovative area, in which the innovation with regard to umlaut was the shift from raising/lowering to fronting/backing. West Norse, while perhaps developing a-umlaut further then these more central dialects, soon followed in the same path. The other, even more peripheral dialects of Northwest Germanic, namely the South Germanic dialects, continued the development of raising/lowering umlaut much longer, extending the a-umlaut lowering influence also to ñ and further developing an active raising u-umlaut.

It should be emphasised that, in positing a direct relationship between the length of time that the raising/lowering principle remained operative in a given dialect and the degree to which a- and u-umlaut developed in that dialect, we do not imply that there were not structural reasons for the apparent staggering of a-umlaut effects on PGmc *ū and *ý. Indeed, from an articulatory standpoint, there is no obvious reason why the two lowerings would develop to such different degrees in so many of the dialects. Perhaps the apparent staggering of the lowering effect should then be seen not so much as reflecting a gradual increase in the lowering effect exercised by nonprominent a but rather as reflecting different degrees of resistance to the lowering by the two potential inputs to the change. From a structuralist standpoint the reason why *ū displays a far greater
susceptibility to lowering than *\textipa{\textsuperscript{*}r} can be linked to the paradigmatic contexts of the two vowels within the system of short vowels: whereas PGmc *\textipa{\textsuperscript{*}u} stood alone as the only back (rounded) short vowel, *\textipa{\textsuperscript{*}r} stood as the high front short vowel in opposition to the mid front short vowel *\textipa{\textsuperscript{*}e}. Thus, systemic pressure to resist the merger of *\textipa{\textsuperscript{*}e} and *\textipa{\textsuperscript{*}r} may have been a crucial element in the inhibition of the lowering of *\textipa{\textsuperscript{*}r}, a pressure wholly absent on the back side of the system.\textsuperscript{101} Such systemic resistance to the lowering may have been eased or overcome in South Germanic over the course of

\textsuperscript{101} If one accepts Van Coetsem's (1956: 22ff.) theory of the origin of the long vowel *\textipa{\textsuperscript{*}e} as the product of a-umlaut lowering on the second element of the PGmc diphthong *\textipa{\textsuperscript{*}e}i, there is a clear parallelism in the umlaut treatments of the diphthongs and of the short vowels. In the case of *\textipa{\textsuperscript{*}e}i, which can be described as having been subject to tautosyllabic umlaut and generally developed to \textipa{\textsuperscript{*}e}, the lowering effect on the second element which produced \textipa{\textsuperscript{*}e} as attested only relatively sporadically, as is the lowering of the short vowel \textipa{\textsuperscript{*}e} to \textipa{\textsuperscript{*}e}. On the other hand, the reflexes of the PGmc diphthong *\textipa{\textsuperscript{*}e}u, like those of PGmc *\textipa{\textsuperscript{*}u}, show much more consistently an umlaut conditioned split (iu under i-umlaut conditions and eo/eu under a-umlaut conditions). It is, however, unclear to what degree it can be claimed that resistance to the development of *\textipa{\textsuperscript{*}e} was the result of systemic pressures, since it is not clear what the relationship of this vowel was to other long vowels. In North and South Germanic, where PGmc *\textipa{\textsuperscript{*}e}i (probably originally [\textipa{\textsuperscript{*}e}]) developed to \textipa{\textsuperscript{*}e}, *\textipa{\textsuperscript{*}e}i took up a new position in the system of long vowels. In East Germanic (Bible Gothic) and North Sea Germanic, where *\textipa{\textsuperscript{*}e}i became a front mid vowel *\textipa{\textsuperscript{*}e} (except the West Saxon dialect of Old English where it is reflected as \textipa{\textsuperscript{*}e}), it is unclear whether *\textipa{\textsuperscript{*}e} was distinct from *\textipa{\textsuperscript{*}e}i. That instances of *\textipa{\textsuperscript{*}e} are somewhat more numerous in North and South Germanic than in Gothic and North Sea Germanic may be an indirect indication of the influence of such systemic pressures: in those branches where the lowering of *\textipa{\textsuperscript{*}e} left a gap in the front mid space of the long vowel system, the development of *\textipa{\textsuperscript{*}e} was more favoured than in those branches where it 'clashed' with *\textipa{\textsuperscript{*}e}i. Of course, all this is predicated on the assumption that *\textipa{\textsuperscript{*}e}i the original source of *\textipa{\textsuperscript{*}e}, a view which has found only limited acceptance among Germanicists.
the longer period during which raising/lowering influences were operative, as subsequent generations of speakers reanalysed and reinterpreted the principles of their operation.

In 2.1 it was tentatively suggested that this shift from raising/lowering changes to fronting/backing changes be related to differing patterns of reduction of nonprominent and especially posttonic and final syllables. The two patterns of reduction were termed "peripheralising" on the one hand, and "centralising" on the other hand. With the notion of peripheralising reduction I refer to the reductions which occur in the earlier stages of progressive, prosodically motivated nonprominent reductions, which appear to involve the loss of certain distinctive features in the nonprominent vowels, such as length and the number of opening grades. With the notion of centralising reduction I mean the further stages of reduction, in which all nonprominent vocalic distinctions are lost, leaving only minimally or non-coloured, centralised vowels. As I indicated in the earlier discussion of reduction, a detailed study of the phenomenon in the various Germanic dialects lies beyond the practical constraints on the present work, rendering the claims presented here highly speculative. Nevertheless, a superficial overview of the facts lends sufficient support to these claims to warrant their further investigation.

Following Hollifield's (1980, 1984) analysis of the early developments of nonaccented and particularly final syllables, it seems clear that the changes affecting the vowels which must be dated to what are traditionally considered to be the Common Germanic or Northwest
Germanic and West Germanic periods, consist of shortenings, monophthongisations and, generally where vocalic quality is involved, a favouring of peripheral (i.e., maximally high and maximally low) vowels. In particular, there was in the Northwest dialects (i.e., North, North Sea and South Germanic) a very regular and strong tendency toward raising in nonaccented syllables. Hollifield (1984) finds in this raising tendency "a full pan-North and West Germanic sound law, including formally explicit conditioning... with complete regularity of reflexes in all the attested languages" (p. 69). In Hollifield's formulation, this law affected "all non-high pure vowels occurring in unaccented syllables" (p. 29) which were raised under the influence of a high vowel in the following unaccented syllable. With regard to the development of *a > u (e.g., OE dagum, OS dagun, OHG tagum, ON døgom, Runic gestumR, -um < *-amizh), Hollifield states explicitly that the change was one of raising and not one of rounding, as traditionally assumed, since it was not conditioned specifically by a following rounded vowel but by following high vowels of both the front and back (rounded) series (p. 62-63, 67). That this raising in unaccented syllables can be viewed as a form of what we have termed 'peripheralising reduction' is supported by the fact that it occurred only in and was conditioned by vowels in syllables which were "fully unaccented" (Hollifield 1984: 66). On the basis of its reflexion throughout North and West (=North Sea and South Germanic) dialects as well as the fragmentary onomastic evidence from Latin writers, he concludes that "the law of raising operated in the first part of the first millenium" (p. 68), thus, roughly to the period just preceding and/or overlapping with the period of
the older runic inscriptions. Hollifield's law of raising in unaccented syllables must be seen as a contributory development to the earliest, raising umlaut in accented syllables.

The following table of the developments in final syllables leading into the development of Old High German is (very slightly) adapted from Hollifield (1980: 170-171): 102

RELATIVE CHRONOLOGY OF FINAL SYLLABLE DEVELOPMENTS

• Developments in the pre-North, -West Germanic Period
  1. a. -ō > -ū
     b. ē > ā, ē > ā, ēn > ān, ēu > āu
  2. -ī > -i
     -ū > -u
  3. nasalisation of final vowels lost
• Developments in the West Germanic Period
  4. -ār, -ōr, -ōi, -ōu. -āu > -ar, -ar, -ai, -au. -au
  5. -ai > -ē, ā > ā
     -au > -ō, ō > ō
  6. -Vnz > -Vz [V lowered]
  7. rhotacized internally
  8. syncope of short vowels following an unaccented syllable where not prevented by analogy.
  9. -z > ð
 10. -ō > -ā (acc. pl. gebā)

102 Cf. Antonsen's chronology of early developments outlined earlier in this section.
• Developments of the pre-Old High German Period

11. -i̯ > -i  
   -a̯ > 0  
   -ã̯ > -ã (gen. acc. sg. geβa)  
   -o̯ > 0* [see note below]  
   * [after a long syllable and after a short unaccented syllable]

12. ai̯ > ẽ (dat. pl. blintẽm)  
    au̯ > œ (gen. sg. fridoœ)  
    õ̯ > ō̯ (3. sg. pres. indic. niuũōn)

13. æ̯ > e̯ > ŋ̯ (dat. sg. tagē)

Additionally pre-WGmc. -aC̯ > -æC̯ > -eC̯ > -eC̯ (gen. sg. tages, nom. sg. later).

2.3.4 Fronting/Backing Umlaut in Northwest Germanic

Hollifield places the general loss of final -a and the loss of final -i and -u after heavy stems to the earliest stages of the dialectal Old High German history, thus, presumably, to the period immediately preceding the onset of the Old High German textual transmission, that is, from about 600 to 750 A.D. (assuming his use of "pre-Old High German" is to be equated with the traditional German designation "Voralthochdeutsch" (Braune/Eggers 1987: 1)). Developments of nonprominent vowels within the Old High German period show a fairly high degree of dialectal variation and the precise stages of development are surely much obscured by spelling practices. Nevertheless, it is safe to say that during the Old High German period, the dominant trend in nonprominent developments was not toward peripheral qualities but rather toward more central qualities, as can be clearly seen in the detailed analyses of the nonprominent vocalisms in the most extensive Old High German texts by Valentin (1978). More controversial than the general direction of developments in
nonprominent syllables or even the relative chronology of the developments (e.g., reduction in final checked vs. reduction in final open syllables) is the question of the absolute chronology of the Old High German reductions.

It is generally assumed that at the outset of the Old High German period, for which attestations begin ca. 750 A.D., and, with some significant dialectal deviation, continuing on into the period, there occurred in unaccented syllables five distinct vowel qualities, \( a, e, i, o, u \), each of which could be long or short, and one diphthong, \( iu \) (Braune/Eggers 1987: 59). The commonly accepted dating of the end of the Old period and the beginning of the Middle period is to ca. 1050 A.D. This traditional view of the transition from the Old to the Middle period is based on the graphemic treatment of nonprominent vowels in the texts: "Vom Mittelhochdeutschen unterscheidet sich das Ahd. hauptsächlich durch die vollen Vokale der nicht hochbetonten Silben, die allmählich bis zum Indifferenzlaut \( \varepsilon \) (geschrieben \( e \) oder \( i \)) abgeschwächt wurden. Dieser Vorgang ist in der Schrift um 1050 bis auf gewisse Reste vollzogen." (Braune/Eggers 1987: 1). In this formulation then, the transition to Middle High German comes at the end of the process of nonprominent reduction, which, from another perspective, is to say that the reduction process is in progress during the Old High period.

Any attempt to describe more specifically the chronology of nonprominent reduction in Old High German is faced with the following problems. First, there are the general difficulties concerning the size of the corpus from which evidence can be drawn. Especially when we consider
the span of time under consideration together with the geographical extent of the Old High German area, the extent corpus gives only a fragmentary record. To the degree that we do have a record, there is then the further problem of the interpretation of the spelling systems used as well as the more general issue of the relationship between the written language and the spoken language. Yet, despite these difficulties, some general conclusions can be drawn which will aid us in our discussion of umlaut.

First, in light of Valentin's detailed studies of nonprominent vowels in the major Old High German texts, it seems that in Frankish, reduction developed more quickly and in a somewhat different pattern from what obtained in Alemannic and, presumably, Bavarian too (though in this latter case we lack any single, extended text on which to base a full analysis). Valentin's conclusions are the following (p. 385-386):

"Franconian loses its long vowels very early; it is quite possible that it has a secondary stress on some endings, which could then protect their vowels for some time. On the other hand, the Franconian short-vowel systems [i.e., in pretonic, medial, final checked and final unchecked] resist

\[103\] Of the texts studied by Valentin, he states the following: "Although in none of the texts the language used can be viewed as the continuation of the language used in any other text, it is still possible to consider two groups of texts with strong affinities which offer a rather consistent history" (1978: 374). The texts of each of these two groups are the following: A) the Frankish group: 1) Isidor ("some sort of Western or Southern Franconian, last decades of the 8th century"); 2) Tatian (Eastern Franconian, ca. 830); 3) Otfrid (Southern Franconian, ca. 870); 4) Williram (Eastern Franconian, ca. 1060); B) the Alemannic group: 1) Benedictine Rule (Alemannic, beginning of the 9th century); 2) Notker (Alemannic, beginning of the 11th century) (p. 373-374).
simplification very well; one reason is that the functional load of the corresponding oppositions was high, as the whole burden of morphological distinctions lay upon them.

"Alemannic, on the contrary, simplifies its short vowel system earlier, but retains a rich long vowel system until well into the eleventh century. The reason adduced to explain the history of Franconian can obviously be used for Alemannic."

Both in Williram and in Notker, late representatives of the Frankish and Alemannic dialect areas respectively, the reduction of final-syllable, unchecked vowels results in a three-way distinction between e, a, and o (p.382-383). The lowering of older nonprominent i and u and their merger with e and o appears to have proceeded unevenly across the dialects but traces of the change can be seen throughout the Old High German period. At least in some areas, for example Bavaria, there is also an apparent ordering of the two lowerings, with the lowering of u (to o and even a) occurring earlier than the corresponding change in the front vowels: in Bavarian, evidence for the reduction of the high back vowels is found already for the 9th century, while i remains fairly consistently represented in texts into the 11th century (Schatz 1907: 49-56).

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105 An earlier reduction of u than i is also found by Valentin in his analyse of unchecked vowels in final syllables of the Benedictine Rule text and also for the checked vowels in final syllables in the Williram text (Frankish) (1978: 383, 384).
While the progress of reduction as reflected in the major texts studied by Valentin seems to be quite slow through the Old High period, there is evidence that points toward the possibility that the spelling tradition was lagging well behind the degree of reduction attained in the spoken language, as indicated by Braune/Eggers (1987: 60-61):


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106 Cf. Laferrière's (1976: 56) discussion of Sonderegger (1961. "Das Ahd. der Vorakte der älteren St. Galler Urkunden." Zeitschrift für Mundartforschung 28): "According to Sonderegger, what the Alemannic data clearly indicate is a stylized linguistic level, a 'Schriftsprache' of long tradition maintained in B [Benediktine Rule], N [Notker] and other mss. The Schriftsprache was preserved in the conservative, traditional orthography of well-known centers of scholarship and literature such as Reichenau, Murbach, and St. Gallen. Side by side with the Schriftsprache, and contemporaneous with it, existed the 'Volkssprache', the spoken language which already contained many reduced vowels in unstressed syllables. Bavarian and Franconian mss. represented the reduced vowels of the Volkssprache more faithfully than Alemannic, which maintained
This interpretation of the differences between the evidence for reduction in literary texts and the evidence in texts such as the St. Gallen Vorakte as pointing toward a split between more faithful adherence to the conservative literary 'Schriftsprache' on the one hand and deviation from that tradition on the other is surely correct. But this view ought to be supplemented with consideration of the possibility that this conservative 'literary language' was not necessarily a product of purely written tradition but rather also reflected careful and more formal styles of speech which existed side by side with less formal and, with regard to linguistic changes in progress, more advanced speech styles. The variation in Old High German texts between forms with more and less reduced degrees of reduction of nonprominent vowels supports the view expressed earlier in the present work that reduction phenomena are probably inherently gradual processes with variation occurring along stylistic ('minidiachrony') as well as broader historical, geographical and social parameters.

While the raising/lowering umlaut phenomena in Old High German discussed earlier appear to have occurred before the onset of the Old High German transmission, the fronting i-umlaut whose reflexes so strongly characterise modern German morphology only gradually finds graphic expression in the course of the Old High German period. Indeed, the very early, fragmentary attestations of German words and names generally show no signs of the operation of fronting i-umlaut at all. Not surprising is the fact that among the earliest evidence for fronting umlaut are forms found in the aforementioned Vorakte from St. Gallen, occurring orthographically an older stage of the language." Laferriere herself offers further evidence for such a stylistic split in Alemannic.
alongside and in many instances together with, from the standpoint of the literary language, relatively precocious instances of strong reduction of final syllable vowels:


Some examples of the differences between the Vorakte and Urkunden forms are the following (Laferriere 1976: 57-58):

<table>
<thead>
<tr>
<th>Urkunden</th>
<th>Vorakte</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isanhario</td>
<td>Hisanherio</td>
</tr>
<tr>
<td>Haroldius</td>
<td>Heralt</td>
</tr>
<tr>
<td>Wurmhari</td>
<td>Uurmheri</td>
</tr>
</tbody>
</table>

In all these early cases of fronting umlaut in Old High German, the vowel affected is PGmc *ē which, graphically at least, has fallen together with the reflexes of PGmc *ē. As is obvious from modern German, however, not only *ē but all the nonfront vowels were ultimately affected by fronting under i-umlaut conditions. The umlaut-fronting of reflexes of the Old High German short vowels ө, ү, as well as ǣ in certain, potential umlaut environments, the long vowels ǣ, ǭ, ū and the diphthongs ou and uo are for the most part graphically unrepresented throughout the Old High
period and, in some instances, even into the Middle High period.\textsuperscript{107} This apparently staggered, two-phase chronology of umlaut in the German dialects has traditionally been referred to as 'primary umlaut' in the case of the early indication of umlauted \( \ddot{a} \) and 'secondary umlaut' in the case of the much later indications of the other umlauted vowels. Examples of 'primary umlaut', that is, the fronting of \( \ddot{a} \) which was already graphically represented in (most) early OHG texts, are the following (cf. Braune/Eggers 1987: 27):

\[
\begin{align*}
gast &- gesti\textquoteleft\textquoteleft guest(-s)^
\hline
lamb &- lembir\textquoteleft\textquoteleft lamb(-s)^
\hline
lang &- lengiro\textquoteleft\textquoteleft long(-er)^
\hline
kraft &- kref nig\textquoteleft\textquoteleft power(-ful)'
\hline
brennen(< *brannjan) &- 'to burn'
\hline
faru &- feris\textquoteleft\textquoteleft I go-thou goest'
\end{align*}
\]

Examples of 'secondary umlaut', that is, the fronting of the other vowels which only comes to be graphically represented in the late Old High German period or Middle High German period, are the following (cf. Paul et al. 1975: 40):

\begin{itemize}
\item The following developments of the Germanic vowels into Old High German should be noted: OHG \( \ddot{a} \) is from IE *\( \ddot{e} \) (PGmc *\( \ddot{e} \)) and from *\( \ddot{a}nX \) with loss of the nasal and compensatory lengthening. The diphthong \( uo \) is the general Old High German reflex (also dialectally \( ua, oe \) etc.) of PGmc *\( \ddot{o} \). The long vowel \( \ddot{o} \) and the diphthong \( ou \) are consonantally conditioned reflexes of PGmc *\( au \): \( \ddot{o} \) before dental (alveolar) consonants and PGmc *\( X \) and \( ou \) elsewhere, i.e., before labial and velar consosants: e.g., \( t\ddot{o}d, r\ddot{o}t, l\ddot{o}n, h\ddot{o}h \) vs. \( loi\ddot{u}nan, ouga, ouh \) (\( h\text{-}X \) from PGmc *\( k \) via the second consonant shift)(Russ 1978: 52).
\end{itemize}
It has long been recognised that this apparent staggered chronology of umlaut representation involves a graphic dimension: in the case of the fronting of ā there was a grapheme already available in the spelling system which represented a sound close to, if not identical with, the sound intended. In the other cases, however, the traditional (Latin) alphabet did not contain separate symbols for the representation of the front rounded vowels ő and ũ. As in the case of the early Old High German representation of the i-umlaut fronting of ā, an existing grapheme came to be used for the fronted reflexes of ũ in late Old High German. In this case, the grapheme used was <iu>, which became traditional for the reflexes of the PGmc diphthong when it was presumably still [iu]. In the course of the Old High German period, however, this diphthong monophthongised to [ũ]. When the monophthongal stage was reached, reflexes of iu and ũ in i-umlaut position became indistinguishable and the grapheme <iu> became available for representation of umlauted ũ as well.\textsuperscript{108} This graphic

representation of the umlaut fronting of ĕ sporadically already in the 10th century and first occurs regularly in the 11th century Alemannic text of Notker, e.g., hūt (NHG 'Haut'), pl. hiute (< hūti); chūt (NHG 'Kraut'), pl. chriuter (< chrūtin; chiuske (NHG 'keusch' < chūski).\(^{109}\)

The received interpretation of this apparent staggering of the fronting i-umlaut developments in Old High German was first proposed by Twaddell (1938) and further developed by Penzl (1949). Put simply, this view takes the distinction between primary and secondary umlaut as one related not to the actual phonetic process of vocalic assimilation, which surely had commenced well before it received graphic representation, but rather as one related to the process of phonemicisation.\(^{110}\) In the case of

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\(^{109}\) In the 11th century Frankish Williram text, the umlauted long vowel is regularly represented with a new grapheme which was perhaps based on the old one, namely <ui> in place of <iu> (Braune/Æggers 1987: 42). Friends of the 'umlaut-through-epenthesis' (and perhaps also those of the mouillerungs-theory) of umlaut development might, on the other hand, see this spelling as an attempt of the scribes to represent an early stage of the prominent vowels' mutation.

\(^{110}\) While Twaddell is generally credited with the first application of structuralist theory to the problems of umlaut development, K.M. Nielsen (1978: 26) points out that Paul Diderichsen (Selskab for nordisk filologi, Aarsberetning for 1937-38) came independently to very much the same conclusions as Twaddell in an article of the same year as Twaddell's famous piece "A Note on Old High German Umlaut," whence comes the following citation (p. 6, cited by Nielsen loc. cit.): "Von einem phonologischen Gesichtspunkt aus ist es von Wichtigkeit festzuhalten, daß Umlaut (und Brechung) obwohl die betreffenden vokalfärbungen zu einem früheren Zeitpunkt phonetisch realisiert worden sind erst nach der Synkope diakritisch relevant geworden sind, da der bewahrte, umlautbewirkende Vokal eine deutliche kombinatorische Bedingung für die realisierung der sekundären Vokal war. Vor bewahrtem (ursprünglich langem) schwachtonigen Vokal trat Neutralisierung ein, da hier keine
primary umlaut, phonemicisation occurred early on, just after the onset of the Old High German transmission, via the merger of umlauted short \( \ddot{a} \) with inherited \( \ddot{e} \). In the case of the other vowels, no such direct merger occurred, and consequently a phonemic split of umlauted and non-umlauted allophones arose only later through the ultimate reduction of the umlaut conditioning factors and their merger with other, non-umlaut-inducing unaccented vowels. If the distinction between primary and secondary umlaut is (re-)defined according to these differing manners of phonemicisation, then it must be recognised that the development of \( \ddot{u} \) under \( i \)-umlaut conditions can also be considered a case of 'primary' umlaut, and, though it remains that the graphic representation of the fronting of \( \ddot{u} \) in \( i \)-umlaut position is considerably later than that of umlauted \( \ddot{a} \), it is also somewhat earlier than the graphic representation of the other \( i \)-umlauted vowels.

Penzl (1949: 225-226), following Twaddell, points out that the \( e \) from earlier \( a \) in \( i \)-umlaut position which was already represented in Old High German (e.g., \( gast/gesti \) 'guest(-s)', \( faran/ferit \) 'to go/he goes') was in complementary distribution not only with the reflexes of \( a \) not in \( i \)-umlaut position but also with the continuants of \( e \), since, at least theoretically, there should have been no occurrences of original \( e \) in \( i \)-umlaut position as a result of the earlier raising umlaut. These developments can be represented as follows:

 distintktive Opposition zwischen Umlautvokal und Primärvokal bestehen konnte."
As noted earlier in this discussion, however, not all occurrences of a followed by an i-umlaut conditioning factor (ı, ĩ, ĭ) underwent the development illustrated in the preceding table. In a number of specific environments with some dialectal variation in details, umlaut of a in Old High German was not indicated graphically but only gradually was marked in spelling, together with the fronted variants of other vowels in the Middle High German period. In general, the dialectal differences involved here set Frankish over against Alemannic and Bavarian which together will be referred to as the Upper German dialects. These environments in which fronting of a was apparently delayed and/or weakened were:111

1) before certain consonant clusters which stood between the prominent vowel and the i-umlaut conditioning factor.

   a) generally (i.e., both Frankish and Upper German) before the clusters ht, hs, and, especially in Upper German before simple h and ch, as in the following examples: MHG mähte (pl. of maht or pret. subj. of mügen), mähtec, nähte, geslähte; hähse ('Kniebug des Hinterbeins'), wähsät; twähele ('Handtuch', cf. twahe 'to wash'), gewählen ('erwählen'), hächel ('Hechel').

111 Here we follow closely the presentation in Paul et al. 1975: 42-43.
b) before r followed by certain consonants, especially rw, rh:\textsuperscript{112} e.g., gärwen ('to prepare', cf. adj. gar), värwen (also verwen 'to paint, colour'); märhe ('mare', cf. marh 'stallion'), därren/derren, zärren/zerren. In other combinations, however, primary umlaut prevails: e.g., erbe, verderben, wemen, herte.

c) before lh, e.g., wälhisch, wälisch ('Welsh (Romance), cf. walh'a Welshman, a Romance-speaker').

2) before the diphthong iu in a following nonprominent syllable (i.e., where iu is itself the umlaut conditioning factor): eg., älliu but also alliu (nom. sg. fem. and nom./acc. pl. neuter of alliu').

3) in compounds with -lich and -rin, regardless of whether the prominent vowel was in the immediately preceding syllable or two syllables away: e.g., mänlich, väterlich, ängstlichen/angstlichen, väterlin.

4) in forms in which the prominent vowel and the i-umlaut conditioning were separated by an intervening syllable: e.g., ärze ('Erz', from OHG aruzzh, mägede (=OHG magadi, gen. dat. sg. and nom./acc. pl. of maga), mägedin (diminutive of maga), väterlich, mähelen ('vermählen', OHG mahal(j)ëm, trühene ('Träne', OHG *trahanh).

5) in late (OHG) new (analogue) formations: schämen beside schemen, wälde (pl. of walt) beside walde (<OHG waldā).

Thus, we must adjust the table presented above to reflect the two, differing umlaut effects on a in the Old High German period to the

\textsuperscript{112}N.B. Penzl (1949: 226) interprets the interference with umlaut in these cases and the case of the cluster lw not as ones of consonantal influence but rather as instances of two-syllable distance between prominent vowel and i-umlaut conditioning factor (case 4), as a result of epenthesis between r and the following consonant.
following (N.B. In this table, subscript 1 indicates a product of "primary" umlaut and subscript 2 a product of "secondary" umlaut):

<table>
<thead>
<tr>
<th>PRE-OHG</th>
<th>OHG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>Stage 2</td>
</tr>
<tr>
<td>*/a:/</td>
<td>*/a:/</td>
</tr>
<tr>
<td>[a] -i-umlaut</td>
<td>[a] -i-umlaut</td>
</tr>
<tr>
<td>[æ] +i-umlaut&lt;sub&gt;2&lt;/sub&gt;</td>
<td>[æ] +i-umlaut&lt;sub&gt;2&lt;/sub&gt;</td>
</tr>
<tr>
<td>[e] +i-umlaut&lt;sub&gt;1&lt;/sub&gt;</td>
<td>[e] +i-umlaut&lt;sub&gt;1&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

This rendering of the developments of PGmc *ē and *ǣ in Old High German is, however, still too simple, for, from the evidence of rhyme patterns in Middle High German poetry, it is clear that [e] +i-umlaut<sub>1</sub> (*a/*a/) and [e] -i-umlaut (*e/*e/) did not ultimately merge in much or all of the German language area. Evidence from modern dialects shows clearly that the reflexes of the primary umlaut of */a/ ultimately became more closed than than the normal reflexes of */e/ (e.g., Central Alsatian (Fourquet 1952)). Thus, */e/ was continued as a low mid vowel [e] while the primary umlaut of */a/ became a high mid vowel [e]. It should be added too that instances of */e/ which came to stand in i-umlaut position in new formations and analogical reformations in the course of the Old High German period also developed to the same high mid vowel quality as the primary umlaut of */a/ (Paul et al. 1975: 43). On the other hand, the product of i-umlaut in the various cases enumerated above, that is, in cases of secondary umlaut have generally fallen together with the normal reflexes of */e/ as the low mid vowel [e]. With the addition of these
further complications, we might revise the above table in the following way, adding a third stage when the \( i \)-umlaut conditioning factors began to merge with other nonprominent vowels (N.B. In this table, \( R/L \) indicates the product of (raising/\( i \)lowering umlaut):

<table>
<thead>
<tr>
<th>Pre-OHG</th>
<th>Early OHG (7/8th cent.)</th>
<th>Later OHG (9th cent.)</th>
<th>Stage 3 Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( * / a / ):</td>
<td>([a]-i)-umlaut</td>
<td>([a]-i)-umlaut</td>
<td>(&lt;*a-i)-umlaut</td>
</tr>
<tr>
<td>([æ]+i)-umlaut(_1)</td>
<td>([æ]+i)-umlaut(_2)</td>
<td></td>
<td>(&lt;*æ+i)-umlaut(_2)</td>
</tr>
<tr>
<td>([ɛ]+i)-umlaut(_1)</td>
<td></td>
<td>([ɛ]+i)-umlaut(_2)</td>
<td>(&lt;*ɛ+i)-umlaut(_R/L)</td>
</tr>
<tr>
<td>( * / e / ):</td>
<td>([ɛ]-i)-umlaut</td>
<td>([ɛ]-i)-umlaut</td>
<td>(&lt;*æ+i)-umlaut(_1)</td>
</tr>
<tr>
<td>((\i) +raising ( i )-umlaut)</td>
<td></td>
<td>([ɛ]+i)-umlaut</td>
<td>(&lt;*ɛ+i)-umlaut)</td>
</tr>
<tr>
<td>( \text{(new formations only)} )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There is, however, yet one more complication to these developments: As Goossens (1989: 63) points out, we cannot be certain that the attested merger of the secondary umlaut product of \( *\tilde{a} \) and the basic reflexes of \( *\tilde{e} \) was the immediate product of the umlaut and reduction processes. Given the evidence of some Swiss dialects described by Moulton, in which the secondary umlaut product of \( *\tilde{a} \) has been phonemicised as a more open vowel \( \tilde{æ} \) than the reflexes of \( *\tilde{e} \) and thus not merged with it, it is possible that the merger was a later, dialect collapse of two minimally distinct phonemes. This merger was, however, ultimately carried out through much or most of the German-language area.

We can summarise the developments of the short vowels from Pre-Old High German to Middle High German with the following table from Moulton (1961: 21), to which we have added a fifth, Middle High German stage based on his discussion the MHG inventory of vowels (p. 30-31), after
the reduction and apocope of final nonprominent vowels. The developments of the long vowels are analogous but lack the complications arisen through the bipartite treatment of *ã

1. Pre-OHG  \( i \quad e \quad a \quad o \quad u \)
2. OHG  \( i \quad e \quad [æ \ a] \quad [õ \ o] \quad [ũ \ u] \)
3. OHG  \( i \quad e \quad [æ \ a] \quad [õ \ o] \quad [ũ \ u] \)
4. OHG  \( i \quad [ɛ \ œ] \quad [æ \ a] \quad [õ \ o] \quad [ũ \ u] \)
5. MHG  \( i \quad ɛ \quad ɛ \quad æ \quad a \quad ō \quad o \quad ũ \quad u \)

These developments produced the following short and long vowel systems in Middle High German (Moulton 1961: 30):

\[
\begin{align*}
& i \quad ũ \quad u \quad ī \quad ũ \quad ũ \\
& ɛ \quad ō \quad o \quad ĕ \quad ō \quad ō \\
& ŋ \quad æ \quad a \quad ũ \quad ā
\end{align*}
\]

These vowels can exemplified with the following MHG forms (Moulton loc. cit.):

\[
\begin{align*}
site & \quad züge & \quad zuc & \quad wit & \quad liute & \quad lût \\
stete & \quad zöpfe & \quad zopf & \quad gêt & \quad ræte & \quad rôt \\
tête & \quad mühte & \quad maht & \quad ræte & \quad rôt
\end{align*}
\]

The structuralist interpretation of the primary/secondary umlaut distinction in the development of High German focusses, as noted earlier, on the process of phonemicisation: as umlauted phones attain distinctive
status, scribes developed new spellings in order to render the new phones. In the case of the primary umlaut of \( \ddot{a} \) (and later also the umlaut of \( \ddot{a} \)), phonemicisation came about through merger with another phoneme which provided a new and distinctive spelling. In the case of all the other fronting i-umlaut products, phonemicisation came about, at the earliest, late in the Old High German period by means of the secondary reduction changes in nonprominent syllables: as umlaut conditioning factors were reduced to schwa or zero and thus merged with other the reflexes of other nonprominent vowels, the distributional relationship of fronted umlaut phones to i-umlaut conditioning factors became unpredictable and broken. At this stage, these new phones gained independent, distinctive phonemic status.

Though the structuralist view of umlaut as advanced by Twaddell and Penzl has gained fairly general acceptance among Germanicists, it has also attracted much criticism. One point that has been criticised is the assumption that there necessarily is a close relationship between graphemes and phonemes.\(^{113}\) Few, if any, languages use a wholly phonemic spelling system and in the specific case of Old High German, there are considerable problems for any attempt to reconcile scribal

\(^{113}\) E.g., Kratz (1960: 478): "The fundamental error made by Twaddell and Penzl in their studies was to proceed from the assumption that orthographic systems devised by medieval scribes were based on the same premises as systems devised by modern structural linguists. Once that assumption was made, all the available evidence was somehow fitted into the picture in such a way as to support their theories. Indeed, the amount of phonemic consciousness they attribute to scribes of the Middle Ages is astounding! The concept of the "phoneme" is, after all, nothing absolute, nothing universally true so as to be known to all men at all times..."
practices with structuralist definitions of the phoneme. The lack of correspondence between spelling and phonemic analysis can go in either of two directions: allophonic variations may well find graphic expression and, perhaps more commonly, phonemic distinctions between phonetically similar or historically related (through a phonemic split) phones may find no graphemic distinction whatsoever. On the other hand, it would be absurd to deny that changes in spelling systems do not often or usually reflect phonological change, but again, since the grapheme-to-phoneme correspondence is by no means necessarily a direct one, absence of graphemic innovation tells us nothing about the status of phones that developed through conditioned change. Only secondary change to the conditioning environment with graphemic representation can help specify the phonological status of such phones.

What is ultimately at issue here is the question of distinctiveness and while the development of a new distinction in the graphemic system must obviously be taken as an indication of the distinctiveness of a new phone, this distinctiveness may either not fit the specific (especially American) structuralist notions of what phonemic distinctiveness is or the development of the graphemic distinction may lag far behind the actual phonological development. For the structuralist interpretation of Old High German umlaut and in particular of the distinction between primary and secondary umlaut there is a problem concerning the dating of the passage of the umlauted phones from allophonic to phonemic status. Here we refer to the question of the chronology of the reduction of i-umlaut conditioning factors, which has been pointed out by critics of the
structuralist view (e.g., Kratz 1960: 465ff.). Reduction of the conditioning factors did not proceed at a single rate: whereas most of the conditioning factors, together with the other nonaccented vowels, appear to have reduced gradually over the course of the Old High German period as discussed above, the conditioning factor \( \dot{a} \) in the sequence \(-\text{\dot{a}}-\), which became \(-e-\), had obviously already been reduced early on in the period. In the case of the primary umlaut of \( \ddot{a} \), which is presumed to have achieved new phonological status through merger with the phoneme /e/, the status of the conditioning factors is taken as being essentially irrelevant. In the case of the secondary umlaut of the other vowels, however, strict adherence to the structuralist definition of the phoneme demands that we consider all of the fronted umlaut phones as independent phonological units already in the early stages of the Old High German period. Thus, we find side by side in Old High German forms in which the spelling points to the allophonic status of the fronted phones and others for which the spelling points to phonemic status (e.g., nom./acc. sg. & pl. sunte < *suntja beside dat. sg. suntju).  

114 If one works on the assumption of "once a phoneme, always a phoneme," phonemicisation of the 'secondary'

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114 On the loss of postconsonantal \( \dot{a} \) Braune/Eggers (1987: 110-111) state the following: "Das \( j \) nach Konsonanten ist im. Alts. meist erhalten, während es im Ahd. schon zur Zeit der ältesten Quellen im Schwinden begriffen ist. Im Laufe des 9. Jhs. verliert es sich vollständig. Doch sind in den ältesten Quellen immer noch genug Beispiele des \( j \) vorhanden..." (p. 112) "Im ältesten Ahd. war in Endsilben ja (\( \dot{a} \)) zu e geworden, z.B. sunte N.A. Sg. Plur. aus *suntja D. Sg. suntju kennen (aus *kannjan; 1 Sg. kenniu). In diesen Fällen ist also \( j \) schon in der ältesten Zeit verlorengegangen; daraus erklärt sich, daß bei den swV. I. \( j \) vor e und auch vor dem durch Angleichung an die stV. eintretenden a (obd. chennan) fast gar nicht vorkommt."
umlaut developments must be dated to the early Old High German period (8th or 9th century) and thus roughly to the same time as the phonemicisation of the 'primary' umlaut of *a*. Such a conclusion is, however, obviously incompatible with a phonemic interpretation of graphemes, and thus, through application of the American structuralist notion of the phoneme, the American structuralist explanation of the two-stage development of fronting umlaut in Old High German breaks down.

A solution to this dilemma, which seems to be a forerunner of later, generativist, synchronic analyses of umlaut in German, is offered by Penzl. Penzl proposes that since umlaut was not indicated in forms in which *-ja*- became *-e*—until the end of the Old High and Middle High periods along with the other 'secondary' umlauted vowels, we can assume that it was not yet phonemically distinctive, as discussed above. Rather than taking the development of *-ja*-to *-e*- as necessarily an indication of the merger of a umlaut conditioning environment with a non-conditioning environment, Penzl proposes that this *-e*- was itself an umlaut conditioning environment (1949: 229): "This *-e*- from Gmc. *-ja* was probably a moderately high palatal sound [e], not merely [ə]; for we find the ending *-en* contrasting with the infinitive ending *-en* of strong verbs until the ninth century... The *e* apparently continued in early Old High German to function as a conditioning environment for the rise of umlaut allophones." While it is by no means inconceivable that such a vowel could exercise a fronting effect on a preceding vowel, it must nevertheless be noted that any *e*-umlaut fronting effect is wholly unknown elsewhere.
in the history of the Germanic languages. Consequently, Penzl’s proposed e-umlaut seems very much to be a purely ad hoc invention.

While critics of the structuralist view such as Kratz have taken the early reduction of *-fa- to e as reason to dismiss wholesale the notion that unumlauted phones were still positional variants of their nonumlauted counterparts during the Old High German period, this conclusion is only necessary if one maintains an excessively rigid notion of the phoneme. In this regard, the usual treatment of Twaddell’s and Penzl’s views as being essentially identical is unfair, for, although Twaddell does not overtly propose degrees of distinctiveness between allophonic and phonemic status, he clearly does make an appeal to just such a notion in his treatment of the early reduction of *f*(1938: 179-180): 115

“There must have been a period in which the opposition [y/u] was in part independent (where [-j] had been lost) and in part dependent (where [-j] remained). The failure to record immediately the [y/u] opposition in the former cases was a natural orthographical conservatism, since such cases constituted a minority of the occurrences of [y], and were pretty completely restricted to certain morphological classes and functions, with related forms still displaying [-i]: e.g., inf. of weak verbs I and related finite forms. Further, the loss of [-j] and the weakening of [-i] occupied appreciable periods of time, and we must assume fluctuations of usage, local, individual, and probably even within the speech of one

115This passage is also cited by Kratz (1960: 465-466).
individual. Not until a consistent majority of the occurrences of [y] were definitely independent of phonetic environment was the phonologization of [y/u] sufficiently valid to call for orthographical representation.

As Kratz (1960: 466) indicates, Twaddell seems to downplay the number of forms affected by the early reduction of /i/ for, while it is true that the cases were restricted to specific morphological categories, "the morphological classes involved are actually a complex mass of verbal, nominal, and adjectival forms belonging to hundreds of words" (Kratz loc. cit.). The specific forms involved were: 1st class (in *-_ia_~) weak verbs (infinitives and present participles, 1st singular and 1st, 2nd, 3rd plural present indicative, all persons of the present subjunctive), ja-stem nouns and adjectives (genitive and dative singular for masculines and neuters, all the plural for masculines, the genitive and dative plural for neuters), and jo-stem nouns and adjectives (all case forms) (Kratz loc. cit.). What Twaddell failed to make clear and what Kratz missed completely in his review of the morphological aspect of the question is that in none of the cases just mentioned did the early development of -ja- to -e- lead to any significant merger of morphological forms. In almost all instances, the suffix remained distinct either through its contrast with other vocalisms or through contrast by means of further (consonantal) material. Thus, for example, in a first class weak verb, the 3 pl. pres. ind. ending -_ia_~ (attested in a few early texts (Braune/Eggers 1987: 261)), after developing to -e_, remained distinct from all other forms of the present indicative by grace of the final -_ia_~ and also distinct from all other 3 pl. forms by grace of the
vowel (3 pl. subj. -ēn, 3 pl. pret. -un, and 3 pl. pret. subj. -īn). Similarly, in
the paradigm of the masc. ja-stems, the change did not lead to case
syncretism except possibly in the instance of the dat. sg. and nom./acc.
plural, though early analogical replacements of the suffixes of these forms

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom./acc.</td>
<td>hrucki</td>
<td>hrucke/-a/-ā</td>
</tr>
<tr>
<td>genitive</td>
<td>hruckes (-̣-jas)</td>
<td>hruckeo/-io/-o</td>
</tr>
<tr>
<td>dative</td>
<td>hruckie/-e (-̣-ja)</td>
<td>hruckum/-un/-on/-im</td>
</tr>
<tr>
<td>inst.</td>
<td>hruckiu/-u</td>
<td></td>
</tr>
</tbody>
</table>

Thus, if we bear uppermost in mind the notion of distinctiveness rather
than a simple and rigid formula for phonemic status, it seems quite
reasonable to assume that there was a period during which the burden of
morphological marking gradually passed from posttonic suffixes in which
umlaut conditioning factors stood to mutated vowels of root syllables with
an intermediate stage when the two shared the burden of morphological
marking. As Twaddell clearly recognised (see previous citation), such a
gradual development would necessarily be subject to variation along
several parameters. Indeed, it seems only possible to explain the passage of
umlauted phones from contextual variants to independent phones in
terms of gradual development. It is in this way that the criticism which
Erdmann (1972) brings against the Twaddellian view of umlaut can be
answered. Erdmann argues that reduction cannot be considered the means
by which umlauted phones pass from allophonic to phonemic status, for, if
those phones begin as genuinely context dependent variants, removal of
the conditioning environment ought not to result in their

In my view, the two positions are not contradictory: reduction does lead directly to phonologisation and yet must necessarily follow it. This apparent contradiction can be understood in terms of the model of umlaut development discussed above in section 2.1.2. Specifically, what must be borne in mind is the interaction of different generations of speakers. 'Synchronic' or minidiachronic variation in one generation, in which degrees of mutation and reduction are variably realised, serves as the input for the following generation's acquisition of the language. For the older generation, both reduction and mutation remain 'subphonemic', and thus from the perspective of this generation, reduction precedes phonologisation. For the younger generation, however, analysis of the variable input in the course of first language acquisition results in direct
acquisition of umlauted phones as distinctive units, and so, viewed from the perspective of this generation, reduction seems to have followed (or, at the very least, been coterminous with) phonologisation. Exactly how gradual the process actually can be is difficult to determine. In the case of the development of secondary umlaut in Old High German, as Twaddell indicates, it appears to have taken place over several generations. We might therefore envision the umlaut process as proceeding in the manner illustrated below. In this table, different stages of variation in mutation and reduction are shown beneath the Roman numerals. The upper line represents a more conservative, slower, more careful, socially more prestigious form of speech and the lower line the opposite end of the range of styles. In the second stage illustrated here, phonologisation clearly has not taken place in any real sense, while in stage four it clearly has. Stage three represents a possible transitional stage.

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117 Cf. Basbøll's (1982: 75) discussion in connexion with i-umlaut in North Germanic: "Immediately before the synkope of i in long syllable stems, phonetic i-Umlaut occurred in both long and short syllable stems; at that period, umlauted and nonumlauted forms coexisted in the linguistic conscience, cf. notions like 'stylistic variation' and 'word reduction', the umlauted form being innovative and less "formal". These assumptions amount to postulating the existence of an optional (stylistically conditioned) phonetic rule (or process) of i-Umlaut."
### STAGES IN THE DEVELOPMENT OF /-UMLAUT

<table>
<thead>
<tr>
<th>Stage</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher</td>
<td>ø + i*</td>
<td>ø + i*</td>
<td>ø + i*</td>
<td>ø* + ø(*)</td>
</tr>
<tr>
<td>Lower</td>
<td>ø(<em>) + i</em></td>
<td>ø* + ø(*)</td>
<td>ø* + ø*</td>
<td>ø* + ø*</td>
</tr>
</tbody>
</table>

- N.B. * indicates function as primary morphological marker. (*) indicates function as redundant morphological co-marker). <ø> is intended to indicate a more strongly fronted vowel than <ö>.
- Possible parameters of variation:
  1. degree of fronting of the umlauted phone
  2. degree of reduction of the umlaut conditioning factor
  3. phonetic environment (intervening consonantism)
  4. dialectal (social, regional)
  5. style/tempo

A final observation regarding the phonologisation of umlauted phones should be added here. It has by some critics of the structuralist view of *i*-umlaut been argued that the process is probably not purely phonological and that morphological function must play a rôle in bringing about the change in status. Such a view is defensible in so far as it seems logical that a potential functional contrast would be more salient than nonfunctional variation and it may well be that the process of phonologisation may begin specifically in paradigmatically alternating forms. It must, however, be remembered that umlaut also occurs in many lexical items in which the mutation has no function whatsoever, i.e., words which are indeclinable (e.g., *über*) or which have umlaut conditioning factors in all the paradigmatic forms (e.g., *grün*). Thus, while it is likely that fortuitous functionality may help along the process of phonologisation, umlaut is at heart a phonological change which operates more or less blindly across the lexicon.
To conclude our discussion of the development of fronting \textit{i}-umlaut in Old High German we can say that the structuralist and especially the Twaddellian view of the development of primary and secondary umlaut is in its general respects correct, though in need of some reformulation. Whether the apparent staggering of \textit{i}-umlaut in German is a reflexion of an actual, chronological difference in the development of the fronting effect on different vowels or rather a secondary effect resulting from either the differing mechanism of phonologisation (merger of the umlauted phones with another phoneme or merger of conditioning environments and thus phonemic split) is a question which cannot be definitively answered. If we view the development of fronting \textit{i}-umlaut in Old High German together with the development of raising and lowering umlaut in that language, it seems quite plausible that the primary umlaut of short \textit{a} ought to be taken as a transitional development in the course of the development of raising/lowering to fronting. It is important to note that, while primary umlaut of \textit{a} clearly has a fronting (as well as raising) effect, the input of the change is only the low short vowel: in this respect, primary umlaut resembles Germanic raising/lowering umlaut, which affected only short vowels. A further reason to see the primary umlaut of \textit{a} as at least beginning earlier than the fronting umlaut of the other vowels is the fact that the ultimate development to a closed \textit{[e]} implies an extended period of raising during which the umlaut conditioning factor was not reduced; it is in this way that the primary umlaut product of \textit{a} surpassed in height the reflexes of \textit{\textsuperscript{*e}} [\textit{e}]. From the textual evidence of the language, it appears that the primary umlaut of \textit{a} belongs to the seventh
and eighth centuries while the development of the secondary \(i\)-umlaut of the other vowels belongs to the eighth and ninth centuries and, perhaps even to some degree beyond.

**STAGES IN THE OLD HIGH GERMAN DEVELOPMENT OF UMLAUT**

I  
\(i\)-umlaut raising/preserving influence  
\(u\)-umlaut preserving influence

II  
\(a\)-umlaut lowering influence on \(\ddot{u}\)

III  
\(a\)-umlaut lowering influence on \(\ddot{i}\)  
\(u\)-umlaut raising influence on \(\ddot{e}\)

IV  
'primary' fronting/raising \(i\)-umlaut of \(\ddot{a}\)

V  
'secondary' fronting \(i\)-umlaut of all nonfront vowels

It is important to note that while Old High German underwent a relatively stronger development of raising/lowering umlaut than the other Germanic dialects, the development of fronting/backing umlaut was limited to fronting only and that fronting was itself further much inhibited by consonantal environments, as described above.

The relationship of the two types of umlaut in the North Sea Germanic dialects is in some respects the mirror-image of what we find in South Germanic. In North Sea Germanic, raising/lowering umlaut developed to a significantly lesser degree than it did in South Germanic (i.e., little or no lowering of \(\ddot{y}\) by \(a\)-umlaut, no raising of \(\ddot{e}\) by \(u\), extensive consonantal interference with the lowering of \(\ddot{u}\) to \(o\) by \(a\)-umlaut), but fronting/backing umlaut developed to a significantly greater degree.
First, with regard to the development of fronting i-umlaut in North Sea Germanic, the two major dialects of the branch, English and Frisian, appear to have carried out the process in essentially the same manner and probably at about the same time, though the late attestation of Frisian (13th century) makes any absolute dating of the process in that language difficult: by the 13th century, i-umlaut in Frisian was a process that had long run its course and subsequent developments had since overlaid its results. Of far greater interest is the fact that in Old English, first attested already from around the turn of the seventh to the eighth century and already very substantially before the beginning of the ninth century, fronting i-umlaut had also already fully run its course.\footnote{Brunner (1965: 68): "Die Ergebnisse des i-Umlauts erscheinen in den schreibungen der ältesten ae. Texte bereits voll durchgeführt."} A fairly specific dating of the process in Primitive Old English has been offered by Luick (1914-1921: 185-186):

anzunehmen, daß er sich im Laufe des sechsten Jahrhunderts
und wohl eher in seiner ersten Hälfte vollzogen hat."

I should point out that Luick's dating is in part based on the belief that
Anglo-Frisian brightening (i.e., the general fronting of PGmc *s̞), breaking,
and the palatalisation of PGmc *k and *g necessarily preceded the
development of i-umlaut.119 Earlier in this chapter (2.3.2) I demonstrated
that such a relative chronology is unnecessary and, with support of
Collier's arguments concerning the development of breaking,
unsatisfactory. Despite Luick's differing views on the relative chronology
of sound changes in Pre-Old English, his dating of i-umlaut to a period
ending around 550 A.D. comes quite close to the one proposed here. I
dated the beginnings of the fronting i-umlaut process to the third or fourth
century. In light of the fact that the fronting i-umlaut process in Old High
German took about two centuries (and possibly longer) to be completed, it
is quite possible that the process may have begun in Pre-Old English in the
third or fourth century and continued on into the fifth and even early
sixth century. In any event, it seems quite clear that the process belonged
roughly to the period of the migration to and early expansion in Britain by
the North Sea Germanic peoples. Thus, at a time when fronting i-umlaut
had not yet begun in the South Germanic dialects, it was no longer
operative in Old English. The little direct evidence for the dating of i-
umlaut in Frisian together with the general, very strong similarities
between Frisian and English allows us to conclude that this early beginning

119 See Luick's chronological overview of the Pre-OE and OE sound
changes (1914-1921: 266-267).
and completion of the process was a general North Sea Germanic characteristic.\textsuperscript{120}

The process of fronting $i$-umlaut in Old English (and Frisian) operated, in Campbell's (1959: 71) words, "on practically all the sounds which it could theoretically affect." From a paradigmatic standpoint, there was no real difference between the range of umlaut developments in Old High German and in Old English. According to Campbell (loc. cit.), the vowels affected were the following:

\[
\begin{align*}
\hat{\alpha} & \rightarrow \hat{\varepsilon} \\
\hat{o} & \rightarrow \hat{e} \\
\hat{u} & \rightarrow \hat{y}
\end{align*}
\]

The treatment of the Pre-Old English diphthongs in $i$-umlaut position shows early dialectal diversity. In the case of the diphthongs $\hat{\varepsilon}\alpha$ (the breaking product of $\hat{\varepsilon}$) and $\hat{e}a$ (the breaking product of $\hat{e}$ and the normal reflex of PGmc *$\acute{a}u$) we find in West Saxon texts $<\text{ie}>$ which is generally presumed to represent the diphthongs $\acute{e}e$ and $\hat{e}e$. In the non-West Saxon dialects the $i$-umlaut products of these diphthongs were spelt $<\text{e}>$ reflecting

\textsuperscript{120}Gysseling (1960) has found onomastic evidence from the tenth century which shows the completed operation of $i$-umlaut and the secondary development of unrounding of the umlauted phones, thus indicating a chronological progression of the phenomenon quite comparable to that of English.

Luick (1914-1921: 186) presents the traditional view on the relationship of $i$-umlaut in the two North Sea Germanic languages: "Das Altfräsische zeigt ebenfalls $i$-Umlaut, ebenso aber auch alle anderen germanischen Dialekte, wofern sie aus genügend später Zeit überliefert sind. Aus der Chronologie des Lautwandels ergibt sich, daß seine ersten Anfänge sehr wohl noch in die Zeit der anglofräsischen (geographischen) Gemeinschaft fallen können, während die Modifikation des Vokals selbst in das Einzelleben dieser Dialekte fällt..."
monophthongal values ō and Ũ. In the case of the diphthongs ðoe (the breaking product of ð) and ðeu (the breaking product of ð and the reflex of PGmc *eu), West Saxon again shows <ie> but in the other dialects these diphthongs show no overt i-umlaut effect.\textsuperscript{121}

The i-umlaut products indicated above are to varying degrees attested in the earliest, fragmentary Old English records. Secondary changes affected their form, in some cases very earlier on, before the onset of the period of fuller attestations in the eighth and ninth centuries. In particular, we refer to the tendency for the front rounded vowels to unround. In the case of ō < õ, examples of unrounding to ē are found already in the oldest glossaries alongside forms with the spelling <oe>, as in ðoehltiʒ 'vigorous', oefsung 'shearing', vs. cellendre 'coriander', cerfelle 'chervil' (̓< chaeresolium) (Corpus Glossary); ðoehter 'daughter (dat. sg.)', oexen 'oxen', oesestan 'to hasten', vs. ðele 'oil', recetung 'eructation', bledsian 'to bless' (ē < ðæ < ðǣ) (Vespasian Psalter) (Campbell 1959: 76-77).

In the case of ðæ, the front rounded umlaut product of ō, unrounding to ē seems to have proceeded at about the same pace in the south of England but developed more gradually in the Anglian dialects of the center and north (Brunner 1965: 76, cf. Luick 1914-1921: 263-264). Already in "classical" West Saxon Old English unrounding is complete, giving rise to such alternations as dōm 'judgement' / dēman 'to judge', bōc / bēc 'book(-s)', sōfte / sēfte 'soft(-ly)', while in Anglian texts forms

\textsuperscript{121}Here we have followed the traditional interpretation of the Old English vowel digraphs. Cf. the discussion of the their phonetic value above in 2.3.2).
such as *doema, boec* are maintained until the tenth or eleventh centuries.

Unrounding of the high front rounded uumlaut products ̄y and ̄y also occurs gradually in the course of the Old English period across most but not all of the dialects (Luick 1914-1921: 261-263). As in the case of the unrounding of the mid front rounded vowels, the process seems to have developed more quickly in the south than in the north, but even in the south and specifically in the West Saxon literary dialect, unrounding of ̄y and ̄ylagged behind that of ̄œ and ̄ē, and in the southwestern and central western dialects rounding persisted in most words throughout the Old English period into the Middle English period. In the West Saxon dialect, there is evidence of the unrounding occurring gradually across the lexicon but with clear traces of the change being favoured by certain consonantantal environments. In particular, late West Saxon shows numerous cases of <i> for older <y> in the environment of palatal consonants and nasals and sporadically in other cases, as in *hīge* 'mind', *bicçe(an* 'to buy', ̄inh(e)an* 'to seem', *drihten* 'lord', *drīge* 'dry', *wīscan* 'to wish', *cinn* 'kin', *cinging* 'king', *hingrian* 'to hunger' (Brunner 1965: 22-23, cf. Luick 1914-1921: 263).

As regards the developments of the low vowels under i-umlaut, it should be stated that Campbell's description of the input and output of the changes shown above (ā > ē, ā > ē) is somewhat misleading. First, since Campbell places Anglo-Frisian brightening (i.e., the general fronting of PGmc *ā* to ē) before the inception of fronting i-umlaut, the input to the short vowel change is inconsistent with his chronology of developments.
Second, as discussed in section 2.3.2, the output of the i-umlaut fronting of the reflexes of PGmc *a is twofold, with both æ and e occurring in Old English. In the case of the long vowel, Campbell’s presentation presumes a general lowering of PGmc ë to æ in a West or Northwest Germanic stage previous to the dialectal individuation of Ingvæonic or Old English. Thus, a further change, namely an Ingvæonic general fronting of this West Germanic *a must be posited. However, all reflexes of PGmc ë appear with one, single treatment in each of the Ingvæonic dialects: ë in Anglian, Kentish, and Frisian, and æ in West Saxon. There is therefore no evidence of any i-umlaut conditioned split of this long vowel. Thus, this traditional view, as presented by Campbell, demands the positing of several phonological changes without any direct evidence for their occurrence.

To return to the question of the i-umlaut fronting of the Old English reflexes of PGmc *a discussed above in section 2.3.2, it should be clear that there is considerable resemblance of the Old English development to the Old High German development, as suggested by Collier (1987). It should be recalled that in Old High German, the so-called primary umlaut of *a, already indicated in the early stages of the Old High German transmission, surpassed in height the reflexes of *ê. The secondary umlaut of *ã, graphically represented only in the Middle High German period, was less fronted and raised and ultimately merged with the reflexes of *ê. These developments are illustrated in the following table:
OLD HIGH GERMAN

\[
\begin{align*}
*\ddot{i} & \quad i & \quad i \text{ (continuation of } *\ddot{i}) \\
*\ddot{e} & \quad \varepsilon \quad \text{(prim. uml of } *\ddot{a}) \\
& \quad \text{prim. } \varepsilon \quad \varepsilon \quad \text{(sec. uml of } *\ddot{a}, \text{ cont. of } *\ddot{e}) \\
*\ddot{\alpha} & \quad \text{sec. } \alpha \quad \alpha \quad \text{(continuation of } *\alpha) \\
& \quad -\text{uml} \quad \text{a} \quad \text{a} \\
\end{align*}
\]

Using the same model, we can illustrate the developments of the non-back short vowels in the West Saxon dialect of Old English as follows (N.B. In this table, the term "secondary" is used to refer to the umlaut of \( \ddot{a} \) which results in the less fronted and raised vowel quality, i.e. to \( \ddot{a} \) in heavy syllables not preceded by a palatal consonant):

OLD ENGLISH (WEST SAXON DIALECT)

\[
\begin{align*}
*\ddot{i} & \quad i & \quad i \text{ (continuation of } *\ddot{i}) \\
*\ddot{e} & \quad \varepsilon \quad \text{(prim. uml of } *\ddot{a}) \\
& \quad \text{prim. } \varepsilon \quad \varepsilon \quad \text{(continuation of } *\ddot{e}) \\
*\ddot{\alpha} & \quad \text{sec. } \alpha \quad \alpha \quad \text{(sec. uml of } *\ddot{a}, \text{ brightened } *\ddot{a}) \\
& \quad -\text{uml} \quad \text{a} \quad \text{[a (retracted } *\alpha)]^{122} \\
\end{align*}
\]

\[^{122}\text{i.e., those reflexes of } *\ddot{a} \text{ in open syllables followed by nonfront vowels, e.g., } d\ddot{a} \text{ vs. } d\ddot{aas} \text{'day(-s)'}, f\ddot{a}t \text{ vs. } f\ddot{atu} \text{'vat(-s)'.}\]
A comparison of the two tables shows that, despite the different treatment of the 'neutral' reflexes of *ã (with brightening in Old English, without brightening in Old High German), the basic pattern of development is the same. In both dialects, the primary umlaut of *ã does not merge with any of the other short front vowels but rather becomes a high mid vowel. The secondary umlaut of *ã, on the other hand, does not maintain an independent position in the system: rather, in Old High German it merges with the reflexes of *ė, while in West Saxon it merges or, better, remerges with the brightened reflexes of *ã.

One of the advantages of this interpretation of the development of i-umlaut in Old English is that it provides an explanation for the lack of symmetry in the treatment of the reflexes of PGmc *ã and *ė. According to the traditional, handbook interpretation (e.g., Campbell 1959: 109-110), Anglo-Frisian brightening of *ã to ñ preceded fronting i-umlaut. Presumably, the alleged general development of *ė to West or Northwest Germanic *ã was also undone by the supposed Anglo-Frisian or Ingvæonic reversion of this *ã back to ñ or ẹ before fronting i-umlaut developed. In this view, however, the treatment of pre-Old English *ã and *ã differs in that only the short vowel undergoes i-umlaut, while the apparently correlated long vowel shows no traces whatsoever of any special fronting under umlaut conditions. Of course, it is not surprising that front vowels do not undergo mutation in fronting umlaut, but, if Anglo-Frisian brightening preceded fronting i-umlaut, just such a mutation must be posited for the reflexes of PGmc *ã. On the other hand, if we assume that the brightening occurred after i-umlaut and that there was no general West
or Northwest Germanic fronting of an alleged *\text{\textipa{a}} from PGmc *\text{\textipa{e}}/\text{\textipa{i}}, then the Old English developments are much more straightforward: \text{\textipa{\textipa{a}} or \text{\textipa{e}}} from *\text{\textipa{e}}/\text{\textipa{i}}, as a front vowel, was not subject to mutation by i-umlaut (and as a long vowel was also not subject to any raising effect during the raising/lowering period),\textsuperscript{123} while the short low back vowel \text{\textipa{a}} was subject to i-umlaut fronting. The product of brightening, a change which followed on the heels of i-umlaut, merged with some of the products of i-umlaut, specifically those which we have termed secondary i-umlauts of \text{\textipa{a}}, and thus obscured partially the operation of i-umlaut.

I should further add that, since brightening feeds the Old English breaking rule, it stands to reason that breaking is younger than i-umlaut, a conclusion borne out by Collier's reanalysis of the development of breaking, discussed earlier. From a systemic standpoint, this chronological ordering of the developments is more coherent than the traditional one, for breaking, though consonantally conditioned, is a change that involves backing through ex crescence of a postnuclear back glide and is from the standpoint of the output, indistinguishable from backing \text{\textipa{a}}- and \text{\textipa{u}}-umlaut (‘velar umlaut’) in Old English (see below). The traditional dating of breaking before the development of i-umlaut seems to place it in the period of raising/lowering umlaut. While the cooccurrence of raising/lowering changes and backing changes can not be ruled out on the basis of purely theoretical considerations, the evidence for the chronological relationship between breaking and i-umlaut is, at best,

\textsuperscript{123}For defence of this view, see immediately below in this section.
ambiguous and, in my view, does not support the traditional view.\textsuperscript{124} In such an instance, theoretical considerations ought to be allowed to play a part in our interpretation. It therefore is best to place breaking squarely in the period of fronting/backing umlaut, either following or coöccuring with $i$-umlaut.

I should point out that there are some objections which can be raised against the view that the Old English and Ingvæonic treatment of $\tilde{e}$ is a conservation and that there was no general lowering of $\tilde{e}$ to $\tilde{a}$ in a putative common West Germanic (or Northwest Germanic) stage. Among these are the following: a) the unlikelihood that the rounded vowel of OE $mōnā$ and similar forms developed directly from $\tilde{e}$; b) the existence of nonfronted forms such as OE $cnāwan$; c) the existence of an apparent umlaut conditioned split of the reflexes of $\tilde{e}$ in Old English (e.g. $cnāwan$ vs. $jecnāwe$).\textsuperscript{125} In light of these objections to the view advanced here, these points need to be addressed. In doing so, I should start by distinguishing between the following cases involving $\tilde{e}$ in the development of (pre-)Old English:

1) $\tilde{e}$ under neutral conditions, e.g. $sælun$ 'they sat'.
2) $\tilde{e}$ before nasal, e.g. $mōna$ 'moon'.
3) $\tilde{e}$ before $w$, $cnāwan$ 'to know'.

\textsuperscript{124}Campbell, who himself opts for the traditional ordering of breaking before $i$-umlaut, acknowledges the fact that there are arguments in favour of the other ordering: "The present writer wishes to stress that in his opinion only a balance of probability can be claimed for the traditional view..." (1959: 108).

\textsuperscript{125}J. Jasanoff (personal communication).
4) \( \tilde{e} \) before \( \digamma \) and i-umlaut conditions, \( \text{jecnæwe (}\lt \text{jecnæwi}\text{)} 'you (sg.) know (subj.)'.

In the scenario in which \( \tilde{e} \) is assumed to have developed to \( \tilde{a} \) generally in all the North and West Germanic dialects, the development of these forms would have been thus:

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>*sætun</td>
<td>*sætun</td>
<td>*sætun</td>
</tr>
<tr>
<td>*mæna</td>
<td>*mæna</td>
<td>*móna</td>
</tr>
<tr>
<td>*knæwan</td>
<td>*knæwan</td>
<td>*knæwan</td>
</tr>
<tr>
<td>*knæwi</td>
<td>*knæwi</td>
<td>*knæwi</td>
</tr>
</tbody>
</table>

Here in the second stage, all the occurrences of \( \tilde{e} \) are assumed to have been affected by the generally lowering to \( \tilde{a} \). The third stage represents the development of specifically Old English features, namely, a general refronting of the reflexes of \( \tilde{e} \) and the backing or rounding of \( \tilde{a} \) before nasals. In this view, it must be assumed that \( -\digamma \) exercised a preserving effect on \( \tilde{a} \), resisting the aforementioned spontaneous refronting. In the case of fronting i-umlaut, one can envision two possible lines of development in this scenario: either i-umlaut occurred after the general West Germanic lowering of \( \tilde{e} \) but before the Old English refronting or it occurred after both the lowering and the refronting.

If we posit no general North and West Germanic lowering of \( \tilde{e} \) to \( \tilde{a} \) but instead assume that such a lowering was general only in North Germanic and the non-Ingvæonic dialects of West Germanic, then the development of these forms would have necessarily proceeded as shown below (N.B. \( \tilde{e} \) is the specifically West Saxon treatment of \( \tilde{e} \), the other Old English dialects show instead simply \( \tilde{e} \)).
In this view it is assumed that there was no fronting i-umlaut affect on ē₁ (œ) since front vowels in Germanic are not subject to fronting umlaut. The only changes which would need to be posited in order to account for the attested distribution of ē₁ reflexes in Old English would be conditioned lowerings before -w- and before nasals. The presence of an i in the following syllable in either of these cases would then be seen as having prevented that lowering and could therefore only be described as exercising a "preserving" umlaut effect. Conversely, the lowering in forms such as cnāwan, blāwan, sāwan can be seen as having been conditioned by the combined effects of consonantal (-w-) and vocalic (V-front, -high) conditioning. It is, of course, also conceivable that the lowering effect was first exercised by -w- before the onset of i-umlaut and that in those cases where an -i followed the -w-, subsequent development of fronting i-umlaut affected the nonfront ā as well as the other nonfront long vowels. In the case of the development of reflexes of ē₁ before nasals, it is clear that the vowel in this position fell together with the nasalised long vowel resulting from nasal loss and compensatory lengthening (e.g., brōhta < *brānxta) and the two underwent the same ultimate backing and rounding.

Finally, with regard to the case of the secondarily lengthened ā in OE bār (vs. OHG dhār, Go. bār), there are several alternatives to the view
that the lengthening occurred generally in a unitary West Germanic
during the stage when \( \tilde{e} \) had been lowered to \( \tilde{a} \) but not yet refronted in
Ingvæonic. One possible explanation is that the lengthening simply took
place independently in the individual dialects, in each of which there
existed the same motivations for the development. If the lengthening
occurred independently in the dialects, it is possible that the lengthening
may have occurred in (pre-)Old English after the so-called spontaneous
Anglo-Frisian "brightening" of \( \tilde{a} \rightarrow \tilde{e} \) with subsequent lengthening of \( \tilde{e} \) to
\( \tilde{a} \). On the other hand, if the lengthening did take place in a common West
Germanic stage for both the forerunners of Old English and Old High
German, it is possible quite possible that the lengthening took place at a
time when there was in the "West Germanic" long vowel system no
qualitative correlate of \( \tilde{a} \) but rather only \( \tilde{e} (= \tilde{e}) \) and \( \tilde{a} (< \tilde{a}) \). The
lengthened short vowel may under these circumstances well have fallen
together with \( \tilde{e} \) and then subsequently undergone the same lowering in
South Germanic to \( \tilde{a} \) or conservation in West Saxon (\( \tilde{a} \)) and raising in the
other Ingvæonic dialects (e.g. OFris. \( \tilde{e} \)r). In this regard, it is important to
note that it is extremely unlikely that \( \tilde{e} \) had already developed to \( \tilde{a} \)
throughout all of what has traditionally been considered West Germanic
during the period of the innovations actually shared by North Sea and
South Germanic, that is, during the second and third centuries, in light of
the evidence for the retention of \( \tilde{e} \) in Frankish into the early Merovingian
period.

In conclusion to this brief discussion of the development of \( \tilde{e} \), it
should be clear that none of the specific arguments in favour of the
traditional view of a West Germanic development of ē to ā is in and of itself compelling and the issue of the development of this vowel stands open to reinterpretation in a broader and more coherent view of the pre-Old English developments then the traditional view offers.

In addition to fronting i-umlaut of non-front vowels, there developed in Old English the aforementioned 'velar umlaut' or 'back mutation' of certain front vowels. The vowels affected were exactly those affected by Old English breaking, namely the short front vowels æ, e, i. In general, these vowels developed back off-glides in all of the Old English dialects when there stood in the following syllable nonaccented a or u. In the case of æ, the resulting diphthong was ea, while e developed to eo and i to io, thus, the same output as in the consonantally conditioned breaking described at the end of section 2.3.2. It should be noted that æ was only susceptible to velar umlaut in those cases where the so-called 'second fronting' took place (i.e., in the dialect of the Mercian Vespasian Psalter) or, from a different perspective, where so-called 'retraction' did not occur or was undone by analogy. Examples of this backing umlaut are: æ → ea in heafoc'hawk', earun 'are', featu 'vats' (all from the Vesp. Psalter); e → eo in heorot 'hart', eodor'boar', eotan 'to eat' (Angl. & Kent. but not WSax.); i → io in sioluc'silk', siorlefr'silver', cliopað, cliopode 'calls/called' (inf. clipian), niomu / nioman'I take/to take' (Angl., Kent. but not WSax., cf. nimu / niman) etc. The degree to which this development was inhibited

\[126\] See Brunner (1965: 81-82), Luick (1914-1921: 210-211). Note that if one accepts the revised chronology of pre-Old English sound changes proposed here, there is no need to posit a specific and separate process of retraction but rather a more limited operation of Anglo-Frisian brightening after the operation of i-umlaut.
by intervening consonantisms, however, varied greatly from dialect to dialect. Campbell (1959: 85) describes the conditionings in the following way (cf. Brunner 1965: 80ff.):

"In W-S [West Saxon] these changes take place only when the consonant intervening between the vowel affected, and the back vowel which causes the change, is a labial or liquid (l, r, w, m, l, l). In Anglian they take place before all consonants except perhaps the back ones (c, q), which which were about to cause the monophthongization of all diphthongs standing before them [i.e., Anglian 'smoothing']. In Kentish they could take place before any consonant. Before geminates and consonant groups they are everywhere rare."

In comparison with the fronting effect of i-umlaut, the backing effects of this a- and u-umlaut is clearly much weaker, since it is not only subject to considerable consonantal interference but also because it does not affect long vowels or diphthongs at all. One could draw an analogy to the operation of i-umlaut and say that only a 'primary' backing umlaut developed, affecting only short vowels in light syllables, but no 'secondary' backing umlaut.

With regard to the chronological relationship of velar umlaut to fronting i-umlaut, I should point out Brunner's judgment. He seems to conclude that these processes may have overlapped in time but also that velar umlaut continued as an active sound change after the cessation of the i-umlaut process.127 If one accepts the revised relative dating of

---

breaking for which I have argued, we can simplify the phonological
development of pre-Old English by positing one period in which a backing
tendency produced these diphthongs under both vocalic and consonantal
conditioning after or, in the present writer's view, concurrent with the
operation of i-umlaut, rather than a period of consonantally conditioned
backing followed by i-umlaut followed by vocalically conditioned backing,
as in the traditional view.

While the late attestation of Frisian makes it difficult to determine
the exact course of umlaut developments in that language, the evidence
points to a pattern of phonological developments that was very close to
that which took place in the Old English dialects.

In the development of i-umlaut in Frisian, there is only one
noteworthy deviation from the pattern seen in Old English and in this
case, Frisian does not stand alone but in fact shows a development shared
with a significant part of the English dialect area. Here we refer to the
development of unrounding which, though obviously secondary to the
actual operation of fronting i-umlaut, is nevertheless a closely related
phenomenon. In Old Frisian, unrounding of āe and presumably āe
(though examples of this are difficult to identify with certainty for reasons
soon to be apparent), the i-umlaut products of ĉand ולוג, produces ĝand ĝ, as

---

der ohne Vorbedingungen des i-Umlauts meist verschieden ist, ist
anzunehmen, daß die Erscheinungen der Brechung bereits vor dem
Durchdringen des i-Umlauts vorhanden waren. Hingegen sind die
Erscheinungen des Velarumlauts manchmal auch bei Vokalen zu
bemerken, die auf i-Umlaut zurückgehen, wenn durch Analogie oder
Suffixtausch velare Vokale nach den durch i-Umlaut zu erklärenden,
sekundären palatalen Vokalen eintraten. Der Velarumlaut war daher
nach der Durchführung des i-Umlauts noch wirksam."
in all the English dialects. Examples of this development in Frisian are \( \text{sēka} < \text{'sōkjan}' \text{to seek}, \text{grēta} < \text{'grōtjan}' \text{to greet}. \) But the unrounding of the high front rounded vowels, \( \text{v} \) and \( \text{v} \), from earlier \( \text{u} \) and \( \text{u} \), does not result in \( \text{i} \) and \( \text{i} \), as happens eventually in most of the English dialects, but rather in \( \text{ê} \) and \( \text{ê} \). Examples of this development are: \( \text{hēd(e)}' \text{hide, skin}', \text{hēre} \text{ 'rent, hire'} \) (cf. Ger. \text{Heuer, Du. huur}), \( \text{rēma} \text{ 'to clear, to make room'} \) (cf. Ger. \text{rāumen}), \( \text{bregge} \text{ 'bridge'} \) (cf. OE \text{bryċʒ}), \( \text{slytel} \text{ 'key'} \) (cf. OE \text{slytel}), \( \text{hei} \text{ 'mind, sense'} \) (cf. OE \text{hyʒe}).

From the fragmentary evidence of Old Kentish and the more complete evidence of Middle English, this same tendency to lower \( \text{v} \) and \( \text{v} \) in the course of unrounding can be seen to have occurred over a broad stretch of southeastern England, including much of East Anglia, the lower Thames area, Kent and probably neighbouring territories in Surrey and Sussex. There is also evidence for the occurrence of this change on the Isle of Wight and the adjacent coastal zone of Hampshire, as well as in Gloucestershire and Warwickshire in the Severn valley.

For the development of a backing umlaut in Frisian similar to what is found in Old English, only indirect evidence can be found. This indirect evidence comes in the form of the indications of a similar, but more limited development of consonantally conditioned diphthongisation through development of a postnuclear back glide. In Frisian, this breaking seems to have been limited to the case of \( \text{i} \) (and/or \( \text{e} \)) before \( \text{z} \), as

\[\text{128}\text{For further examples, see also Van der Rhee 1973.}\]
\[\text{129}\text{Cf. Luick (1914-1921: 262), Samuels (1972: 122), and Van der Rhee (1979). For a discussion of the significance of this Frisian/southern English correspondence, see Buccini (forthcoming a and b) and below in Chapter 3.}\]
in *riuchta* 'to fight', *riucht* 'right' (Heuser 1903: 12, Steller 1928: 11). Though this consonantally conditioned breaking is obviously not itself a case of umlaut in the sense of the term employed in this study, it does indicate that in at least some positions, similar diphthongs to those found in Old English from breaking and velar umlaut did exist. In earlier stages of the language, they may have been found in other positions, including those where *a*- and *u*-umlaut would have operated. In this regard, it should be noted that in most cases in English, the diphthongs resulting from breaking and velar umlaut had by the Middle English period (and thus contemporary with our 'Old' Frisian attestations) undergone secondary developments and thus no longer reflected clearly the operation of those sound changes. This point has been made by Heuser with regard to breaking (loc. cit.):

"Daß für das Urfries. eine Brechung, wie die des ae. æ, e vor r, /, h + Consonant vorhanden war, ist nicht zu erweisen, aber wahrscheinlich. Auch im Mittelengl. sind die Brechungen *ea* und *eo* wieder in a(e) und e untergegangen (vgl. me. *all, ertbe*), deutlichere Spuren sind nur geblieben, wo zu der Brechung Palatalumlaut hinzutrat (vgl. ne. *right, knight, six* etc. = ae. selten *reoft, kneoft, seox*, gewöhnlich mit Palatalumlaut *ryht, cni(e)ht, siet*)."

We should also note that there is at least one trace of vocalically conditioned backing umlaut recognisable in Old Frisian; before a *u* or an *u* in the following syllable, *i* was broken to *iu*, as in *siunga* < "*singuan* 'to sing' (but! OE *singan*, *niugun* 'nine' (cf. OE *nigom*, *siugun* 'seven' (cf. OE
*seofan, siofan*. Thus, if we bear in mind the fact that even within Old English, noteworthy dialectal differences are observable in several of the prehistoric phonological developments and most especially velar umlaut, it seems reasonable to conclude that, with regard to the development of umlaut in general (as well as a number of other phonological changes), Frisian and the dialects which later come to be considered specifically English were originally all closely related dialects within an Ingvæonic or North Sea Germanic dialect group.

The final subject to be treated in this section on fronting/backing umlaut in Germanic is the evidence of the North Germanic branch. Given, however, that the North Germanic developments are only of interest here in so far as they shed some light on the overall patterns of umlaut development within Germanic, I need only describe them in very general terms. A detailed discussion of the basic facts is, moreover, unnecessary, in light of the particularly extensive literature on umlaut in Norse.

As in North Sea Germanic, fronting *i*-umlaut developed quite strongly in North Germanic, with relatively little interference from consonantal environments. The range of vowels affected and the results of the mutation were for the most part all of familiar form (cf. Haugen 1982: 32). The following will serve as examples (Noreen 1970: 57-59):
ä > æ: heldr ‘rather’ (cf. Go. haldis)
ä > æ: mæle ‘I speak’ (cf. mál ‘speech’)
ō > ō: sener ‘sons’ (cf. sg. sonr ‘son’)
ō > ō: déma ‘to judge’ (cf. Go. dómjan)
ū > ū: lýla ‘to fill’ (cf. Go. fulljan)
ū > ū: lýkr ‘you close (2nd sg. pres.) (cf. inf. luká)
ou > oy: høyra ‘to hear’ (cf. Go. hausjan)

There was, however, one major case of failure of i-umlaut in North Germanic which appears to have involved an apparent prosodic conditioning factor. Here I refer to the much treated and controversial topic of the failure of fronting to occur in light or short stemmed words, the discussion of which I will leave for the following section.

In addition to undergoing fronting i-umlaut, North Germanic also underwent a backing umlaut of ǝ conditioned by a in the following syllable, resulting in ia, and also by u in the following syllable, resulting in iq.130 It should be noted that the vast majority of clear instances of this umlaut effect are found in roots with consonantisms which in many instances may themselves have been responsible for the development, as Dyvik (1978) has pointed out. Specifically, Dyvik’s analysis of the data reveals a distinction in the conditioning of the breaking diphthongs according to the weight of the syllable (p. 36):

"The phonemic surroundings conditioning breaking in long-syllabic forms were the following consonant clusters: /r/ + consonant, /l/ + consonant and possibly /b n/. Breaking did not take place if the following syllable contained an unstressed

130For a detailed account of the cases, see Noreen 1970: 86ff.
/i/ or if the /e/ was preceded by a consonantal /u/... The phonemic surroundings conditioning breaking in short-syllabic forms were the vocalism in the following syllable, viz. unstressed /u/ or /ō/. PGmc /a/ has not led to breaking in any forms."

Of particular interest here is the fact that in these backing developments we again see a particular susceptibility of vowels in light syllables to umlaut effects, whereas consonant clusters of heavy syllables often interfere with or exercise their own mutating influence on the preceding prominent vowel. Of further interest is the connexion that Dyvik draws between the Norse developments and the 'breaking' and 'velar umlaut' developments in Old English. As I suggested above, the two phenomena must be viewed together as essentially one change subject to variable conditioning and thus reconditioning. In this regard, we must acknowledge the relevance of a number of the criticisms, which Benediktsson (1982: 41-55) makes in his extensive discussion of Dyvik's views, concerning the reformulation of the conditioning environments and thereby the nature of the relationship between breaking and backing umlaut. From the present writer's perspective, both Dyvik and Benediktsson take an excessively rigid notion of conditioning and in particular do not sufficiently consider the possibility of the interaction of vocalic and consonantal conditionings.

Dyvik's conclusions regarding the relationship of the Old English and especially Anglian developments to those in Old Norse are worthy of citation here (p. 35):
"...[T]he conditions for breaking and back mutation in Anglian were almost identical with the conditions for breaking in ON (and OSw); the differences are to a large extent explained by other structural differences between the dialects. It seems more than likely, therefore, that the phonetic beginnings of breaking, i.e. the development of the phonological rules, was a common development in the North Gmc area and the northernmost part of the West Gmc area, viz. the continental site of the Anglo-Saxons. The center of the development may have been in the south--at least, that is where we find the most far-reaching effects of the change; and there are some indications that consonantal breaking started earlier in OE than in PSc. Thus, the development of breaking allophones must have begun before the Anglo-Saxon emigration, i.e. before the fifth century."

Thus, from a very different perspective, Dyvik arrives at the same conclusions as I have regarding the chronological relationship of breaking, i-umlaut and velar umlaut in Old English.\textsuperscript{131} His findings, moreover, point both to the close relationship of North Sea to North Germanic over against South Germanic for which I have argued above. Finally, dating of this backing effect to the period just before and during the period of emigration of the North Sea peoples from the area of modern Denmark

\textsuperscript{131}Dyvik (1978: 34): "The effect of OE breaking and back mutation is the same; and the traditional view of them as separate sound changes should probably be revised: it rests on chronological considerations that do not seem compelling when the phenomena are analysed from a structural point of view."
lends support to my claim, advanced by Collier as well, that i-umlaut also began in pre-Old English before the settlement of Britain.

A further umlaut development peculiar to North Germanic and especially well preserved (or conceivably more thoroughly carried out) in West Norse is that of a strongly rounding umlaut induced by posttonic $u$ (and also $(_u)$).\textsuperscript{132} This rounding umlaut resembles to a far greater degree i-umlaut in its range of application than does the backing umlaut ('breaking') just described above. Examples of this development are the following (Noreen 1970: 69-ff.):

\[
\begin{align*}
\text{ā} & > \text{o̞}: \text{mogr}'\text{son}' (\text{cf. Go. } \text{magus}) \\
\text{ā} & > \text{o̞}: \text{sör}'\text{wounds}' (\text{cf. sg. sán}) \\
\text{ē} & > \text{o̞}: \text{rēro}'\text{rowed}' (3\text{rd pl. pret., cf. inf. rērā}) \\
\text{ē} & > '\text{o̞}: \text{fō}'\text{ 'cattle}' (< *fēu) \\
\text{i} & > \text{y̞}: \text{nykr}'\text{nix}' (\text{cf. OE } \text{nicor, OHG nihhus}) \\
\text{ī} & > \text{y̞}: \text{ bú}'\text{ 'bees}' (< *bīu) \\
\text{ĕ} & > \text{o̞}: \text{ōx}'(\text{also æx}) '\text{ax}'
\end{align*}
\]

A general characterisation of the North Germanic development of fronting/backing umlaut is difficult: it was slightly less throughly carried out in Norse than it was in North Sea Germanic, though in this regard, we have not yet considered the real significance of the one major case of i-umlaut failure in North Germanic, namely in light stems in which the conditioning factor was lost in the prehistoric period. In North Germanic backing umlaut, i.e., an umlaut resulting in diphthongs with back off-glides, is developed to a lesser degree than it is in North Sea Germanic.

\textsuperscript{132}Our presentation of this phenomenon can scarcely do it justice. For a more complete discussion, see Benediktsson (1963) and Benediktsson (1982: 27ff.).
However, North Germanic stands alone in its development of a full-fledged rounding umlaut, which must at the same time also be considered a form of backing umlaut.

2.3.5 Overview of the Development of Umlaut in Germanic

To conclude this section we should briefly review the general findings of the foregoing analysis of umlaut developments in the dialect branches of Germanic. First, we should compare the relative degrees to which the two types of umlaut have developed in the surviving branches:

DEGREES OF UMLAUTF DEVELOPMENT IN THE DIALECTS

Degree of Raising/Lowering Umlaut
Least __________________________ Most
North Sea Gmc/North Gmc/South Gmc

Degree of Fronting/Backing Umlaut
Most __________________________ Least
North Sea Gmc/North Gmc/South Gmc

A closer look at the operation of umlaut in the three surviving branches of Germanic by umlaut type and conditioning factor reveals several striking points (Note that, as in the earlier table concerning only raising/lowering umlaut, 'yes' indicates that the form of umlaut in question developed very regularly, 'no' that it developed not at all, and 'ltd' (= 'limited') that it developed only sporadically or was strongly limited by interfering consonantal influences):
DIALECTAL DEVELOPMENT OF THE TWO TYPES OF UMLAUT

<table>
<thead>
<tr>
<th></th>
<th>NGmc</th>
<th></th>
<th>NSGmc</th>
<th></th>
<th>SGmc</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R/L</td>
<td>F/B</td>
<td>R/L</td>
<td>F/B</td>
<td>R/L</td>
<td>F/B</td>
</tr>
<tr>
<td>a-umlaut</td>
<td>ltd</td>
<td>ltd</td>
<td>ltd</td>
<td>ltd</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>i-umlaut</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>ltd</td>
</tr>
<tr>
<td>u-umlaut</td>
<td>ltd</td>
<td>ltd</td>
<td>ltd</td>
<td>ltd</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

First, we can see that, despite noteworthy differences in detail, the North and North Sea Germanic branches show essentially identical developments of both raising/lowering and fronting/backing umlaut. Those more significant differences between the two branches involve the development of a- and u-umlaut during the fronting/backing period and, from a dialect-geographical standpoint could be taken as indications of the two branches' gradual drift apart after the North Sea Germanic tribes departure from Jutland and the Danish islands. South Germanic deviates strongly from the other branches in both its far more complete development of raising/lowering umlaut and in its far less complete development of fronting/backing umlaut.

A further point of difference in the branches' development of umlaut is the time and possibly also the rate of development. Here North Germanic seems in ways to take an intermediate place between North Sea Germanic and South Germanic but the most striking feature is the lateness and perhaps too slowness of the developments in South Germanic.
CHRONOLOGY OF UMLAUT DEVELOPMENTS IN THE DIALECTS

<table>
<thead>
<tr>
<th>A.D.</th>
<th>100</th>
<th>200</th>
<th>300</th>
<th>400</th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>900</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSGmc</td>
<td>R/L</td>
<td>F/B</td>
<td>(u-umlaut)</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NGmc</td>
<td>R/L</td>
<td>F/B</td>
<td>(u-umlaut)</td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SGmc</td>
<td>R/L</td>
<td>F/(B)</td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It seems certain that the striking structural differences in the development of umlaut are somehow related to the very obvious chronological differences. More specifically, it appears that the differences between umlaut developments in South Germanic and North Sea Germanic can be ascribed to a different time of the transition from raising/lowering to fronting/backing umlaut in an otherwise generally similar pattern of development. Thus, whereas in South Germanic (Old High German), all a- and u-umlaut effects occur within the period of raising/lowering, in North Sea Germanic the final wave of mutations caused by a- and u-umlaut clearly occur after the transition to predominantly fronting/backing developments in the vocalic system. This minor difference in the relative chronology of the transition from vertical to horizontal umlaut with the operation of the specific umlaut conditionings has a considerable effect on the resulting vowel systems.
STAGES IN THE OLD HIGH GERMAN DEVELOPMENT OF UMLAUT

I  i-umlaut raising/preserving influence  
   u-umlaut preserving influence  

II  a-umlaut lowering influence on ā  

III  a-umlaut lowering influence on Ĩ  
     u-umlaut raising influence on ē  
     transition from raising/lowering to fronting/backing  

IV  'primary' fronting/raising i-umlaut of ā  

V  'secondary' fronting i-umlaut of all nonfront vowels  

STAGES IN THE OLD ENGLISH DEVELOPMENT OF UMLAUT  

I  i-umlaut raising/preserving influence  
   u-umlaut preserving influence  

II  a-umlaut lowering influence on ā  
     transition from raising/lowering to fronting/backing  

III  'primary' fronting/raising i-umlaut of ā  

IV  a-umlaut backing influence  
     u-umlaut backing influence  

V  'secondary' fronting i-umlaut of all nonfront vowels  

Beside the position of the transition from the one umlaut principle to the other, only one other difference must be assumed to account for the developments of these two branches, namely that in North Sea Germanic, the last wave of backing a- and u-umlaut ('velar umlaut') clearly follows or, at the very least, cooccurs with the first stages of fronting umlaut, while
in South Germanic the opposite relationship must have obtained, that is, the final wave of raising \( u \)-umlaut and lowering \( a \)-umlaut must have preceded (and possibly overlapped with) the beginning stages of fronting \( i \)-umlaut.

Unfortunately, the precise cause or trigger for the switch from the raising/lowering pattern to the fronting/backing pattern is not absolutely clear. I have tentatively proposed that the switch from the one kind of umlaut to the other may reflect a change in the nature of reduction in nonprominent syllables from peripheralising to centralising reduction. Such a change in reduction would presumably be itself tied to a change at the prosodic level of phonological organisation and represent a change from a moderately 'dominating' prominence type to a more strongly dominating prominence type. Yet, even if this notion proves correct, it remains that it provides no obvious motivation for the differing relationships of the transition to the stages of development of \( a \)- and \( u \)-umlaut.
2.4 CASES OF UMLAUT FAILURE IN GERMANIC

In this section, I will take a brief look at some of the instances of umlaut failure in Germanic, that is, cases in which, against expectations based on general patterns of development in Germanic, umlaut for one reason or another failed to operate. Since in the course of the previous section I already have discussed a number of such cases, I will focus here on instances of the failure of fronting i-umlaut which could conceivably bear some relevance to the most striking instance of umlaut failure in Germanic, namely, the failure of fronting i-umlaut to develop fully in Dutch. This section will be divided into two subsections. In the first of these I will examine types of i-umlaut failure which are common to the dialects of all three of the surviving branches of Germanic. In the second, I will look at the special case of the failure of fronting i-umlaut to develop regularly in light syllable words in North Germanic.

2.4.1 Common Types of Umlaut Failure

There are three causes of the failure of i-umlaut to develop which occur in more than one dialect of Germanic. These three causes are: 1) the early loss of umlaut conditioning factors, 2) interference of the VC relation with the V-V relation, and 3) insufficient accentual contrast between the potential umlaut conditioning vowel and the prominent vowel potentially subject to mutation. In the following discussion I will not attempt an exhaustive treatment of all cases of each kind of umlaut failure in Germanic, since such a study would be quite lengthy and probably prove to add little to our analysis of the failure of i-umlaut in Dutch.
1) Early Loss of Conditioning Factors

In the case of the early loss of umlaut conditioning factors before the operation of the umlaut effect we can further distinguish between those cases in which the conditioning factor is lost as a result of analogical leveling and those in which the the conditioning factor is lost through regular phonological change. While this distinction should in theory be fairly easy to make, in practice it is not always so.

One fairly clear case of loss of the conditioning factor through analogical change is that of the feminine i-stem nouns in Old Norse. The nouns of this class in all of the dialects show more or less strong tendencies to shift to other declensions and conflation with the consonant stem (i.e. athematic) inflexional pattern is common. In Old Norse, however, the feminine i-stem nouns were very clearly fitted out with the endings of the lexically most dominant feminine inflexional pattern, namely that of the ō-stem class. This transfer of the i-stems to the ō-stem declension is quite regular throughout the forms of the singular but only rarely did the transfer affect the plural formation of these nouns.\textsuperscript{133} If we compare the attested forms of the Old Norse i-stems with the reconstructed inflexions of the class and the attested forms of the Old Norse ō-stem class, the shift of the i-stems to the latter class is apparent:\textsuperscript{134}

\textsuperscript{133}Noreen (1970: 270): "Alt und selten kommen nom. acc. pl. auf -ār nach $\S$375 \([\ddot{o}\text{-stems}]\)..."

\textsuperscript{134}The reconstructed PGmc forms here are based on Campbell (1959: 242) and Haugen (1982: 90).
<table>
<thead>
<tr>
<th></th>
<th>PGmc</th>
<th>ON (-i-)</th>
<th>ON (-ð-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>*-iz</td>
<td>ðxl</td>
<td>u-umlth</td>
</tr>
<tr>
<td>gen.</td>
<td>*-aiz</td>
<td>ax/arl</td>
<td>-ar</td>
</tr>
<tr>
<td>dat.</td>
<td>*-ai</td>
<td>ðxl</td>
<td>u-umlth</td>
</tr>
<tr>
<td>acc.</td>
<td>*-in</td>
<td>ðxl</td>
<td>u-umlth</td>
</tr>
<tr>
<td>pl.</td>
<td>nom.</td>
<td>*-īz</td>
<td>axler</td>
</tr>
<tr>
<td>gen.</td>
<td>*-iðn</td>
<td>ax/a</td>
<td>-a</td>
</tr>
<tr>
<td>dat.</td>
<td>*-imiz</td>
<td>ðxlom</td>
<td>-um</td>
</tr>
<tr>
<td>acc.</td>
<td>*-ins</td>
<td>axler</td>
<td>-ar</td>
</tr>
</tbody>
</table>

Clearly, had these nouns maintained reflexes of the reconstructed PGmc endings, fronting ð-umlaut ought to have developed in the nom. and acc. of the singular and in all forms of the plural. What appears to have happened is that the singular forms were refitted with Ø-stem endings at an early date, probably before the completion of the i-umlaut process. Similarly, in the plural, the anticipated genitive and dative endings with an i-umlaut conditioning factor were replaced with -a and -um respectively, endings which were generalised to all noun declensions. Evidence for such an early replacement of dat. pl. -im with -um at an early date can be found in the masculine i-stem form gestumar of the Stentøften inscription. This masculine i-stem form, however, shows an umlauted root vocalism, which points to the analogical spread of the umlauted vowel of the nom. and acc. sg. throughout the paradigm. In the feminine i-stems, on the other hand, the early, large-scale transfer of the singular to the Ø-stem declension ensured that the unumlauted vocalism would be generalised. Thus, even in the nom. and acc. pl., where the attested ending -er/-ir can be traced back to the original i-stem ending and ought to have caused umlaut, we find the generalised, non-fronted vocalism. It should
be added that, as should be expected with such an analogical change, there remain a number of relict forms in which an unumlauted vocalism has developed and been maintained (Bibire 1975: 187). The Old Norse treatment of the feminine i-stems will discussed further below in section 2.4.2.

In sharp contrast to the Old Norse treatment of the feminine i-stems stands the Old English treatment. In this language, virtually all feminine i-stems which can show the effects of i-umlaut do so throughout the entire paradigm, as in *brīd* 'bride', *hīd* 'hide', *wyrd* 'fate', *fierd* 'army', *mieht* 'might', *spēd* 'success' etc. (Campbell 1959: 242). Nevertheless, there are clear traces of the tendency to bring these nouns into line with the lexically dominant ð-stem pattern (e.g., -*a* in place of the regular -*e* in the nom. pl.), but clearly, such analogy was not of a sufficiently regular or widespread nature before or during the development of i-umlaut to efface the pattern of umlaut fronting in this class.

Somewhat less clear than in Old Norse or Old English is the development of the feminine i-stems in Old High German. The traditional view of the developments of all i-stem nouns in this language involves crucially the relative dating of the development of fronting i-umlaut and the reduction of -i- after heavy syllables. In the view of Dal, the modern German predilection for nominal singular/plural marking with umlaut alternations came to such prominence as a result of the 'lautgesetzlich' developments in this class:

"Die Voraussetzung dafür [sg./pl. vowel alternations] liegt in dem chronologischen Verhältnis zwischen dem Wegfall des

If this view is correct, then we must consider the lack of umlauted root vowels in i-stem singul ars (both masculine and feminine) in Old High German not as the result of analogical leveling before the operation of fronting i-umlaut, but rather as the result of regular phonological change which had essentially the same effect, namely, to remove the umlaut conditioning factor before it had the opportunity to exercise its mutating influence.

Against this the received opinion argues Antonsen, who instead sees the absence of fronting in Old High German i-stem nouns as the result of analogical leveling between the i-stem declension and the consonant stem or athematic declension. For Antonsen, regular phonological loss of nonprominent i must be assumed to have caused fronting mutation in all cases and therefore absence of mutation can only be explained through loss
of the conditioning factor through analogy with other forms. In support of his view, he points to the lack of correspondence between the forms not only across the dialects but also within one and the same dialect (1969: 202-203):

"Obwohl man schon seit Sievers (1878) versucht hat, das fehlende -i durch phonologische Gesetze zu erklären, sind solche Versuche völlig aussichtslos. Die Buntheit der Formen in den verschiedenen Sprachen (und manchmal innerhalb der einen) läßt sich nur dadurch erklären, daß die ursprünglichen i- und konsonantischen Stämme sich gegenseitig beeinflußt haben, und zwar nicht so, wie herkömmlicherweise angenommen wird, daß die i-Stämme völlig mit dem Sieg davon gelaufen sind, sondern so, daß die konsonantischen Deklination im Singular verdrängt hat."^{135}

^{135}In an earlier publication, Antonsen (1966: 121) states the following concerning the i-stem declension in Germanic: "Hirt interprets the i-stems as consonantal stems with an affixed -i- and points out that the stem formant did not have to appear in all inflectional cases, so that consonantal and i-stem forms could exist side-by-side. I believe this is actually the situation confronting us in Goth. gast, staps, brüps, brüpfaps, OHG gast, stat, brūt, brūt-louft, OS gast, gast-seli, brūd, Olcel. stapr, brūbr, brüpf-lauip, i.e. these are originally (Proto-Germanic) consonantal stems, as opposed to forms with 'infixed' /-i-/ reflected in Gothic naudi-bandib, OHG brūti-gomo, OS brūdi-gumo, perhaps also gest-seli<PGmc. */gasti-sali/, Olcel. bryllauip < */brudi-lauip/. This hypothesis is supported by the following evidence: (1) there seems to be no rule at present that adequately accounts for the retention or syncope of /-i-/ in Gothic compounds, e.g. naudi-bandibut brüpfaps, (2) in Old High German and Old Saxon, many so-called i-stems were clearly originally consonantal or u-stems; (3) in Old High German and Old Saxon, the singular of the so-called i-stems normally shows no trace of a-umlaut, which would have to be expected had there been a complete coalescence of
In Antonsen's view, the nominative and accusative singular forms of the feminine *i*-stems, in which the root vocalism does not show the effects of fronting *i*-umlaut have been rebuilt on the model of the analogous forms of the athematic declension. To illustrate this claim, he compares the two declensional patterns, beginning with the following reconstructions of the late PGmc stage:136

<table>
<thead>
<tr>
<th>Gender</th>
<th>PGmc <em>i</em>-stem</th>
<th>PGmc athematic</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom.</td>
<td>*anstiz</td>
<td>*nahtz</td>
</tr>
<tr>
<td>gen.</td>
<td>*anstiz</td>
<td>*nahtaz / *nahtiz</td>
</tr>
<tr>
<td>dat.</td>
<td>*ansti</td>
<td>*nahti</td>
</tr>
<tr>
<td>acc.</td>
<td>*ansti</td>
<td>*nahtu</td>
</tr>
<tr>
<td>pl. nom.</td>
<td>*anstiz</td>
<td>*nahtaz / *nahtiz</td>
</tr>
<tr>
<td>gen.</td>
<td>*anstijō</td>
<td>*nahtō</td>
</tr>
<tr>
<td>dat.</td>
<td>*anstimiz</td>
<td>*nahtumiz</td>
</tr>
<tr>
<td>acc.</td>
<td>*anstinz</td>
<td>*nahtunz</td>
</tr>
</tbody>
</table>

these forms with the a-declension already in Proto-Germanic; cf. OHG *liut /liut/, pl. *liuti /liüti/, and the different reflexes of /iu/ and /iü/ in Middle High German."

Whatever the value of Antonsen's observations concerning the relationship of the *i*-stem and athematic declensions, it remains that in many cases there is extra-Germanic evidence which can help us determine to what class certain words originally belonged, as, for example, in the case of *gast-*: the cognate Latin (*hostis*) and Old Church Slavonic (*gosti*) forms point clearly to its having been an *i*-stem noun (J. Jasanoff, personal communication). Antonsen places far too little value on this comparative evidence.

136 For brevity's sake, I will limit my discussion to the nouns with monosyllabic roots. For a discussion of the polysyllabic nouns, see Antonsen (loc. cit.). In the polysyllabic nouns, the pattern of analogy was different, with the gen. and dat. sg. of the athematic nouns taking on the endings of the *i*-stems (e.g., *magatj* in place of *magat* on the model of *i*-stem *jugunti*).
The anticipated (early) Old High German forms developed regularly from the above reconstructed forms are the following (Antonsen 1969: 203):

<table>
<thead>
<tr>
<th></th>
<th>OHG i-stem</th>
<th>OHG athematic</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg. nom.</td>
<td>*ansti</td>
<td>naht</td>
</tr>
<tr>
<td>gen.</td>
<td>ansti</td>
<td>naht / nahti</td>
</tr>
<tr>
<td>dat.</td>
<td>ansti</td>
<td>nahti</td>
</tr>
<tr>
<td>acc.</td>
<td>*ansti</td>
<td>naht</td>
</tr>
<tr>
<td>pl. nom.</td>
<td>ansti</td>
<td>naht / nahti</td>
</tr>
<tr>
<td>gen.</td>
<td>*ansti</td>
<td>*nahta</td>
</tr>
<tr>
<td>dat.</td>
<td>anstim</td>
<td>nahtum</td>
</tr>
<tr>
<td>acc.</td>
<td>*anstin</td>
<td>*nahtun</td>
</tr>
</tbody>
</table>

If we compare the starred forms with the actual, attested Old High German forms shown below (Braune/Eggers 1987: 200, 214), it does indeed seem plausible that the nom. and acc. sg. were remodeled according to the athematic declension at an early date. The plural forms of the fem. i-stems, on the other hand, all maintained desinences which conditioned fronting:

<table>
<thead>
<tr>
<th></th>
<th>OHG i-stem</th>
<th>OHG athematic</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg. nom.</td>
<td>anst</td>
<td>naht</td>
</tr>
<tr>
<td>gen.</td>
<td>ensti</td>
<td>naht / nahti</td>
</tr>
<tr>
<td>dat.</td>
<td>ensti</td>
<td>nahti</td>
</tr>
<tr>
<td>acc.</td>
<td>anst</td>
<td>naht</td>
</tr>
<tr>
<td>pl. nom.</td>
<td>ensti</td>
<td>naht / nahti</td>
</tr>
<tr>
<td>gen.</td>
<td>enstio</td>
<td>nahto</td>
</tr>
<tr>
<td>dat.</td>
<td>enstim</td>
<td>nahtum</td>
</tr>
<tr>
<td>acc.</td>
<td>ensti</td>
<td>naht</td>
</tr>
</tbody>
</table>

The interaction between these two declensions in the early development of Germanic is, in Antonsen's view, not only to be seen in the developments of Old High German but in the other dialects as well, prompting him to make the following statement: "The question is not 'Why is there no
umlaut in OHG *gast* or Olcel. *stahr?*, but actually 'Why are OE *g(i)est, stede*, Olcel. *gestr, OS stedi* inflected as original *i*-stems, while the singular forms of corresponding etyma in other dialects are not?' The latter question is intimately related to the complex problems of stem formation in Indo-European and the regular and irregular correspondences found in Germanic" (1966: 122).

The apparent close connexions between these two declensions both in Old High German and the other Germanic dialects and the inconsistencies between the various dialects' treatments lend support to Antonsen's proposed explanation for the absence of umlaut in the nom. and acc. sg. forms. Nevertheless, it remains that there is no evidence that actually renders the received, phonological explanation untenable. Moreover, it should be noted that a review of the feminine *i*-stems in the Germanic languages reveals that they are all, with but a very few exceptions, heavy root syllable words. Of these, the Old English examples ought to show *i*-umlaut and do, while those in Old Norse ought, like the words with heavy syllable, not to show *i*-umlaut and do not (cf. the discussion earlier in this subsection). In Old High German, there are some light syllable feminine *i*-stem nouns, only three of which are recorded with maintenance of final *-i* in the nom. or acc. sg.: *turi* 'door', *kuri* 'choice', and *steti* 'place, city' alongside the more usual *stat* (Schatz 1907: 119, cf. Braune/Eggers 1987: 202). Of course, analogy of these light syllable nouns

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to the far more numerous heavy syllable nouns after the loss of final \(-\i\)
after heavy syllables and before the operation of fronting \(i\)-umlaut, as the
traditional interpretation of this declension's development posits, is
certainly no less likely than the analogy proposed by Antonsen to account
for the heavy syllable nouns' absence of umlaut, and, taking lexical
frequency (and perhaps too absolute frequency in speech), the traditional
view seems more likely.

It should also be pointed out that Antonsen's analysis of the
development of the \(i\)-stem nouns lack of umlaut fronting in Old High
German is predicated on his more general analysis of umlaut in Germanic
(see above, section 2.2). Since he assumes all possible umlaut effects
operated already in Proto-Germanic, the lack of umlaut in the forms in
question must necessarily be attributed to analogical rebuilding,
presumably before the phonemicisation of the umlauted phones. As
discussed above, however, there is no compelling reason to accept such a
view of Germanic umlaut. From the standpoint of the view of umlaut
development in Germanic and Old High German presented here, the
traditional interpretation of the \(i\)-stems' umlaut failure presents no
difficulties. Rather, it seems very much in line with the chronology of
umlaut developments for which I have argued. If the uncertainty and
tendency toward analogical change in the \(i\)-stem declension manifested
itself in both North Sea Germanic and South Germanic at roughly the
same time, this might well have occurred during the period after the
inception of fronting \(i\)-umlaut in North Sea Germanic, at the time of the
extended raising/lowering developments in South Germanic. Apocope of
final -j after heavy syllables during this period would not have been associated with fronting of the prominent vowel in the heavy syllable. In this regard, it should be emphasised that there is considerable evidence from the other Germanic dialects that point to a strong interrelationship between prominent syllable weight and the rate of reduction of following, nonprominent vowels. Ultimately, however, there is no evidence that forces us to reject or accept without qualification either the traditional view or Antonsen's view, and it should be noted that they are by no means mutually exclusive. As we have argued in the case of the Old English development of 'primary' and 'secondary' umlaut of *ǣ differing rates of development of a given sound change give rise to the possibility and motivation for analogical leveling.

2) Consonantal Interference with the V-V Relation

Since I have already discussed this cause of umlaut failure in connexion with the development of raising/lowering umlaut, I will focus here on consonantal interference with the development of fronting/backing umlaut.

In the previous section was described the conditioning of backing umlaut in North Sea Germanic and North Germanic which led to 'breaking', that is, a diphthongisation of short, non-back prominent vowels. In both of these branches there is evidence that both consonantal conditioning and vocalic conditioning have exercised this backing effect and that, to some degree at least, the two kinds of conditioning have interacted, e.g., the suppression of consonantly conditioned backing in Norse when a fronting i-umlaut conditioning factor followed in the next
syllable.\textsuperscript{138} Vocalic conditioning of backing umlaut seems to have been relatively weak, exercising its effect only on short vowels in light syllables and then (with considerable dialect variation), only when the intervening consonantism was favourable. Given that no parallel backing umlaut develops in South Germanic, we must conclude that the tendency for backing umlaut was globally weaker than the tendency for fronting umlaut, a conclusion that finds support in the umlaut developments of other, unrelated languages.

In contrast with the development of backing umlaut, there was virtually no significant consonantal interference in the development of fronting $i$-umlaut in North Sea Germanic. In the case of North Germanic, one could argue that there was interference from consonantal environments if one takes the traditional notions of '$R$-umlaut' and 'palatal umlaut' in the development of the vowels in light root syllables as exceptionally favourable umlaut environments in comparison with generally unfavourable environments. This question will be addressed in more detail below. For now, it will suffice to say that such a claim implies that the failure of $i$-umlaut in light root syllables in Old Norse was the result of consonantal influence, a view which is extremely unlikely to be correct. Thus, we can further state that consonantal interference played little or no rôle in the inhibition of fronting $i$-umlaut in North Germanic too.

\textsuperscript{138}Cf. the parallel case in Old English (discussed in section 2.3.4), in which the lowering of $\ddot{a}$ to $\tilde{a}$ before $-w-$ was, in effect, blocked (or undone by umlaut) by an $i$-umlaut conditioning factor in the following syllable (e.g. \textit{cn\ddot{a}wan} vs. \textit{ecn\tilde{a}we}).
From our earlier discussion of the development of fronting \( i \)-umlaut in South Germanic, on the other hand, it should be clear that there was fairly extensive interference of VC relations with the V-V relation in this dialect group. The coincidence in the South Germanic dialects (Alemannic, Bavarian, Frankish, and, to some degree, Old Saxon) of 1) the staggered graphic representation of fronting of \( \tilde{a} \); 2) the phonological contrast between the products of \( \tilde{a} \) under primary (\( \phi \)) and secondary (\( \tilde{\alpha} \)) umlaut; and 3) specific consonantal environments, makes it quite clear that some of these consonantal environments had an inhibiting effect on the fronting influence of nonprominent \( i \) and \( \dot{i} \). Whether this inhibition was manifested only qualitatively or both qualitatively and chronologically (i.e., secondary umlaut thus beginning later than primary) cannot be determined, but it has long been recognised that there is a clear geographical/dialectal aspect to the extent of this consonantal interference. While certain of the consonantal environments exhibit an umlaut-inhibiting influence in all of the South Germanic dialects, others do so only in Alemannic and Bavarian, that is, the 'Oberdeutsch' or Upper German dialects (for discussion and examples, see section 2.3.4). From a phonetic standpoint, it is interesting to note that the consonantal environments which inhibited the fronting of \( \tilde{a} \) are clearly closely related to those which conditioned the breaking or backing diphthongisation of short front vowels in North Sea Germanic and North Germanic.

In addition to the consonantal inhibition of the fronting of \( \tilde{a} \) there are other consonantal environments which inhibited the fronting of other vowels in \( i \)-umlaut position. These restrictions on the operation of \( i \)-
umlaut are found only in the Upper German dialects and not in Frankish and thereby form, together with the restrictions on the fronting of a coherent, dialectal distribution: in Frankish, the northernmost of the South Germanic dialects, there are few consonantal restrictions on i-umlaut, while to the south, in the Upper German dialects, there are considerably more such restrictions. Specifically, we find in Upper German, but not Frankish, an apparent failure of fronting of ă when the intervening consonantism was a cluster -lt or -I, as in Frk. *schüldig* vs. UGer. *schuldec* (Paul et al. 1975: 44). Other instances of non-fronted ā point to geminate velars, -kk- and -gg-, as having blocked i-umlaut, as in the first class weak verbs *bücken, drücken, jucken, rücken, zucken*, and the jö-stem nouns *brugge* (cf. Bav. *Innsbruck* vs. Frk. and standard *Brücke*) and *mugge* and the ja-stems *rugge* and *stukke* (Paul et al. loc. cit.). Intervening -pf- also seems to have blocked fronting, as in the verbs *hupfen, lupfen, rupfen, schupfen*. One root in which fronting umlaut of ā fails before -tz-, namely in *nutze* (ja-stem noun) and *nutzen* (class I weak verb) is also often cited as an instance of consonantal interference (Paul et al. loc. cit.). Finally, fronting of ā is also absent from a number of forms with a checked nasal and a few with single -m-, though in these cases, there seem also to have occurred umlauted forms: e.g., *wunne/wünne, kunde/künde, dunken/dünken, umbe/ümbi, vrumen/vrümen, drumen/drömen* (Paul et al. loc. cit.).

In the Upper German dialects fronting is also absent in a number of forms with the root vowels ā, uo, ou followed by labial and, less frequently, velar consonants, as in the weak verbs *douwen, drouwen,*
frouwen, rūmen, sūmen, uoben, gelouben, koufen, troumen, gougein, lounen and in the nouns houbit, houwe, gouwe, ouwe, frouwe; geloube, toufe. These words all normally show the fronting effects of i-umlaut in the Frankish dialects. e.g., gelöuben, köufen, hüboubei etc. (Paul et al. loc. cit.). These consonantal inhibitions of fronting i-umlaut are summarised below:

CONSONANTAL INTERFERENCE WITH UMLAUT IN SOUTH GERMANIC

1) fronting of ā delayed/reduced (only secondary umlaut of ā)
   a) before -ht, -hs, UGer. -b (< ā), -ch (< ćh)
   b) -rw, -rh
   c) -lh

2) fronting of ū blocked in Upper German (but not in Frankish!)
   a) -lt, -ld, e.g.
   b) -gg, -ck, pf, -tz
   c) sporadically -NC

3) fronting of ū, uo, ou blocked in UGer. by labial & velar consonants (but not in Frankish!).

We can illustrate the dialectal intensity of consonantal interference with i-umlaut in the following way:

DEGREE OF CONSONANTAL INTERFERENCE IN SOUTH GERMAN DIALECTS

Least Interference Most Interference
Northern Frankish < Southern Frankish < Alemannic and Bavarian

Given the fact that graphic representation of umlauted vowels developed only very gradually in the German language area in the course of Middle High German period, it is difficult to tell whether all the above instances of absence of fronting can indeed be ascribed to a hindering effect of the consonants on the fronting process or if they are instead to be
attributed to later, secondary changes. In so far as the Middle High German record indicates the effects of umlaut, it appears that the situation currently observable in the regional dialects obtained already then.\textsuperscript{139} The former is the conventional view, the latter the minority view advanced by, among others, Antonsen (1964, 1969):


As in the case of the absence of fronting in the heavy syllable roots of \textit{i}-stem nouns, Antonsen argues for analogical removal of fronted vocalisms in a great many of the cases involving the umlaut of \textit{ü}, \textit{ü}, \textit{u}o and \textit{ou} (1969: 205-207). Without question, some and even many of the instances of absence of fronting are the result of analogical leveling, but Antonsen's extreme claim that consonantal interference could not have played a rôle in determining the ultimate dialectal and lexical distribution of umlaut reflexes goes against the evidence of virtually all umlaut developments within Germanic. Interaction of consonantal and vocalic conditioning is the norm, not the exception. Moreover, within the South German development of \textit{i}-umlaut we can see an unmistakable case of consonantal inhibition of \textit{i}-umlaut fronting, namely, in the dual treatment of \textit{ä}. In

\textsuperscript{139}For a discussion of the reflexes of umlaut in the German dialects, see Schirmunski 1962: 195ff.
addition to the consonantal environments associated with the lesser
degree of secondary umlaut, there are also other environments which,
logically, point to a lesser and/or later development of the fronting effect.
Here we refer to the case of the secondary umlaut of ź in words where a
syllable originally stood between the prominent syllable and the final
syllable with the umlaut conditioning factor. Unless one begins with the
assumption that umlaut was already developed subphonemically
throughout all of Germanic, a denial of the possibility of dialectal
consonantal interference is wholly unwarranted.

3) Insufficient Accentual Contrast

When a potential umlaut conditioning factor received secondary
stress, as in the second element of a compound, reduction was generally
delayed and umlaut developed inconsistently. Examples of this source of
umlaut failure are to be found in all of the Germanic dialects. Some
examples from Old English are the following compounds: Osric,
Waldfrid, ėnic/ëníc, busíc/hysíc. In many cases, however, absence
of umlaut may have been due to analogical reformation from the
unmutated simplex or compound formation after the operation of ĺ-
umlaut. That such non-phonological factors do not lie behind all of these
cases is, however, to be inferred from the fact that in High German, only
secondary umlaut of ĺ develops in compounds with the derivational
suffixes -lich, -lin (cf. the Old English examples above). It therefore seems
reasonable to assume that until secondary stress of these morphemes was
reduced or lost and reduction of the umlaut factor began, fronting i-umlaut
did not occur.\textsuperscript{140}

2.4.2 The Case of the Norse Light Root-Syllables

One of the most difficult problems in the historical phonology of
Germanic is that of the absence of i-umlaut fronting in the majority of
words with light root syllables (short vowel plus one consonant) in Old
Norse. The problem has received a great deal of attention through the
years and numerous explanations have been proposed for this umlaut
failure. For practical considerations, a detailed review and critique of those
explanations cannot be presented here and is, in light of some recent
contributions to the discussion with critical evaluations of the older
literature, not necessary.\textsuperscript{141} The problem is of particular interest because it
represents the largest-scale failure of i-umlaut outside of Dutch, but,
depending upon what solution to the problem one ultimately accepts, it

\textsuperscript{140}It should be noted too that in Old and Middle High German, there are
instances of i-umlaut occurring across word boundaries or, more
accurately, with the loss of independent phonological status and accent
through enclitisation. In Old High German, examples of clitics
conditioning i-umlaut are found in Otfrid (e.g., \textit{drenk ih, meg ih, werf
iz, geb imo}) and sporadically in other texts (e.g., in Tatian \textit{meg i2})
(Braune/Eggers 1987: 27). Examples are also found in Middle High
German: "Durch ein enklitisches Wort ist der Umlaut in \textit{sem mir} neben
\textit{sam mir} (=so mir), \textit{da ist > dest}" (Paul et al. 1975: 45).

\textsuperscript{141}For a discussion of the older literature, see Steblin-Kamenskij (1959:
105-109). Another short and more recent overview of the literature is
presented by Dyvik (1973: 151-155). Bibire (1975: 199-205) also presents a
concise discussion of the theories proposed to account for the
phenomenon.
obviously has potential bearing on a more general formulation of the development of umlaut in Germanic.

To begin I should first offer a general description of the conditions under which fronting i-umlaut took place in North Germanic. The following statement from Basbøll (1982: 61) will serve the purpose:

"The picture is—in rough outline—as follows. In root syllables before (syllables containing a) syncopated i (i.e. which in PN [Proto-Nordic] contained an i, but not in later Nordic periods), the occurrence of i-Umlaut depends on the quantity of the root syllable, so that long [=heavy] syllable forms have i-Umlaut as opposed to short [=light] syllable forms (cf. ON *gest(r) corresponding to PN gesti(r), as opposed to ON stað(r) corresponding to PN *staði(r)). Before a non-syncopated i (i.e. an i which was there both in PN and in (roughly) the viking period), most often i-Umlaut occurs, although the picture is not quite clear-cut."

The crux of the problem is the following: there is strong evidence from North Sea and South Germanic dialects that reduction of i in final syllables occurred considerably earlier after heavy syllables than it did after light syllables, but, if we assume the same pattern of reduction in North Germanic, it seems paradoxical that umlaut occurred only in heavy syllables when i was reduced, while in light syllables, in which the prominent vowels presumably were subject for a longer period of time to the fronting effect of the following nonprominent vowel, no fronting occurred. The peculiar nature of the Norse development is made more
apparent when we compare it with what we see in Old High German, where, as has been discussed above, it is in heavy syllables that fronting i-umlaut fails on account of the earlier reduction of the conditioning factors.

Apparently, the first scholar to notice the conflicting patterns of development in North Germanic and South Germanic was Sievers who was himself responsible for the recognition of syllabic weight as a factor in Germanic phonological development. His solution to the Norse problem was quite simple. He argued that umlaut itself did not develop in a peculiar fashion but rather the pattern of reduction in North Germanic was different from that of the other Germanic dialects. Thus, he proposed that reduction of i occurred first after light syllables, at a time before the fronting effect of nonaccented i had begun, and only later, after the beginning of i-umlaut, where the conditioning factor followed a heavy syllable (Bibire 1975: 199). Penzl (1951), in his application of phonemic theory to the question of umlaut development, argued for essentially the same solution, claiming that reduction of i after light syllables occurred before the phonemicisation of the umlauted allophones. His reasoning is, however, circular, as pointed out by Kratz (1960: 476),\(^\text{142}\) for elsewhere Penzl claims that phonemicisation of umlauted allophones occurs by means of reduction. Lacking in his argumentation is precisely why it is that in the case of the Norse light root syllables reduction does not bring about phonemicisation as it does in other cases of mutation. Penzl is forced into this difficult position by his own fundamental assumption that

\(^\text{142}\)Cf. Erdmann's (1972) discussion of this problem in structuralist theories of umlaut development.
the mutating effect of i must have affected all nonfront vowels at the same time.

The central claim that underlies both Sievers' and Penzl's solution to the problem of the Norse failure of i-umlaut in light root syllables is that the order of reduction of i in Norse followed the opposite of the order it followed in Old High German and Old English. While the order of reduction in these latter two languages is unambiguously supported by direct evidence (e.g., OE wine vs. giesi, the order of reduction in Norse is difficult to determine from the empirical evidence. However, as Kratz makes clear, to the degree we have any evidence, it does not support the order of reduction posited by Penzl:

"...[T]he earliest examples of i-syncope are as follows: first, i in the penultima after a long syllable (vate Strøm, ca. 625); in the penultima after an unaccented syllable (sate Gunmarp, ca. 675); in the ultima after an unaccented syllable (with long root syllable) in gestumR (Stentofta, ca. 675); after a stressed syllable (Asunp Valby, ca. 700); after long main-stressed syllable (manR Eggjum and barutR Björketorp, ca. 850)"(Kratz 1960: 475-476).

Beyond the empirical evidence of the runic inscriptions, Kratz (loc. cit.) also points to the very strong circumstantial evidence for the order of reduction:

"While this evidence is admittedly not conclusive, it would seem to indicate that i-syncope after short vowels occurred simultaneously with or after i-syncope after long syllables."
The fact that other unstressed vowels (ə and u) first became syncopated after long syllables seems to make the evidence the more convincing that i-syncope also came first after long syllables."

Basbøll (1982: 66) adds further to Kratz' line of argument in observing that it is most reasonable to assume that one and the same prosodic principle of syncope of unstressed vowels is at work during this stage of Norse and "that the order of syncope—other things being equal—is that a is syncopated first, i next and u last; there is no question of a shift of language typology in this case." In this connexion, I should also call attention to Harding's (1952: 199-200) evidence for the chronology of reduction of i in Norse: he points out that the assimilation of \( I-R \rightarrow ll \) and \( n-R \rightarrow nn \) occurs only in heavy syllables (e.g., OIcel. sæll < *sælir, viænn < *vænir) while in light syllables the assimilation appears to have been blocked by the unaccented i which was still preserved at the time of the operation of the assimilation (e.g., bulr < *bulir, salr < *salir, vinr < *vinir).

Kock's view of the development of i-umlaut in North Germanic is based on the assumption that reduction of nonprominent i followed the same pattern as it did in the other Germanic languages. Though it has repeatedly been criticised, it has been taken up in most of the handbooks and can be considered the received view. Kock's explanation of the failure of fronting umlaut in light syllables involves the proposal of three specific periods or stages in the process (1916: 30ff.). Following Basbøll's (1982: 68) summary, these are:
PERIOD I: i-umlaut is brought about in heavy syllables by syncope of i after heavy syllables, as in ON kenna < *kennjan, ON kyrtlar < *kurtlar, ON domda < *dómiðó, ON gestr < *gastir.

PERIOD II: i is syncopated after light syllables without causing any fronting mutation ("the umlaut-less period"), as in ON luklar < *lukilór, ON talpa < *talíðó, ON danskan < *daniskan, ON staér < *stapir.

PERIOD III: i-umlaut occurs in syllables which are followed by an i-umlaut conditioning factor which has not been fully reduced, as in ON deyja < *daujan, ON engill < *angilár, ON lykill < *lukilr, ON selia < *salián.

As others have noted, this proposal is less an explanation than a restatement of the problem in chronological terms, for the central issue, namely why syncope of i after short syllables does not bring about the same fronting it had brought about after heavy syllables, remains unaddressed.\(^{143}\) Several of the other theories porposed to account for the different treatments of heavy and light vowels suffer from similar flaws. For example, Steblin-Kamenskij (1959) attributes the difference in umlaut development to one of differing word-structure. Specifically, he claims that in words with light root syllables, there was open juncture between the root syllable and the syllable containing the umlaut conditioning factor, This open juncture prevented the assimilation. As Bibire (1975: 203-204) observes, this hypothetical construct itself still demands a periodisation (i.e., a period with open juncture after light roots when i is

\(^{143}\) E.g., Bibire (1975: 200): "The theory merely shifts the problem from the actual circumstances of word-structure, to hypothetical circumstances of different periods. These periods themselves require and lack explanation."
lost, followed by a period without open juncture when nonreduced \( i \) could exercise a mutating effect), and evidence for the differing status of juncture is wanting.

Hesselman's (1945: 13ff.) explanation of the differing treatment is to posit differing patterns of development of the umlaut conditioning factors: after heavy syllables, \( i \) was maintained until syncope and exercised a fronting effect. After light syllable's, however, \( i \) is alleged to have become \( e \) and at this point 'e-umlaut' undid the phonetic effects of the earlier \( i \)-umlaut. Thus, when this secondary unaccented \( e \) was syncopated, the preceding vowels in light syllables showed no effects of the \( i \)-umlaut fronting. Again, the proposed explanation shifts the problem off to another feature (i.e., why does unaccented \( i \) only become \( e \) and exercise \( e \)-umlaut after light syllables) for which there is no empirical evidence.

Two more recent proposals deserve to be mentioned here. The first is that of Dyvik (1973), who, building on analyses of \( u \)-umlaut by Bendiktsson (1963) and of \( u \)- and \( i \)-umlaut by Haugen (1969), proposes that the crucial factor in the development of the light syllable forms was a period of more or less protracted phonological indeterminacy: that is, after the reduction of \( i \) after heavy syllables and the phonemicisation of the umlauted phones, fronted vowels in short syllables were still followed by the \( i \)-umlaut conditioning factor and therefore were phonologically indeterminant, resembling phonetically the umlaut-product phonemes but remaining linked to the original nonumlauted phones especially through cooccurrence in morphological paradigms. The differing treatment then would be attributed to the identification of the fronted
vowels of light syllables at the time of syncope with underlying, nonumlauted phonemes (p. 158).

Another recent proposal for the lack of fronting in light syllables has been made by Basbøll (1982: 74-80). Basbøll applies a "variational" model of umlaut development similar to that presented above (section 2.3.4) in our discussion of fronting umlaut in Old High German. Basbøll posits variation between high (H) and low (L) forms of the following sort: H gasti: L gæst and H staði: L stæði. After syncope of i after heavy syllables, the variants become: H gastr: L gæstr ("from older gastir"). The crucial steps in Basbøll’s view are 1) that gæstr wins out over gasir, and 2) that "gæst and stæði are no longer felt as being functionally the same; this change might perhaps be described as a functional change concerning i-Umlaut, viz. from a phonetic process to some kind of a ‘minor-rule’" (p. 77). In effect then, Basbøll attempts to motivate through variation the passage of i-umlaut from automatic to nonautomatic conditioning before the reduction of i after light syllables. The form stæði is seen to have been generalised in favour of stæði "partly because it is the segmentalized form, partly because it is the H-form (and thus the conservative form)" (p. 78). Unclear, however, is why in this case the H-form would be favoured, when Germanic umlaut generally shows the ultimate victory of the ‘Low’ form.

In part building on the models of Dyvik and Basbøll as well as on the general principles of i-umlaut development in Germanic as seen in the other dialects, I propose the following solution to the problem of the absence of i-umlaut in the Old Norse light syllable words.
First, we should begin by assuming that the same order of reduction that clearly obtained in Old English and Old High German also obtained in the development of Old Norse. Specifically, reduction is assumed to have occurred sooner before heavy syllables than before light syllables and that the order of nonprominent vowels affected by the tendency toward reduction was the one commonly accepted by Germanicists: first a, then i and finally u. Of particular relevance to the problem at hand is the chronological relationship of the first two of these. A possible ordering of the steps involved is the following:

**Probable Order of Reduction I**
1) a after heavy syllables
2) a after light syllables
3) i after heavy syllables
4) i after light syllables

Perhaps a more likely scenario would be, however, one in which there was a certain degree of overlapping of these steps, most particularly involving steps 2 and 3, as shown below:

**Probable Order of Reduction II**
1) a after heavy syllables
2) a after light syllables
3) i after heavy syllables

One of the points which has received relatively little attention in more recent discussions of the absence of fronting in light syllable words is its lexical distribution: the vast majority of cases which lack i-umlaut fronting fall into two morphological categories, namely, i-stem nouns, on the one hand, and first class weak verbs, on the other. The limitation of
an apparent sound change to certain morphological categories, while possibly an accident of the cooccurrence of a phonological conditioning with those morphological categories, needs nevertheless to be examined from a morphological standpoint, for, even a sound change which begins with genuine and pure phonetic conditioning may be subject to interference through the link to morphology. In the case at hand we will first examine the morphological context of the nouns.

As discussed earlier, the i-stem declension in Germanic contained primarily masculine and feminine nouns though there also were some neuter nouns belonging to this class. In Old Norse, there are no neuter nouns associated with this declension and, as noted earlier, the vast majority of feminine nouns in the i-declension had long root syllables. The reconstructed endings of the two genders in early pre-Old Norse are the following (Haugen 1982: 90):

**INFLExIONS OF I-STEMS IN PRE-OLD NORSE BEFORE REDUCTION OF -i-**

<table>
<thead>
<tr>
<th>Class</th>
<th>masc. -i-</th>
<th>fem. -i-</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom. sg.</td>
<td>-i-z</td>
<td>-i-z</td>
</tr>
<tr>
<td>gen.</td>
<td>-i-z</td>
<td>-ai-z &gt; -e-z</td>
</tr>
<tr>
<td>dat.</td>
<td>-i</td>
<td>-ai &gt; -e</td>
</tr>
<tr>
<td>acc.</td>
<td>-i</td>
<td>n</td>
</tr>
<tr>
<td>nom.pl.</td>
<td>-i-z</td>
<td>-i-z</td>
</tr>
<tr>
<td>gen.</td>
<td>-i-j-o</td>
<td>-i-j-o</td>
</tr>
<tr>
<td>dat.</td>
<td>-i-mz</td>
<td>-i-mz</td>
</tr>
<tr>
<td>acc.</td>
<td>-i-n</td>
<td>-i-z</td>
</tr>
</tbody>
</table>

At the beginning of this section, I discussed the development of the feminine i-stems in Old Norse as a clear example of the regular failure of i-umlaut as a result of morphological reformation and removal of i-umlaut.
conditions before the operation of the \( i \)-umlaut mutation. It was also shown that this analogical reformation first affected the singular of the old feminine \( i \)-stems which, while declined like ordinary \( ō \)-stem nouns in the singular, retained traces of the \( i \)-declension in the plural. From the reconstructed forms shown above, however, it should also be noted that the genitive and dative singular forms of the feminine \( i \)-stems would never have developed \( i \)-umlaut in any event, and it is therefore possible that the reformation of these nouns' inflexion occurred after the onset of \( i \)-umlaut and that the nonumlauted root vowel of the genitive and dative, together with the model of the existing \( ō \)-stem nouns which did not have fronted root vowels, led to the results attested in the literary period. These developments are illustrated in the following table:

**Inflexion of Feminine \( i \)-Stems in Pre-Old Norse After Reduction of \( -i \)-**

<table>
<thead>
<tr>
<th>Class</th>
<th>fem. (-i)-</th>
<th>EPON*</th>
<th>LPON*</th>
<th>fem. (-ō)-stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom. sg.</td>
<td>(-i)-</td>
<td>( *ræst )=( rastu )</td>
<td>( *rastu )</td>
<td>( *=sagu )</td>
</tr>
<tr>
<td>gen.</td>
<td>(-æ-i)-z &gt; (-ē)-z</td>
<td>( *rastek )=( rastoz )</td>
<td>( *rastoz )</td>
<td>( *=sagoz )</td>
</tr>
<tr>
<td>dat.</td>
<td>(-æ)-i &gt; (-ē)</td>
<td>( *raste )=( rastu )</td>
<td>( *rastu )</td>
<td>( *=sagu )</td>
</tr>
<tr>
<td>acc.</td>
<td>(-j)</td>
<td>( *ræst )=( rasto )</td>
<td>( *rasto )</td>
<td>( *=sago )</td>
</tr>
</tbody>
</table>

*Early and Late Pre-Old Norse*

During this same period in the language's development, that is, after the reduction of \( i \) after heavy syllables and the establishment of the phonemic status of the umlauted phones, the \( i \)-stem declension can be seen to have been fragmented, not only by means of the differing pattern of mutation in the singular forms between masculine and feminine heavy root nouns, but also as a result of the phonological conditions on the reduction of nonprominent \( i \). As a result of the differing treatments according to the
weight of the preceding syllable, the masculine nouns now formed two
partially distinct declensional types. Just as the feminine nouns tended
strongly to be brought in to the dominant class of ɔ-stem feminine nouns,
so too the masculine i-stem nouns with short root syllables, now began to
be shifted to the dominant class of masculine nouns, namely the a-stem
decision. In this regard, it should be noted that at this time, masculine
nouns from several older declensions ( athematic nouns, a-stem nouns
through reduction of a, and i-stem nouns with heavy roots through
reduction of i) all had the nominative singular ending -R. Moreover,
while i-umlaut conditioning was yet automatically conditioned by the still
present conditioning factor in light root words, the umlauted phones were
now independent phonemes. It is in this way that Dyvik’s claim of the
crucial rôle of phonological indeterminacy can be made plausible: removal
of the umlaut conditioning factor in the light root i-stem masculine nouns
went hand in hand with an analogical process that brought them into line
with the a-stem pattern. The steps of this process of fragmentation are
summarised below:

STAGES IN FRAGMENTATION OF I-STEM DECLENSION
I: no reduction of -i- or fronting i-umlaut

II: reduction of -a- after light syllables complete
    reduction of -i- underway, esp. after heavy syllables
    fronting i-umlaut automatically conditioned

III: reduction of -i- complete after heavy syllables
    fronting i-umlaut still automatically conditioned in light syllables
    singular of fem. (heavy) i-stems remodelled to ɔ-stems
    singular of masc. light syllable i-stems remodelled to a-stems

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The following reconstructed forms will serve to illustrate the process:

<table>
<thead>
<tr>
<th>Stage</th>
<th>I</th>
<th>II</th>
<th>III</th>
</tr>
</thead>
<tbody>
<tr>
<td>masc. heavy:</td>
<td>*gastiz</td>
<td>*gastir/ gæstr</td>
<td>*gæstr</td>
</tr>
<tr>
<td>fem. (heavy):</td>
<td>*rastiz</td>
<td>*rastir/ ræstr</td>
<td>*rastu</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(cf. -ō- *sagu)</td>
<td></td>
</tr>
<tr>
<td>masc. light:</td>
<td>*stapiz</td>
<td>*stapir/stæpir</td>
<td>*stapr</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(cf. -ā- *dagr)</td>
<td></td>
</tr>
</tbody>
</table>

It should be noted that traces of the i-declension endings are found in the plural endings not only of the old feminine i-stems but also in those of the old masculine light syllable i-stems, though in the case of the nominative plural marker -ir and its later reflex -er there are instances of analogical replacement with -ar from the a- and ō-declensions (Noreen 1970: 267, 270). To account for this fact, we must assume that the analogical process during our proposed Stage III affected only or primarily the singular forms of these two groups of original i-stems. As long as fronting i-umlaut was operative, these plural forms ought to have regularly developed fronted root vowels. It stands to reason therefore that the nonfronted vocalisms of the singular forms were analogically spread at some later point to the plural forms, either after the i-umlaut conditioning factors had been partially reduced or after i-umlaut was no longer automatically conditioned by a following -i-. Indeed, it could well be that such analogical processes are a mechanism by which a conditioned phonological process passes from automatic to nonautomatic in the course of generational
transfer. We need therefore to add a fourth stage to the process of the rebuilding of the original i-stems, as illustrated below:

**FINAL STAGE IN REBUILDING OF ORIGINAL I-STEM DECLENSION**

<table>
<thead>
<tr>
<th>III</th>
<th>IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>nom. sg.</td>
<td>nom. pl.</td>
</tr>
<tr>
<td>masc. heavy:</td>
<td>*gæstr</td>
</tr>
<tr>
<td>fem. (heavy):</td>
<td>*rastu</td>
</tr>
<tr>
<td>masc. light:</td>
<td>*stæbr</td>
</tr>
</tbody>
</table>

To turn now to the class I weak verbs, it should be noted that i-umlaut fronting occurs for the most part in all forms of the heavy root verbs, while in the light root verbs it occurs regularly in the present tense forms and the infinitive, where the fronting was conditioned by ɪ which was not subject to the same rules of reduction as nonprominent ɪ. In these light root verbs, the failure of i-umlaut fronting is found in the preterite and the past participle, where the potential umlaut conditioning factor stood medially: e.g., *taliðð > talpa. Thus, these verbs in Old Norse come to display an inflexional pattern exactly like those of the well-known "Rückumlauting" verbs of Old High German, that is, with a root vowel alternation as well as weak verb suffixation to mark the present/preterite distinction. The class of these verbs in Old High German is quite large and in most cases we can attribute the absence of i-umlaut fronting in the preterite to the operation of the sound change discussed earlier, namely the reduction of nonprominent ɪ after heavy syllables before the onset of fronting mutation (e.g., MHG hærən, hørte). Not all of the German rückumlauting verbs need to be attributed to this dialect-specific ordering.
of reduction and fronting uumlaut, for we find in all the Germanic languages cases of weak verbs with -ian present-formations that lack a union vowel between root and dental suffix in the preterite and past participle. Since some of these verbs that show this peculiarity do so in all the dialects, it is generally assumed that they formed a minor but distinct morphological category already at an early stage in the development of Proto-Germanic. Such verbs are also well attested in Old Norse (Noreen 1970: 347-348):

<table>
<thead>
<tr>
<th>inf.</th>
<th>pres.</th>
<th>pret.</th>
<th>past part.</th>
<th>gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>sókia</td>
<td>söke</td>
<td>sóttu</td>
<td>sóttur</td>
<td>to seek</td>
</tr>
<tr>
<td>yrkia</td>
<td>yrke</td>
<td>ortu</td>
<td>ortu</td>
<td>to do, work</td>
</tr>
<tr>
<td>þekkia</td>
<td>þekke</td>
<td>þátta</td>
<td>þatr</td>
<td>to become aware</td>
</tr>
<tr>
<td>bykkia</td>
<td>bykke</td>
<td>þótta</td>
<td>þóttr</td>
<td>to seem</td>
</tr>
</tbody>
</table>

It has been argued that these verbs show in the history of Old Norse a distinct tendency to be leveled out through removal of the radical alternations and refitting of the more common reflexes of the dental suffixes, and, following from this, that it is therefore unlikely that they could have served as a model for the widespread development of radical vowel alternations in the class 1 verbs with short roots. Such an argument seems impossible to prove relevant for the pre-literary period in question. Moreover, in two of the verbs which originally lacked the union vowel and seem to have undergone a spread of the uumlauted vocalism of the present into the preterite, allegedly showing that vowel alterations in Old Norse were disfavoured (Bibire 1975: 190), we have to reckon with a further sound change to be discussed briefly below. Here we refer to the verbs byggja (pret. byggði; cf. OE bycjan, pret. bohte 'to buy') and
rækja (pret. rækti, cf. OE reccan, pret. röhte 'to care for'). The roots of these verbs end in the consonants -gg- and -kk- and therefore possibly underwent what is known as 'palatal umlaut' in Old Norse studies (see below) rather than the analogy which has been proposed. It seems quite possible that during the period between reduction of i after heavy syllables and the regular phonological reduction after light syllables that the union vowel of the light root class 1 verbs was removed analogically. However, whereas in the nominal paradigms analogy worked toward the elimination of radical vowel alternations, in this case the model was one with vowel alternations. In this regard, it is important to note that the absence of umlaut in the weak verbs is far less regular than it is in the i-stem nouns, as can be seen from the many instances of attested rival forms with and without fronted root vowels in the preterite cited by Noreen (1970: 343-344). Finally, we should note that the analogical removal of the medial -i- in the short stem verbs suggested above may have been encouraged by the already syncopated forms of the heavy stem preterites. Thus, the rückumlauting verbs and the heavy stem verbs can be seen as having both served as models for the analogical rebuilding of the light stem verbs, as illustrated below (N.B. In the following table T indicates the syllable of the dental preterite marker):
CLASS 1 WEAK VERB SUBCLASSES

<table>
<thead>
<tr>
<th>Present</th>
<th>Preterite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rückumlautning: C^vc(C)-</td>
<td>CvC(C)-T (e.g. sótta, orta)</td>
</tr>
<tr>
<td>Heavy Stems: C^vc(C)-</td>
<td>C^vc(C)-T (e.g. démpa, felda)</td>
</tr>
<tr>
<td>Light Stems: C^vc(C)-</td>
<td>Cv(C)-i-T =⇒ Cv(C)-T</td>
</tr>
</tbody>
</table>

(e.g. *taliðō > talpa)

It should also be noted that by means of the early, analogical removal of the medial -i- in the light stem verbs, the weak verbs in Old Norse came to fall into two basic patterns: those verbs, regardless of stem weight, without a union vowel from the ĵā- class stems and from the ō- class (e.g. lifpa), and those with a union vowel -a-, again regardless of syllabic weight, from the ō- class stems (e.g. elska/elsakpa 'to love', heria/heriapa 'to lay waste'). Thus, it seems possible to see a complex motivation for this analogical innovation which could well have been carried out during the period when i-umlaut fronting was still automatic (and thereby 'undatable') in the short stem verbs in question.

It remains to account for the cases in which umlaut fronting in light syllables did take place. There are two classes of such exceptions which have traditionally been referred to as instances of 'r-umlaut' and 'palatal umlaut'. The first of these refers to cases in which a light syllable was originally followed by the suffix -ir (where r< r < *a) and ultimately does exhibit fronting of the root vowel, as in the third person singular forms of light root strong verbs such as ferr < *farið (from *faran 'to go, fare'). It should be noted, however, that there are exceptions to the exception, as in
the nominative singular forms of the light syllable i-stems (e.g. *stābr < *stābīz). Also to be noted is that there are apparent instances of fronting before original -r where no fronting umlaut conditioner stood, as in *gler < *glara 'glass'. In light of these facts, it seems best to regard instances of R-umlaut as the results of consonantal conditioning with, at best, only a secondary and indirect (i.e., through reconditioning) interaction with the process of fronting i-umlaut.

The case of so-called palatal umlaut is similar to that of R-umlaut. Light roots with with final -g or -k generally show fronted vowels. As Bibire (1975: 193) notes, the majority of these cases involve instances of e for expected a, as in dreki 'dragon', degi 'day (dat. sg.)', and commonly in past participles of strong verbs such as tekinn 'taken', tenginn 'obtained'. It should be pointed out that the vowels of the unstressed syllables in these examples are of secondary origin or else belong to late formations. It does, however, seem relevant that the vowel which followed k or g was not a back vowel and thus that these consonants had more or less strongly palatal variants which could themselves induce mutation of the preceding vowel.

In appealing to moderately widespread analogy as the central mechanism behind the differing treatments of i-umlaut in heavy and light syllables, it is desirable to be able to point to some systemic motivations for such analogy. As I have indicated above, motivation for the analogies involved in the removal of mutation from the i-stem nouns can be seen in the growing complication of the declensional system arising from the

\[144\text{For further examples, see Noreen 1970: 67-68.}\]
uneven pace of reduction across the lexicon. The analogies, which favour the two dominant and perhaps even unmarked patterns of the masc. $a$-stems and feminine $o$-stems, represent an overall simplification of the nominal morphology in the language. In the case of the weak verbs, it might be argued that the development of the short-stem type with an umlauted vocalism in the present and a nonumlauted vocalism in the preterite represents a complication in the system, it should be remembered that that pattern already existed in a few, fairly common verbs (albeit ones with heavy roots). Moreover, the principal of radical vowel alternations with tense marking was very much a prominent feature in the language's verbal morphology. Perhaps then we ought not to think of the motivation for the large scale analogical change of the period as all simply a question of a striving for simplicity but rather as a striving for transparency. In the case of the nouns, that was indeed manifested as a simplification in the overall number of declensional patterns. In the verbs, on the other hand, there was no similar simplification but rather an exploitation of an existing and salient inflexional pattern. We might add that the period of phonological indeterminacy in the short stem forms, which has been posited by Dyvik (1973), may well have played a rôle in the tendency to rebuild the forms in question according to models with more transparent phonological, as well as morphological, shapes. Furthermore, the resolution of that indeterminacy through analogy in the two major classes of words with light roots may have been instrumental in bringing about the loss automaticity in the $i$-umlaut process, and thus making the
development of light root words outside of those two major classes follow in the elimination of fronting.

Finally, we must consider those cases of light root words in which i-umlaut fronting is absent which belonged neither to the i-stem noun declension nor to the first class of weak verbs. Among these are adjectival forms such as danskan < *daniskan, batstan < *batistan. Also, there are a number of polysyllabic nouns of the a-declension and other declensions with medial i, in which fronting of the root vowel after syncopation is not found, as in luklar < *lukilōr. While it may be possible to construct arguments for the rôle of analogy in eliminating i-umlaut in some or many of these forms, it would perhaps be more reasonable to make an appeal here to the theories of Dyvik and Basbøll. Specifically, in a period of variable reduction and phonological indeterminacy of vowels standing before unreduced i-umlaut conditioning factors, the analogical processes described above may have proved decisive in transforming the i-umlaut rule from an automatic, phonotactic constraint, to a nonautomatic and increasingly morphologically determined rule.

In conclusion, while it is quite possible that the account of the Old Norse case of umlaut failure presented here will prove, like so many that have gone before it, to be in some way flawed and untenable, I hope to have at least made it clear that the problem is one that must be viewed very much in terms of specific phonological and morphological aspects of North Germanic. In all general respects, North Germanic follows the same basic order of reduction and umlaut developments as South Germanic and, to an even greater degree, North Sea Germanic; there seems little
reason to view this instance of failure as the result of a mysterious and inexplicable cessation of the umlaut effect for a period of time, as is claimed in the handbook treatment of the development.
CHAPTER THREE

THE DEVELOPMENT OF UMLAUT IN DUTCH

"Ik ben van mening dat het onderzoek van de umlaut in ons taalgebied zich tot nog toe blind heeft gestaard op een tegenstelling die van bijkomstig belang is en dat het daardoor een tegenstelling uit het oog heeft verloren die voor een juiste beoordeling van de feiten van primordial belang is."

Jan Goossens

3.1 THE DUTCH DEVELOPMENT OF UMLAUT IN GERMANIC PERSPECTIVE

3.1.1 The Significance of the Dutch Case of Umlaut Failure

It has been argued here that the evidence for the development of umlaut in Germanic forms a coherent picture. In broadest terms, there is a very clear dialectal split which sets the two more northerly branches of the family, North Sea and North Germanic together and places the South Germanic branch on its own. This division is manifested in the patterns of development of both the earlier raising/lowering umlaut and also the later fronting/backing umlaut. A significant difference in the overall rate of umlaut developments also coincides with this major dialectal split and,
while the rate of development must be viewed as a factor in the shaping of the patterns of development, it can also be considered a separate and distinct dialectal feature. With respect to this feature, the two northern branches show an earlier and possibly more rapid development in comparison with South Germanic. Finally, we have seen that instances of umlaut failure in all of the branches are explicable in terms of the overall pattern and chronology of umlaut and reduction in each dialect and attributable to fairly well-understood mechanisms, such as consonantal interference and analogical leveling, which can be described and explained in terms of the specific structures of the individual dialects.

The distribution of fronting *i*-umlaut reflexes in Dutch is from a pan-Germanic perspective unique. If we proceed on the assumption that this distribution is a direct result of the operation of the metaconditioned phonological process of umlaut, this one language breaks an otherwise very clear geographical pattern of development that is presented by all the rest of Germanic. More importantly, however, this language seems, superficially at least, to present restrictions on the application of *i*-umlaut which apply nowhere else in the entire language family. On the other hand, if we proceed on the assumption that the Dutch distribution of *i*-umlaut reflexes is not a direct result of an idiosyncratic pattern of phonological development, then we must look for a plausible secondary process by which the original distribution of umlaut reflexes could have been disturbed.

As mentioned earlier in Chapter 1, the Dutch development of umlaut, despite its exceptional status in Germanic, has received
remarkably little attention from Germanicists. Outside the Low Countries themselves it has received virtually no special attention; those scholars who, in treating generally the question of umlaut in Germanic, have even bothered to comment on the Dutch situation, have been content to accept unquestioningly either of the two basic views which are expressed in the standard historical grammars of the language.

The first of these two views, proposed by Franck (1910) in his grammar of Middle Dutch, proceeds on the assumption that the exceptionally limited distribution of reflexes of the operation of i-umlaut in Dutch is not a direct result of a deviant development of the sound change itself but rather is the result of later, nonphonological processes. In order to provide the broader context of Franck’s view of umlaut, I cite his general statement on the topic in full (p. 37-38):

"Alle germ. Dialekte kennen den Umlaut des ā zu ē, trotzdem er sich nicht im Gemeingerm., sondern erst ziemlich spät in den getrennten Dialekten vollzieht. Im. Hd. dringt er gegen Ende des 8. Jhs. durch, in den nördlichen Sprachen, also auch im Nl., hat er sich nachweislich früher vollzogen. Trotzdem also das Hd. der Lautveränderung am längsten widersteht, ist sie schließlich in dieser Sprache am nachhaltigsten durchgedrungen. Nicht nur hat sie hier mehr Vokale als sonstwo ergriffen, sondern die Sprache hat auch ursprünglich rein mechanischen Vorgang mit einer gewissen Ueberlegung als grammatisches Bildungsmittel verwandt. Im Nl. ist die Veränderung nur beim ā durchgedrungen. Darum
ist jedoch die Erscheinung nicht im mindesten auf ä beschränkt; auch bei anderen Lauten ist sie häufig genug, in den Mundarten noch mehr als in der Schriftsprache. Von der Erhebung des Vorgangs über die rein mechanische Wirkungssphäre findet man in den nd. Sprachen keine Spur; im Gegenteil ist er durch intellektuelle Einflüsse aus einem Teile des ihm zustehenden Gebietes verdrängt worden."

What Franck intends by the phrase "durch intellektuelle Einflüsse" is apparently the process of analogical leveling. Thus, after describing instances of consonantal interference in his discussion of the i-umlaut of ä, he then states (p. 39):


Whereas the distribution of fronted and nonfron ted reflexes of ä points very clearly to the general and regular operation of i-umlaut and subsequent morphological leveling of paradigmatic alternations, a parallel situation is not to be found for the reflexes of PGmc *ū. In this instance,
Franck is at a loss for an explanation of the data but is confident at least that umlaut did affect this vowel (p. 41):

"Der im Hd. zunächst nach dem des a äußerlich hervortretende Umlaut des kurzen u (zu û) scheint im Mnl. gleichfalls ziemlich verbreitet; aber es bestehen stets die unumgelaute Formen neben den anderen, und beide werden an gleicher Stelle gebraucht. Der Grund der Doppelgestaltung ist, insoweit er nicht in der Mundartmischung gesucht werden darf, noch dunkel. Zum Teil ist wohl nicht von einer Veränderung des u, sondern des o zu reden, indem der Vokal vorher zu o geworden war. Es stehn in diesen Fällen auch nicht der anscheinende Umlaut und u sondern Umlaut und o nebeneinander, und es befinden sich unter ihnen einzelne mit ursprünglichem o."

Whatever the "dark" or obscure processes were that lay behind the Dutch development of û, they were, as Franck clearly recognises, in some essential way different from the analogies that produced the Dutch distribution of umlauted and nonumlauted reflexes of û.

For the long vowels and diphthongs yet other patterns of i-umlaut development appear to have obtained. In the case of û, Franck (p. 44) states that the general rule is that it "bleibt im Gemeinml. unumgelaute," though fairly clear instances of umlaut fronting are found in some of the dialects and in particular in Brabant and Limburg. The reflexes of PGmc *ǭ sometimes do, judging from both Middle Dutch spellings and later dialectal evidence, show fronting, but in so far as Franck could ascertain,
the distribution of fronted reflexes could not be shown to coincide consistently with i-umlaut conditions (p. 36-37). Concerning the development of û, Franck comments that any i-umlaut fronting "läßt sich nicht kontrollieren, da û zu erwarten wäre, im Nl. aber jedes û zu û wird" (p. 44). Finally, in the case of the reflexes of PGmc *au which regularly monophthongised in Dutch and also Low German to a mid round vowel, Franck says the following: "Umlaut von òaus au, der in einem Teil des Sprachgebietes vorhanden gewesen sein muß, tritt sonst im literarischen Mnl. kaum zutage, woran die Mangelhaftigkeit der Schrift die Schuld tragen mag" (p. 44). Franck's findings for the umlaut developments of the various individual vowels can be summarised thus:

**FRANCK’S ASSESSMENT OF I-UMLAUT IN DUTCH FROM MNL EVIDENCE**

å: fronting regular but distribution strongly reduced through analogy.
û: i-umlaut assumed but basis of distribution of fronting partly unclear.
å: i-umlaut generally absent, some instances esp. in Brab. and Limb.
ð: i-umlaut probably generally absent, some cases in Brab. and Limb.
û: i-umlaut fronting masked by general fronting to û.
a: i-umlaut absent in literary MNL, present in some dialects.

A careful review of Franck's material shows that in his general assessment of the Middle Dutch material, he missed some generalisations which he might have made. From the evidence for the long vowels and diphthongs, it seems reasonable to surmise that i-umlaut of the long vowels and diphthongs was regular in the southeastern area comprised of the Brabants and Limburgs dialects, though in the case of û one must assume either a very early fronting rule which stood in bleeding
relationship to the later $i$-umlaut fronting rule, or else a post-umlaut secondary and general fronting. In light of the dialectal distribution of umlaut of the other long vowels, one would be inclined to assume that vocalic length played a part in the determination of the input for the umlaut rule and, thus, that the fronting of $\ddot{u}$ was probably at least in part due to $i$-umlaut in the two southeastern dialects but elsewhere was a spontaneous or unconditioned change.

In fairness to Franck, it must be stated that his failure to formulate a more coherent model of the operation of $i$-umlaut in Dutch is very much a function of the state of linguistic research in the time when he was working. First, he wrote his grammar before much of the dialectological work on Dutch had been carried out and was therefore able to compare his findings from the Middle Dutch texts with the later distributions of features only to a rather limited degree: the dialect materials obviously can fill in the inevitable gaps that a limited, medieval corpus of texts contains. Second, Franck worked at a time when historical linguistics had not yet developed a strong appreciation for structurally oriented notions of systems and Franck employed the then reigning approach of treating the development of each "sound" in a compartmentalised fashion. Despite these limitations imposed by the state of the art, Franck's analysis of the Middle Dutch corpus together with his own knowledge of the German/Dutch Frankish dialect area led him to recognise the relative frequency of forms in the western Dutch dialects which seemed to be of English or Frisian origin, including instances of umlaut and unrounding (to be discussed further below). As regards his views on the status and
significance of these Ingvæonic features, they will be discussed later in this chapter.

Franck's failure to formulate a view of the development of $i$-umlaut in Dutch as having operated or not operated according to the length of the accented vowel in $i$-umlaut position, however, may also have been partly due to his own careful analysis of the Middle Dutch treatment of $*\ddot{u}$. In that analysis he recognises the possible rôles of umlaut, open-syllable lengthening, and consonantal influence but in the end cannot find any reasonable way to describe the distribution of reflexes in terms of straightforward sound laws. For example, he concludes his paragraph on the treatment of $\ddot{u}$ in open syllables with the following remark (1910: 43):

"Es ist fraglich, ob sich alle Schwierigkeiten lösen, wenn wir vorsaussetzen, daß 1) in einzelnen Mundarten $u$ als $\ddot{u}$ gedehnt wurde, [with concomitant lowering] also zu $\ddot{o}$, in anderen als $u$, also zu $\ddot{o}$, 2) in manchen Wörtern ein alter Wechsel von $u$ und $o$ vorhanden gewesen sein kann und 3) ein $i$-Umlaut von $u (o)$ nicht in allen Mundarten angehört habe."

In many respects the development of $*\ddot{u}$ in Dutch is the most difficult problem in the historical phonology of the language and, ultimately, it is of central importance to the understanding of the Dutch development of $i$-umlaut and therefore to an understanding of the real dialectal position of the language in Germanic. Though Franck appears to have not been able to identify any of the historical and linguistic reasons for this confused treatment of $\ddot{u}$, his conclusions as stated above all ultimately prove true.
A more comprehensive treatment of the development of Dutch than Franck’s Middle Dutch grammar is in the historical grammar of Schönfeld, and its revised form (Schönfeld/Van Loey 1970) has now long served as the standard reference book for the history of the language. The statement of the general view of umlaut in this work is the following (p. 47):

"De umlaut is een veelomvattend verschijnsel, dat alom in germ. talen sporen heeft nagelaten. In het Engels zijn reeds vroeg alle vocalen die ervoor in aanmerking kwamen, erdoor aangetast, en het proces is vroeg voltooid, reeds vóór de tijd van de oudste bronnen. Wat Duitsland aangaat, heeft hij in 't Noord- en Oostzeegebied krachtig gewerkt, in 't zuiden minder. Ook in het oosten van ons land onderging ten volle de werking ervan; het westen daarentegen werd in veel mindere mate erdoor geraakt. Het westndfrk. [westnederfranzisch] immers kent vooral de umlaut van de korte vocalen; in 't opperduits wordt aanvankelijk de umlaut ook door andere consonantverbindingen dan /h/ verhinderd (b.v. door /+ consonant), maar werkt hij langer na. De grotere betekenis van het verschijnsel voor het hgd. dan voor het ndl. blijkt b.v. hieruit, dat de umlaut daar als differentiërmiddel wordt gebruikt."

It is this view of the development of umlaut in Dutch that has gradually become the standard view and has been incorporated in the majority of works that in some way or another deal with the subject. Elsewhere in the
Schönfeld/Van Loey discussion of umlaut, the view is stated with varying
degrees of force depending on the context:

"In 't ownfrk [oudwestnederfrankisch] had de umlaut vooral
bij korte vocalen plaats, dus bij āen ū immers de ē was reeds
in 't ogm. [oergermaans] vóór ŵ, ūtot ŵ geworden en een ogm.
ōvóör ŵ, ūbestond niet" (p. 41)... "Het Algemeen Beschafdf [i.e.,
standard Dutch] kent geen umlaut van lange vocalen" (p. 44).

Thus, it seems we must conclude that these authors see i-umlaut as a
phonological process having operated especially ("vooral") on the short
vowels in "Old West Low Frankish." How it is that in the process of the
development of a standard out of the dialects descended from Old West
Low Frankish umlaut of long vowels came to be unknown except in a
limited number of dialect borrowings (p. 45) is not expressly explained. In
a note on the distribution of i-umlaut reflexes of long vowels in the Dutch
dialects, however, it becomes apparent that these authors see the absence of
fronted forms in the west as the result of differing phonological
developments:

"Daarentegen kennen het noorden en de oostelijke helft van
ons land (niet alleen het Saksisch, maar ook het
Oostnederfrankisch) wel de umlautsvormen; wie b.v. de
taalkaart van zoeken [< *sōkjan ] opslaat, wordt dadelijk
getroffen door de scherpe tegenstelling tussen het westen,
waar bijna iedere umlautsvorm ontbreekt, en het oosten. Dat
intussen de grenzen tussen oost en west niet steeds scherp
zijn te trekken en dat in de loop van de tijd daarbij
verschuivingen hebben plaats gehad, blijkt o.a. uit de
zuidelijke: het Brabants b.v. kent nog gruu[n] [=grün] en treeg
[i.e., reflexes of umlaut of long vowels]. Een onderzoek van
het Oud-Zuidwestbrabants toonde aan, dat eens op vrij grote
schaal vormen voorkwamen als bleesen 'blazen', genede
'genade' [i.e., with umlaut]; later week de umlaut terug,
doordat dit dialect meer onder Vlaamse invloed kwam. Het is
zeer opvallend, dat in deze zaak de dialekten van Vlaanderen,
Zeeland en Holland niet samengaan met 't ags. [Anglo-Saxon]
en 't fri. [Frisian] en evenmin met 't hgd" (loc. cit.).

Schönfeld/Van Loey thus see the development of umlaut in Dutch as a
reflexion of an early dialectal split in Low Frankish: while both West and
East Low Frankish developed umlaut of the short vowels, only East Low
Frankish developed umlaut of the long vowels and diphthongs. Since the
standard variety of the language is based primarily on the dialects of the
west, this dialect reflects the western failure of i-umlaut of long vowels.

There is a clear relationship between the views of these two standard
works on the history of Dutch and the opinions expressed on the Dutch
development of i-umlaut by scholars outside the field of Netherlandic
studies, though it is difficult to say whether this relationship reflects the
following of Franck's and Schönfeld/Van Loey's respective leads by other
scholars or rather a more general linguistic 'Zeitgeist' with respect to
theories of umlaut and phonological change in general. In any event, two
schools can be recognised; an older school, which purports to follow
Franck, and a younger school, which appears to follow Schönfeld/Van Loey.

As a representative of what I term here the 'older school' we point to Brinkmann (1931), who, in his book on linguistic change and the spread of change in Old High German, has occasion to compare the respective developments of i-umlaut in Upper German and Dutch. His view of the Upper German development is that it was in large measure an import from the neighbouring Frankish dialect area:

"Man nehme zunächst die These hin, das Oberdeutsche habe ursprünglich keinen Umlaut gekannt, und denke an obd. *alles* gegenüber fränkisch-nördliches *elles*... Es fragt sich, auf welche Weise dann der Umlaut eingedrungen ist. Das konnte im wesentlichen, soweit die ahd. Ueberlieferung ein Urteil gestattet, auf zweierlei Weise geschehen. Entweder wurde das umgelaute Wort übernommen, oder der Umlaut als funktionales Mittel in einer bestimmten Formengruppe durchgeführt. Es scheinen das beide Wege begangen wurden..." (pp. 84-85).

Brinkmann also sees the possibility of the geographical spread of the principle of umlaut as a functional marker: "[es war] möglich, daß der Umlaut nicht nur mit dem einzelnen Wort kam, sondern auch als funktionales Characteristikum einer bestimmten Formgruppe eindringen konnte" (p. 86). In his view then, the development of i-umlaut in Dutch represents an illustrative mirror-image of the Upper German development: in the case of Upper German, as a phonological change
umlaut developed weakly but spread through the lexicon word by word but more importantly word-class by word-class, while in Dutch, it developed more strongly as a sound change but was eliminated precisely because it was not exploited as a functional morpheme marker. In this judgement Brinkmann feels supported by Franck:

"Im Niederländischen hat i-Umlaut einst sogar in weiterem Umfange als im Deutschen bestanden, Verhältnismässig am besten hat er sich im Südosten gehalten, im übrigen aber ist er durch rücksichtslosen Ausgleich beseitigt worden... [citation from Franck (1910: 39) omitted] Der Umlaut erhielt keine funktionale Bedeutung; so verschwand er in der 2. und 3. Sing., im Plural, im Komparativ und superlativ und bei zahlreichen Ableitungen. Er blieb rein lautliche Erscheinung und mußte daher dem Bedürfnis nach Einheit und Zusammenhang weichen. Das gegensätzliche Verhalten des Niederländischen rückt erst die Geschichte des Umlauts im Deutschen in rechtes Licht. Hier wurde der Umlaut als Differenzierungsmittel ergriffen. Man gab ihm die Funktion, Bildungen und Formen zu scheidem."

Brinkmann goes on to state that the possibility for the same development existed in Upper German and in support of this claim gives a few specific examples where Upper German removed potentially functional umlaut alternations at an early date, while Frankish maintained those same alternations. But while these few examples from Upper German are reasonably explained by the sporadic application of analogy, the radical and
consistent analogical removal of umlaut alternations posited by Brinkmann for Dutch needs further explanation: the obvious question is, why did Western Dutch have so little need to exploit this obviously functional 'Differenzierungsmittel' when its most closely related sister dialects of Frankish did exploit it to an even greater degree than the more distant Upper German dialects? For some reason these scholars seem not to have troubled themselves with this question. Perhaps the reason for their satisfaction with this view of Dutch umlaut failure was based on the correct notion that, though analogy is always systemically motivated, its occurrence is sporadic, even random, and largely unpredictable. Thus, to be able to say that in this paradigm, Dutch opted for leveling in favour of the vocalism of one form and in another paradigm in favour of the vocalism of some other form constituted sufficient explanation for the phenomenon as a whole.

Dal (1971), in her well-known study of i-umlaut in German, takes a generally similar view to Brinkmann's and like him bases her appeal to the Dutch developments for support on the work of Franck discussed above. After presenting some of the reasons for the particularly large-scale exploitation of umlaut alternations in German (e.g., the phonologically regular development of such alternations in heavy i-stems, where OE and ON had fronting throughout the paradigm),¹ Dal makes the following statement concerning Dutch:

¹Dal (1971: 44-45): "Die wichtigsten Voraussetzungen für die Entwicklung einer "inneren Flexion" im Deutschen, der lautlich entstandene Vokalwechsel zwischen Sing. und Plur. bei den i-Stämmen und das ausbleiben anderer Umlautswirkungen neben dem i-Umlaut, finden sich in den übrigen Sprachgebieten nicht."
"Im Niederländischen dagegen hätte die Lautentwicklung zu demselben Ergebnis wie im Deutschen führen müssen, aber hier hat Reaktion gegen den Vokalwechsel eingesetzt, und man bekommt die mndl. Plurale *tande, gast, ganse, blader* zu Sg. *tant, gast, gans, blat*. Das Umlauts-e findet sich nur, wo kein Wechsel vorliegt, wie *bedde, here, stede, sele, helt (> *halip*) usw* (p. 39).

Unlike Brinkmann, Dal offers some motivation for the Dutch lack of umlaut vowel alternations by placing the phenomenon in a broader perspective: she sees in the Dutch lack of such alternations a parallel to the situation found in English and Scandinavian where, in nominal morphology especially, umlaut-induced fronting is exploited only to a very small degree in comparison with the situation in German. In these languages, phonemicisation of umlauted allophones did not coöccur with the morphologisation of the umlaut alternations. For Dal then, it was in particular the slower, more limited development of umlaut in German that created the possibility for the regular morphological application of umlaut alternations (p. 42):

"...[I]m Deutschen [wurden] die Umlautsvokale phonematisiert, indem der Umlautswechsel morphologisiert wurde. In diesen Verhältnissen liegt auch die Auflösung eines scheinbaren Paradoxons, nämlich dass, obwohl das hochdeutsche Gebiet als das späteste innerhalb der germanischen Länder von der Umlautswirkung betroffen wird, und obgleich die Umlautstendenzen hier schwächer
gewirkt haben als sonst, es gerade im Hochdeutschen ist, dass die Umlauterscheinungen ohne Vergleich die grösste Rolle im gegenwärtigen Sprachsystem spielen. Nur im Deutschen hat sich eine "innere Flexion" als konstitutives Element im morphologischen Bau der Sprache ausgebildet. Im Englischen und Niederländischen gibt es überhaupt keinen Umlautwechsel mit morphologischer Funktion (unregelmässige Plurale wie englisch *geese* zu *goose* u.a. kann man nicht unter diese Bezeichnung bringen), und in den skandinavischen Sprachen findet sich ein solcher Wechsel nur in wenigen Worten, und ist nicht produktiv geworden. Nur im Deutschen, wo die Phonemisierung der Umlautsvokale ein Ergebnis ihrer morphologischen Funktion, konnte der Umlautswechsel als morphologisches Element sich von seinen lautlichen Bedingungen freimachen, und im Flexions- und Wortbildungssystem produktiv werden."

There is a grave error in both of these scholars' discussions of the development of *i*-umlaut in Dutch which appears to be traceable to the same misreading of a passage in Franck, though it must also be said that the passage lends itself to such misreadings. The passage in question is the long one (p. 37-38) cited at the beginning of this section. Here Franck clearly indicates that in Dutch, as in the other northern Germanic dialects, umlaut took place earlier than it did in Upper German and he thereby implies that it was carried out to a greater degree. This implication is
reinforced by his claim that consonantal interference accounts for relatively few cases of umlaut failure in comparison with the workings of analogical leveling (1910: 39, cited above). It is presumably these statements which lead Brinkmann to claim: "Im Niederländischen hat i-umlaut einst sogar in weiterem Umfange als im Deutschen bestanden" (1931: 86). Both Brinkmann and Dal seem to take Franck's discussion of the treatment of ā more generally than they should, for, as we have seen above, this is the only vowel for which there is obvious evidence of the regular operation of i-umlaut. Bearing this fact in mind, it seems that the argument that Dutch does not show the expected reflexes of i-umlaut because of massive removal of umlaut-induced alternations is very much a case of putting the cart before the horse: since only one vowel in Dutch shows unambiguously the effects of i-umlaut, it seems more reasonable to argue that the elimination of all umlaut alternations involving reflexes of that vowel was made more likely since it was the only vowel that underwent such alternations. In Upper German, quite a different situation prevailed: there, all nonfront vowels were affected by umlaut and consequently, as umlaut ran its course and became phonologised, the overall number of lexical items affected by the development was vastly greater than in Dutch, where only those with the root vowel ā seem to have been touched. Finally, if we compare the distributions of i-umlaut reflexes in Dutch, English and any of the continental Scandinavian languages, it becomes immediately apparent that, while all three are alike in having relatively few morphological applications of umlaut in comparison with German, the western and standard dialects of Dutch
have, with the exception of the singular/plural alternation of one noun, *stad/steden* (*ʔa⟩ ʔa⟩ʔa⟩ʔa⟩) 'city/cities', surpass English by far in this regard. The modern English relics of umlaut alternations are indeed few but involve reflexes of the mutation of several different vowels: man/men, old/elder (*ʔa⟩); goose/geese (*ʔa⟩ ʔa⟩ ʔa⟩ ʔa⟩); brother/brethren (*oo⟩ oo⟩ ʔa⟩); mouse/mice, louse/lice, cow/kine (*ʔu⟩ ʔu⟩ ʔu⟩). And while, for example, modern Swedish has virtually no such alternation, an examination of these languages in texts from the later Middle Ages, i.e., Middle Dutch, Middle English and Old Swedish, we find that the modern situation already prevailed in Dutch, while the number of umlaut alternations in each of the other two languages was noticeably greater. A more important indication of the degree to which umlaut was carried out can be found in the overall number of reflexes of the change in lexicalised forms (i.e., outside any possible paradigmatic alternation). The number of such cases in Dutch is also very small and again involves primarily words with ʔa, whereas in English and the Scandinavian languages they are extremely numerous. Thus, there can be no serious discussion of the general absence of umlaut reflexes in Dutch as being the result of massive analogical leveling.

Since analogical leveling is the most usual language internal process by which reflexes of a sound change linked to morphological categories are removed, but clearly cannot be the sole mechanism behind the Dutch distribution of umlaut reflexes, it seems that the view presented in

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Schönfeld/Van Loey is the best account of the problem: the phonological process of umlaut must itself be the source of the peculiar distribution. Thus, it seems as though Dutch, or, perhaps more accurately, 'West Low Franconian', was alone in all of Germanic in developing i-umlaut only of the short vowels. This conclusion has potentially far-reaching implications for our view of the general status and development of umlaut in Germanic and, indeed, several scholars have recognised this fact.

One of those who have tried to evaluate the significance of the apparent failure of i-umlaut to develop in Dutch according to the normal (North Sea, North and South) Germanic pattern is Höfler. Höfler himself does not propose any explanation for this deviant pattern of umlaut development in Dutch, perhaps because he is quite willing to regard the Dutch situation simply as an instance in which a sound change did not develop to the same extent or exactly in the same way as it did in the neighbouring dialects for what might be termed 'natural' reasons. In fact, it is in this light that he presents the Dutch situation with the purpose of making clear that the application of the "wave model" of language change to Germanic umlaut is wholly inappropriate. His reasoning is ostensibly that, if umlaut had begun in some northerly part of the Germanic world such as southern Scandinavia or northern Germany, and spread thence southward as argued by Brinkmann (1931) and others, then it is quite unimaginable that an area through which ran major paths of
communication, like the Low Countries, would somehow be missed by or not pick up on an otherwise so expansive linguistic feature as umlaut.³

In a sense, Höfler's appeal to the case of Dutch in support of his view of Germanic umlaut in general seems almost naïve and potentially self-defeating. His general view of the phenomenon is that it was the direct result of "eine stufenweis zunehmende Konzentration des expiratorischen Akzentes auf die Hauptsilben" which had its beginnings "bei sämtlichen Germanen" (1955: 62); that is, umlaut was a gradual and natural, if not quite inevitable, result of a prosodic development which itself reached back to a Common or Proto-Germanic period: "[a]ls der germanische Initialakzent eingeführt wurde, bildeten die Germanen wohl noch eine wirkliche 'Verkehrsgemeinschaft', eine geschlossene und in sich stark

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zirkulierende Sprachgemeinschaft in und um Jutland" (1955: 63). For Höfler to call attention to the large-scale absence of umlaut reflexes and the apparent failure of the phenomenon to develop to a significant degree in Dutch without providing any palpable account for this failure clearly leaves his view of umlaut in Germanic open to attack.

Voyles (1981a, 1981b) stands relatively alone in his recognition of the significance for Germanic of the apparent failure of umlaut to develop in Dutch. In attacking Antonsen's view of the Proto-Germanic development of subphonemic umlaut, Voyles points out that such a view demands some account of the elimination of umlaut in Dutch (1981b: 256). For Voyles himself, such an account is unnecessary, since he views Germanic umlaut as essentially 'einzeldialektisch', though obviously involving some measure of Sapirian 'drift', and the Dutch failure to develop umlaut stands to be seen in the context of other Germanic umlaut failures:

"[S]ome of the earliest attested Gmc. languages such as Gothic, Old Saxon and Old High German either evince absolutely no trace of... umlaut (Gothic) or umlaut at only an incipient stage, namely that of short /a/ to /e/ before C0/i(:)/ (Old High German and Old Saxon). In this connection it might be added that Modern Dutch has no umlaut except the remnant of the NwGmc. breaking rule... in forms like sg. schip 'ship' vs. pl. schepen and /a/ to /e/ umlaut in sg. stad 'city' vs. pl.steden. Umlaut of /o(:)/ and /u(:)/ does not occur: E.g., groter 'larger', not *gröter, and kussen 'kiss', not küszen" (1981a: 112-113).

4Cf. the discussion in section 2.2 above.
While Voyles' comments on the Dutch data contain serious inaccuracies,5 with regard to the implications of the Dutch situation, his analysis goes directly to the heart of the matter: unless we can account for the loss of umlaut allophones in Dutch, it remains quite possible to assume that they never developed at all, and from this it can be concluded that umlaut cannot have begun in a Proto- or Common Germanic stage. But the Dutch case does not present a grave problem only for those who hold the extreme, Antsonsonian view of Germanic umlaut: it also stands as an apparent counterexample to the view of Germanic umlaut presented here, that is, as a secondary phenomenon which has arisen in all of the daughter languages as a result of a prosodic metacondition inherited from the earlier, parent stage. In particular, since Dutch undergoes reduction of nonprominent syllables in fashion similar to what we see in English, Norse and German, it would appear that the strong link between reduction and umlaut posited here, as well as by many others, is less than certain.

5As Draye (1984: 24), who also cites this passage, points out, the vocalic alternation in schip/schepen has nothing to do with 'Nwgmcm breaking' (i.e., raising/lowering changes of the short vowels) but rather, the vowel of the plural shows the usual reflex of i after open-syllable lengthening. The citing of kussen 'to kiss' as an example of the absence of umlaut is quite inaccurate. Dutch <u> is a front rounded vowel (approximately [ɔ]) and, as we will discuss further below, is clearly in a great many cases the reflex of an i-umlauted PGmc. *ū. While Draye (p. 25) is correct in indicating that "in der nl. Wortbildung sind Umlautbeispiele in Hülle und Fülle vorhanden" and that kussen can be regarded as just such an instance (i.e., of <u> [ɔ] from earlier ū + j), we might be more cautious and say simply that it is not possible to tell whether the vowel in this word reflects i-umlaut or not. In any event, it is wrong to say that it clearly does not show i-umlaut fronting.
3.1.2 *New Perspectives on the Problem*

The view that fronting *i*-umlaut affected only the short vowels in western Dutch but neither the long vowels nor the diphthongs has maintained its position as the standard view and has been assumed in most discussions of the early phonological development of the language. Given that this pattern of umlaut development differs fundamentally from what is observed in the histories of all the other surviving Germanic languages, it is quite surprising that the topic has not attracted more interest both from Netherlandicists and from Germanicists interested in the phenomenon. Specifically, the difference between Dutch *i*-umlaut, according to the standard view, and *i*-umlaut elsewhere in Germanic is that, whereas in Dutch the development of the fronting influence is allegedly restricted according to the length of the accented vowel, we find in the rest of Germanic no such restriction of *i*-umlaut. Insofar as any consistent, phonologically based restriction on *i*-umlaut can be observed, it is one based not on vocalic length but rather on syllabic weight. As discussed in the previous chapter, interaction of syllabic weight with the mutation process can be seen in High German and Norse and, though rather less obviously, also in Old English. Thus, in Germanic *i*-umlaut, short vowels followed by a consonant cluster or a geminate consonant often are treated just as are long vowels, but nowhere, except allegedly in western Dutch, do we find a case in which *i*-umlaut affects short vowels both in light and heavy syllables in one way and long vowels in another.

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Such a pattern of umlaut development is seen in the case of the earlier raising/lowering umlaut developments in Germanic. It is perhaps useful to recall some of the evidence discussed in section 2.1.2 for umlaut patterning in languages outside the Germanic family. There attention was called to the fact that in Celtic, the effects of raising/lowering umlaut were also limited to short vowels, while fronting/backing umlaut affected both short and long vowels. In Sinhalese, on the other hand, we saw that fronting/backing umlaut regularly shows different effects on accented vowels according to syllabic weight: vowels in light syllables have undergone a greater degree of mutation (total assimilation) while those in heavy syllables have undergone a lesser degree of mutation (partial assimilation). For these languages, there seems to be a correlation between raising/lowering umlaut and vocalic length on the one hand, and of fronting/backing umlaut and syllabic weight on the other. Since vocalic length and syllabic weight can both be seen as points of structural interaction between the segmental and suprasegmental levels of organisation, we might see these correlations as in some way related to the "Akzentballung" and to the differing patterns of peripheralising and centralising reduction posited here. While this extra-Germanic evidence can hardly be considered sufficient to constitute the basis for universal claims, it lends support to the internal Germanic evidence in making us hesitate to accept without question the handbook analysis of fronting i-umlaut in Dutch: the alleged Dutch development violates a pattern that reigns in all the rest of Germanic and may be founded on basic, natural structural interactions of segmental and suprasegmental phonology.
It is therefore not surprising that there is strong evidence against the view that the development of i-umlaut in Dutch is crucially tied to the distinction between short vowels on the one hand and long vowels and diphthongs on the other. Here I refer to Goossens' discovery that the fundamental opposition in the operation of Dutch umlaut was the distinction between 'primary' and 'secondary' umlaut, as known from the study of High German (cf. 2.3.4 above): "Bijzaak is de tegenstelling tussen korte klinkers aan de ene, lange klinkers en diftongen aan de andere kant. Hoofdzaak is daarentegen de tegenstelling tussen primaire en secundaire umlaut..." (1980: 22). Proceeding on a structuralist interpretation of the significance of that distinction, Goossens reformulates the Dutch development of umlaut as follows (p. 23):

7Goossens' application of the primary/secondary umlaut distinction to the Dutch developments is the first such explicit and detailed account of the Dutch facts. It should be noted, however, that Robinson (1975: 20), in a footnote to an article focussing on the process of morphologisation of umlaut rules, applies the distinction to Dutch: "It is... possible... that primary umlaut took place first, and that secondary umlaut took place at a later time, although obviously while the umlaut factors were still present phonetically. The latter hypothesis gains some support from the Low Franconian area, including Limburg. There the western Netherlandic dialects never underwent 'secondary' umlaut of a, but did have 'primary' umlaut, which speaks for the earlier application of 'primary umlaut'. Also in favor of this interpretation is the fact that in Limburg, where 'secondary' umlaut indeed took place, it very soon replaced primary umlaut in productively alternating forms, which was not the case in German...."

8"Dit laatste verschil tussen primaire en secundaire umlaut is m.i. tot nog toe onvoldoende beklemtoond, hoewel het de sleutel vormt van een juist inzicht in het probleem van de umlaut in het Nederlands: de oudere primaire umlaut is een geval van partiële fonemsamenval na allofonische splitsing van de klinker zelf, de jongere, secundaire umlaut is op fonologische vlak een geval van distributiesamenval door een tweede klinkkwet, namelijk de samenval door verdoffing van onbeklemtoonde klinkers" (p. 22-23).
"De opvatting van de handboeken dat het westen van ons taalgebied slechts umlaut van korte klinkers, het oosten bovendien ook umlaut van lange klinkers an diftongen heeft, is te vervangen door de stelling dat de primaire umlaut overal gewerkt heeft, de secundaire daarentegen slechts in de oostelijke helft van het taalgebied gephonemiseerd is. Dit laatste betekent dat in het oosten na de samenvoeg van de primaire umgelautete a met wg. [westgermanse] e de werking van de umlautfactoren bleef aanhouden, waardoor de tengevolge van die factor gepalataliseerde klinkers of tweeklankenh nog verder gepalataliseerd werden tot hieruit door het verdoffen van de umlautfactoren nieuwe fonemen ontstonden."

The development of secondary umlaut in the eastern half of the Dutch language area is in all respects comparable to that described earlier for the High German language area. The vowels subject to secondary i-umlaut were the reflexes of the PGmc long vowels *ā, *ō and *ū, of the short vowel *ū, and of the diphthong *au. As a result of the raising/lowering umlaut changes described in section 2.3.3, the short vowels *ē and *ō ought not to have occurred any longer before i or j but as a result of analogical leveling and borrowing, such sequences were probably reintroduced into the language. Our earlier discussion of the i-umlaut developments of Old High German and specifically of Frankish showed that there was a limited number of cases in which primary umlaut of ā was apparently blocked or hindered, including words: 1) in which the cluster
-Χτ- stood between ǎ and the umlaut conditioning factor; 2) in which a medial syllable stood between the accented syllable and the final syllable in which stood the umlaut conditioning factor; 3) and possibly words in which the potential umlaut factor originally bore a secondary accent (i.e., during the primary i-umlaut phase) but through the process of gradual reduction became a genuinely unaccented (or nonprominent) vowel.⁹

⁹Goossens, citing Leys (personal communication), indicates that the blocking of primary umlaut but not of secondary umlaut by a medial syllable and -Χτ-may be the origin for the popularity of the secondary umlaut product of ǎ (i.e. an open ɛ) rather than the expected primary umlaut product (i.e. a closed ơ) in word derivations in the eastern dialects (1980: 23-24): "Hierdoor kan worden verklaard dat de secundaire umlaut van ə in de vorm van een open ɛ-vocalisme in oostelijke dialecten zo vaak in de woordafleiding voorkomt zonder dat er van een -cht- of een tussensyllabe met een andere vocalisme dan i sprake kan zijn. Dat valt vooral bij de diminutieve (type kemke ‘kammetje’) en adjecitieve op -ig (type hennig ‘handig’)." While Leys and Goossens are surely (in part at least) correct here, we might also wonder whether this eastern Dutch development is not a parallel of the German occurrence of secondary but not primary umlaut in diminutives in -ιın and adjectives in -ιich (see section 2.4.1 above). In the case of the diminutives, it should be noted that the Dutch -kė (and German -chen) is a Frankish compound suffix (*-k-Iın) that is in formation exactly parallel to the primarily Upper German -iın (< *-/-Iın). If the Frankish suffix, like its Upper German equivalent, did not cause primary umlaut, it may well have been a source of an alternation ə/ɛ which was then subsequently spread to where there had originally been an alternation ə/ɛ. Unfortunately, early examples of this suffix on a root with ǎ seem to be lacking (see Franck 1909: 19) and the question needs further investigation. Finally, it should be noted that, whatever the direct source for the analogical replacement of ɛ with ə was, we see here an apparent instance where phonetic similarity, not phonetic (or phonemic) identity, is the relationship that lies behind the change. In a sense, these dialects have tended to restore the closer phonetic relationship that reigns in the other alternations that arose in secondary umlaut and to eliminate the relatively unnatural one that resulted from the excessive fronting and raising that the longer operation of i-umlaut exercised on unhindered ǎ.
These remaining sequences of \( \ddot{a} \) followed by an \( i \)-umlaut conditioning factor were also subject to fronting but did not attain the same high mid quality of the primary umlaut product. It must be assumed that the primary umlaut product must still have been followed in most cases by the \( i \)-umlaut conditioning factor and its raising beyond the quality of inherited PGmc \( *\ddot{e} \). As Goossens notes, "de primaire umlaut van wg. \( \ddot{a} \) wordt er dus in een later stadium een secundaire umlaut van \( \ddot{e} \" (1980: 23). The following charts show the stages of primary and secondary umlaut development for Dutch, as illustrated by Goossens (1989: 62) (cf. the similar chart for German by Moulton (1961: 21) discussed above in section 2.3.4):

<table>
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<tr>
<th>UMLAUT OF SHORT VOWELS</th>
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<td>1. e</td>
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<td>3. e</td>
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<tr>
<td>4. [ɛ̃ ɛ̃]</td>
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<tr>
<td>5. [ɛ̃ ɛ̃]</td>
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<tr>
<td>6. e</td>
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UMLAUT OF LONG VOWELS AND DIPHTHONGS

1. ä > oe
   ő > ö

2. [ä] [ue] [ő]

3. [ā] [ūe] [ő]

4. [ā] [ūe] [ő]

5. [ā] [ūe] [ő]

6. ö =oe

The following points should be noted with regard to these tables (Goossens loc. cit.). First, the short vowel ś seems to have been 'spontaneously lowered to ö and is therefore rewritten as such. Exactly when this development occurred is not known but the date is not of importance to the present discussion. Inherited PGmc ö also underwent a spontaneous change to the diphthong usually written as <oe> in Middle Dutch but probably phonetically closer to [uə] (and earlier probably [uə]). The diphthong ao is the presumed stage of PGmc au just before its unconditional monophthongisation in most of the Dutch language area. Finally, the reflexes of PGmc ś are not included in the table since, as mentioned earlier, its unconditional fronting to [û] makes it impossible to detect any original umlaut conditioned split to [ũ] vs. [û]. The following developments should be noted (Goossens 1989; 62-63). In the transition from the first to the second stage, there are the phonetic beginnings of i-umlaut fronting at the allophonic level. From the second to the third there is the phonemicisation of the primary umlaut product of ś through
its merger with the reflexes of ě, while all the other umlaut allophones remain in complementary distribution with the nonumlauted phones. The umlauted phones of ě which stand in the unfavourable umlaut environments mentioned above (e.g., with intervening -Xt- etc.) do not merge with old ě at this time but rather remain only slightly fronted allophones of ě. From stages three to four there is the development of a new umlaut phone through the continued raising of the original i-umlaut product of ě. From four to five, the fronting process continues with the merger of the fronted ('secondary' umlaut product) of ě with ě (N.B. that both ě and ě do not occur before an i-umlaut conditioning factor at this time and this slightly fronted umlaut product of ě could stand in complementary distribution with either or both of these vowels). Finally, from stage five to six is the definitive reduction of the umlaut conditioning factors to schwa and their merger with other nonprominent vowels, leading directly to the distinctive status, i.e., phonemic split of the existing umlauted/nonumlauted pairs.

From this description of the i-umlaut process, Goossens concludes that there are four basic differences between primary and secondary umlaut in the Dutch language area (1989: 64-65). The first is a "typological difference", namely that primary umlaut involves the process of direct merger as the mechanism by which the umlaut mutation becomes phonologised, while secondary umlaut is phonologised through phonemic split and subsequent merger of the conditioning and nonconditioning environments. Second, there is a "quantitative" difference, by which Goossens refers to the fact that primary umlaut involves only the umlaut
fronting of one single vowel, namely \( \ddot{a} \). Secondary umlaut, on the other hand, affected a whole series of vowels (and diphthongs) and ultimately had far greater repercussions for the overall structure of the vocalic system. Third, there is a chronological difference between the two kinds umlaut: "De primaire umlaut is al in de oudnederlandse periode onmiskenbaar gefonemiseerd en wordt dan al grafisch weergegeven," while "de secundaire umlaut is pas later gefonemiseerd" and only gradually in the Middle Dutch period represented graphically (p. 64). Finally, there is the fourth difference of the geographical distribution of the two \( i \)-umlaut developments, as indicated earlier in this section.

With regard to the geographical aspect of the development of \( i \)-umlaut in the Dutch language area it is again Goossens who has made the most extensive studies. The results of his research on the isoglosses for the development of secondary umlaut are presented in his monograph on Middle Dutch vowel systems (1980: 24-36).

The isoglosses for the distribution of lexicalised reflexes of secondary \( i \)-umlaut generally run parallel to one another, though at various points one crosses over the other or bulges out away from the others for some distance. Of these, the map for the \( i \)-umlaut of the reflexes of PGmc \( \ddot{o} \)is the least complicated: it runs in a fairly straight line from near Geraardsbergen at the Germanic/Romance language border north to near Hilversum at the south end of the old Zuiderzee. Beyond this point that body of water forms the rest of the boundary between the western area, where \( \ddot{o} \) shows no sign of having been fronted through umlaut, and the eastern area with lexicalised cases of fronted \( \ddot{e} \): "[g]een umlaut hebben dus het Vlaams, het
Zeeuws, het Hollands, het Westnoordbrabants en het Westutrechts; de rest van het taalgebied heeft wel umlaut" (p. 24). Thus, in the west, the forms *zoekan < *sōkjan and *groen < *grōni (<oe> = [u]) obtain while to the east forms with umlaut fronting obtain (cf. German grün).

The isogloss for the umlaut of PGmc */au > *ao (e.g., droog < *draugi, cf. OS drōgi, geloven < *galaujian) runs generally parallel and slightly to the east of the ŏ umlaut isogloss, though in the province of Antwerpen, Belgium (part of the Brabants dialect area) it bulges out further to the east. Goossens interprets this bulge as a reflexion of the influence of the major city of Antwerp which lies in the west of the province and presumably has been exercising a standarising influence on the provincial dialects (1980: 24-25). A more serious disturbance to the path of this isogloss is a large area in the south where reflexes of */au have been unconditionally fronted, typically to [ŭ(ə)], as in düü(e)d (standard dood 'dead'), üü(e)X (standard oog 'eye'), buü(e)m (standard boom 'tree'). This area of spontaneous fronting includes most of the province of East Flanders and the southern half (running along the Germanic/Romance language border) of the Belgian province of Brabant, thus including the cities of Brussels and Leuven. From the point where the isogloss runs into this area of fronting, its course can obviously be traced no further.

A similar problem is involved with the establishment of an isogloss for i-umlaut of the reflexes of */ā, for this isogloss also runs into an area of general fronting. In this case the isogloss begins at the south shore of the Zuiderzee, quite near the starting point of the previously described isoglosses, runs briefly parallel with them just east of Utrecht toward the
south, and then veers sharply westward toward the Channel coast where it runs into a large area comprising much of South Holland and most of the province of Zeeland, in which all reflexes of *ʌ have a front quality ɛ or ĕ. In addition to this area of general fronting of *ʌ, there is another in the north of the province of North Holland (west of the Zuiderzee) and thus now well separated from the umlaut isogloss. The words used for the mapping of these developments are slaap 'sleep', laten 'to let', and schaap 'sheep', all originally without any umlaut conditioning factor, versus kaas 'cheese', (cf. Ger. Käse) and schaar 'shears' both of which did contain an umlaut factor.

In the case of the Dutch treatment of *ʊ it is a well-known fact that in the standard language this vowel has in almost all instances undergone fronting to ɨ and subsequent diphthongisation, e.g., mūs > mŷs > mœys = standard Dutch muis. All three stages of this development are still represented in regional dialects, as described in Kloekke's (1927) famous and often cited study (e.g., Bloomfield 1933: 328ff.). Relevant to the question at hand, however, is only the opposition fronted vs. nonfronted, thus m ūs vs. mŷs/mœys. Here the area of general fronting covers all of the western, coastal dialects as well as the central Brabants and Utrechts dialects and thus straddles the area through which run the umlaut isoglosses just described for ā, ŏ and au. We will return to the question of the development of this vowel in a moment.

In order to ascertain the geographical distribution of the opposition between primary and secondary umlaut of ā, the distribution of fronting in forms subject only to secondary umlaut must be studied. Relevant to this
are such forms as mannekel/mannetje (←*mannekin) and bakker (←*bakkari), where the root vowel and the umlaut conditioning factor are separated by an intervening syllable. The umlaut isogloss for this feature (to the west mannekel/mannetje and bakker, to the east menneke and bekker) runs very much parallel with the others described above but almost its entire course lies somewhat to the east, with the northern starting point to the east of the Zuiderzee.

Another isogloss necessary for an establishment of the dialectal distribution of the operation of only primary umlaut in one area and both primary and secondary umlaut in the other involves the treatment of ě under primary umlaut conditions and its relationship to inherited ē. Where only primary umlaut operated, the two should have merged completely, whereas in areas where secondary umlaut also operated, there might be traces of umlauted ě having surpassed older ē (in OHG and MHG studies, <ē>) in height. The word leven ‘to live’ serves as an example of ē without a following umlaut factor, while the word kegel ‘(bowling) pin’ serves as an example of ě subject to primary (and secondary) umlaut. The findings for this isogloss are roughly that the western part of the Dutch area shows no distinction of these two vowels, and this area of merger extends in the northern half of the Low Countries through the central area and joins with an area comprised of the German dialects of the Lower Rhine where the distinction is also lacking. To the south within the curve of this arch are the southeastern Dutch dialects which maintain a distinction between the two vowels. The map lends itself to the interpretation that this isogloss (primary umlaut only and one vowel vs.
primary and secondary umlaut and two vowels) formerly ran approximately parallel to the other secondary umlaut isoglosses but a secondary tendency to merge \( \varepsilon \) and \( \varepsilon \) spread from the west (Holland) and from the east (German Lower Rhine), surrounding the southeastern group of Dutch dialects as a relic area (Goossens 1980: 28-34).

The last vowel potentially subject to umlaut which we must consider is \( \ddot{u} \). As mentioned earlier, the handbook description of the development of umlaut in Dutch has proceeded on the assumption that in the western dialects both \( \ddot{a} \) and \( \ddot{u} \) were subject to \( i \)-umlaut; it thus posits for the Dutch development a pattern otherwise unknown in Germanic. From our earlier discussion of Franck's attempted analysis of the distribution of fronted and nonfronted reflexes of \( \ddot{u} \) in the western dialects, it should be remembered that the distribution corresponds only partially to the original distribution of \( i \)-umlaut conditioning factors. In other words, of those lexical items with fronting, only some had an umlaut factor, and, on the other hand, of lexical items without fronting, there were many which did have umlaut factors. Goossens says the following concerning this issue (1980: 34): "Tenslotte is er de umlaut van de \( u \), waar al heel wat vlijt en talent aan is besteed... Het resultaat van al dat onderzoek is dat de toestand in het westen, d.w.z. in het gebied ten westen van onze isoglossenbundel, chaotisch is." In the central and eastern areas, however, the correspondence between fronting vs. nonfronting to +umlaut conditioning vs. -umlaut conditioning is generally fairly clear, especially in the eastern dialects. Obviously, the interpretation of the origins of this "chaotic" situation in the west is crucial to the question of whether the
handbook description of Dutch umlaut, as a phenomenon outside the normal pattern of Germanic (and perhaps more generally) fronting(/backing) umlaut, is correct, or whether Goossens' claim that the Dutch developments merely reflect the primary/secondary distinction well attested elsewhere in the language family. A more detailed description of the complicated distribution of forms in the southwest will be offered together with our own proposed explanation of its origins later in this chapter.

From the individual umlaut isoglosses (which in any event cannot be interpreted too literally), we can abstract a zone, running from north to south, bordered both in the west and in the east by whichever isogloss lies furthest in that direction. This zone represents the transitional zone between two distinct dialect areas with respect to the operation of i-umlaut. Along the Channel coast in the west, we have the dialect group comprised of Flemish, Zeeuws, and Hollands, in which only the operation of primary umlaut is reflected. To the east of the transitional zone through which the various isoglosses run, we have the dialect group comprised of roughly Brabants and Utrechts, in which the operation of both primary and secondary umlaut is reflected.

A similar transitional zone can be seen in the area through which run the isoglosses pertaining to the morphological application of umlaut. Of interest here are the following isoglosses, described by Goossens (1970: 68-70, map p. 67). First, the isogloss for the use of umlaut alternations to mark the singular/plural distinction in nouns sets off the Limburgs dialects, the northeastern Brabants dialects and the dialects of parts of the
provinces of Gelderland and Overijssel in the Netherlands, where plurals are often marked with umlaut fronting, from the rest of the Dutch language area, where nominal number distinctions are marked only through suffixation. Second, there is the isogloss for umlaut marking of the third person singular, present tense in the strong verbs. Here we refer to such alternations as we find in standard German, e.g., *ich fahre/el fährt*, *ich laufe/el läuft* etc. This isogloss runs fairly close to the isogloss for sing./plur. alternations in the south, dividing roughly Brabants from Limburgish but somewhat further east. In the Kleve area around the Lower Rhine it runs even further to the east than the nominal plural isogloss but then in the north rejoins it. Finally, there is the isogloss for the marking of diminutives with umlaut fronting. This line also runs roughly parallel to the nominal plural isogloss but noticeably to the west of it, so that fronted vocalisms in diminutives are the norm not only in Limburgish and northeastern Brabants but also generally in eastern Brabants and throughout the dialects of Gelderland and Overijssel. That this isogloss runs further west than the others may well be a reflexion of the fact that diminutive formation stands somewhere between word formation and inflexion.

Though the bundle formed by these morphological umlaut isoglosses is noticeably less compact than the lexical isoglosses, we nevertheless obtain a transitional zone which runs roughly parallel to the other (between the western, coastal dialects and those of the interior), especially in the south, defining further our central zone of the dialects of Brabant and Utrecht: these dialects show reflexes of secondary umlaut but
do not employ umlaut alternations in morphological functions. Across the transitional zone, the dialects of much of Limburg and the lower Rhine region (the land of Kleve) in Germany represent the eastern dialect group, in which secondary umlaut has taken place and is still employed in morphological functions. This last dialect group, at least with respect to the development of umlaut and other early vocalic developments, can be considered the westernmost part of the Ripuarian Frankish dialect continuum, which extends to the south and east, well into central Germany.

A final question concerning the dialectal distribution of umlaut related isoglosses needs to be discussed, namely, the isogloss for the spontaneous fronting of \( \ddot{u} \) (see map 2). We stated earlier that this vowel is fronted in all environments in the western group of dialects, where we would in any event not expect a split according to the presence and absence of umlaut conditions. The same situation prevails, however, also in the central zone, that is, in the dialects of Utrecht and Brabant, where secondary umlaut has left clear, lexical traces. The isogloss for spontaneous fronting of \( \ddot{u} \) to the west and a split according to umlaut conditions to the east falls in more or less with the the eastern bundle of isoglosses, that is, the isoglosses for the morphological application of umlaut alternations. Along the southern part of this isogloss is an area in which we seem to be able to see a trace of an earlier, transitional stage, when the fronted variant of \( \ddot{u} \) was gradually being generalised, with the generalisation proceeding in the often attested pattern of consonantal environments:

The most plausible interpretation is, as Goossens suggests, that the spontaneous fronting had its origins in the western zone, where secondary umlaut was not operative, and that the central area, which, as in the case of the other long vowels and ŋ, likely had a split of ū in ū/ū according to the operation of secondary umlaut, gradually followed the western lead and generalised the fronted variant (1989: 64-65). Thus, with regard to the umlaut isogloss for ū, Goossens' concludes (1980: 28): "Dat vóór de palatalisatiegrens vanuit het westen over de umlautgrens heenschoof, deze laatste tot dezelfde bundel behoorde als de umlaut grens van ŏ, aœn ņ, kan weliswaar niet worden bewezen, maar is wel een aanwijzing voor."

Without any doubt, Goossens' description and analysis of the dialectal distribution of i-umlaut in Dutch and his reformulation of the pattern of umlaut failure represents a major step forward for any attempt
to account for the Dutch deviation from the general Germanic trend. The actual problem to be solved is now far better defined. It was perhaps legitimate, when Dutch umlaut was seen as having operated according to the length of the accented vowel, to claim that the phenomenon was in fundamental ways different from what we find elsewhere in Germanic, and that we therefore ought simply to take the lack of umlaut fronting of long vowels and diphthongs as just a further feature of a purely 'einzeldialektisch' pattern of umlaut development. In light of Goossens' reformulation, however, such an argument loses much of its force. The Dutch development fundamentally does fit into the well-known patterns of umlaut development of closely related dialects in Germanic. Indeed, the eastern dialects of Dutch cannot be distinguished from the neighbouring German dialects at all with regard to original umlaut developments. Thus, what now needs to be explained is why in the western dialects primary umlaut developed but secondary umlaut did not.

3.1.3 Goossens' Explanation of the Dutch Umlaut Failure

Goossens' own proposed solution to the problem of the failure of secondary umlaut in the western Dutch dialects, one of the very few that has been explicitly proposed, proceeds on the assumption that the western umlaut failure is one of secondary umlaut and is very much founded on the structuralist analysis of umlaut. Goossens approaches the problem from a broad perspective, considering the possible relationship of the sundry 'spontaneous' palatalisations discussed above with the umlaut
process. Since both the failure of secondary umlaut and these spontaneous palatalisations are both centered in the western dialect areas, there is good motivation for Goossens' approach. The problem itself is described by him in the following terms (1980: 39):

"Het kan niet betwist worden dat het hele nl. taalgebied, dus ook het westen, de primaire umlaut heeft ondergaan. Maar dan is ten eerste niet goed in te zien, waarom hier niet tegelijk met de combinatorische palatalisatie die tot het ontstaan van de primaire umlaut van wg. a heeft geleid, ook een palatalisatie van de andere voor umlaut vatbare klinkers en diftongen op gang zou zijn gekomen. Ten tweede is niet goed in te zien waarom in datzelfde westen het palatalisatieproces met de fonemisering van de primaire umlaut abrupt zou zijn gestopt. Zeer waarschijnlijk hebben er dus in het westen aanlopen tot een tostandkoming van secundaire umlauten plaats gehad. Het probleem is dan waarom hier het verdwijnen van de umlautfactoren niet tot een fonemisering van de secundaire umlauted heeft geleid."

For this western area, a strong tendency toward fronting of vowels must be posited in light of the various unconditioned frontings. Moreover, there occur a number of cases of extreme fronting of back vowels, virtually all in forms which contained i-umlaut conditioning factors. Here we refer to a number of cases in the western dialects of ü followed by an umlaut factor which have been fronted and ultimately unrounded, as in brig/breg 'bridge' (cf. standard Dutch brug), pit/pet 'well, pit' (cf. standard put) etc.
(these forms will be discussed more fully below). Though less numerous, isolated instances of other back rounded vowels which have been fronted and unrounded in the westernmost dialects also occur, e.g., *wènesdag 'Wednesday' (with \( \tilde{e} \times \tilde{o} \), cf. standard *woensdag) and *híden 'to hide' (with \( \tilde{i} \times \tilde{u} \)). These forms seem to have originally been concentrated along the coast of Holland and Flanders. Indeed, the evidence of these forms together with the evidence for the process of reduction in (some of) the western dialects seems to point to the umlaut conditioning factors having remained longer in effect than in the eastern dialects (1980: 39-40):

"[W]anneer we een verband leggen tussen het verdoffingsstadium van de umlautfactoren en de apocope van auslautende verdoffte klinkers, kunnen we constateren dat het grootste deel van het westen nog maar de eerste fase van de dubbele klankontwikkeling heeft doorgevoerd, het gebied ten oosten daarvan ook de tweede. In het Hollands, dat wel apocope kent, is die er in vergelijking met het Brabants en Limburgs eerder later dan vroeger gekomen."

Goossens' reasoning here appears at first glance to be wholly in accord with the theoretical discussion of umlaut presented in section 2.1.2: if umlaut is directly related to reduction, then it stands to reason that dialects which carry out reduction to a greater degree than other dialects will also carry out umlaut to a greater degree. This pattern appears to obtain in the Dutch language area at least in part, with the southeastern Brabants and Limburgs dialects, where secondary umlaut was unambiguously carried out, apparently reducing nonprominent vowels to a greater extent than the
southeastern Flemish dialects, where, of course, secondary umlaut did not develop. However, as Goossens notes, the dialects of Holland, which also did not develop secondary umlaut, carried out reduction more rapidly than those of Limburg.\footnote{Schönfeld/Van Loey (1970: 113): "In de mnl.-nndl. periode is het proces van afslijing voortgezet, maar met sterke dialectische verschillen. Zo is de -ə, vooral sedert de 15de eeuw, hoe langer hoe meer geapocopeerd, b.v. hane \textgreater{} haan. Deze apocope is in 't Hollands al voor de tijd kort na 1300 te bewijzen; vormen als son, maen vindt men reeds in Utrechtse mss. uit het begin van de 14de eeuw. Ook in 't Brabants en Limburgs viel de -əaf; daarentegen niet in 't Vlaams, waar de -ə tot nu toe dikwijls bewaard is, evenals in het noordoosten."}

In my view, the question of the relative date of apocope is something of a red herring in the analysis of the development of umlaut in Dutch. While it is probably true that the rate of reduction can be taken as a sign of the relative dominance of the prominent syllable over the nonprominent syllable, and thus indirectly of the rate of umlaut development, there are other important factors to be considered. Of greatest significance is the first phase of the reduction process, namely the loss of the distinctive quality of the umlaut conditioning factors, and all of the Dutch dialects already show clearly the results of this reduction to a colourless vowel in their earliest attestations (Schönfeld/Van Loey 1970: 113). The subsequent phase of reduction, like the first, must be considered not only as a phonological process but also a potential morphological process. With regard to the Dutch dialects, it should be noted that the Flemish maintenance of final schwa to a far greater extent than other dialects, especially those of Holland, deserves to be seen in a broader context. In Flemish this final schwa has important morphological...
functions: for example, for nouns it is quite clearly an indicator of feminine gender (Leys: personal communication). On the other hand, the dialects of Holland no longer distinguish feminine nouns at all from masculines and the schwa that may have been maintained and extended (as in Flemish) for that purpose clearly became excess baggage. We will return to the significance of the Flemish maintenance of schwa in our own proposed solution the problem of the western umlaut failure.

Whatever the relationship of the last stages of reduction was to umlaut, Goossens concludes that, since the distribution of fronted and nonfronted vocalisms in the western area generally does not coincide with the original distribution of i-umlaut conditioning factors, any secondary umlaut effect that developed in this area did not result in a sufficient split of the umlauted and nonumlauted phones. A central point of his argument is that this lack of differentiation need not be taken necessarily as a failure of fronting of phones in umlaut position but rather may instead have been a result of a tendency to front the phones that did not stand in umlaut position, a possibility that seems likely in light of the numerous spontaneous frontings (1980: 40). The actual failure of secondary umlaut in western Dutch is then explained by Goossens as a case of insufficient phonetic differentiation at the time of the definitive loss of the umlaut conditioning factors (p. 41): "Bij het verdwijnen van de umlautfactoren vielen de twee allofones waartussen niet voldoende verschil bestond, dan weer samen, waardoor nu eens palataal (in geval van spontane palatalisatie...), dan weer een meer velaar eenheidsvocalisme ontstond."
We might represent this view of the umlaut development in the following tables. (N.B. in these tables, ā, ā, ā are intended to represent vowel qualities that are less strongly fronted (raised) than æ, æ, y). In the eastern dialects, primary and secondary umlaut development as described earlier, with a gradual strong differentiation of fronted and nonfronted allophones:

**EASTERN DUTCH DIALECTS (BRABANT/LIMBURG)**

**Short Vowels:**

1. ε   a   u/o
2. ε   [ā -- a]   [ū -- o]
3. [ε -- æ]   a   [ū -- o]
4. ε   a   [ū -- o]
5. [ɛ -- ε]   [ā -- a]   [y -- o]
6. [ɛ -- ε -- æ]   a   [y -- o]
7. ɛ   ε   a   y o

**Long Vowels:**

1. ā   õ   ao   ū
2. [ā -- ā]   [ũe - ue]   [ō -- ō]   [ū -- ū]
3. [ā -- ā]   [ũe - ue]   [ō -- ō]   [ū -- ū]
4. [ā -- ā]   [ũe - ue]   [ō -- ō]   [ū -- ū]
5. [æ -- ā]   [ye - ue]   [œ -- ō]   [ŷ -- ū]
6. [æ -- ā]   [ye - ue]   [œ -- ō]   [ŷ -- ū]
7. ě   ā   ye ue   õe ō   ŷ ū

In the western dialects, on the other hand, strong differentiation did not take place. In some areas and/or in the case of some vowels, this underdifferentiation was manifested in the form of a split between the nonfronted allophone and an only slightly fronted umlaut allophone. In other cases, the underdifferentiation was manifested with a shift of both phones forward, with the umlauted phone becoming strongly palatalised.
and the allophone not in umlaut position also being somewhat fronted, as shown in stage 5b.

WESTERN DUTCH DIALECTS (FLANDERS/ZEELAND/HOLLAND)

**Short Vowels:**

1. $\varepsilon$  
2. $\varepsilon$  
3. $\varepsilon$  
4. $\varepsilon$  
5a. $[\varepsilon]$  
5b. $[\varepsilon]$  
6. $\varepsilon$

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**Long Vowels:**

1. $\ddot{a}$  
2. $[\ddot{a}]$  
3. $[\ddot{a}]$  
4. $[\ddot{a}]$  
5a. $[\ddot{a}]$  
5b. $[\ddot{a}]$  
6. $\ddot{a}$ or $\ddot{a}$

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In the case of the reflexes of $\ddot{u}$, it is clear that throughout the western dialect area the strongly fronted variant won out, while in the cases of the other long vowels, the strongly fronted variants were generalised in geographically limited areas (i.e., the areas described earlier in the discussion of the spontaneous palatalisations). It should be noted, however, that even in this model it remains difficult to account for the treatment of the reflexes of $\ddot{u}$. Presumably with this difficult case particularly in mind, Goossens proposes a further, original dialectal split in umlaut developments: a thin coastal area ("de kuststrook" whence come the 'extreme' umlaut cases with unrounding) where secondary umlaut
was phonologised, a broader western area just inland from the coast, where secondary umlaut was not phonologised, as described above, and finally, the eastern area, where secondary umlaut developed as in German. These three areas subsequently interacted with one another with dialect contact and analogical levelings bringing about complex distributions of umlaut reflexes (Goossens 1980: 41):

"Daarnaast is met analogische nivellering van umlaut-alternanties te rekenen. Al in het begin van de mnl. overlevering was die bij de primaire umlaut in het westen doorgevoerd; dit is ook voor de kuststreek allicht ook voor de secundaire umlauten aan te nemen. De spanning tussen het produkt van de nivellering aan de kust, het ontbreken van een mogelijkheid tot nivellering van secundaire umlauten in de daarbij aansluitende strook en de weer andere verhouding in het grote oostelijke umlautgebiet, waar de alternanties aanvankelijk werden bewaard, heeft tot een idiosyncratische verdeling van velaar en palatal vocalisme (met eventuele ontronding) geleid, die in de oostelijke helft van het taalgebied is vast te stellen."

Goossens himself describes his proposed explanation of the western development of umlaut and spontaneous palatalisation as "vague" and "strongly speculative in nature" and points to certain specific difficulties which it encounters (loc. cit.). First, he acknowledges the inconsistency of

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11 The claim that secondary umlaut developed normally along the coastal strip had earlier been made by Van Loey (1961: 148-149) and Heeroma (1965: 21).
posing a failure in the (noncoastal) western dialects to phonologise the umlaut allophones with loss of the conditioning factors and analogical levelings between umlauted and nonumlauted phones, since in theory, analogical leveling presupposes independent phonological status of the phones involved. This theoretical difficulty is mitigated somewhat by the posing of the full development of secondary umlaut in the coastal strip, but this proposal presents its own difficulty: "De aangenomen hypothese zet dus een zeer vlugge fonemisering van de secundaire umlaut voorop, wat in zekere zin weer in tegenspraak is met de aangenomen lange werking van de umlautfactoren in dat gebiet" (loc.cit.).

To Goossens' own reservations concerning the proposed explanation of the western umlaut failure I might add the following ones based on the observations of umlaut development outside the Dutch language area discussed in Chapter 2. First, with or without the assumption of a coastal area in which secondary umlaut allegedly did develop, it remains that the central claim in this view is that in most of the western dialect area, secondary umlaut failed because of insufficient phonetic differentiation of the umlauted and nonumlauted allophones at the time of the loss of conditioning. In the survey of instances of umlaut failure elsewhere in Germanic I have found find only one case which could possibly be explained in these terms, namely the case of the umlaut failure in light root-syllables in Old Norse. As I have suggested, however, there are strong indications that there were very specific analogical pressures at work in that language to which can be attributed the loss of umlaut in those forms. It should in this regard also be remembered that
the Norse umlaut failure, though 'regular' to a considerable degree, nevertheless shows a great many exceptions (i.e., light root-syllables subject to umlaut conditioning in which the root vowel is, in fact, fronted), especially in the class I weak verbs, where, admittedly, the claims of analogical leveling in favor of the nonfronted vowel in the preterite are perhaps relatively less well motivated than in the case of the i-stem nouns. In any event, Old Norse shows the very regular development of i-umlaut in all other instances and, as just mentioned, a significant number of cases of exceptions to the light root umlaut failure.

The Dutch situation is quite different, for although there are exceptions to the umlaut failure in the west, these largely involve cases of unrounding, which, as Goossens notes, point to a fronting tendency that seems inconsistent with the allegedly weak degree of umlaut differentiation posited generally for the west. These exceptions are sporadic and look rather out of character for these otherwise essentially Frankish dialects. Goossens' link of the problem of the spontaneous frontings to the failure of umlaut, however, casts the problem in a new light: the failure of i-umlaut in western Dutch does not show some general tendency to resist fronting of vowels, but rather a failure to maintain as independent phones both fronted and nonfronted variants. Put another way, it can be seen as less a phonetic failure than a phonological failure. A question we might ask then is why these western Dutch dialects, unlike all other Germanic dialects, found no functional application for the umlaut-induced splits when the conditioning factors were lost. Yet, given that these dialects had essentially the same morphological and lexical
inventories as their eastern neighbours, a dialect-internal explanation for this aversion to morphologisation and lexicalisation of umlaut seems impossible to find.
3.2 Transfer Types and the Stability Gradient in Language Contact

In the previous section, I attempted to show that the Dutch pattern of umlaut development, when viewed in the broader context of Germanic umlaut developments, appears to have quite possibly not been the result of direct, language-internal, phonological developments. On the basis of this judgement and of historical evidence to be discussed later in this chapter, there is ample motivation to look for a language-external, that is, contact-related, explanation of the Dutch developments. Before proceeding on to such a contact-based explanation, it will be necessary first to introduce briefly some general theoretical notions concerning the mechanisms of linguistic transfer which are indispensable to any serious analysis of language contact. This section will be devoted to this introduction of the central concepts relevant to the discussion of Dutch which follows.

3.2.1 Imposition, Borrowing and Selection

The year 1968 marked a watershed in the study of language contact, for in that year there appeared two works which each went a long way toward the sorting out of some of the terminological and conceptual vagueness and even confusion that has so marked contact studies.12 In

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12To illustrate the problem we cite Appel's and Muysken's comments on a lack of clarity in Weinreich's important and influential book, Languages in Contact: "In research on language contact, i.e. when second languages are acquired in natural settings, first-language influence has never been systematically investigated. Weinreich (1953)[=1968] even discusses interference from first to second and interference from second to first language indiscriminently. In his examples he fails to indicate whether they are taken from native speakers (influenced by a second language) or
particular, I refer to the work by Thomason and Kaufman and to that by Van Coetsem. What these two contributions share is a clear, essentially bipartite typology of transfer in language contact. In Thomason's and Kaufman's work the distinction is between the notions of borrowing and interference through shift.\textsuperscript{13} For them, borrowing is specifically the incorporation of foreign features into a group's native language by speakers of that language. Borrowing thus occurs within the context of language maintenance. This process is contrasted with that of interference through shift, that is, the linguistic interference that occurs when a group of speakers shifting from their own native language to a target language fails to learn the target language perfectly. Though this latter notion comes in a certain sense close to the older notion of substratal influence it is clearly superior to that notion in that it focusses more on the linguistic aspect of the transfer without immediate reference to and confusion with the social and demographic aspects of the contact.

Van Coetsem's independent formulation of the same distinction is slightly different both in terminology and in conceptualization. Van Coetsem, like Thomason and Kaufman, reserves the term borrowing for transfer under language maintenance but uses instead the term imposition rather than interference for the transfer type involved in language shift.\textsuperscript{14} The differences in the two formulations are several but for the most part

\textsuperscript{13}For the basic exposition of the distinction, see Thomason and Kaufman 1988: 37-45.

\textsuperscript{14}For a general definition and discussion of the two transfer types, see Van Coetsem 1988: 7-23.
ones of degree or emphasis. While the terms 'shift' and 'maintenance' clearly can be used in reference to the behaviour of the individual, they also seem very much to be terms that bring with them associations at the level of the community, and such a dual nature is potentially misleading. In this discussion I will then reserve those terms for reference to the level of a speech community.

Van Coetsem's formulation of borrowing and imposition is rather more specifically related to the linguistic behaviour of the individual. This limitation has two important consequences. First, the terms are directly linked to the notion of linguistic dominance, and thus borrowing is specifically a transfer which involves the agentivity of a speaker of the Recipient Language, while imposition is specifically a transfer which involves the agentivity of a speaker of the Source Language.

By focussing on the individual as the locus of transfer, it becomes easier to recognise the relationship of the two transfer types to the stability gradient of linguistic structures and features, a notion explored already more than a century ago by Whitney and others.\footnote{For a brief review of proposals of stability gradients, see Appel and Muysken 1987: 170-171. Whitney's proposal, from most easily to least easily transfered elements, was as follows: nouns, other parts of speech, suffixes, inflection, sounds. Haugen proposed the following scale of transferability for the lexicon: nouns, verbs, adjectives, adverbs, prepositions, interjections. Muyskens formulation, based on data from the Spanish/Quechua contact resembles strongly Haugen's.} In effect, the two transfer types tend to operate in different directions along the stability gradient, with borrowing tending to involve the least stable and structured linguistic elements and domains and imposition tending to involve the more stable and structured linguistic elements and domains. That
Thomason's and Kaufman's appreciation of the role of the stability gradient differs from that of Van Coetsem is apparent both from Thomason's and Kaufman's discussion of a 'borrowing scale' and from its application in their case studies.\textsuperscript{16} For them, the term borrowing is applicable not only to the transfer of less stable elements but to transfers of material from virtually any linguistic domain, a view which is highly misleading. I therefore prefer to accept Van Coetsem's formulation of the two transfer types and their close link to a stability gradient of language at the level of the individual and to use them alongside the terms \textit{shift} and \textit{maintenance}. The relationship of the two sets of terms may be represented thus:

\begin{tabular}{|c|c|}
\hline
\textbf{Language Status} & \textbf{Transfer Type} \\
\hline
maintenance & borrowing (Recipient Language agentivity) \\
shift & imposition (Source Language agentivity) \\
\hline
\end{tabular}

I should note here that this representation is obviously highly simplified or idealised in that the relationship between the two transfer processes and the two general language situations are by no means exclusive. Rather, I intend only to say that associated with each language status in language contact, one of the two transfer types will usually be primary or dominant.

While the notion of a clear differentiation of two basic transfer types, as proposed by these scholars, is clearly correct, I would propose that we add to them a third, which we will call \textit{selection}. My intended use of this term

\textsuperscript{16}For their discussion of borrowing, see Thomason and Kaufman (1988) Chapter 4 (pp. 65-109). The case studies are to be found in Chapter 9 (pp.214-331). For a tabular summary of their views on the borrowing scale, see pp. 74-76.
is to refer to linguistic transfers which are carried out by speakers for whom
the notion of linguistic dominance is not clear or even irrelevant, that is,
for speakers who can be considered to have attained a high degree of
bilingualism and have near native competence in the two systems
involved in the transfer. The necessity for a third transfer type is the
following: if we accept a direct link between transfer types and the stability
gradient, it is clear for such accomplished bilinguals that the two transfer
types tend to merge. This neutralization of the transfer types has already
been proposed by Van Coetsem. A further aspect of this question is its
relevance to the nature of transferred material, that is, to the rôle of the
stability gradient in the process of selection. In this third situation, I would
claim that no universal predictions can be made concerning the
relationship of transfers to the stability gradient. Transfer thus becomes
possible in any structural domain and is then dependent on language
specific factors of structural need as well as salience, frequency, social
prestige and so on. We can represent the three transfer types in the
following way:

\[
\begin{array}{lll}
\text{Language Status:} & \text{maintenance} & \text{shift} & \text{(maintenance)} \\
\text{Transfer Type:} & \text{borrowing} & \text{imposition} & \text{selection} \\
\text{Linguistic Dominance:} & \text{RL dominant} & \text{SL-dominant} & \text{neutralisation of ling. dom.} \\
\text{Linguistic Domains Affected:} & \text{least stable} & \text{most stable} & \text{all domains}
\end{array}
\]

Selection, like borrowing and imposition, should be thought of as
occurring at the level of the individual. Thus, it matters not whether the
two languages involved are related and structurally similar. A language
such as Media Lengua must have arisen through this process on a large scale within the community.\textsuperscript{17} Bilinguals, perhaps native speakers of Quechua but nevertheless ones with a very good knowledge of Spanish, must have been the locus of the formation of this language. The case of an Aleut dialect in which Russian verbal morphology has been incorporated in a lexically primarily Aleut context, again must have been carried out by bilingual speakers, who had attained a high degree of proficiency in both Aleut and Russian.\textsuperscript{18} To speak of borrowing in these cases is to rob the word of its usefulness. To speak here of imposition would also be unsatisfactory, since it is less than clear what has been imposed on which language. Though both these and other similar cases deserve further

\textsuperscript{17}Appel and Muysken describe Media Lengua in the following way: "The most extended case of relexification is Media Lengua... In this case, groups of Quechua speaking Indians living at the fringe of the truly Indian world have developed a kind of mixed language with an overwhelmingly (87 per cent) Spanish vocabulary, but a Quechua grammar" (1987: 130).

For a discussion of the rôle of bilinguals in the development of Media Lengua, see Van Coetsem 1988: 89-91.

\textsuperscript{18}Here I refer to the development of the Aleut dialect on the island of Mednyj in the Soviet Union. Thomason and Kaufman describe this development in the following way: "[A]lthough other Aleut grammatical subsystems remain largely intact, including the elaborate noun declension and nonfinite verb morphology, the entire Aleut finite verb morphology has been replaced by Russian finite verb morphology, including flexional person/number/tense suffixes. Russian affixes, particles, and pronouns are used with native Aleut verb roots (and also, presumably, with borrowed Russian verbs" (1988: 105). The social context of this peculiar development seems to have been one of extensive bilingualism and intermarriage (loc. cit.). In their analysis of this language, they conclude that "the mechanism of of the interference was clearly borrowing, not imperfect group learning in language shift. The fact that the Russian constructions are perfectly ordinary morphologically complete Russian patterns means that the Aleut speakers who borrowed the Russian constructions must have been completely fluent in Russian" (1988: 237).
study, it seems possible, if not probable, that in each case a certain degree of conscious 'language-planning' was involved. This notion seems to be implied in Thomason's and Kaufman's proposed explanation of the development of the peculiar Aleut usage.\(^\text{19}\) In the case of Media Lengua it seems very likely that only accomplished bilinguals could have been responsible for the melding of primary Spanish vocabulary with Quechua grammar and did so perhaps in a sort of progressively escalating demonstration of their prestigious linguistic accomplishment.

Of course, the place where the process of selection most typically occurs is not between genetically and structurally unrelated languages but rather between closely related dialects of the same language. In such cases, perhaps the word 'bilingual' is somewhat inappropriate, but the notion of neutralization of linguistic dominance is not. Speakers of one dialect can generally quite easily master to some degree other closely related dialects with which they have contact simply because so much of the basic structure is shared. It is under such dialect contact that, for example, morphological features spread in a way that in some respects may resemble borrowing, as, for example, in the case of the progressive spread southward in the Middle English period of the northern present tense inflexional marker -s. But again, I assert that borrowing is an inappropriate term for such transfers if we wish to be able to analyse clearly all contact situations.

\(^{19}\)They suggest that the motivation for the transfer of Russian verbal morphology might have been carried out by accomplished bilingual native Aleut speakers as a means of accommodating bilingual native Russian speakers whose command of Aleut was wanting, especially with regad to its particularly difficult verbal morphology (1988: 237-238).
As mentioned earlier, despite sharing a basic agreement on the need to distinguish between two basic kinds of language contact situations and linguistic transfer types, Thomason's and Kaufman's formulation, on the one hand, and Van Coetsem's, on the other, differ in the degree to which they recognise the rôle of linguistic structural factors as determinant in the process of transfer in any given contact situation. For Van Coetsem, the distinction between the two transfer types, though obviously involving a central social aspect which frames and guides the linguistic contact, is linked directly and concretely to general aspects of language structure:

"Of direct relevance here is the fact that language has a constitutional property of stability; certain components or domains of language are more stable and more resistant to change (e.g., phonology), while other such domains are less stable and less resistant to change (e.g., vocabulary). Given the nature of this property of stability, a language in contact with another tends to maintain its more stable domains. Thus, if the recipient language speaker is the agent, his natural tendency will be to preserve the more stable domains of his language, e.g., his phonology, while accepting vocabulary items from the source language. If the source language speaker is the agent, his natural tendency will again be to preserve the more stable domains of his language, e.g., his phonology and specifically his articulatory habits, which means that he will impose them upon the recipient language. In short, the transfer of material from the source language to
the recipient language primarily concerns less stable domains, particularly vocabulary, in borrowing, and more stable domains, particularly phonological entities, in imposition. Each transfer type has its own characteristic general effect on the recipient language. A consideration of the two transfer types combined with the stability factor will consequently have predictive power" (1988: 3).

Thomason and Kaufman clearly recognise that language structures play some rôle in the course of transfer in contact situations, but for them structural considerations are clearly to be seen as secondary: the outcome of a linguistic contact is in their view to a very great and specific degree determined by the social setting of that contact. In other words there is at best only a very limited relationship of borrowing and even less of a relationship of interference through shift to general aspects of linguistic structure, and therefore ultimately no true linguistic differentiation of the two transfer types.

"...[T]he structuralist reasoning [that there must be strong linguistic constraints on contact-induced change] is not consistent with the available data, for two reasons. First, the claim that a language has 'a complex resistance to interference' (Weinreich 1953:44 [=1968]) is only relevant to borrowing situations, not to cases of substratum interference; and second, though it is true that some kinds of features are more easily transferred than others, social factors can and very
often do overcome structural resistance to interference at all levels" (1988: 15).

These authors go on to make the statement that, while it may be useful "and even necessary to study the structure of a language abstracted from the circumstances of its use,... it has no value for the development of a predictive theory of linguistic interference" (1988: 34).

The source of this difference between the two formulations of the transfer types is the different level of approach which the two take: Thomason and Kaufman approach contact issues from a standpoint that emphasises linguistic transfer at the societal level, whereas Van Coetsem approaches these issues from a standpoint that emphasises the mechanisms of transfer at the level of the individual speaker. While the society-oriented approach marks a vast improvement over the more abstract language-oriented approach of earlier scholarship in which no useful distinction of transfer types could be made, it suffers from the fact that its focus is itself secondary and dependent upon what occurs at the individual level. The resulting distortion in clear-cut cases of the two transfer types is negligible, but in extreme or marginal cases, such as those of Media Lengua, Mednyj Aleut, or Anglo-Romani and Ma'a, it becomes greater and ultimately sufficient to mislead.20 By considering these cases

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20These two cases are also discussed by Thomason and Kaufman (1988: 103-4). Of Anglo-Romani they say that it "is a mixed speech form: the group's original language was not ultimately passed on as a coherent set of interrelated lexical and grammatical structures. Currently, AngloRomani is the product of two entirely distinct historical processes: inherited vocabulary, borrowed grammar." They conclude that this mixture must have arisen through the borrowing of English grammar into Romani to augment their own "vanishing" grammar. On what historical evidence
as cases of borrowing, Thomason and Kaufman render the term too
general, and this general, even vague usage of the term then further leads
to the utter misinterpretation of alleged contact evidence in historically
remote situations where the details of the contact are poorly known or
lacking. An example of such a misinterpretation on their part, concerning
Flemish and Middle English, will be discussed in detail in Chapter 5.

In my view, Thomason and Kaufman, by overemphasising the
general significance and misinterpreting the nature of the contacts that lie
behind the development of languages such as Mednyj Aleut and Media
Lengua, have been led astray from the central differences between two
major transfer types; that is, by not recognising the separate and special

this conclusion is based is not clear, and it therefore seems at least equally,
if not far more, plausible that the AngloRomani mixture was carried out by
accomplished English/Romani bilinguals and, indeed, ones whose
dominant language was English rather than Romani. Whether one views
the transfer process here as imposition or, as I would suggest, as selection is
perhaps debatable, but the notion that Romani speakers borrowed the
entire English grammar into their language is clearly in need of serious
review.

Thomason's and Kaufman's similar conclusions concerning the
case of Ma'a ("a Tanzanian language which has perhaps 50 percent of
Cushitic vocabulary (including most of the basic vocabulary) and a few
Cushitic structural features, while its remaining vocabulary, together with
almost all its grammar, is of Bantu origin, in fact borrowed from Bantu")
ought perhaps also to be reconsidered, especially in light of the social
situation surrounding this language: "[T]hey [the Ma'a speakers] are all
bilingual in one or two Bantu languages and surrounded by Bantu
speakers... [A] major source of bantuizing influence is their continued
connection with their Bantu-speaking kinsfolk--Ma'a clans that have
shifted to Bantu [emphasis added: AFB]" (p. 104). The question again
arises: If these people are genuinely bilingual, how can we say that the
process was borrowing and not imposition, especially in light of the fact
that some Ma'a clans clearly do have Bantu as their linguistically
dominant language?
status of selection as a third transfer type, their notions of borrowing and interference through shift have been blurred and are therefore less useful. In the table below, we attempt to show the general relationships between the three transfer types with respect to the following factors: 1) linguistic dominance, 2) the degree to which social prestige motivates or encourages actual linguistic transfer, 3) the degree to which the transfer operation is a conscious act, 4) whether the transfer is more likely to affect less or more stable linguistic domains, and 5) the degree to which the transferred material will tend to be systematic in nature:

<table>
<thead>
<tr>
<th>agenticity</th>
<th>Borrowing</th>
<th>Selection</th>
<th>Imposition</th>
</tr>
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<tbody>
<tr>
<td>social prestige</td>
<td>RL-agenticity</td>
<td>Neutralised</td>
<td>SL-agenticity</td>
</tr>
<tr>
<td>consciousness</td>
<td>more</td>
<td>variable</td>
<td>less</td>
</tr>
<tr>
<td>domains affected</td>
<td>more</td>
<td>variable</td>
<td>less</td>
</tr>
<tr>
<td>systematicity</td>
<td>less stable</td>
<td>variable</td>
<td>more stable</td>
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<td></td>
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In separating out the very special, even peculiar cases of selection between unrelated languages, the relationship between transfer types and linguistic structure as described by Van Coetsem becomes much clearer.

3.2.2 Phonological Stability in Linguistic Transfer

In the following pages I will focus on the question of gradient stability within the phonological domain and attempt to relate it to the notions of phonological organisation discussed in the two previous sections. In particular, I will address aspects of phonological imposition in source-language agenticity; phonological borrowing, which has been
treated in great detail in Van Coetsem 1988, Chapters 7-10, will be treated here only briefly.

With regard to phonological borrowing I need to make the following points. First, since in borrowing the agent of transfer is typically transferring material from some language into his own, linguistically dominant, first or native language, the transfer is limited not only by that agent's own ability in or knowledge of the language from which the borrowing is taken, but also ultimately by the phonological system of the recipient language. Following Van Coetsem, I see the phonological borrowing as essentially involving processes of inclusion and integration.\(^{21}\) It is important to note that the inclusion of a foreign lexical item in the rl message may or may not be accompanied by the inclusion of foreign sl phonological material, depending on a variety of factors among which is the degree of competence that the borrower has in the source language. The subsequent fate of foreign sl phonological material that is

\(^{21}\)Van Coetsem (1888: 9-10): "...when a native speaker of English (the rl) imitates French (the sl), while speaking English, and pronounces [ʊ], as in déjá vu, the ʊ being unknown to his native system. Using the code-message distinction in a broad sense (generally paralleling the langue-parole, language-speech and competence-performance dichotomies), we can say that at this stage the [ʊ] pronunciation is part, that is, a realization, of the sl code (langue, language, competence) used in an rl message (parole, speech, performance). It is not integrated by the rl speaker, i.e., it is not part of the rl code, but is part of an rl message and thus functions in the rl; as such, it is what we will call included in the rl. We can now distinguish between inclusion and integration. Integration is used in relation to constituents of the sl incorporated into an rl message, while integration is used in relation to the rl code. In this sense, inclusion represents an incorporation (of sl constituents into the rl), which, however, is different from integration."
included in the rl message is, however, ultimately dependent upon the ability of wider circles of rl speakers to render the borrowing.

The process of integration of foreign phonological items is dependent upon both structural and social factors. Among structural factors the degree of affinity between the foreign item and some integrated native item of the rl is of central importance. First, we must bear in mind that the original core of borrowers may themselves have either imitated the foreign, sl pronunciation wholly or partially or adapted it to the phonology of the rl.22 Obviously, further spread of a full imitation of the sl pronunciation beyond more or less bilingual innovators to rl monolinguals becomes less likely. Here a mechanical linguistic factor plays a rôle; namely, the degree of difficulty for the rl monolingual to acquire the new sl sound he occasionally hears in the mouths of his bilingual neighbours. Intimately bound up with the question of the degree acquirability of the new sound is not only the frequency of the

22Van Coetsem (1988: 21): "The mechanisms of imitation and adaptation are, in general, a matter of interaction between sl constituents and matching rl constituents. The rl constituents differ according to whether adaptation or imitation is applied. The interaction is a matter of perception and production by the speaker, with production conditioned by perception; it presupposes a process of identification between the interacting rl and sl constituents... In connection with this identification there is a three-way distinction, namely total imitation, partial imitation/partial adaptation and total adaption... As the notion is used here, adaptation is thus always total, since it implies that there is no deviation from the native rl. Imitation may then be either total or partial, which results at any rate in a deviation from the native rl. Actually, imitation is rarely total, unless the speaker has already acquired a great proficiency in the other language... On the other hand, partial imitation, reflecting the close interaction between imitation and adaptation, is very common..."
monolingual's exposure to it but also his attitude toward it: the monolingual speaker may, indeed, be very eager to ornament his speech with the new sound if it is perceived to be a mark of some manner of prestige. On the other hand, the foreign sound may be not especially valued while the foreign lexical items in which it occurs are, leading the monolingual to employ the borrowed items without making an excessive attempt to reproduce accurately the foreign pronunciation, in which case he will likely be satisfied with a partial imitation or an adapted rendering. If we imagine then the survival of a borrowing in a language as entailing a process of passing from some core of bilingual innovators through a filter system of monolinguals, it seems reasonable to assume that in general the chances of survival of a loan will be influenced by 1) the (linguistic or communicative) need of the loan, 2) the social prestige associated with the use of the loan, and 3) the ease with which the loan may be acquired, i.e., how easy it is for the monolingual to learn. The first two of these obviously involve the degree of motivation there is to use the loan, while the third involves the more mechanical aspects of acquisition. This third factor can itself be further broken down to the factors of 1) degree and manner of exposure to the loan, that is, the opportunity for acquisition, and 2) the mechanical or gestural difficulty that the loan presents the (for these purposes, practical) monolingual.

Before proceeding further I ought here to distinguish between two basic types of phonological loans, namely those that have been termed phonological redistributions and those termed phonological
A phonological redistribution through borrowing involves the syntagmatic occurrence of sounds and thus their "sequential patterning; it implies a deviation from the distributional patterning of the /rl/" (Van Coetsem 1988: 115). In other words, this type of phonological loan involves the identification of a foreign phone with a more or less close phonetic counterpart in the /rl/ which, however, does not occur in the same syntagmatic environment(s) as the foreign phone. If the identification of the foreign phone is to a distinctive phonological unit in the /rl/, that is, to a phoneme, than the borrowing results in no paradigmatic alteration of the phonology of the recipient language. Such a phonological borrowing is likely made quite easily, at least as long as the original defect in the distribution of the /rl/ phoneme is not the result of a more general and persistent phonotactic constraint. As an example of a 'phonemic' redistribution of this sort, we can take the case of English [ʃ] which, though natively developed in the pre-history of the language in intervocalic position, occurs in word initial position only in foreign loans, especially those of French origin. The identification of the foreign phone can also be to a sub-phonemic contextual variant or allophone in the /rl/. In such cases, the distributional extension that occurs through integration of the foreign

\[23\] These terms were first introduced by Haugen (1950). For discussion and references, see Van Coetsem (1988: 115), whose usage we follow here.

\[24\] More precisely, the redistribution of [ʃ] was as follows: "In Old English it occurred only after short front vowels and after /n/, as in the parent forms of... bridge, ridge, edge, wedge, cudgel, hinge singe, Stonehenge. After other vowels, both short and long, in the clusters /lʃ, rʃ/, and initially, it became established during the Middle English period through the large-scale adoption of French and Latin words such as gem, jewel, joke, join..." (Kurath 1964: 46, cited in Van Coetsem 1988: 113).
element can lead to a paradigmatic change in the recipient language but then only indirectly. An example of such a redistributational phonological transfer with subsequent or indirect paradigmatic is that of the development of the Middle Dutch labiodental fricatives:

"[l]n Middle Dutch [v] and [f] were in complementary distribution. [v] occurred in initial position, [f] in final position; in medial position [f] (from ff) occurred after short short vowels and [v] after long vowels, l and r. An initial foreign f was identified with this Middle Dutch [f] allophone, which was then redistributed to match the distribution of the foreign f in the borrowed vocabulary items. The original complementarity between [v] and [f] was broken, and with the disappearance of the nonnativeseness marking, f was phonemicized and the integration was completed; compare the Dutch word pair fier 'proud', from French fière, and vier 'four' (Goossens 1974: 11, 75). In such a case, phonological redistribution affects the paradigmatic, phonemic make-up of the r/l phonological system, but it does so only indirectly; the phonemicization is a consequence of the redistribution" (Van Coetsem 1988: 117).

An almost exact parallel to this Middle Dutch development can be found in the Kentish (and other) southern dialects of Middle English, where the borrowing of French loan words with initial [f] also brought about a break.
in the complementarity of distribution between [v] and [f] and the establishment of a new phonological opposition.\textsuperscript{25}

While such distributional extensions may in many cases occur relatively easily, they may be resisted or counteracted in the speech of recipient language monolinguals by the operation of an automatised phonotactic constraint. In both the Middle Dutch and the southern Middle English cases discussed above, the complementary distributions of [v] and [f] were the result of 'conspiracies' of sound changes which affected all the fricatives in those languages, including a sound change by which original voiceless initial fricatives were voiced. Quite obviously, the French loan words with initial [f] in Middle Dutch and Middle Kentish were borrowed at a time when that sound change was no longer 'operative'. Depending upon how one interprets the development of initial voicing of fricatives in these dialects, for a time at least, the voicing process may have involved an automatic association of three phonological elements: word onset, voicing, and continuance. It should be noted, however, that there was no automatic association of voicing and continuence, since voiceless realisations of the fricatives occurred in other environments, and that there was also no automatic association of word onset and voicing since voiceless stops (as well [s] in the clusters [sp-, st-]) could occur.\textsuperscript{26} It is then at best unclear whether initial voicing of fricatives in Middle Dutch and

\textsuperscript{25}For a further discussion of these southern English developments and their relationship to those of Dutch, see section Buccini (forthcoming b).

\textsuperscript{26}In the case of Middle Dutch, one can add to the clusters with s- the cluster [sX-] or [sk-]. The question of the voicing of reflexes of Old English [sc-] in southern Middle English is rather more complicated and will be addressed in Buccini (forthcoming b).
Middle Kentish was a genuine, automatic phonotactic constraint at the time of the borrowing of French lexical items with initial voiceless fricatives, or if it was not much more than the distributional skeleton of an earlier and relatively fleeting automatic constraint. There are, however, phonotactic constraints which clearly remain automatic in a language over very extended periods of time, such as the final-devoicing constraint in modern German and Dutch, the effects of which no loan words in those languages may escape. Drawing a line between non-automatic reflexes of earlier constraints and genuine, automatic constraints is probably ultimately neither possible nor necessary, for there is most likely a continuum of automaticity subject to very specific linguistic and even, conceivably, individual factors.

As regards then the question of phonological redistribution through borrowing, we run into a chicken-or-egg question, where it seems impossible to decide whether there is loss of automaticity of a phonotactic constraint which allows words to be borrowed with violations of the recipient language’s distributional patterns or if the borrowings themselves can be instrumental in bringing about a deautomatisation of a constraint. This circularity is broken, however, if we bear in mind the fact that there are different kinds of speakers participating in any given speech community. Specifically, we must consider the rôle of bilinguals, who, having more or less mastered the phonologies of both the recipient and source languages (i.e., one in which the constraint does operate and one in which it does not), are able to carry out the transfer without especial difficulty, and the rôle of children exposed to the speech of bilinguals, who
acquire what is in effect a new version of the phonological system of the recipient language, one in which the old phonotactic constraint is either no longer as automatic or even wholly absent.²⁷

In addition to phonological redistributions, borrowing can also involve transfers of the sort termed 'phonological importations'. From the segmental standpoint, a redistribution involves the placement of an /r/ element in a new environment and thus the acquisition of new transitional gestures and possibly the suppression of an automatic phonotactic constraint. A phonological importation may involve the same phonological acquisitions but in addition it necessarily involves too the acquisition of either a wholly new articulatory gesture or else a new segmental configuration of gestures already employed in other gestural configurations of the recipient language. Of this latter sort, we might think of the case of the treatment of foreign [g] in borrowings into Dutch. At the 'phonemic' level, Dutch does not have a native voiced velar stop, a lack which leaves an asymmetry or gap in the paradigmatic inventory of both the velars and voiced stops: /k, ɣ, g/ /p, t, k; b, d, ɹ/. A voiced velar stop does occur as an environmentally conditioned, automatic realisation of /ɤ/, namely as a sandhi voicing variant in contact with a following voiced stop: cf. zak [zak] 'pocket', zakdoek [zagduk] 'handkerchief'; duiken [dɔyˈkə(n)] 'to dive', duikboot [dɔyˈɔbɔt] 'submarine'. Despite an apparent strong motivation of phonemic patterning (i.e., 'gap filling') and the

²⁷Even in language internal developments as discussed above in section 2.2, one sees similar generational interactions in the loss of a phonotactic constraint. A particularly interesting case is that of the loss of the final-devoicing constraint in some southern German dialects and Yiddish. For a discussion of these developments, see Shannon 1987.
native occurrence of the phone in certain syntagmatic environments, Dutch has been remarkably resistant to the borrowing of [g], generally having adapted it to the native phones [g] or, less often to [k] (Van Coetsem 1988: 123-124).

There is a clear difference between this case and that of the borrowing of initial [f'] from French into Middle Dutch. In that case, though native [ν] and [f'] were indeed in complementary distribution and thus, from a formal standpoint, predictable contextual variants of one phoneme, in intervocalic position it seems likely that the conditioning behind the complementary distribution was either not wholly transparent or fully automatised. This complementary distribution came about in the following way:

1. CGmc intervocalic labial fricatives: -f- ≠ -b-
2. WGmc gemination: -f- > -ff-, -b- > -bb-
3. Pre-Dutch intervocalic labial fricatives: -f-, -ff-, -b-
4. voicing of intervocalic -f- and merger with -b- as -v-
5. Old Dutch intervocalic labial fricatives: -v-, -ff-
6. lengthening of short vowels in open syllables
7 degemination, yielding -VV- and -Vf-

The contrast between these sequences was (at least potentially) ambiguously dependent upon both the voicing of the consonant and the length of the preceding vowel. Thus, while from the standpoint of a formal structuralist analysis, the two phones may have been in complementary distribution, it is not clear that their articulatory realisation was itself immediately dependent upon the associated environments. In cases such as this, it seems necessary to posit a phonological status that lies between the traditional notions of phoneme
and allophone, one which is of a sufficiently facultative and conscious status as to allow easy identification with a foreign phone.\(^{28}\) Such identification is difficult at best in cases like that of Dutch \([g]\) which is a mechanically determined, contextual variant whose production is fully automatised and lies well beyond the consciousness of the average adult speaker (cf. Van Coetsem 1988: 123). Thus, we might well wonder whether genuine automatic variants are at all subject to possible redistribution through borrowing and whether redistribution is itself not a strong indication of a phone's facultative status.

A clearer case of phonological importation is that of the replacement of an apical realisation of \([r]\) with a uvular realisation. Though the attribution of almost all occurrences of uvular \(r\) in western Europe to aristocratic and bourgeois Francophilia is certainly simplistic and wrong, there are nevertheless many instances in which dialects of one language or the other have apparently made that transition under the influence of some more prestigious dialect or language. In so far as the change has been a result of language contact, its transfer obviously relies upon an identification of the gross acoustic similarities between the two trills and a replacement of the one articulation with the other. There seems, however, to be good reason to believe that the acquisition of either articulation is relatively difficult for an adult monolingual whose language does not know it.\(^{29}\) In light of this apparent fact, we should perhaps question the

\(^{28}\) A detailed discussion of the arguments in favour of a gradient view of phonological status and against the binary views of structuralist and generative phonology appears in Buccini (Ms. d 1991).

\(^{29}\) In this regard, one need but think of the difficulties that second language learner's typically have in acquiring foreign \(r\) realisations of whatever type.
veracity of this common view of the origin of western European uvular \( r \). At best, it seems that it only could have spread through the agency of numerous, accomplished bilinguals and, of course, subsequent generational transfer. Kloeke suggests this scenario for the spread of uvular \( r \) and Van Coetsem suggests more generally that "phonological importation is probably implemented for the most part through generational transfer" (1988: 117).\(^3\) We should note here too that the evidence from the Dutch language area seems to indicate that, at least nowadays, neither the uvular nor the apical articulation is strongly favoured as prestigious and the two realisations are tolerated in the standard language and regarded simply as markers of an individual's local or regional accent. In the southern Dutch area, few speakers who speak

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\(^3\)Kloeke (1927: 15): "Zonder voorlopig nog in de alleruiterste konsequenties-- de negatie van alle 'fonetische' ontwikkeling-- te willen vervallen, meen ik, dat er veel klankveranderingen met ontleningen volkomen op één lijn te stellen zijn. Een sprekend voorbeeld daarvan vind ik altijd de vervanging van de tong-\( r \) door de keel-\( r \). Geleidelijk-- in fonetische zin-- kan men die klankverandering toch niet noemen. Op het einde van de leerplichtige leeftijd pleegt doorgaans vast te staan, welke \( r \) het kind in zijn verder leven zal spreken. Wijziging op later leeftijd komt mij hoogst zelden voor en is dan nog altijd toe te schrijven aan overgang van het individu naar een ander milieu."
both a local dialect and the standard vary their articulation of r with their choice of medium.\textsuperscript{31}

In both phonological redistribution and phonological importation it seems clear that the social aspects, namely prestige as motivation and degree of contact with innovating bilinguals as opportunity for acquisition, are important in determining the ultimate survival of any foreign phonological material in the recipient language as a whole, as has been demonstrated in recent sociolinguistic studies.\textsuperscript{32} These social factors,

\textsuperscript{31}Note that the situation may be somewhat different in the Netherlands, where in the standard variety of the Randstad region of North and South Holland and Utrecht, a retracted, approximate realisation of r (very similar to that of American English) has developed in postvocalic position. This feature seems to be quite 'expansive' and can indeed be heard in the standard speech of some native dialect speakers of the southern part of (Dutch) Limburg (where the uvular r is generally the local dialectal realisation). A more detailed study of the spread of the Randstad r needs to be done, however, focussing on the several relevant social parameters potentially involved.

\textsuperscript{32}Romaine (1989: 62-63), discussing the study by Poplack, Sankoff and Miller (1988) on English borrowings into the French of the Hull/Ottawa conurbation, states the following: "They found a correlation between increasing phonological integration and age of attestation of loanwords and frequency of use. This relation interacted with degree of bilingual proficiency. Proficient English speakers used less French phonology than monolinguals, but all speakers integrated old widespread loans more often than nonce words. Over half of the Hull speakers were 'high integrators', compared with less than a quarter of the Ottawa speakers. This can be attributed at least partly to the different status of French in the two areas. Ottawa/Hull is a single conurbation separated by a geographical boundary, which coincides with a provincial one. Hull is in the province of Quebec, where French is the majority language, while Ottawa, the national capitol, is in Ontario, where French is very much a minority language... The high rate of loanword usage in Ottawa is consistent with its location in a predominantly Anglophone community. Poplack, Sankoff and Miller (1988) conclude that borrowing is a function of amount of exposure to English. The borrowing rates declined steadily as the ratio of Anglophones to Francophones decreased."
however, clearly interact closely with structural aspects of phonology: phonological loans can be both more or less structurally favoured as well as more or less socially favoured, with relative ease of transfer with respect to the one being potentially overcome by difficulty in the other. In general, the greater the prestige of the bilingual's speech, the greater the likelihood of emulation and imitation of his speech by others. Equally important, is however, the opportunity that others have to acquire that prestigious speech. In terms of the broader speech community then, the size and stature of the innovating bilingual group is of central importance in the spread of a phonological borrowing. Also of great importance is, however, whether the bilinguals themselves tend to imitate or adapt: if they generally adapt, their monolingual emulators will clearly not come any closer to the original foreign sl pronunciation. If, on the other hand, there is a large group of innovating bilinguals who do imitate rather than adapt, there is then clearly a much greater chance not so much of spread of the imitated pronunciation to the monolinguals of the community, but rather establishment of the imitated foreign pronunciation by means of intracommunal generational transfer. We might then posit a distinction between different kinds of spread of borrowed features:

**Borrowing Type A**
1. Innovation by core group of bilinguals with or without adaptation
2. Spread among monolinguals with adaptation
3. Generational transfer of adapted form

**Borrowing Type B**
1. Innovation by core group of bilinguals with or without adaptation
2. Spread among bilinguals with or without adaptation
3. Generational transfer of either imitated or adapted form
For the monolingual the potential for structural limitations on phonological transfer is very great, for it involves not only the process of adding new automatised articulatory gestures and altering some old ones of the recipient language's system, but, even before that can take place, it also requires the proper identification and analysis of the foreign sounds with his own more or less inadequate r̩l decoding scale. It remains, however, that even for the accomplished bilingual, there may be structural limitations on what phonological material may be transferred from the source language into the recipient language, in which case integration of a foreign phonological item may not be possible even under the most favourable social circumstances. Theoretically, it seems reasonable to expect that phonological borrowings between languages with markedly different articulatory bases or markedly incompatible articulatory settings will be relatively rare. Put another way, if proper imitation of an s̩l pronunciation would be incompatible with an articulatory setting or with commonly occurring gestures in the r̩l, adaptation will not only be necessary because of the difficulty for monolinguals in learning some unfamiliar articulatory gesture but may also be necessary for the bilingual in order that the r̩l speech chain not be excessively disturbed or broken. In this regard, one might think of the difficulty with which even very accomplished bilinguals sometimes have in choosing how to render an included foreign name or lexical item. That bilinguals may include a foreign item with no adaptation whatsoever to the phonology of the r̩l may, however, be better viewed in many cases as code-switching or 'constituent insertion' events rather than (nonce) borrowings. The
distinctions between these different manners of transfer are based primarily on the degree of integration of the item into the contextually basic language according especially to morphological and syntactic criteria.\textsuperscript{33} It would do well for us to recognise the potential rôle of articulatory settings in the processes of adaptation and integration, specifically that imitation can occur at one level of articulation, the facultative gestural level, while at the secondary or tertiary levels of transitional gestures and language specific settings there is adaptation. Indeed, we might tentatively argue that in so far as the inclusion of a foreign element in an \textit{rl} utterance involves a switch from an \textit{rl} articulatory setting to an \textit{sl} articulatory setting, it should properly be regarded as an instance of code-switching, an act which clearly must lie essentially beyond the capacity of the monolingual. In effect then, in situations where there is a significant difference between recipient and source language articulatory settings, all

\textsuperscript{33}Romaine (1989: 142): "Code-switching, constituent insertion and nonce borrowing are all ways of alternating languages smoothly within the sentence. Nonce borrowing differs from the other processes in that it involves syntactic, morphological and (possible) phonological integration into a recipient language of an element from a donor language. All the other processes maintain the monolingual grammaticality of the sentence fragment as determined by the rules of the respective language of its origin. Nonce borrowing, constituent borrowing and flagged switching generally require a return to the original language immediately after the nonce loan, inserted constituent or flagged switch. On a practical level it is often difficult to distinguish which of these mechanisms has been responsible for any given bilingual utterance since all of them may be deployed simultaneously. Thus, a single word from one language in a sentence which otherwise consists entirely of elements of the other language may be regarded as a nonce loan (especially if it is not syntactically and/or morphologically integrated). Alternatively, it could be regarded as an insertion of a minimal constituent or analyzed as two switches if it is situated between two equivalence sites. Or it may constitute a flagged switch."
phonological borrowings necessarily involve adaptation at this background level of articulation, which means that in such circumstances all phonological loans will involve at least some degree of adaptation. Logically then, inclusion of a foreign phonological item and hence its ultimate chances of integration in the r{l will be disfavoured if it excessively interferes with or interrupts an r{l articulatory setting or frequent transitional gestures.

From the foregoing discussion, we may reach the following conclusions regarding a structurally related 'borrowing scale' within the phonological domain. As proposed by Van Coetsem, there is a clear difference in the borrowing of phonological elements at the syntagmatic level and the paradigmatic level:

"First, the resistance to integration is minimal or less strong in the case of phonological redistribution (syntagmatic), or in the case of phonological importation (paradigmatic) when this does not lead to a modification of the paradigmatic, phonemic make-up of the r{l; second, integration is less probable or does not occur in the case of phonological importation (paradigmatic) when this directly leads to a modification of the paradigmatic phonemic make-up of the r{l" (1988: 120-121).

This scale of borrowability can, however, be related more directly to mechanical aspects of articulation and audition. The auditory aspect obviously involves the initial stage of the borrowing process, that is, the process of identification, in which a speaker's native decoding scale may act
as a filter through which aspects of the foreign pronunciation are in effect lost.

From the standpoint of articulatory production it seems inescapable that basic, large-scale articulations (e.g., labial closure, tongue movement to the alveolar/dental area etc), especially in so far as they can be identified with similar gestures in the borrower's recipient language, will be most readily acquired and integrated. Secondary and tertiary articulatory gestures that properly occur in the genuine foreign pronunciation will be subject to loss (i.e., not being transferred) through the auditory filter. They may also, however, come into competition with the secondary and tertiary articulatory gestures of the recipient language. In the adult speaker, these less facultative or non-facultative aspects of production are extremely automatised, linked to or dependent upon primary articulatory choices, and relatively remote from conscious control. Insofar as the source language and the recipient language differ in their finer details of articulation--a situation which will often reign--some degree of adaptation is virtually unavoidable.34

In most basic terms, the process of imitating and reproducing foreign phonological features in rl agentivity also applies in sl agentivity. Acquisition of foreign phonological items will proceed from the manipulation of the more basic, grosser, distinctive and facultative aspects of articulation to the less distinctive and facultative, that is, to the aspects

34In this regard, I must disagree with Van Coetsem's preference to oppose imitation (partial or total) with adaptation (total). Total imitation in rl agentivity is probably far less common than total adaptation and it therefore seems preferable to emphasize degrees of adaptation.
which are increasingly automatised and more remote from the speaker's conscious control. It is these latter, more stable aspects of a speaker's phonological competence which will be most difficult to change, that is, most stable, and therefore generally unaffected through borrowing and most likely to be imposed in language acquisition. The relationship of the stability gradient within the phonological domain to the two transfer is illustrated in the following tables. The first table illustrates the relationship of the processes of imitation and adaptation to the transfer types:

<table>
<thead>
<tr>
<th>Identification</th>
<th>Adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td>imitation</td>
<td>adaptation</td>
</tr>
<tr>
<td>(total or partial)</td>
<td>(total)</td>
</tr>
<tr>
<td><strong>RL Agentivity</strong></td>
<td>deviation from <em>rl</em></td>
</tr>
<tr>
<td><strong>SL Agentivity</strong></td>
<td>no deviation from <em>rl</em></td>
</tr>
<tr>
<td></td>
<td>deviation from <em>rl</em>, unless imitation is partial</td>
</tr>
</tbody>
</table>

The following table illustrates the basic tendencies in phonological transfer: In *rl* agentivity transfer involves the more conscious and thus more easily acquired features of the source language material, while in imposition, transfer involves the imposition of the speaker's less conscious, more automatised articulatory features onto the phonology of the *rl* target language.

---

35 This table is from Van Coetsem (1988: 23).
<table>
<thead>
<tr>
<th>Source</th>
<th>Conscious</th>
<th>Acquirable</th>
<th>Imposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>most</td>
<td>most</td>
<td>least</td>
</tr>
<tr>
<td>Secondary</td>
<td>least</td>
<td>least</td>
<td>least</td>
</tr>
<tr>
<td>Tertiary</td>
<td>least</td>
<td>least</td>
<td>most</td>
</tr>
</tbody>
</table>

Thus, acquisition proceeds along the stability gradient, beginning with maximal exploitation of *sl* constituents through redistribution and minor modification and gradually proceeding on to finer adjustment of facultative and transitional gestures and a closer approximation of the target language phonology. Imposition will persist longest at the level of the least conscious, most automatised gestures associated with *sl* (non-distinctive) properties of voice quality, supralaryngeal settings and tertiary sympathetic gestures which do not seriously impede communicatively functional production of the *rl* target language.

Though acquisition of foreign phonological items always proceeds in the same direction along the stability gradient, there is an important difference in process of phonological acquisition involved in the two basic transfer types, namely that in *rl* agentivity inclusion of the foreign item(s) in the recipient language does bring about an abrupt need to alter the pronunciation of native phonological elements. In *sl* agentivity, a speaker must acquire *en masse* a new phonological system, an act which will potentially demand (or allow) greater deviation from the speaker's native articulatory basis. Indeed, since if one views the relationship between a language's phonological inventory and its articulatory basis as a harmonic one, a major change in either one must bring with it a sympathetic change in the other; that is, if one attempts to render the syntagmatic and paradigmatic structures of a target language with the articulatory basis of
another, that articulatory basis will likely impose certain restructurings
upon the overall realization of the target language. At the same time, the
specific structures of the target language, in so far as they must be acquired
in order to fulfill communicative needs, can themselves demand changes
in the secondary and tertiary features of the speaker's native articulatory
basis, such as the development of new (automatised) transitional gestures
or, though less likely, even a shift of persistent features (i.e., articulatory
settings, the Indifferenzlage etc.).

If the assumption is correct that acquisition of foreign language
phonology will generally proceed from the more facultative and conscious
and less deeply automatized on gradually to the less facultative and
conscious and more deeply automatized, we may imagine the process
involving passage through stages with different degrees of imposition as
illustrated in the following tables (where X and Y represent phonological
constituents from the two respective languages and where combinations
such as Xy represent the inclusion of some constituents from Language Y
among a predominance of constituents from language X):

**Acquisition with a High Degree of Phonological Imposition**

<table>
<thead>
<tr>
<th>Source Language X</th>
<th>Recipient Language Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>Primary</td>
</tr>
<tr>
<td>Secondary</td>
<td>Secondary</td>
</tr>
<tr>
<td>Tertiary</td>
<td>Tertiary</td>
</tr>
</tbody>
</table>

| X                  | XY                   |
| X                  | Xy                   |
| X                  | X                   |

**Acquisition with a Moderate Degree of Phonological Imposition**

<table>
<thead>
<tr>
<th>Source Language X</th>
<th>Recipient Language Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>Primary</td>
</tr>
<tr>
<td>Secondary</td>
<td>Secondary</td>
</tr>
<tr>
<td>Tertiary</td>
<td>Tertiary</td>
</tr>
</tbody>
</table>

<p>| X                  | xY                   |
| X                  | xY                   |
| X                  | Xy                   |</p>
<table>
<thead>
<tr>
<th>Source Language X</th>
<th>Recipient Language Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary X</td>
<td>Primary Y</td>
</tr>
<tr>
<td>Secondary X</td>
<td>Secondary xY</td>
</tr>
<tr>
<td>Tertiary X</td>
<td>Tertiary xY</td>
</tr>
</tbody>
</table>

In the case of acquisition with a high degree of imposition, the speaker may well have acquired a sufficient degree of the target language phonology in order to be able to communicate in a more or less efficient manner, but production of the target language will for the greatest part entail substitution of phonetically similar phones from the speaker's own source language for target (recipient) language phones. Many or all of the more automated aspects of the articulatory and prosodic bases of the source language will thus be imposed. In the case of acquisition with a more moderate degree of phonological imposition, we may imagine a situation in which a certain degree of imitation of the target language phonology is achieved, albeit it with continued imposition of secondary and tertiary features of the source language. Finally, in the case of acquisition with a low degree of phonological imposition, we can imagine cases where near native quality production of the target language is achieved with only very minor and/or occasional traces of the source language surviving. We should note that some of these relatively minor traces of 'foreign accent' that may remain even with the achievement of a high degree of acquisition can, in fact, be of considerable importance. In this regard, we should note especially the obstacle presented by acoustic distinctions which, at least from the perspective of the learner's own phonological decoding scale, are subtle and might therefore never be fully acquired. An example of such a distinction is that between the high and low mid-vowels...
([e, o] vs. [e, ə]) of standard varieties of Italian and Catalan, which commonly remain unacquired by very accomplished speakers of languages without such distinctions. It seems especially difficult for adult speakers to reproduce consistently a distinction in articulation when both phones involved are naturally identified as one in the decoding process of the speaker’s native language. Examples of this phenomenon abound in the literature. As further examples we might offer the distinction between Dutch [e] and [eː] for English speakers, for many of whom the former is perhaps but a regional variant of the latter. Another example is that of the treatment of the liquids [ɾ] and [ɬ] for speakers of languages such as Chinese and Japanese, in whose language the distinction does not occur. Here we find another consequence of the asymmetry in the development of audition and articulation in the individual. Quite obviously what the ear can not hear, the mouth cannot easily produce, and though an individual may well acquire the ability to render properly such a foreign distinction under extreme monitoring and relatively slow tempo, in less careful and faster rates of speech consistent realisation becomes less possible.

Such imposed reductions at the level of basic facultative gestures of the target language, though potentially leading to occasional confusion, clearly can be tolerated without a major breakdown of communication. It stands to reason that other imposed reductions at the lower levels of articulatory production can also be tolerated. Such reductions often involve what are generally referred to in the current literature as low-level synchronic phonetic rules such as final devoicing or sandhi assimilations. To the latter of these we may add more generally all local assimilations or
coarticulations. We might further theorise that, since such coarticulatory effects tend to be greater in less monitored styles and in faster rates of speech, speech modes which probably do not serve as the primary focus of the adult language learner's acquisition strategy, the likelihood that such details of target language phonology will be identified, successfully reproduced and ultimately automatised is fairly low. In addition, such 'low-level' features could only be successfully acquired if paired with suppression of any potentially conflicting transitional gestures that the learner's own articulatory basis includes.

At the broader level of the speech community, the widespread acquisition of a given target language by speakers of some given other language can easily result in the formation of a new dialect or at least accent-variety of the target language, depending upon the degree of phonological imposition which generally reigns.\(^{36}\) Given the likelihood of an important rôle of secondary and tertiary features of the articulatory

\(^{36}\) An interesting case from outside Western Europe is that of some of the southern Bantu languages, as discussed by Herbert, which seem to bear strong traces of phonological imposition at the level of the articulatory basis from Hottentot languages: "There is no reason why the concept of articulatory mode might not be extended to include, for example, the ejective tendency of many Southern Bantu languages. Such an approach has much in common with the characterization as a 'low level phonetic realization rule', although it is difficult to specify what these two different views of ejection entail. Assuming the validity of an ejective articulatory mode in Southern Bantu, its origins are apparently buried in prehistory. It is tempting to speculate, however, that its genesis might lie in language contact. There is excellent evidence for substantial Bantu-Hottentot contact, which included widespread replacement of Hottentot languages by Bantu languages. It is not unreasonable to hypothesize, on the basis of the extant Hottentot languages, that the contact language was characterized by considerable complexity in phonation types..." (1987: 408).
basis on the direction of sound change, there must exist the possibility that the imposition of such elements of a 'substratal' source language can skew the future phonological development of this new variety of the target language born of the contact. I have argued elsewhere for precisely such an effect in the early history of French, the continuation of the Gallo-Romance acquired by the Franks in northern Gaul during the Merovingian period and will offer in the following sections of this chapter specific arguments for a similar interpretation of the development of the coastal dialects of Dutch.\(^{37}\)

An adult individual who acquires a foreign language and imposes many of the lower level aspects of his native language articulatory basis on that language clearly uses very much the same overall inventory of articulatory (and prosodic) features in both his native language and the acquired foreign language. In a given society in which many such individuals are found, the possibility exists that, if the two languages continue to be employed by this bilingual group and ultimately passed on through generational transfer, the two languages may tend toward a general convergence of articulatory (and prosodic) basis, as illustrated below:

Convergence of Articulatory Basis

<table>
<thead>
<tr>
<th>Language X</th>
<th>Language Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary X</td>
<td>Primary Y</td>
</tr>
<tr>
<td>Secondary Xy</td>
<td>Secondary xY</td>
</tr>
<tr>
<td>Tertiary XY</td>
<td></td>
</tr>
</tbody>
</table>

\(^{37}\)I have treated the Gallo-Romance/Frankish contact in Buccini (Ms e 1991) and Buccini (forthcoming).
To the degree that the articulatory basis is shared, the two languages' phonological systems ought then to develop along partially parallel lines through history. I suggest that it is by this mechanism, and only secondarily or even marginally by means of phonological borrowing that the phonological convergences attributed to various Sprachbünde come about. If more or less widespread bilingualism remains over an extended period of time, the likelihood of the borrowing of phonological innovations from one language to another is obviously increased. Nevertheless, the strong structural constraints on phonological borrowing discussed above make it improbable that borrowing alone, as it is here and in general should be defined, could bring about convergence and parallel drift. This is not, however, to deny that continued (perhaps even marginal) contact may not contribute to the development and maintenance of a phonological Sprachbund. My own research has examined the question of such long-term parallel development for the northernmost dialects of French (Picard, Rouchi and Walloon) and the southernmost Dutch dialects (Flemish, Brabantish and Limburgish) (Buccini Ms e 1991).

Finally, we need to address directly the question of the transfer of prosodic elements in language contact. As in the case of the supralaryngeal articulatory gestures, prosodic features can be more or less conscious and facultative and more or less automatised and linked or subordinated to other articulatory (more conscious or facultative) actions. To a certain degree, the two poles of these oppositions may coincide with the contrast between syntagmatic and paradigmatic structures. For example, in a
language such as English or Italian, in which the place of the accent or
prominence in the phonological word is unpredictable, the placement of
the prominence is then a relatively more facultative element in the
phonetic plan. The actual nature or manner of realisation of the
prominence is, however, an essentially automatic aspect of articulation,
which has a language-specific mix of loudness, duration and pitch. Such
prosodic features themselves interact with what have been termed here
secondary and/or tertiary aspects of supralaryngeal articulation, especially,
though perhaps not exclusively, through their effects on the relative and
absolute timing of segmental articulation. More specifically, they can affect
the duration of gestural movements and the maintenance of gestural
positions, coarticulatory effects, and, in the absence of prominence, the
systematic reduction of articulatory gestures. Of course, these effects are
also intimately linked to choices of style and rate, as discussed in section
2.1. It should be noted here too that the placement of the word
prominence is in some languages not facultative and therefore a highly
automatised feature and one relatively more likely to be imposed in sl
agentivity.\footnote{As an example of this we can offer the case of French, in which the word
prominence predictably falls on the last syllable of the word. The degree to
which prominence placement is automatised and stable is borne out by the
degree to which native French speakers impose the feature on, say, English
and Dutch.}

In addition to the placement and realisation of prominence,
languages may also employ separate mechanisms to demarcate morpheme
or word boundaries which may have highly automatised realisations, such
as final devoicing or glottalisation. The placement of the prominence may
itself be in part demarcative in function, especially in those languages where its placement is utterly predictable from the overall syllabic structure of the word. We should also note that as well as automatised strategies to mark boundaries, languages may have particular strategies which tend to efface such boundaries: I refer to the coarticulatory effects which are generally termed 'sandhi' phenomena. Sandhi assimilations are, however, clearly very much also an immediate part of a language's automatised supralaryngeal gestural inventory.

Another prosodic feature which ought perhaps to be mentioned here is that of the nature of the basic timing element employed in a given language; that is, whether a language is 'syllable-timed' or 'stress-timed'. Finally, we can add a further, timing-related feature which is closely tied to segmental features, namely that of the manner of syllabification with regard to intervocalic consonants which reigns in a language. Here I refer to the phenomenon of so-called 'close contact' (French 'coupe ferme', Danish 'fast tilslutning') which is a characteristic feature of English, Dutch and German but absent in the neighbouring languages.³⁹

This discussion of prosodic features is by no means intended to be exhaustive but rather only to give a general notion of what sorts of prosodic features are likely to be highly automatised, stable and therefore imposed in sl' agentivity. Indeed, we can say that prosodic features are for the largest part automatised and stable and, for practical purposes, can be grouped together with secondary and tertiary aspects of supralaryngeal articulation (from which they are not always easily distinguished) with

³⁹ For a discussion of the phenomenon with further references, see Martinet 1975: 185-193).
regard to the transfer of phonological material in language contact. Since prosodic features can play a major rôle in conditioning or directing overall, long-term phonological developments, their transfer in widespread sl agentivity or language shift can clearly contribute to areal phonological convergence and extended periods of parallel development, as briefly discussed above.

3.2.3 Contact, Selection and Drift in Dialectal Relationships

In this section I will examine several aspects of dialect interaction. Before beginning, however, it must first be said that a formal definition of a dialectal relationship as opposed to a relationship between different languages has never been generally accepted, despite various attempts at such formulations.\textsuperscript{40} The terms 'dialect' and 'language' have for so long been used with variable meanings that the establishment of any formal and strictly delimiting definitions is now probably as undesirable as it is unlikely. We must then bear in mind that in discussing questions of dialect interaction we are generally not dealing with issues fundamentally different from those of language interactions: in the broadest terms, there are likely few differences. Nevertheless, in talking of dialects there is obviously, regardless of individual notions of what a dialect and a dialectal relationship be, an assumption that to some degree the two speech forms involved are genetically related and therefore share some greater or lesser number of linguistic features and structures. From my perspective, the

\textsuperscript{40} For example, see Agard's attempt to do so on the grounds of formal, phonological correspondences (1984: 41-47).
significance of this genetic and structural relatedness is the following: the more structurally related two dialects are, the easier it is for speakers of one to gain a high degree of practical competence in the other. With regard to the processes of language contact, this ease of acquisition means that there is an increased likelihood in a dialect contact than there is in language contact (i.e., a contact between two speech forms which are either relatively only very distantly related or wholly unrelated) that there will develop a significant number of speakers who can be considered to be accomplished 'bilinguals' or, in this case more accurately, 'bidialectals'. In terms of the transfer types, this increased likelihood of effective widespread 'bilingualism' or 'bidialectalism' has the result that in dialect contact there will more often be a neutralisation of linguistic dominance and with that an increased blurring of the distinction between imposition and borrowing and, in my terms, an increased occurrence of selection. Thus, while the process of widespread selection in language contact is limited to situations with relatively uncommon social circumstances such as those surrounding the developments of Media Lengua, Anglo-Romani, or Mednyj Aleut, in dialect contact situations it is quite common, perhaps even the usual process by which features spread across major boundaries within large-
scale dialect continua. Although the mechanisms of transfer involved in dialect contact are essentially the same as those involved in language contact, higher degrees of structural relatedness and thus higher degrees of effective 'bilingualism' change certain dynamic aspects of contact-related change. It is on these aspects of dialect contact that I will focus in this section.

With regard to the process of borrowing there is little to add to the discussion in the foregoing section and what needs to be added is likely fairly obvious. As in contacts between different languages, rl agentivity in dialect contact involves most often and easily lexical borrowings, the phonological content of which can either be fully adapted, partially adapted and partially imitated, or wholly imitated. Inclusion of imitated foreign phonological items in lexical borrowings as well as phonological importation are structurally constrained by their interaction with the more basic, automatised levels of the recipient dialect's phonological system and are socially determined by the factors of motivation and opportunity for acquisition. In contacts between genetically related dialects and languages,

41The notions of both isoglosses and discrete dialects has been not merely brought into question but rejected outright by some linguists in recent years, most notably C-J. N. Bailey. Despite my general sympathy and agreement with Bailey's vehement rejection of static models of language, especially with regard to dialectal and historical matters, I cannot agree with his utter rejection of more traditional notions of dialect bounderies. That bounderies are 'fuzzy' does not mean that they do not exist at all. The fact is that in dialect continua such as that of Dutch speaking Belgium, there are numerous major structural breaks at relatively modest distances. The existence of transitional zones does not negate the fact that there are very sharp breaks both in formal structures and in the less formal notion of 'mutual comprehension' between, say, dialects of central Limburg and central Brabant, or between dialects of East Flanders and the western half of West Flanders.
there exists, however, a further structural factor which generally does not obtain in contacts between unrelated languages, namely, the phonological relationships arising from regular, historical phonological change between sets of cognate words. For such a phonological relationship to exist practically for ordinary speakers who lack any formal knowledge about their language's history, there must be a fairly high degree of resemblance between the individual cognate pairs in the two dialects involved. As an example, we might take the reflex of Old English æ which shows regular, divergent developments in Scots (and other northern English dialects) and standard English (and the southern and midlands dialects), as illustrated in the cognate pairs below:

<table>
<thead>
<tr>
<th>Scots</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ɛ]</td>
<td>[ʌ(ʊ)]</td>
</tr>
<tr>
<td>hame</td>
<td>home</td>
</tr>
<tr>
<td>gae</td>
<td>go</td>
</tr>
<tr>
<td>baith</td>
<td>both</td>
</tr>
<tr>
<td>(claith) claes</td>
<td>(cloth) clothes</td>
</tr>
<tr>
<td>wae</td>
<td>woe</td>
</tr>
<tr>
<td>dale</td>
<td>dole</td>
</tr>
<tr>
<td>mane</td>
<td>moan</td>
</tr>
<tr>
<td>mair</td>
<td>more</td>
</tr>
<tr>
<td>maist</td>
<td>most</td>
</tr>
<tr>
<td>cail</td>
<td>cole</td>
</tr>
<tr>
<td>alane</td>
<td>alone</td>
</tr>
<tr>
<td>hale</td>
<td>whole</td>
</tr>
</tbody>
</table>

To this list can be added many other similar pairs, which, together, allow for the establishment of a 'dialect translation rule' which can be applied to derive forms without the speaker necessarily having actually to hear the model. Though there may be cases of such rules which may be applied generally, the phonological correspondences very often are not one-to-one
as a result of differing mergers in the two dialects, as can be seen from the following pairs of cognates:

<table>
<thead>
<tr>
<th>Scots [e]</th>
<th>English [e(ɨ)]</th>
<th>Scots [o]</th>
<th>English [o(ɨ)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>gate</td>
<td>gate</td>
<td>coat</td>
<td>coat</td>
</tr>
<tr>
<td>day</td>
<td>day</td>
<td>close</td>
<td>close (adj.)</td>
</tr>
<tr>
<td>slake</td>
<td>slake</td>
<td>close</td>
<td>close (v.)</td>
</tr>
<tr>
<td>skate</td>
<td>skate</td>
<td>boat</td>
<td>boat</td>
</tr>
<tr>
<td>plain</td>
<td>plain</td>
<td>boast⁴²</td>
<td>boast</td>
</tr>
<tr>
<td>same</td>
<td>same</td>
<td>road</td>
<td>road</td>
</tr>
</tbody>
</table>

For a Scots speaker attempting to anglify his speech, the English words with [e(ɨ)] constitute a violation to the highly salient pattern represented by the cognate pair *hame/home*, just as do Scots words with [o] for an English speaker trying to "scotify" his speech. Extension of a salient feature beyond its actual distribution in the source dialect is a well known phenomenon, generally called a 'hyperadaptation'.⁴³ From the standpoint of transfer types, such transfers cannot be classified simply. On the one hand, there is obviously an initial borrowing, for example an English speaker borrowing Scots *hame*, but if a speaker subsequently overapplies the ŵ = ŵ correlation in scotifying his speech, the extent of the distribution is determined or imposed by the lexical distribution of the English term in the correlation.

In addition to these adaptation rules between sets of cognate words, the structural similarities of contacting dialects can also give rise to the development of phonetic adaptations or compromises; that is, speakers use

⁴²'boast' and 'road' are both borrowings into Scots from English. The Scots cognate of 'road' has also been borrowed into English ('raid') with a specialised meaning.

"pronunciations intermediate between those of the two accents in contact" (Trudgill 1986: 62). This phenomenon has long been recognised by dialectologists (and more recently by sociolinguists) but seems to have received relatively little attention in the literature on phonological change. One example from the Dutch area can be found in the approximated standard used by inhabitants of Leuven and environs in Belgium. In standard Dutch, the reflexes of Middle Dutch [eː] and [iː] have fallen together as [eː], while in the Leuven dialect they have likewise fallen together but developed further to the monophthong [ã]. In the local version of the standard, the reigning pronunciation is the compromise [æ]. Kloeke discusses a similar compromise between standard Dutch [ã] and dialectal [eː], rendered as [æ]. To do Kloeke's example proper justice, we will cite it in full:

"[Z]odra voor een bepaalde plaats en in een bepaalden tijd de omstandigheden gunstig zijn voor een taalrevolutie, gaat de ontwikkeling ook met groote schokken gepaard. Gesteld: een rustig dorp met uniforme tongval, dat tot nog toe vrijwel op zich zelf aangewezen was, komt plotseling onder den sterken cultuurinvloed eener stad met afwijkende taal. Bij de volgende generatie is het dialect gebouleverseerd. In de eerste plaats ontwikkelt zich een standswoordenkeus en standsuitspraak. Wat nu deze nieuwe uitspraak betreft, zij ontstaat ook al weer niet steeds zóó, dat de aanzienlijken de stadsuitspraak 'overnemen' en de lagere kringen bij de oude uitspraak blijven volharden. Veeleer moet men het zich zoo
voorstellen, dat de aanzienlijken de stadsuitspraak *pogen* over te nemen, maar daarin niet altijd slagen, omdat zij geremd worden door hun articulatiegewoonte en door het oordeel hunner medeburgers. Gesteld: een w[ê]ter-zeggende bevolking komt onder de invloed van een stad, die het woord als w[ä]ter uitspreekt. Van tweeën één; voor de aanzienlijke dorpelingen is het wel wat heel bar, om zóó maar van de [ê] op de [ä] over te springen en ze kunnen dus, ook al ten einde den spot hunner medeburgers te ontgaan, op zijn hoogst een [ä] proberen, of ze grijpen te ver en komen tot een [o], die in de volgende generatie, vooral in de lagere kringen, nog wat aangedikt kan worden tot [ö]. Wat het eerste geval betreft: ik herinner mij nog levendig de géne, die ik als kind voelde, toen ik op zesjarigen leeftijd bij mijn verhuizing van Schagen naar Haarlem mijn [ê]-uitspraak moest prijs geven. Het drong wel door, dat mijn [Skëgeër] uitspraak in dit nieuwe milieu belachelijk werd gevonden, maar evenzeer kwam het mij belachelijk voor, dat ik de [ä]-uitspraak van de onderwijzeres maar zoo zou overnemen en ik kwam dus tot het compromis [ä], ofschoon ik wel anders kon en ik zeer wel wist, dat dit niet de [ä] van de juffrouw was. Dezelfde gevoelens heb ik ook meermalen bij ouderen kunnen waarnemen en ook hetzelfde resultaat. Alleen handhaaft zich daar de compromis-uitspraak langer en wordt zelfs in bepaalde kringen langzamerhand tot een vaste gewoonte."
It is interesting to note that Kloewe's claim concerning the possibility of a lower class phonetic 'overshoot' can be supported with a case in the local (working class) English of Chicago. Here [æ] has generally been tensed and diphthongised to [eə], with [a] following in a chain shift to [æ] (cf. Hock 1986: 426-427). A sporadic corrective tendency seems to have developed by which the new [æ] (<[a]) is replaced with [ɔ]. Indeed, for many Chicagoans, the name of their city is [ʃl'kɔgə].

The more closely related two contacting dialects are, the more are neutralised not only the two transfer types but also the distinction between internally and externally induced phonological change. Specifically, we find such a blurring of change types in the aforementioned (section 2.1) development of tense and lax æ in Philadelphian and New York English, a development which shows at once both clear indications of automatic, phonological conditioning paired with lexical and grammatical conditionings. In such cases, however, it is important to remember that there is a fundamental interaction between contacting adults with differing dialects and children, exposed to variable input, who must, in some sense, sort out that input and develop their own speech habits.44

44Note that we are here discussing attempts to adapt production and not merely attempts to decode an unfamiliar dialect. As Harris (1985: 346) argues, "a speaker's receptive competence in dialects other than his own [rests] on the implementation of ad hoc comprehension strategies rather than on the extension of rules which may form part of his productive competence." Harris further points out that such "ad hoc borrowing strategies" may also be employed in attempts to align production "with the observed output of speakers of another dialect" and that, indeed, the actual manipulation of phonological rules is, at best, uncommon (1985: 347). His findings are consistent with my proposed model, at least as regards the behaviour of adult speakers. Again, this adult behaviour clearly does not preclude the ability of children in the course of acquisition to 'manipulate'
We turn now to the question of imposition in dialect contact. As in cases of language shift, dialect shift can result in the creation of a phonological hybrid, with primary (syntagmatic and paradigmatic) phonological features of the target dialect being grafted on, as it were, to secondary and tertiary features of the shifting population's native dialect. To speak of shift and imposition there must obviously be sufficient fundamental structural difference between the source dialect and the recipient dialect that they are quite distinct speech media, otherwise it makes more sense to see transfers as cases of borrowing or selection of specific linguistic features. Practically speaking then, there is little or no real difference between dialect shift and language shift.

A localised incidence of wide-scale imposition in a part of a given language or dialect area can bring about rather abruptly a dialectal split. The degree to which the foreign sl-agent-population acquires the target language or dialect determines just how far-reaching the phonological differences between the original and the imposed-upon variety of the language or dialect will be. From the foregoing discussion it follows that, in any event, imposition will persist longest at the lower levels of highly automatised articulatory and prosodic features and thus that the two communities' speech will in effect differ in their articulatory (and prosodic) bases: the dialect of the language-shifting population will bear a modified version of the articulatory basis of the 'substratal' language (or dialect) which they formerly spoke, while that of the native community will continue unchanged. Of course, not all such phonological differences phonological rules, that is, to recondition them (from a diachronic perspective).
between dialects need be attributed directly to cases of widespread language shift and imposition but rather can exist and conceivably arise within a long-standing community of related dialects. The degree or depth of phonological difference involved can be related to the notions of 'accent' versus 'dialect' employed in dialectology:

"'Accent' does not refer simply to pronunciation in the sense of realization (i.e. phonetics); it also covers some parts of phonology in the sense of inventory, distribution, and incidence— but especially with the last of these it seems that we have to draw the line between accent and dialect somewhere within it" (Petyt 1985: 337)

We can represent these differences in relation to the three general levels of phonological structure proposed here in the following way:

**Intralingual Systematic Phonological Differences**

<table>
<thead>
<tr>
<th>Major dialect difference</th>
<th>Primary Gestures</th>
<th>Secondary Gestures</th>
<th>Tertiary Gestures</th>
<th>much difference</th>
<th>much difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor dialect difference</td>
<td>Primary Gestures</td>
<td>Secondary Gestures</td>
<td>Tertiary Gestures</td>
<td>some difference</td>
<td>much difference</td>
</tr>
<tr>
<td>Accent difference</td>
<td>Primary Gestures</td>
<td>Secondary Gestures</td>
<td>Tertiary Gestures</td>
<td>little difference</td>
<td>some difference</td>
</tr>
</tbody>
</table>

In the conclusion to his study on dialect and accent in West Yorkshire, Petyt addresses two aspects of the gradual decay or death of the local dialect in the face of encroachment by the standard variety of English. The first of
these is that of the social aspect of the replacement of local features with standard features across the West Yorkshire population: he finds evidence that the middle classes generally lead the move toward the standard, with the working classes remaining more retentive of features of local dialect speech. More relevant to the present discussion are his findings concerning which aspects of dialect are more stable and which are more easily given up in favour of standard English features:

"[W]e can say that local features seem to disappear in the following order:
-first 'dialect' features-- and possibly within this category: first, vocabulary; and second, grammar and phonemic incidence...
-second to go are 'accent' features: inventory, distribution, realisation, and some cases of incidence... These features, which may remain after vocabulary, grammar, and incidence have come into line with standard English, may define some sort of 'Regional Standard'. Many people for example are recognisably Northern (from the Yorkshire/Lancashire industrial belt), but they may not readily be pinned down more precisely. Other people may be recognised as from a smaller region-- say West Yorkshire-- but can be identified no further.
-last to disappear, I suspect, are 'tone of voice' features. I have not felt capable of tackling this subject, so this is only a hypothetical suggestion which is not based on findings reported in this work. I merely record that I have observed
examples of speakers who have no 'dialect' features and who have modified their inventory, distribution, realisation, and incidence so as to come completely into line with RP 'accent'—but who nevertheless 'sound' as if they come from West Yorkshire and whom I have later been able to confirm as doing so." (1985: 342-343).

What Petyt reports for West Yorkshire is wholly in line with Van Coetsem's suggestion that within the phonological domain the syntagmatic level is generally significantly less stable than the paradigmatic. The West Yorkshire evidence, however, also shows that beyond a contrast between the syntagmatic and the paradigmatic levels, it is also necessary to recognise a scale of stability related ultimately to degrees of consciousness versus automaticity, of the facultative and distinctive versus secondary colourings that do not interfere significantly with communication. Again, if we are willing to accept at all the notion that these secondary and tertiary features of articulation may play a rôle in influencing the direction of natural, dialect- or language-internal phonological change, it stands to reason that even if there is widespread shift by West Yorkshire speakers toward the "inventory, distribution, realisation, and some cases of incidence" of the standard dialect, there might nonetheless survive to a sufficient degree those persistent secondary and tertiary features of the old West Yorkshire articulatory basis, that is, the West Yorkshire "accent", so that this new variety of standard English may well continue in the future to develop in at least some respects along the
lines of a West Yorkshire dialect and not like other varieties of the standard.

The effects of the stability gradient within the phonological domain reported by Petyt can be represented as in the charts below. In these charts, 'phonemic' refers to the overall phonological inventory (number of distinctions, basic kinds of feature distinctions) and its distribution across the lexicon.\textsuperscript{45} 'Allophonic' refers to systematic, predictable and phonetically related differences of segmental articulation, involving for the most part secondary and tertiary articulatory gestures. 'Suprasegmental' refers to both prosodic and articulatory features which are not directly related to or dependent upon individual segments or groups of segments. Note that in so far as these suprasegmental features may involve supralaryngeal articulatory settings, they may themselves play a rôle in the determination of the 'allophonic' realisation of specific segments.

\begin{tabular}{lll}
Phonemic & \hline
Standard Eng. & Yorkshire Eng. & Yorkshire Dialect \\
\hline
Allophonic & \hline
Supraseg. & \hline
\end{tabular}

Very similar patterns of imposition can be found elsewhere, as, for example, in the continuum of dialectal and stylistic variants between standard Italian and Neapolitan or standard Dutch and Limburgish dialects.

\textsuperscript{45}Note that the 'phonemic' aspect of phonological stability can probably not be wholly separated from the lexical aspect. That is, phonemic redistribution across the lexicon is determined in part by the factors affecting stability within the lexical domain.
In the case of Neapolitan and standard Italian, we might point to the following specific features. First, at the 'phonemic' level, there are few if any vocalic or consonantal phones in Neapolitan which do not have close phonetic relatives in the phonological inventory of the standard language, though there are of course noteworthy differences of phonetic detail. Some of the more obvious differences in phonetic realisation are, for example, the Neapolitan r-like tap-realisation of etymological d in intervocalic position (e.g., <Maron> vs. Italian <Madonna>), the differing quality of the second elements of diphthongal reflexes of Romance e and o (Np. [ie, uo] vs. It. [iɛ, uɔ]), or the voicing of etymologically voiceless intervocalic stops. For the most part, however, a Neapolitan can go a long way toward approximating the pronunciation of the standard variety of Italian through redistribution of phones that belong to his native dialect's phonological inventory, thus replacing Np comme 'how' with standard come, Np. chiù 'more' with standard più, Np. sciore 'flower' with standard fiore. Secondary details of articulation such as the tap-realisation of intervocalic d and the voicing of intervocalic voiceless stops are far more persistent in the Neapolitan's standard speech and are well recognized as part of a Neapolitan or more generally southern Italian accent. Even more
persistent than these are some of the suprasegmental features which are characteristic of the dialect, the most notable of which are the peculiar intonational patterns of Neapolitan. In much of the Neapolitan area the dialect is also marked by the employment of a distinctive breathy voice quality, alien to the accepted standard accent, and again a persistent and easily recognised southern feature. A further persistent imposition of Neapolitan speakers upon standard Italian is the strong reduction of word final vowels to schwa or zero. This last impositional tendency could quite plausibly have a very significant impact on the overall development of standard Italian (since the standard language relies heavily on final vowel qualities as morphological markers) if social factors were somehow to favour Neapolitanised Italian. Generally similar patterns of dialectal imposition can be found in the regional varieties of Dutch in Limburg and, indeed, virtually every language area in which there is a standard dialect coexisting with markedly different regional dialects.  

One of the implications of the skewing effects of articulatory bases in phonological change, together with their stability and propensity to be imposed, is that a period of dialectal convergence may be followed by a subsequent period in which change, programmed, as it were, by the articulatory bases, drives the dialects apart. We might represent this process in the following way:

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46 In the case of Limburgish, some of the most persistent dialect features that are imposed on standard Dutch are secondary articulatory features, such as the uvular realisation of [r], a very palatal realisation of [ɔ]. Perhaps most persistent of all, however, is the well-known and very distinctive intonational pattern of Limburgish.
The long-term outcome of a dialect or language shift may then ultimately appear to have drifted back toward a phonological structure more akin to the original, pre-shift source dialect or language. Such a drift may involve, however, the complex interaction of both social and linguistic factors. Specifically, there may be, in addition to an hierarchical structural fusion as illustrated above, a social layering akin to the basolect-mesolect-acrolect continuum posited for creole-standard relations. Finally, there may yet be further a geographical aspect to the distribution of imposed features which interacts with the sociolinguistic pattern of layering. These interacting factors may be represented as follows:

**GEOGRAPHICAL ASPECT**

<table>
<thead>
<tr>
<th>SOCIAL ASPECT</th>
<th>Zone A</th>
<th>Zone B</th>
<th>Zone C</th>
<th>Zone D</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>D1</td>
<td>D1</td>
<td>D1</td>
<td>D1</td>
</tr>
<tr>
<td>Low</td>
<td>D2</td>
<td>D2</td>
<td>D2</td>
<td>D2</td>
</tr>
<tr>
<td></td>
<td>D3</td>
<td>D3</td>
<td>D3</td>
<td>D3</td>
</tr>
</tbody>
</table>

Dialect 1: absence of imposed features  
Dialect 2: low to moderate degree of imposed features  
Dialect 3: moderate to high degree of imposed features

The ultimate historical effects of a contact between two languages or strongly differentiated dialects must then be understood in terms of the subsequent interaction of varieties which have been affected to different
degrees by the contact. In a sense, foreign linguistic elements must ultimately pass through a filter system, as it were, of dialects. Ultimately this filtering effect is essentially the same as that which was discussed above in connexion with the spread of borrowings at the individual level, from a core group of bilinguals through successively wider groups of monolinguals. I propose then that the study of the effects of any language contact that has involved a more or less widespread shift must consider not only the original social and structural aspects of the contact, but also the structural, social, geographic and chronological aspects of the subsequent intralingual dialect contact in the time following the original shift. It is this approach that I will apply to the question of the Ingvæonic/Frankish contact and the development of Dutch in the following sections.
3.3 PHONOLOGICAL IMPOSITION AND THE DISRUPTION OF UMLAUT IN DUTCH

From the earlier discussion of Goossens' account of the failure of i-umlaut in the western dialects of the Dutch language area it should be clear that this central event in the history of the Dutch language remains without parallel elsewhere in Germanic and without motivation from within the structural constitution of its dialects. Faced with this situation, it seems quite reasonable to turn to the possibility of the Dutch developments not being normal, language-internally motivated but rather somehow involving externally motivated change, that is, language contact. In this section I will first consider the only real contact-based explanation that has been proposed for the Dutch umlaut development, namely that of Gysseling's theory of Belgic substratal influence on Dutch. After discussing the shortcomings of that theory in terms of the model of language contact presented in the previous section, I will present a view of the Dutch umlaut failure as the result of the intra-Germanic contact between Ingvæonic and Frankish.

3.3.1 Gysseling's Theory of Belgic Substratal Influence

At least two scholars have proposed a link between the failure of umlaut to develop normally in the Dutch language area to linguistically foreign influences. The first of these was Hammerich, who, in a discussion of the spread of i-umlaut throughout Germanic, implies such a link with the Celto-Roman population of the Low Countries. A similar but more

\[\text{47Hammerich is cited by Höfler (1955: 55): "Nicht wenige vermuten Skandinavian als Ausgangsherz [of umlaut]. So formulierte L.} \]
explicit theory of the cause of Dutch umlaut failure has been proposed by Gysseling, who claims to have found strong evidence for an important Belgic substratal element in the development of Dutch.

Gysseling's views on the rôle of the Belgic substrate in Dutch are concentrated in two, fairly short articles on the subject (1978, 1986). In the first of these articles, the focus is on the early development of Dutch and it is here that he explicitly links certain features of Dutch with an extinct and poorly attested Indo-European language, which, for want of a better name, he calls 'Belgic'. On the basis of toponymic evidence, he sees the former extent of this language to have included not only the Low Countries but also northwestern Germany and to the south the territory down to the river Canche in northwestern France, the Ardennes, the Eifel, and the

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Hammerich 1937 in den Mélanges linguistiques offerts à M. Holger Pedersen: "Die vom Norden ausgehende Welle des i-Umlautes trifft mit voller Wucht das Ingwönishe, verliert die Kraft im Gebirge, findet aber den stärksten Widerstand am Niederfränkischen, d.h. an dem keltisch- und lateinisch-beeinflußten Teil des Nicht-Ingwönischen."

Gysseling (1978: 47): "eine besondere indogermanische Sprache, welche man, in Ermangelung einer überlieferten Gesamtnennung, aber in Anschluß an Cäsar, belgisch nennen kann."

The name 'Belgæ' could be either Germanic or Celtic and itself does not point to the existence of a third Indo-European group. Though several etymologies for it have been proposed, the most reasonable one takes the name back to an ethnicon built on the Indo-European root *bhelgh- 'to swell' (reflected in Eng. bellows, belly, Du. (zich) gelgen 'to be angry', OIr. bolg 'bag' etc.), presumably with the meaning of either 'the proud' or 'the angry' ones. The name turns up in Old Irish tradition in the story of the 'Fir Bolg', which was folk-etymologized as the 'men of bags' (Eric Hamp, personal communication). The Romans also encountered Belgæ living in southern Britain near a group of Atrebates (identified as one of the Belgic tribes in the De Bello Gallico) (Blair 1963: 59). An account of the morphological relationship between *bhölghó- and *bhelgh-ois to appear in an article by Hamp (Z. für celt. Phil.).
German 'Mittelgebirge', and sees its most obvious phonological feature as the maintenance of Indo-European p which in the neighbouring Indo-European branches, Celtic and Germanic, underwent unconditioned modifications (Celtic \( p > h > \emptyset \), Germanic \( p > f \)) (1978: 48). Defined in this way, Gysseling's notion of Belgic seems to coincide precisely with Kuhn's Northwest Block and, though Gysseling only makes the connexion indirectly in the 1986 article, the two ought ultimately to be considered together. Since a detailed consideration of the arguments for and against the existence of any such substrates lies outside the scope of the present work, I will limit my comments to the following points.

The conclusions which Kuhn draws from the onomastic and lexical material he considers are that Germanic speakers arrived in northwest Germany and the Low Countries relatively late, after the operation of the Germanic Consonant Shift, and formed there a social and linguistic superstrate.\(^49\) The substrate in this area, the 'Northwest Block', was an otherwise unknown Indo-European dialect (itself including features from a non-European substratal language), which was gradually replaced by Germanic but only after having contributed a certain amount of linguistic material to the Germanic of the region, in particular the lexical items, place names, and personal names discussed above, as well as presumably many others which, thanks to their phonological make-up, are less readily identifiable as non-Germanic. The social position of this substratal language is reflected in the homely and in some cases vulgar semantic

fields to which those lexical items generally belong and with that their exclusion from the traditional poetic diction of Germanic verse.

Gysseling's notion of a substratal language in the Low Countries which influenced strongly the local development of Germanic is in its most general respects compatible with Kuhn's views. Like Kuhn, he too sees the germanisation of the northwest corner of the continent as having taken place after the completion of the First Consonant Shift and thereby allowing the absorbion of a great many place names which do not show reflexes of that sound development. However, whereas Kuhn makes that claim for essentially all of the Northwest Block 'Kernland', Gysseling sees a marked difference between the situation in northwestern Germany, the central Netherlands and eastern Belgium, where, according to him, the place names reflect for the most part Germanic consonantism, and roughly the coastal zone, including Friesland, Drente, part of Groningen, most of East and West Flanders and westernmost Brabant, where the non-Germanic element is overwhelmingly larger (1978: 153, see also Gysseling's maps, 1981: 101-103). It should be added, however, that Gysseling sees the difference as one of relative degree of heterogeneity, stating explicitly that "[n]ergens zijn toen echter homogene gebieden tot stand gekomen; alles was menggebied" (1986: 153). The time of the germanisation of the Low Countries and northwestern Germany he sets in the second century B.C., a dating which he bases on Cæsar's reports on the Atuatuci and on the archaeological evidence of a change in burial customs in northern France in that century from inhumation to the northerly manner of cremation (1981: 101-102). The demographic shift itself could not have involved a
massive extermination or replacement of the local population, judging from the substratal evidence found in Germanic, and ought therefore to be thought of as having involved the replacement of the local aristocracy by the invading Germanic aristocracy (1981: 103).

The substratal material which Gysseling finds in Dutch features many cases of apparently unshifted consonants, and he offers a list of alleged cases of unshifted p from (especially) the northwestern dialects of Germanic which is even larger than that offered by Kuhn (Gysseling 1986: 154-160). The list, however, contains a number of etymologies which are far from straightforward, and methodologically the repeated invocation of s-mobile and the nasal infix as well as other derivational enlargements ("uitbreidingen"), without any specification whatsoever of the morphological and semantic motivations for them, is troubling. In the end, his methods leave too much latitude for the linkage of even the remotest conceivable semantic connexions.50

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50The following examples are from Gysseling (1978: 156-160) and have been translated and abbreviated:

* pej- (to bear->) 'born, young child'. Enlargement pej-k-: ON pīka 'girl', MNL pinke 'one-year old calf' ...
* pej- 'to shine, glitter'. Enlargement peik-, with nasal infix pink-: NL pinken 'to flkker', Eng. pink ...
* pej- 'slime'. Enlargement peit-: Lat. pītuita 'mucous', OE pība NL pit 'marrow', MNL pedel 'swamp'. Enlargement peik-: Lat. pīx 'pitch, tar', NL pekel 'brine'. With s- retained: NL spuwen 'to spit', speeksel 'spittle'...
* pej- 'little'. Enlargement peik-: Ital. piccolo. With nasal infix pink-: NL, Frs. pink 'little finger, pinkie'...
* pej- 'hollowed-out object': Enlargement pei-p-: OE pīpe 'pipe', OHG sīsa 'flute'. Enlargement pei-k-: with nasal infix pint-: NL pint [liquid
In addition to alleged lexical exceptions to the operation of Grimm's law, Gysseling also sees evidence of substratal linguistic material surviving elsewhere in Dutch and the neighbouring West Germanic dialects. Of potential significance is his claim that these Germanic dialects owe a number of derivational suffixes to the lost (Belgic) substrate language. These suffixes include the collective suffix \(-itja-\) which is said to be found in Dutch, Low German, Ripuarian Frankish and Frisian (e.g. NL \(\text{gebeente}\) 'bones (of skeleton)') and contrasts with the more genuinely Germanic (i.e., shifted) form \(-ipja-\) which is presumably what we find in the feminine abstract nouns in English such as \(\text{breadth, width}\) etc. (Gysseling 1978: 50, 1986: 161). This claim is, however, quite unnecessary, since the form can easily be explained as a secondary, phonotactically conditioned variant of the originally shifted (abstract-forming) suffix, which subsequently became productive as a collectivising suffix, ousting other semantically related suffixes.\(^{51}\) Another suffix which Gysseling would attribute to the Belgic substrate in northwestern Europe is the diminutive suffix in \(-k-\) (with the variants \(-ak, -ik, -uk\) ), reflexes of which he claims are found again for the most part only in Dutch, Frisian, Low German and English (1986: 161).\(^{52}\) Here it seems the argument is much stronger given the better evidence for this suffix in the northwestern pre-Germanic language. Specifically, it can be found in a number of early attested proper

\[^{51}\text{This question has been treated in detail in Buccini (Ms. b 1990) and the discussion will be included in Buccini (forthcoming).}\]

\[^{52}\text{That the diminutive in \(-k\) also occurs in the Frankish dialects of Middle German he mentions elsewhere (1978: 50) but omits in the 1986 article.}\]
names and in some of these it appears that the suffix may very well have had diminutive or hypocoristic value: e.g., the fifth century personal names from Trier, Lupicinus, Ursicinus (Gysseling 1986: 161) and possibly in toponyms such as Mesen (attested 1157 Mencinis) < *Mainikinjam, or Quiévrechain < *Kaprikiniom (Gysseling 1978: 51).

The link between the -k- diminutive formations in Germanic and the Belgic substrate, like the words with apparent unshifted consonants, rests in large part on their distribution within Germanic. Of course, these diminutives are highly frequent in several languages, namely Dutch (with a variety of modern forms such as -ke, -tje, -je), Middle Frankish dialects and thence standard German (-chen), the Low German dialects, and the Frisian dialects.\(^{53}\) Generally, though not exclusively, these forms go back to a double suffix, namely -ikin, which itself has a direct Belgic source (as in the toponyms cited above), or a reformed variant -ik\(\ddot{\text{i}}n\) with the Germanic element -\(\ddot{\text{i}}n\) (Gysseling 1986: 161). Interestingly, like the lexical items with unshifted consonants, -k- diminutives are essentially absent in North Germanic and Upper German, and, though the attestation is too limited for us to draw any firm conclusions, probably in Gothic as well; they are, however, attested already in Old English, albeit sparsely. The form found in English does not go back to the favoured form on the continent (-ik\(\ddot{\text{i}}n\)) but rather to -ok- and survives in standard English in a handful of words such hillock, bullock, buttock etc.\(^{54}\)

\(^{53}\)For a very detailed description of the distribution and forms of -k-diminutives in Germanic, see Hofmann’s (1961) monograph.

\(^{54}\)For details on the distribution in the English dialects, see Hofmann (1961: 68-72). Note that the English forms with -kin are almost certainly the result of a late borrowing from Dutch and a subsequent period in
Two further suffixes which Gysseling believes to have been borrowed by some of the West Germanic dialects from Belgic are of very much more restricted dialectal distribution, appearing primarily only in Dutch and English. In Dutch the two forms are -egge and -ster with the English counterparts (OE) -igce and -ster (Gysseling 1978: 49, 1986: 161). Gysseling’s reconstructed forms for these are *-agjō and *-astrjō respectively. Both forms were originally feminine and were used in the formation of female agent nouns. Examples of -egge in Dutch are dievege ‘thief’, (MNL) ballerigge ‘danser’, and in (Old) English sealticge ‘danser’ (cf. Lat. saltatrix ). The suffix -ster has become quite productive in both English (spinster, youngster, huckster etc.) and Dutch (naaister, bakster etc.), though in English it is no longer specifically feminine in its use.55 A more precise statement of the earliest dialectal distribution of these suffixes does not seem possible now, though we can say that the Dutch suffix -egge may well have originally belonged only to the southwestern dialects, that is, the Flemish dialects, given its modern and Middle Dutch distribution. If this is the case, the parallel with the other alleged Belgic elements in West Germanic is clearly broken.

These suffixes have both been traced back to putative Vulgar Latin forms by Schönfeld/Van Loey: -ster < VL -istria < Grk. -ιστρία; -egge (and

which the suffix became somewhat productive. Some -k- diminutives which appear in North Germanic are also probably best seen as the result of infiltration from Low German, with which the Scandinavian languages had a long and intimate contact during the Middle Ages. On the Scandinavian forms, see Hofmann (1961:72-78).

55For further examples, see Schönfeld/Van Loey (1970: 216-218). Gysseling states that the -ster suffix is also attested in ‘Altniederdeutsch’, though he offers no examples (1978: 49).
the variant -ei) < VL -iga (1970 217-218). Gysseling's Belgic etymologies trace them back again to suffixes found in Belgic place names: -ster < Bel. *-astro- (cf. toponym Cantastra, modern Cantâtre); -egge < Bel. *ak(i)o- (cf. Ronse, 9th cent. Rotnace < *Rotinakjom (1978: 49-50). To get then from the alleged Belgic original form ak(i)o- to the Germanic form underlying -egge, namely *-agjō, the velar stop would have to be subject still to Grimm's and Verner's Law as well as West Germanic gemination (i.e., *-akjō- > *-aXjā- > *-agia- > *-aggia-).

On the basis of the allegedly strong representation of substratal lexical elements and even derivational morphology in the Germanic dialects of northwestern Europe, Gysseling feels justified in seeking phonological elements of these dialects which may also be traced to the Belgic substrate. Of these he finds a great many, most of which we will not discuss in any detail here. They include:

1) the merger of ā and ŏ. He connects this merger with the alleged substratal evidence from the Celtic loan words with o versus Latin a, as in Lat. mare vs. OIr. muir, W. mor etc., and offers further a considerable number of northwest European toponyms for which there are older forms in o and younger and/or competing forms in a. Unfortunately, insofar as these place names can be considered to have been used by both Celts and Romans on the one hand and Germans on the other, the variations can then be simply linked to the well known fact that the Celtic and Italic

56Gysseling (1986: 161): "Indien de genoemde talengroep (Engels, Fries, Nederlands en Nederduits) lexicologisch en ook inzake woordvorming in een zo hoge mate schatplichtig is aan de substraattaal, rijst de vraag of er ook fonetische substraatinvloed aan te wijzen is."

57See also the first footnote in this section.
branches of Indo-European maintained the distinction between \( \ddot{a} \) and \( \ddot{o} \) while in all of Germanic, including Upper German, North Germanic, and East Germanic, these vowels (as well as their long counterparts) were merged. Since this merger affected those Germanic dialects for which there is no good evidence of contact with the Belgic or Northwestern Block substrate, it is difficult to see what exactly the connexion is supposed to have been.

2) a secondary and dialectally restricted tendency to merge \( \ddot{a} \) and \( \ddot{o} \) in the Germanic dialects with ties to the Belgic substrate as discussed above. Here the reference is specifically to the development of \( an \) to \( on \) which has at times been considered a North Sea Germanic or Ingvæonic development, since it is found to a degree in Old English, Old Frisian, some Low German dialects, and the coastal dialects of Dutch. Other sporadic dialectal developments of \( a \) to \( o \) in this area are also mentioned as perhaps having been connected to the substratal influence (1986: 164-165).

3) the development of the sequence \( VnC > VC \) where \( C \) was a voiceless fricative. The generalized operation of this sound change is again one of the phenomena which is usually considered to have belonged to North Sea Germanic, having operated in English, Frisian, and probably in Old Saxon as well. Traces of the development are clearly found in both Low German and (western) Dutch as well. In more limited form, however, as noted by Gysseling himself (1986: 165), the change occurred throughout all of Germanic, specifically where \( C \) was \( \chi / h \). Moreover, the change also took place in North Germanic before \( s \) and \( f \), which makes a direct link of the development with a Belgic substrate quite tenuous and
unnecessary: the Ingvæonic and North Germanic treatments can simply be seen as dialect particular generalisations or reconditionings of an original, Pan-Germanic change.\textsuperscript{58} In this regard, we should note Jasanoff's (personal communication) suggestion that the generalised North Sea Germanic application of the rule involves a reinterpretation of sequences of a short vowel followed by a nasal as equivalent to the existing nasalised vowels that had already arisen in the earlier, pan-Germanic development.

We now turn to Gyseling's suggestion that the failure of umlaut in the western Dutch dialects may be a further case of the influence of the Belgic substrate on a Germanic dialect. His statement on this matter is quite brief and he offers absolutely no details on how the Belgic interference with umlaut development may have worked.\textsuperscript{59} If his assertion is correct that the west of the Dutch area remained Belgic throughout the \textit{Völkerwanderungszeit} and only was germanised in the course of the Merovingian period, then the claim of Belgic interference in umlaut development could be argued, using essentially the same or similar structural arguments that we will use in section 3.3.5. There are, however, a number of reasons to doubt that this is a likely scenario.

\textsuperscript{58}On the notion of reconditioning see Van Coetsem/Buccini (1990). in reference to the nasal loss and compensatory lengthening in Germanic see §1.6.1.

\textsuperscript{59}The complete original statement is the following (Gyseling 1978: 51): "Daß im 8.Jh. der Westen des niederländischen Sprachgebiets, das heißt Flandern (zumal westlich von Leie und Schelde), Zeeland und Holland, sich in bedeutendem Maße der Umlautwirkung entzieht, ist vielleicht auf das belgische Substrat zurückzuführen. Der Westen wurde ja erst in der Merowingerzeit vollständig germanisiert. Dort lebt z.B. der belgische Volksname der \textit{Menapii} noch im frühmittelalterlichen Gaunamen \textit{Mempiscus} (< \textit{Menapisk} ) weiter."
First, in light of archaeological evidence that points strongly to a large scale depopulation of the Low Countries and the concentration of the Gallo-Roman population south of the bundle of lines that ran more or less along the Boulogne-Bavai-Tongeren-Cologne route, we must wonder about the degree to which a substantial Menapian or any other sort of Belgic population might have remained in the area which later would become Flanders. Indeed, it should be noted that it was especially towards the coast where the depopulation seems to have taken place, and where the Gallo-Roman population was exposed not only to overland raids from the Franks but also to Saxon (and Frankish) raids by sea, as indicated from the historical documents and clearly illustrated by the archaeological evidence of an intense militarisation of the zone in the third and fourth centuries (Thoen 1978). Moreover, the Dunkirk transgression, though surely of importance only for the westernmost coastal area, was a further factor in removing the Belgic substrate from precisely the region where their influence is alleged to have been strongest. Gysseling’s claim that the retention of the medieval district name *Mempiscus* is in any way evidence for a continued strong Menapian-speaking element in the region is weak: surely then, as now, ethnic names *qua* geographical designations could long outlive the ethnicity of the original population, and inhabitants of the *Mempiscus* region were not necessarily any more Menapian than the Milanesi are Langobards (opinions of southern Italians notwithstanding). Indeed, we must also consider the degree to which a remaining 'genetically' Menapian population was at all still Menapian-speaking, for
they had already for several centuries been under the Romanizing influence of the empire.

We should further note that the (scanty) evidence for a continued Belgic-speaking population in Flanders does not apply for the more northern part of the Low Countries' coast, namely the areas of Zeeland and especially Holland. Already in the time of Drusus' campaigns (ca. 12 B.C.), the Holland coast was inhabited by the Germanic Canninefates, a brother tribe to the Batavi from just slightly further inland. It is then unclear why umlaut failure also later obtains in this zone which was clearly germanised relatively early on. On the other hand, it is then also quite striking that in an area such as the Moselle valley, where we do actually have evidence of a Gallo-Roman population having resisted linguistic germanization until into the Carolingian period and in some places beyond,\(^\text{60}\) umlaut development was not disrupted. That this non-germanised population was presumably Romance-speaking and not Belgic is only of relevance if the invocation of Belgic in umlaut disruption crucially hinges on the structure of Belgic (of which we know almost nothing) and not just on more general mechanisms of phonological transfer and interference in language contact.

\(^{60}\)See Jungandraes 1955, 1956. Note too that according to Gysseling (1958) the area around Aachen and Vaals was also a relatively late surviving island of Romance within Germanic speaking territory where the modern dialects show no signs of having undergone any manner of large scale substratal phonological influence.

Note too that Kuhn (1976) has argued in favour of a generally late germanization, that is, at least into the sixth century, of the Ripuarian area (from Bingen to Krefeld) on the basis of the distribution of Germanic and Romance phonological developments in the area's toponyms.
A further difficulty in any attempt to link the peculiar development of umlaut in western Dutch to a Belgic substrate involves the chronology of the events. As I have discussed in section 3.2, contact effects, particularly those which can be related to the transfer of an articulatory basis, do not necessarily find immediate and complete expression but rather may be thought of as an articulatory program for directed change or an alteration of the language-specific scale of phonological markedness. From this perspective, the possibility of a Belgic substratal influence on the development of Dutch must be accepted. Nevertheless, it would be methodologically unsound to return directly to the old and discredited habit of invoking substratal influences without any knowledge of the phonological structure of the input language. Such is the case in the invocation of Belgic (or Northwest Block) influence in the development of Dutch and the neighbouring Germanic dialects.

In Gysseling's view, however, the Belgic substrate is implicated in a remarkable variety of features in Germanic, features with widely varying distributions across space and time, from pre-Verner's Law borrowings (not precisely datable but certainly before Christ), to the disruption of i-umlaut in the sixth or seventh century A.D. If we actually look at the allegedly transferred material in light of more useful models of transfer than the vague term 'substrate', then we see that the case to be made for Belgic influence is rather weak. The exceptions to Grimm's Law are all as easily explained as lexical borrowings as they are as substratal impositions. In the case of the derivational suffixes, the one suffix which comes closest to being reasonably regarded as an imposed morphological element,
namely the collective suffix in -t-, can in fact be better explained through later, language internal phonological changes to native, Germanic material. The other suffixes, the diminutive in -k- and the feminine nomina agentis formants, are not indisputably Belgic in origin, and particularly in the case of the diminutive suffix, the transfer of such a 'morphological' element can indeed be really regarded as the result of simple lexical borrowing, judging from the ease with which diminutive suffixes have at times spread between Germanic dialects.61

Finally, I should point out that there is a discrepancy between the social relationship of Germans to Belgæ implied in the substrate theory and the account we get from the reports of Cæsar and the other early Roman writers. These tell us that the Belgæ were for the most part of Germanic origin while their tribal names and personal names more often than not point either to Celtic forms or celticised Germanic forms insofar as anything intelligent can be said about them at all. The implication is that Germanic formed the substratal language in this situation, while Celtic (Belgic) the superstrate. Gysseling's argument, however, must rest on a rejection of the Roman reports, for his view seems to be that the Belgæ were a) neither Germanic nor Celtic, and b) themselves formed a substrate throughout the northwestern part of the continent.

One can, without too much difficulty, make a case for the rejection of the face value of the Roman reports, for it is entirely possible that at the

61 For example, the entry of -kin into Middle English from Flemish, which, despite recent claims to the contrary, occurred in a context of very limited contact. For further discussion of the Flemish/English contact in the Middle Ages, see section 3.4.
time of the Roman arrival in the north, the term 'Germani' applied equally well to what we consider to have been Germans and the Indo-Europeans of the so-called Northwest Block. A century earlier, when knowledge of the northern barbarians was even less precise, the Romans did not yet differentiate between Germans and Celts, as evidenced by the treatment of the Germanic Cimbri, Teutones and Ambroni as Celts.62

Following this line of reasoning, we can perhaps accept the notion that both Belgæ and Germani were under a Celtic (Gaulish) superstrate on the left side of the Rhine. Below this patina of Gaulish, Germanic would then have been the superstrate to the old, local population. This scenario, as one can plainly see, quickly becomes rather baroque, and manages to circumnavigate the simple fact that there is no particular reason to believe, from the onomastic evidence found in the Roman writings, that the Belgæ, including the Menapii, were not themselves Celts.

To conclude, the attributions of Germanic developments to substratal influence in the northwestern part of the continent are neither absolutely refutable nor at all provable, due to the high degree of speculation needed to fill in the gaps in our knowledge of the alleged contact and the structures of the contacting languages. While the features

62 As always in these tribal matters, this is by no means an indisputable statement. It has been argued by some that these tribes, if not to be taken as original or pure Celts, then at least must be seen as having been strongly celticised through the absorption not only of Celtic 'Kulturgut' but also through enlistment of bands of Celtic warriors in the course of their very long and convoluted peregrinations through western Europe. Be that as it may, there is in the end more evidence that points to these tribes having been Germanic, in our sense of the word, than there is evidence for them having been Celtic. See Schwartz 1967 for discussion and references concerning the Cimbri and Teutones.
discussed by Gysseling may conceivably have involved the large-scale imposition by Belgic speakers of linguistically stable features of their native language onto the Germanic they acquired in the process of a Germanic penetration into the northwest, our lack of knowledge of Belgic makes it impossible to be certain in this regard. The material for which the strongest case can be made for having entered Germanic from another Indo-European dialect (i.e., lexical items and semantically marked derivational suffixes) could as easily represent borrowings as impositions.

3.3.2 Evidence for an Ingoæonic Substrate in Western Dutch

In light of the lack of evidence for any sufficiently old, structural feature of the West Low Franconian dialects which might account for their failure to develop secondary i-umlaut, I claimed earlier that an appeal to possible language contacts as causes of this failure may in principle be justified. Arguments in historical linguistics which are based on presumed effects of language contact must fulfill certain criteria in order to carry any weight. First and foremost, there must be some reasonable knowledge of the relevant structural characteristics of the two (or more) languages involved in the contact. Second, in light of our current understanding of the transfer types as defined by Van Coetsem and Thomason and Kaufman, we must have some direct or, at the least, indirect historical evidence from which we can infer the social circumstances of the contact. Third, we must be able to show that the linguistic evidence and the
historical evidence are in accord with observable patterns of transfer and contact-induced change.

In the previous part of this section it was shown that Gysseling's proposed explanation of the failure of umlaut in Dutch fails on all these counts: the relevant linguistic structures of Belgic are little known, as are the historical facts surrounding the Germanic/Belic contact. Finally, in so far as we have any historical evidence, it seems not to be wholly in accord with the alleged claims of linguistic transfer. Thus, the theory that Belgic influence was crucial in the disruption of umlaut in Dutch is, at best, unprovable and, at worst, chronologically all but impossible.

While the precise nature and course of the early contacts between Germans, Celts and Romans can only be surmised, there is strong evidence for other linguistic contacts in the Low Countries with significant effects. From Roman times on to the present day there has remained a fairly strong linguistic exchange along the southern border and in adjoining parts of the Dutch language area. Yet, as important as the Germanic/Romance and specifically Dutch/French linguistic contacts have been, there is little question of them having played any part in the early Dutch development of umlaut.

There remains one other linguistic contact in the Low Countries for which there is historical and linguistic evidence, namely, the contact between Ingvæonic, or North Sea Germanic, and Frankish, the northernmost dialect of the South Germanic group. Like the Dutch/French contact, this contact has remained in effect throughout virtually the entire history of the Dutch language, albeit to varying degrees
of intensity and with varying kinds of results. Judging from the current status and linguistic history of Frisian in the northern provinces of the Netherlands, these contacts have resulted gradually in the local replacement of Ingvæonic with the descendant of Frankish, standard modern Dutch. In my view, however, the replacement of Ingvæonic with Frankish has been in operation since a time very soon after the definitive Germanic settlement of the Low Countries.\textsuperscript{63} Whereas in more recent centuries, the process has had far-reaching effects only on the Ingvæonic dialect involved, i.e. Frisian, there are good reasons to believe that the influence has also gone in the other direction. Specifically, I believe that it was the widespread replacement of Ingvæonic dialects by Frankish in the western, coastal regions of the Low Countries, at a crucial period in the development of Frankish, which brought about important structural changes in that language. It was these contact-induced structural changes, the most important of which was the disruption of the development of umlaut, which led to the development of western Frankish as an independent language within the Germanic family.

There are two bodies of evidence, linguistic and historical, for an early presence of Ingvæonic or North Sea Germanic speakers in the western half of the Low Countries. Though these two kinds of evidence may be treated separately, we should bear in mind that they are in fact intimately linked, with the linguistic facts often having influenced the interpretation of historical facts and vice versa. However, while the arguments for some specific points may therefore appear circular, the

\textsuperscript{63}Cf. Heeroma (1962: 36ff.).
general argument stands on a body of facts so large and drawn from so many independent sources that it is impossible to refute it.

The linguistic evidence for a strong North Sea Germanic influence and even settled presence in the western part of the Low Countries is considerable and of various kinds. The individual features, traditionally referred to as "Ingvæonisms" in Dutch linguistics, are usually classed by linguistic domain, i.e., phonological, morphological, lexical and syntactic features. As follows from our earlier discussions of linguistic stability and the two transfer types in section 3.2, not all of this evidence carries equal weight for the argument that the eastern Channel coast was originally peopled by North Sea Germanic speakers. In the case of lexical items, obviously, we have linguistic elements which can travel very easily between populations, with the actual linguistic contact, embodied in the form of bilingual individuals, involving very few people. And while the mechanics and dynamics of transfer in the syntactic domain have yet to be worked out in detail, it is clear that phonological and morphological features are much less likely to be transferred in 'casual' language contacts. In this regard, we must view as absurd Kuhn's (1955) claims that the vast majority of correspondences between the North Sea Germanic dialects of the continent and those of Britain developed after the emigration of the Anglo-Saxons and were the results of cross-Channel contacts. A crucial question is the degree to which one envisions linguistic innovation as involving spread by means of the 'Wave'-model or by means of Höfler's 'Entfaltung' or drift model. From the theoretical position argued in section 3.2, Kuhn's notion of a speech community centered around
contacts across the North Sea is only acceptable insofar as the focal point is seen as one of diffusion of fragments of an original speech community, which then, on the basis of shared linguistic structures, underwent subsequent, parallel developments. In the case of phonological features, the notion of the articulatory basis is of central importance. In the case of morphological features, some degree of continued, parallel development can obviously be possible when the elements with which geographically separated groups have to work are largely shared. Since the processes of morphological change are, however, more purely 'psychological', to use the old Neogrammatarian term, they may be less likely than metaconditioned phonological developments to continue in strictly parallel lines. In any event, if Kuhn's claim for the nature of North Sea Germanic is at all to be taken as one of spread of features through actual contacts occurring in the course of commerce and occasional minor and marginal shifts of population, it is to be rejected. To support this negative judgment of Kuhn's view of the nature of North Sea Germanic, it will be necessary to review the major features which have been attributed to that branch of Germanic. This review of features will provide an opportunity to present the evidence of the 'Ingvœonisms' which have been found in the Dutch dialects.

Any discussion of the linguistic character of a North Sea or Ingvœonic branch of Germanic must take as its starting point the common features of the Old English and Frisian dialects and in this sense, the notion can be seen as an outgrowth of Siebs' proposal of a separate Anglo-Frisian branch of West Germanic (1889). The impetus to replace Siebs'
narrower notion of Anglo-Frisian with the broader one of Ingvæonic lies in the recognition that many or most of the features which characterise English and Frisian and set them strongly apart from other forms of West Germanic are also found in other dialects spoken along the North Sea coast, namely Old Saxon (and to a some degree the later Low German dialects) and Old Low Franconian and its descendant, Dutch. These features can be classified according to linguistic domain, though it should be noted that in some cases the identification of a feature as specifically phonological or morphological is somewhat arbitrary.

Among the phonological features which set English and Frisian apart from the bulk of continental West Germanic dialects are the following:

• Unconditional monophthongisation of *aːː: In all Old English dialects, reflexes of PGmc *aːː are monophthongal. The 'neutral' or general development was to ːa and under i-umlaut conditions it is reflected by ːe in West Saxon and ːi in the other dialects. In Old Frisian, *aːː is also reflected by ːa and ːi, though the distribution in this language does not conform in a straight-forward way to the distribution of i-umlaut conditions, as it does in Old English. Specifically, in forms in which no i-umlaut conditioning was present there occur both ːa and ːi in a distribution which is not describable in terms of a simple sound law. It should be noted too that some individual forms show variation between the two treatments but the parameters (e.g., geographical, graphic etc.) of this variation cannot be easily ascertained owing to the limited extent of the Old Frisian attestations. Though the development of *aːː in Frisian has not yet been
satisfactorily explained, I believe that a strong case can be made for the claim that the distribution of \( \ddot{a} \) and \( \ddot{e} \) in forms not subject to umlaut was determined by the interaction of vocalic and consonantal conditionings.

The English and Frisian development of \( *a\ddot{i} \) differs from that of the South Germanic (i.e., Upper German and Frankish, excluding for now Dutch) dialects in the following way: in this later dialect group, \( *a\ddot{i} \) was monophthongised according to the quality of the following consonant and the monophthongisation must be considered the special case. In general, \( *a\ddot{i} \) developed to \( e\ddot{i} \) (e.g., NHG ein, Zeichen, Heim), but when followed by \( r, \chi \) (\( \text{\textsc{*pgmc}} \chi \)) or \( v \) (e.g., NHG mehr, sehr, OHG \( \ddot{z}\ddot{e}h \) pret. of \( \ddot{z}\ddot{ihan} \)) and when in absolute final position (e.g., NHG Weh), it developed to \( \varepsilon \) (Braune/Eggers 1987: 42-44). The Old Saxon treatment of \( *a\ddot{i} \) was quite unlike the South Germanic treatment, for in that language the monophthongisation was general, yielding \( \ddot{e} \) regularly. Occasionally, however, instances of \( \ddot{a} \) are found in Old Saxon texts. With respect to this feature then, Old Saxon seems to have originally stood nearer the North Sea Germanic dialects.

It should be noted that the Old English (and presumably also the Old Frisian) monophthongisation is generally regarded to have occurred quite early on, before the fronting of \( \ddot{a} \).\(^{64}\) In light of the discussion of the

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\(^{64}\) For arguments in support of this view, see Campbell (1959: 52-53). Note, however, that Campbell sees the differences of treatment between Old English and Old Frisian as pointing clearly to independent developments. Campbell's view of the relationship of the two developments is, however, based on an incorrect interpretation of the Old Frisian development (for which he assumes a general development to \( \ddot{e} \) (orthographically \( \text{\textsc{<e}} \))). Though practical considerations make it impossible to treat this question in detail here, I should call attention to the fact that the very late attestation...
chronology of pre-Old English sound changes in Chapter 2, such a relative dating places the monophthongisation in the time before the migration to Britain.

- Unrounding of *au: In my estimation, this feature has been poorly treated in discussions of North Sea Germanic. Markey (1976: 45), for example, describes the North Sea Germanic treatment of *au as an "unconditional monophthongisation". This description fits well the Old Frisian treatment, where we find ā as the general treatment and, predictably, ē under i-umlaut conditions. The Old English treatment, however, cannot be described as a monophthongisation, unless one is willing to argue generally for the monophthongal character of the sounds indicated in Old English orthography by digraphs. In Old English, the general treatment was a development to ēa, which under i-umlaut conditions yielded ēe in West Saxon and ē in the other dialects. Since the earliest Old English texts contain some spellings of this diphthong as <æo>, any such general monophthongisation must surely have belonged to the later history of Old English. Of course, that the monophthongisation occurred only at a late date and cannot be assigned directly to an early, pre-migration stage of Anglo-Frisian unity on the continent neither disproves the existence of an early continental North Sea Germanic nor does it prove that the North Sea features spread across the North Sea in the later Middle Ages. English and Frisian clearly do show a common developmental tendency, namely to unround unconditionally this diphthong, a feature which sets them apart from the South Germanic dialects. In South
Germanic, the development of *au shows a certain degree of dialectal diversity, involving both vocalic (umlaut) and consonantal conditioning. In general, a diphthongal treatment ou obtained before labial and velar consonants (e.g., NHG Auge, Baum) and a monophthongal treatment o before dental consonants (e.g., stoßen). Both of these treatments were subject to fronting under i-umlaut conditions.

Old Saxon takes an intermediate position with regard to the treatment of *au. On the one hand, one can say that, like the South Germanic dialects, Old Saxon maintains the rounding of this diphthong. On the other hand, however, the general monophthongisation to o resembles to some degree the Frisian treatment. It should be noted, however, that in the so-called 'lesser' or 'minor' Old Saxon texts, instances of the development of *au to o are attested.

- Maintenance/raising of *ēː/: Whether one regards Old English ē (West Saxon Ē) and Old Frisian e as a common retention or a common innovation, the treatment of *ēː in North Sea Germanic is one of its most salient characteristics. In Chapter 2, I argued against the received view, according to which *ēː underwent a common West Germanic development to a and then secondarily fronted in the North Sea Germanic dialects. As was shown there, none of the arguments in favour of that view is very compelling.\(^{65}\) Against the view that the lowering was

\(^{65}\)In addition to the arguments against the view of the North Sea front reflex of *ēː as a retention discussed earlier, two others should be noted (Nielsen 1981: 233). The first of these is that "the borrowing of Lat. strāta as strāa in OHG and strāta in OS and as strēt(e) in Angl./Kt./OFris. and strēt in WS suggeests that the forbears of OE/OFris. had an open vowel, which was subsequently fronted" (Nielsen loc. cit.). This argument
also cannot be taken as strong evidence in favour of the general West Germanic lowering and a subsequent North Sea Germanic refronting for the following reasons. First, it must be remembered that it is highly likely that in the four vowel Proto-Germanic long vowel system, what is traditionally referred to as 'ē' was probably a fairly open vowel with the approximate phonetic quality [ǣ]. Since Germanic lacked a long low vowel [ā] (N.B. ā < anā was without doubt still a nasal vowel during the early period of contact with Latin), the adaptation of Latin loan words with [ā] to the native phonology and thus to [ǣ] would not only be possible but, in fact, quite normal. Once these words were borrowed and the vowel adapted to the native [ǣ], the subsequent development to [ā] in South Germanic and to [ē] in the North Sea dialects (other than West Saxon where it remained [ǣ]) is unproblematic.

A point that Nielsen misses is the probable chronology of these loan words, a point which actually supports the view that North Sea Germanic did not participate in a general lowering. Nielsen, following Campbell, sees the alleged refronting of *ē as necessarily predating the Old English monophthongisation of *ai, which is, of course, a reasonable view. One must, however, wonder when these borrowings took place and when it was that the alleged pan-West Germanic lowering took place. Since regular contact between the Romans and both North Sea and South Germanic groups began already in the first century A.D. (and before), such loan words as 'street' could date to this early period, a time when it seems none of the Germanic dialects had yet lowered *ē to ā and the Franks in particular most certainly had not. If the borrowings are to be dated later, to a time just before the departure of the Angles and the Saxons for Britain, then it seems quite possible, if not likely, that they would have rendered Latin [ā] with [ā], since, by Campbell's and Nielsen's own chronologies (as well my own), the monophthongisation of *ai was quite early (before 'brightening') and, indeed, before the emigration to Britain (N.B. OE cāsere < *kaisere (= Lat. Caesar). Loan words such as 'street' would in Nielsen's scenario have to have been borrowed after the refronting but before the monophthongisation of *ai, some time in, say, the second, third or fourth century. Yet, since Frankish clearly had not yet lowered *ē to ā at this time, the entire notion of a pan-West Germanic lowering becomes utterly unnecessary.

Nielsen's other objection to the view presented here is that "the expansion of ē' to ā was a direct consequence of the appearance of ē2 in the long/tense subsystem of late Gmc." (loc. cit.). This argument, which is
a pan-West Germanic phenomenon is the evidence that the development occurred in some of the dialects of West Germanic after the period when any genuine West Germanic unity might reasonably have existed: spelling evidence from Frankish personal names for the lowering only occurs in the course of the sixth and seventh centuries (Braune/Eggers 1987: 36). Viewed together with the similar, onomastic evidence for the earlier occurrence of the change in Alemannic (N.B. the spelling among classical writers of Suevi, Suebi, corresponding to later OHG Suābā), it appears likely that the lowering began in the southernmost Germanic dialects, i.e., Upper German, and gradually developed throughout the rest of what I have called here South Germanic. It should be noted that this development cannot be reasonably viewed outside of the context of the entire system of long vowels and diphthongs: in those (South Germanic) dialects in which no early monophthongisation of *ai or *au took place, the lowering of *ēj to ā could and did take place. On the other hand, in the North Sea Germanic dialects, in which such monophthongisations did take place, the gap in the Proto-Germanic long vowel system came to be filled in this manner, leaving no room, as it were, for the lowering of *ēj.

Once again, Old Saxon takes a somewhat ambiguous position with respect to this feature: the general reflex of *ēj in the Heliand manuscripts is ā, though in the minor texts a number of clear instances of maintenance of the front quality are attested.

- Maintenance of monophthongal qualities of ē (< *ēj, *ēg) and ō (*ō): Though this retention of the old long mid vowels as monophthongs is not based on the notion of systemic 'economy,' must be weighed against the one offered below.
generally included in lists of Ingvæonisms, it deserves to be mentioned with them since, in my view, it is intimately linked to the overall, "economic" development (in Martinet's sense of économie) of the long vowel/diphthong systems of the Germanic dialects. The early development of the diphthongs *i e < ë and *u o < ō is clearly linked to or influenced by the treatment of the old diphthongs *ai and *au. In South Germanic, where, when those diphthongs monophthongise, they yield mid vowels ë and ō, there also occurs at roughly the same time the aforementioned diphthongisations. In the North Sea Germanic dialects, where the monophthongisation of the old diphthongs yielded low vowels, there is no such diphthongisation of the old long midvowels.66

- Fronting of *a to ë or e: the general shift of *a to a front mid vowel is known in the literature as "Anglo-Frisian brightening" but, as in the case of the aforementioned features, traces of the development are also found in the minor Old Saxon texts (Gallée 1910: 45, cf. Markey 1976: 44). Examples of the change are the OE forms stæf 'staff', cræft 'craft', dæg 'day', æcer 'acre' which can be compared with the OFris forms stef, dei etc. It is important to note that the change was either suppressed or undone in a number of environments (when i-umlaut conditions, under which a fronted reflex æ or e always developed and remained, did not obtain). Among these were the following:

66Of course, similar such mid vowel diphthongisations occur later in the histories of a great many dialects in virtually all of the Germanic languages. These diphthongisations are, however, secondary developments in vowel systems that have undergone various restructurings.
1) in an open syllable when a nonfront vowel stood in the following syllable, e.g. OE *fæt/*fatuヴァt (sg./pl.), OE *faran 'to fare' (cf. OFris *farå). N.B. In OE a was to some degree subject to 'velar umlaut' in this position, which yielded the short diphthong ea (cf. the discussion in section 2.3.4).

2) before certain consonant clusters, namely, r + cons. and l + cons, and before X(±cons.). In these environments in Old English, 'breaking' to ea took place (cf. the discussion in section 2.3.4). Note that in essentially these same environments Old Frisian shows a which might well be a secondary development from earlier 'broken' (short) diphthongs, as in warm 'warm', swart 'black', hals 'neck', falla 'to fall', achta 'eight' (see Steller 1928: 8ff.).

3) before nasals (cf. the following feature). In both Old English and Old Frisian, there is evidence of (geographic and possibly social) variation between a and o in this environment, as in OE man, mon 'man', land, lond 'land' (cf. OFris man, mon).^67

• Backing/lowering of ā and ā before nasals: Under this heading I refer to three distinct, though obviously closely related, developments in Old English and Old Frisian. The first of these is the backing and/or rounding of ā before nasals just described above. The second is the parallel development of the reflexes of *ē/ before nasals which was briefly described in the course of the discussion of the Old English development of this vowel in section 2.3.4. Examples of this development are OE nōmon 'they took', mōna 'moon', OFris nōmon, mōna (cf. OHG nāmun, māno, Go nēmun, mēna). The third of the developments is that of the *ā

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^67 There are a few apparent examples of this prenasal rounding in Old Saxon (Nielsen 1981: 128).
followed by a nasal and ʻ\(X\)'. This sequence underwent a similar development in all of Germanic, namely, loss of the nasal with compensatory lengthening of the vowel. However, whereas the lengthened vowel was a nasalised \(\ddot{a}\) outside North Sea Germanic (e.g., OHG \(br̚hta\ < \text{`bran\kappa\i\a'} \text{`brought'}\)), in Old English and Old Frisian the lengthened vowel is rounded, thus, OE \(br̚hte\), OFris \(brochte\).

- Generalised loss of nasals before voiceless fricatives with compensatory lengthening of preceding short vowels: The aforementioned common Germanic development was limited to instances of the sequences of short vowels followed by a nasal and ʻ\(X\) as in OHG \(br̚hta(bringan)\), \(d̥uhta\) (\(dunk\a\)). In Old English and Old Frisian this change operated in a broader range of contexts, specifically in sequences of a short vowel followed by a nasal and any voiceless fricative. Examples are OE \(g̥ä\)s 'goose', \(öber\ óther', \(t̥ō\)p 'tooth', \(f̥īl\)'five', \(m̥ū\)p 'mouth', OFris \(g̥ō\), \(öther\, tōth\, f̥īl\, mūth\) (cf. NHG \(\text{Gans, ander, Zahn, fünf, Mund}\)). Similar forms are found regularly in Old Saxon (\(gōs\, õder\, swīth/swind\, mūth\) etc.).

- Unrounding of the front rounded vowels: The unrounding of front rounded vowels \(\ddot{a}, \ddot{a}, \ddot{u}, \ddot{u} (\ddot{a}, \ddot{e}, \ddot{y}, \ddot{y})\) etc. per se cannot be considered an exclusively North Sea Germanic development since a great many South Germanic (German) dialects have ultimately unrounded front rounded vowels. The unroundings of these vowels in the German dialects, however, belongs to the Middle High and in some cases to the New High periods and thus post-date the unroundings in the North Sea Germanic

\[\text{\textsuperscript{68}}\text{See the relevant passages for each individual vowel in Gallée (1910: 43ff.).}\]
dialects by several centuries. A more accurate statement then of unrounding as an Ingvæonic feature must refer to the relatively very early occurrence of the phenomenon in North Sea Germanic. In Old English the process was quite gradual with respect to its geographical development, the specific vowels affected, and the specific environments in which unrounding was most favoured. For example, in West Saxon the rounding of ð and ð to e and ð was completed already early on in the Old English period (e.g., dehþer 'daughter (dat. sg.), dēman 'to judge'), while they seem to have remained rounded far longer in the Anglian dialects (Brunner 1965: 21, cf. Nielsen 1981: 136-137). The unrounding of ñ and ñ to ē and ē seems generally to have occurred considerably later both in West Saxon and Anglian.

A distinct pattern of unrounding obtained in the Kentish dialect and, judging from evidence from the Middle English period, also in southeastern East Anglia and the Thames estuary as well as in a zone in the central Thames valley and in and around the Severn valley. In these areas, the unrounding of both mid and high front rounded vowels yielded a mid vowel, ē or ē. Examples from Old Kentish of the unrounding of ð and ð are eþst 'hurries', bēnum 'prayers (dat. pl.)'. Examples of the unrounding and lowering of ñ and ñ are gerðels 'girdle', ferht 'fear', brēcō 'enjoys', ontiēnō 'opens', werōnes 'dignity' (< *wyhr-< *wīr-) (Campbell 1959: 122). As Campbell (1959: 123) notes, these unroundings had taken place by the end of the ninth century but "may have taken place at any time after i-umlaut caused these sounds [i.e., the front rounded vowels] to arise": the absence of graphic representation of the feature in
earlier (eighth century) Kentish texts may have been simply due to the strong Anglian spelling influence which can be detected in them.

The development of the front rounded vowels in Old Frisian vowels exactly the pattern seen in Old Kentish and in the Middle English attestations of the other, aforementioned, marginal southern dialect areas. Examples from this language are the following: *kést* (cf. WS *cyst*), *kere* (cf. OHG *kuri*), *sletel* (cf. WS *slytel*), *sēka* (< *sōkjan*), *rēma* (< *rūmjan*). The development of unrounding in Frisian seems also to have occurred relatively early on and is thus in this respect too parallel to the development in Old Kentish. It should be noted that in Old Saxon unrounding is only sporadically attested.

- Palatalisation of *g* and *k* before original front vowels: Campbell (1959: 173) introduces his discussion of this feature as follows: "It was an outstanding feature of Prim. OE and Prim. OFris. that the velar consonants *g* and *k* developed sensitivity to the nature of vowels preceding and following them. The sensitivity began in the continental period of OE, but continued well after the conquest of England."

In (pre-)Old English *k* was palatalised when followed by *i* or an original front vowel (cf. the discussion in section 2.3.4 above) and also in word final position after *i* or *j*. In (pre-)Old Frisian the same conditions

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69 The absence of palatalisation in many forms in the northern dialects of Middle English is often attributed to Old Norse influence (e.g. northern *caster*, *kirk* vs. southern *chester*, *church*). While such a Norse influence is possible, it is also quite possible that there were dialectal differences in the conditioning and extent of the development within the English dialects, a notion made all the more plausible by the existence of minor differences in the context of the obvious general similarity between the (southern)
obtained for the palatalisation of $k$ with the exception that $k$ was apparently not palatalised in final position (cf. OFris $ik$ vs. OE $ic[ič]$). Examples are OE cirice 'church', ceorl 'churl', cēace 'cheek', cēosan 'to choose', dīc 'ditch', drencean 'to cause to drink, to drench'. Old Frisian examples (with secondary 'assibilation') are tziurke 'church', tzise 'cheese', witzing 'viking', bretzen 'broken' (with the participial suffix *-ina*).

The development of *g/g* in these languages was largely parallel to the treatment of $k$. Before original front vowels, $g$ was strongly palatalised and ultimately fell together with the reflexes of PGmc $i$ (cf. Eng. yield ($y < *g-$) and year ($y < *j-$). Geminate *-gg-* followed by a front vowel underwent a special development in both languages which was more strongly parallel to the treatment of $k$. This sequence yielded a palatal affricate [ʃt], as in OE lecgan 'to lay', ecg 'edge', brycg 'bridge', brycg 'ridge', cf. OFris ļedza. It should, however, be noted that in OFris, the forms bregge and reg(g) obtained, and not *bredzor *redz.

The situation in Old Saxon with respect to the palatalisation of velar consonants resembles the pattern seen for other North Sea Germanic features: the 'literary' dialect of the Heliand manuscripts generally does not exhibit the feature overtly, while a number of minor texts do (e.g., kieso 'cheese' in the Freckenhorster Heberolle, kiennian 'to know' in the Heliand M ms.). Spellings which point to the earlier palatalisation of $k$ before front vowels are fairly common in North German place names (e.g., Eitzum < Ekihem), a fact which points strongly to the development having occurred in at least some regions and/or among some social groups

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English and Frisian developments. The question needs to be investigated in detail.
living within what is considered to have been Old Saxon territory. The overtly local feature would have been, in this view, suppressed in the strongly Frankish-influenced literary dialect.\textsuperscript{70}

- Retention of the final consonant of the nom./acc. plural desinence of masculine \textit{a}-stem nouns: It would be inaccurate to speak of the \textit{-as} nom./acc. desinence of masc. \textit{a}-stems as a common North Sea Germanic feature insofar as Old Frisian does not exhibit this ending but rather \textit{-ar}. Nielsen's (1981: 103) comments will suffice to describe the Germanic situation: "It is generally agreed that the OE npm. \textit{a}-stem ending \textit{-as} (\textit{dagas}, \textit{stānas}) as well as OS \textit{-os}/\textit{-as}, cf. \textit{dagos}, \textit{diufrōs}, derive from Gmc. \textit{-ōs}, whereas ON \textit{-ar} (\textit{dagar}) and OHG \textit{-ā(thagā)} are thought to reflect Gmc. \textit{-ōz}, IE \textit{-ōs} being the origin of both Gmc. endings." In section 2.3.2, I proposed that the Old English and Old Frisian treatments of this suffix point back to a period of variable realisations of final \textit{-s}/\textit{-z} in the course of the general loss of final \textit{-z}, which, when maintained, developed to \textit{-r}. The variation was ultimately resolved according to morphological conditions, with the forerunners of both Old English and Old Saxon favouring \textit{-s} and the forerunners of Old (esp. East) Frisian favouring \textit{-z}. Evidence for such variation from the North Sea Germanic runic inscriptions was offered in the earlier discussion in section 2.3.2.

\textsuperscript{70}Note that Markey's (1976: 61) interpretation of the Old Saxon situation is hardly tenable. He claims that the occurrence of the feature in place names "suggests that affrication [palatalisation] in Old Saxon was originally restricted to the written language and only gradually and sporadically disseminated to the spoken language." The evidence suggests exactly the opposite development.
• Loss of final -r (< *-z) in monosyllables: Related to the phonological development underlying the North Sea Germanic treatment of the masc. a-stem nom./acc. desinence is the loss of final -r (< *-z) in monosyllables.\textsuperscript{71} In South Germanic, loss of final -r did not affect monosyllables, as can be seen from the NHG forms mir, dir, wir, ihr, er, wer, mehr. In North Sea Germanic, however, the consonant was lost, as can be seen from the corresponding Old English and Old Frisian forms: OE me, be, we, ðe, he, hwa, ma; OFris mi, thi, wi, ji, hi, hwa, ma/me. The Old Saxon forms show the same development with one exception: mi, thi, wi, gi, he, hwe, but mer.

• Reformation of the third person pronouns: It is probable that the loss of final -r in monosyllables was a contributory factor in the North Sea Germanic reformation of the third person pronouns. In these dialects, the inherited pronominal forms were strengthened, as it were, through the addition of the old deictic particle hi-(cf. Go und hina dag, himma daga, und hita nu, OHG hiutu).

<table>
<thead>
<tr>
<th>Old West Saxon</th>
<th>m.</th>
<th>n.</th>
<th>f.</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.</td>
<td>hē</td>
<td>hit</td>
<td>hēo</td>
<td>hēe</td>
</tr>
<tr>
<td>A.</td>
<td>hine</td>
<td>hit</td>
<td>hēe</td>
<td>hēe</td>
</tr>
<tr>
<td>D.</td>
<td>him</td>
<td>him</td>
<td>hir</td>
<td>him/heom</td>
</tr>
<tr>
<td>G.</td>
<td>his</td>
<td>his</td>
<td>hire</td>
<td>hira/heora</td>
</tr>
</tbody>
</table>

\textsuperscript{71}It is not possible to determine whether loss occurred before or after the general development of *z to r.
Old Frisian (Steller 1928: 53; Heuser 1903: 29; Sjölin 1969: 34-35).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>f.</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.</td>
<td>hi, he/-re</td>
<td>hit, het/-(e)t</td>
<td>hiu, (ja, jo)/-se</td>
</tr>
<tr>
<td>D.</td>
<td>him/-em</td>
<td>him (hem)/-em</td>
<td>hire, her</td>
</tr>
<tr>
<td>A.</td>
<td>hine/-ne</td>
<td>hit, het/-(e)t</td>
<td>hia (ja)/-s(e)</td>
</tr>
<tr>
<td>G.</td>
<td>[sin]</td>
<td>[sin]</td>
<td>hire</td>
</tr>
</tbody>
</table>

That the strengthening may have begun with the masc. nom. sg. pronoun after the loss of final -r ( */-z*) in monosyllables and thence spread to other forms is supported by the Old Saxon distribution, where *h-* occurs regularly only in the masc. nom. sg. form. For comparison, the Old High German forms are included below as well.

**Old Saxon**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>f.</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.</td>
<td>hē, hī</td>
<td>it, et</td>
<td>siu, sie</td>
</tr>
<tr>
<td>A.</td>
<td>ina, inan</td>
<td>it, et</td>
<td>sia, sea</td>
</tr>
<tr>
<td>D.</td>
<td>imu, (h)im</td>
<td>imu, (h)im</td>
<td>iru, iro</td>
</tr>
<tr>
<td>G.</td>
<td>is, es</td>
<td>is, es</td>
<td>ira, iru</td>
</tr>
</tbody>
</table>

**Old High German**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>f.</th>
<th>pl. (m./f./n.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.</td>
<td>er</td>
<td>iʒ</td>
<td>siu, sī</td>
</tr>
<tr>
<td>A.</td>
<td>inan, in</td>
<td>iʒ</td>
<td>sia</td>
</tr>
<tr>
<td>D.</td>
<td>imu, imo</td>
<td>imu, imo</td>
<td>iru</td>
</tr>
<tr>
<td>G.</td>
<td>[sīn]</td>
<td>es</td>
<td>ira</td>
</tr>
</tbody>
</table>

• Absence of the 3rd person reflexive pronoun *sik*: A feature common to Old English, Old Frisian and Old Saxon is the absence of any reflex of the old third person reflexive pronoun *sik* (acc.)/ *siz* (dat.). In these languages, the personal pronoun is used instead.

• Syncretism of plural verbal endings in the pres. and pret. ind.: This morphological feature must be seen as an indirect consequence of the North Sea Germanic extension of the loss of nasals before voiceless
fricatives. The 3rd person plural endings of PGmc plural personal endings, shown below, were subject to this development:

<table>
<thead>
<tr>
<th>Pres. Ind.</th>
<th>Pret. Ind.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st *-am(i)z</td>
<td>*-um</td>
</tr>
<tr>
<td>2nd *-iþ(i)</td>
<td>*-uþ(i)</td>
</tr>
<tr>
<td>3rd *-anþ(i) &gt; NSGmc *-ōþ</td>
<td>*-unþ &gt; NSGmc *-ūþ</td>
</tr>
</tbody>
</table>

The syncretism arising from this phonological change led to the spread of the 2nd/3rd ending to the 1st person form, thus, OE nimaf, OFris nemath, OS nimad 'we, ye, they take'.

The degree to which these specifically North Sea Germanic features are attested in the western dialects of Dutch is quite striking. The majority of the features are more or less well attested in the earliest transmissions of Dutch. The following review of these Dutch 'Ingvæonisms' is based on the material presented by Schönfeld/Van Loey (1970), Markey (1976), Nielsen (1981) and Taeldeman (1982a).

- Unconditional monophthongisation of *ai: The North Sea Germanic (esp. Old English) treatment is found in a few isolated lexical items surviving in the standard language (klaver 'clover', ladder 'ladder' (with secondary shortening)) as well as in words peculiar to the western dialects (e.g., West Flemish ote 'oats'). Monophthongisation to ā is also reflected in the place name of Haamstede in Zeeland (Meertens 1960: 55). It should be remembered, however, that the monophthongisation in Old Frisian yields both ā and ē. The treatment in the Flemish dialects is generally an unconditional monophthongisation to ē which contrasts with central dialects' (Brabants and Utrechts) twofold treatment with ĕ under i-umlaut
conditions and elsewhere. The easternmost dialects (Limburgs) show a consonantly conditioned distribution essentially the same as the one described above for Old High German.\footnote{For a discussion of the dialectal distribution in Middle Dutch, see Goossens (1980: 68ff.).} The situation in the dialects of Holland seems generally to follow that of the central dialects, but this distribution may well overlay an older one in which the monophthongal development was predominant.\footnote{The details of the Hollands distribution are complicated and cannot be treated here. For a presentation of the facts, see Heeroma (1935). For a brief description of the Hollands sitution, see the discussion of the diphthongs in section 3.3.4.}

- Unrounding of \textit{au}: Reflexes of the North Sea Germanic tendency to unround \textit{au} can also be found in various individual lexical items in both the standard and the western dialects (e.g., \textit{baken}, cf. Eng \textit{beacon}). The specifically Frisian-like treatment of \textit{au} \textit{a} is attested in some early Flemish place names, e.g., \textit{Dātnesa}, \textit{Ādinkerke}, and generally taken to be reflected in the name \textit{Vlaming} itself (\textit{< flauming}) (Markey 1976: 45).

The western and central Dutch dialects all show reflexes of this diphthong which go back to an original, unconditional monophthongisation to \textit{Ø}. The eastern dialects again show a consonantly conditioned distribution like that found in Old High German.

- Maintenance/raising of \textit{ēj}: Instances of \textit{ē} for \textit{ēj} are found in early western (Flemish) place names in \textit{meet} 'mead, pasture', as in \textit{Meetkerke}. More striking is the fact that the dialectal reflexes of \textit{ēj} in large parts of Zeeland, South Holland and North Holland are [ē]. It seems probable too
that a somewhat front realisation ([ɛ] or [æ]) also obtained in the Flemish
dialects in the Middle Dutch period but it has since gradually shifted back
toward [ə] under influence from Brabant.74

• Maintenance of monophthongal qualities of ē (< *e̞e̞) and ō (< *o̞):
Though the details of the Middle Dutch situation are hardly clear, there are
indications from Middle Dutch spellings (e.g., speghel) that the western
dialects of Dutch, i.e., Flemish, Zeeuws and Hollands, resisted the
diphthongisation of these vowels that swept through continental (West)
Germanic in the Old High German period (Goossens 1980: 74ff). In the case
of the reflexes of PGmc ō, the Flemish dialects do not appear to have
undergone an early, unconditional diphthongisation to uo but rather show
a consonantly conditioned split between [ū] or [uə] before dentals and [oʊ]
before labials and velars. Whatever the relationship of these
developments to the early 'Old High German' diphthongisation, it is clear
that the western dialects did not follow the same path as the central (or
eastern) dialects.

• Fronting of ā to æ or ē: Again, isolated lexical items in standard Dutch
show a front vocalism in place of the expected a (e.g., dek vs. dak). Of
greater interest is the fact that in Middle Flemish texts, e spellings are
sporadically found in a variety of words (flessche, ghete, betas as well as
deco, including the preterites of strong verbs (e.g., help, smelt, bevel)

74 In this regard, it should be pointed out that the East Flemish dialects
have since the late Middle Ages very much followed the lead of Brabant in
the development of the vocalic system. For a full discussion of the East
Flemish developments, see Taeldeman (1985). The West Flemish shift of
older [æ] or [ä] toward [ə] must seen in the context of the broader southern
Dutch developments.
(Van Loey 1976 Vol II: 11). It should be noted too that there are Middle Dutch attestations from the western dialects of [ɔ] before /+cons. (e.g., MFlem holf, ols) (loc. cit.).

- Backing/lowering of ə and ə before nasals: Backing and rounding of ə is weakly attested in Middle Flemish and Hollands (e.g., onderfor ander 'other', Longhemarct etc.). In the case of the reflexes of ə followed by a nasal and a voiceless fricative, the western (and central) Middle Dutch dialects generally show the development of a round vowel, as in brochte, dochte.

- Generalised loss of nasals before voiceless fricatives with compensatory lengthening of preceding short vowels: The Dutch dialects show a number of reflexes of the generalised, North Sea Germanic version of this sound change, as in zuid 'south', vijf 'five', zacht 'soft'. In addition to these words, which have a very wide geographical distribution, many more instances of this development can be found with increasing frequency as one proceeds from east to west. A number of such North Sea forms are attested in the Dutch language area only in very old proper names. Among these are the following: Ruddervoorde (West Flanders) (cf. NHG Rind, stand. Du rund); Dixmuide (West Flanders), IJmuiden (North Holland) (cf. stand. Du mond, Dendermonde (eastern East Flanders)); Oegstgeest <Osgeresgest <*Ans-gër- (North Holland); Goezepit (Flanders), Goeshoek (Zeeland) (cf. stand. Du gans); Engelsuit (Gent), Edelswid (West Flanders) (cf. stand. Du gezwind). It should also be noted that the 1st pl. acc./dat. pronoun is attested in Middle Flemish as us (cf. Du ons).
• Unrounding of the front rounded vowels: As the instances of unrounding in Dutch will be discussed again below in conjunction with the development of *ū, I will limit my remarks to the general pattern of distribution of unrounding in the Dutch language area. Aside from a few instances of unrounding of umlauted long vowels in the coastal dialects (e.g., MFlem hīden 'to hide'), unrounding affects a more or less restricted group of words with *ū under umlaut conditions. It is striking that the unrounding in the dialects of Holland and Zeeland follows the pattern described above for Frisian and Kentish (y > ə), while in Flanders it follows the pattern found more generally in Old and Middle English (y > ı).

• Palatalisation of ɡ and ʌ before original front vowels: There are some instances of palatalisation found in old place names, as in Butsegem (West Flanders) (cf. Eng Buckingham); Elens, Enzelens, Leermens (Holland) which all contain the suffix -ingia;75 Ooltjensplaat < Ooltgensplaat (Zeeland);76 Weinebrugge (West Flanders) (wein = wagen); Brutgis, Brusis = Brugge. In one instance, the reflex of this palatalisation has entered the standard language, namely, in the form of the diminutive -jel-tje (< *ikīn) which is from forms proper to the western dialects (cf. Brabants -ke(n)/-ske(n)).

• Retention of the final consonant of the nom. acc. plural dessinence of masculine a-stem nouns: While -s as a plural marker has continually gained ground throughout the Dutch and German languages, in Dutch territory it clearly originally belonged to the western dialects, where it still

enjoys a wider use than it does in standard Dutch. The relative frequency of plurals in -s in Middle Flemish (e.g., kats, stuks) point to the form being native to that area. It should be noted that in the earliest attestation of West Flemish, the plural form vogalas occurs alongside the plural nesta.  

- Loss of final \(-r(<-z)>\) in monosyllables: All Dutch dialects except those of eastern Limburg show the loss of final \(-r\) in monosyllabic pronominal forms (MDu mi, di, gi, hi, wie). In addition, it should be noted that in Middle Dutch the form mee for meer is attested.

- Reformation of the third person pronouns: As in Old English, Old Frisian, Dutch has spread the prefixation of h- throughout the paradigm of the third person pronouns, as shown below:

<table>
<thead>
<tr>
<th></th>
<th>3. m.</th>
<th>n.</th>
<th>f.</th>
<th>pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.</td>
<td>hi/-i</td>
<td>het/(-e)t</td>
<td>su, soe, si/-se</td>
<td>si/-se</td>
</tr>
<tr>
<td>D.</td>
<td>hem/-em, -en</td>
<td>hem/(-e)t</td>
<td>haer/-er(e)</td>
<td>hem, hen/-en</td>
</tr>
<tr>
<td>A.</td>
<td>hem/(-e)n(e)</td>
<td>hem/(-e)t</td>
<td>haer/-se</td>
<td>hem, hen/-se</td>
</tr>
<tr>
<td>G.</td>
<td>sijns/-(e)s</td>
<td>---</td>
<td>haer/-er(e)</td>
<td>haer/-(-e)r(e)</td>
</tr>
</tbody>
</table>

- Absence of the 3rd person reflexive pronoun *sik/*siz Middle Dutch, like Old English, Old Frisian and Old Saxon, had no reflexes of the Germanic 3rd person reflexive pronoun. Modern Dutch zich is a loan word from German which is still not used in many or most dialects.

- Syncretism of plural verbal endings in the pres. and pret. indicative: Of this North Sea Germanic feature, there are no traces in Middle or Modern

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77For discussions of the dialectal distribution of plural formations in Dutch, see Taeldeman (1980, 1982b) and Goossens (1987b). For a discussion of views on the origin of the -s plural in Dutch with references to further literature, see Philippa (1981, 1982b).
Dutch. It should be noted, however, that in the dialects of the northeast of the Netherlands, syncretism is found, but these dialects are best considered belonging to the Low German ('Saxon') dialect group and not to the Frankish dialects of the Low Countries.

From this relatively brief survey of the North Sea Germanic features and their distribution in the Dutch language area, it should be clear that there is good linguistic evidence of a strong North Sea Germanic presence in the Low Countries. In particular, the occurrence of many of these features in old place names points not to casual cross-Channel contacts, as argued by Kuhn, but rather to an actual settlement of the western part of the Low Countries by North Sea Germanic speakers.

3.3.3 Historical Background to the Linguistic Developments

In the absence of substantial historical evidence, it must be assumed that the definitive Germanicisation of the population of the Low Countries belongs roughly to the period from 250 A.D. to roughly 400 A.D., that is, to the period of the breakdown of Roman military and political control in the area. The period was characterised by numerous incursions by barbarian raiders which came both from across the Rhine and also down the Channel coast. It is in connexion with these raids that the names of two of the great Germanic tribal confederations first enter the historical record, namely the Saxons and the Franks. In these early reports both groups seem to be involved in coastal raids and it appears that the region of the lower Rhine was already Frankish territory. It was in this area in the fourth
century that the Salian Franks were granted land by the Empire in the province of Toxandria, in the centre of the modern day Netherlands. Approximately one century later, these same Salian Franks moved south through central Belgium and into northern Gaul, to the region of the city of Tournai. It was from there that they carried out their conquest of the rest of Gaul and founded an empire under the Merovingians.

The relevance of the Salian Franks for the linguistic history of the Low Countries, despite appearances, is not clear. Some historians (e.g., Des Marez 1926) have claimed that the definitive settlement of much of northern Belgium was carried out by the Salians in the course of their expansion from their home on the Lower Rhine, where they served as border guards against other Germanic tribes, down to northern Gaul. Other historians have opposed this view strongly (e.g. Verlinden), arguing that the Salians, who were probably not very numerous in the first place, did not bother to colonise all of Brabant and East Flanders on their way to the riches of northern Gaul, but rather carried out a swift movement to the south, a movement resembling more a military campaign than a colonial expansion.

In light of the scanty and often conflicting evidence that we have for these events, it seems best to take an intermediate position and assume that while the Salian attack on northern Gaul was indeed a swift campaign of conquest, it was probably preceded by a period of gradual infiltration from Toxandria into the northern part of modern Belgium, an area from which the Belgo-Roman population had probably largely fled by this time. Thus, the Salian Franks likely did have a hand in the definitive
Germanicisation of northern Belgium. But this conclusion contributes relatively little to our knowledge of the earliest linguistic history of Germanic in the Low Countries, for the dialectal identity of the Salian Franks is not really known. At best, we can only surmise the following. First, as Franks, they were politically and militarily allied to other tribes living further upstream on the Rhine, whose later dialects we know well—they are counted among the Istvæonic or Rhine-Weser Germanic dialect group, a group which can be placed together with the so-called Herminonic or Elbe Germanic group in what I have referred to here as South Germanic. The Salians may have spoken but did not necessarily speak the same sort of Germanic as these other Franks. On the other hand, from their geographical position (and geographical positions in dialect continua usually have direct reflexions in linguistic features), they were quite near the sea, neighbouring the Frisians and other peoples who almost certainly belonged to the North Sea Germanic or Ingvæonic dialect group. From this fact we might conclude that their speech must in some respects at least have approached Ingvæonic. Since no real attestations of Salian Frankish exist, we must satisfy ourselves with the conclusion that from a linguistic standpoint they were probably speakers of some sort of transitional dialect between North Sea Germanic and South Germanic.78

As the Franks were regularly conducting raids across the Rhine into Imperial territory, the Saxons, another large and heterogenous confederation of various smaller tribes, were also conducting raids against the Empire. Their raids were directed for the most part against the coasts of

78For a detailed discussion of the early history of the Franks, see de Boone (1954).
Britain and northern Gaul--thus, along both sides of the Channel. Whether Germanic tribes outside the Saxon confederation (e.g., Frisians and Salian Franks) also carried out such sea raids is difficult to determine, since the term 'Saxon' came to take on the sense of "barbarian sea raider from the north" much as the term 'Dane' did in later times and may therefore have been used to refer indiscriminately to other Germanic raiders. The Saxons' raids were, however, also accompanied by some actual, permanent movements of populations, and clearly the Germanic settlement of Britain must be seen in this context. According to Bede, the Anglo-Saxon conquest of Britain began in the middle of the fifth century, but it seems fairly certain that some groups of these North Sea invaders had installed themselves along the Channel coast before this time. Among them were surely groups which, like the Salian Franks, were under local, Celto-Roman hire and charged with the protection of the coast from other Germanic raiders. It is almost certainly to this situation that the Imperial military document, the Notitia Dignitatum, refers to both the British Channel coast and the Continental Channel coast of northern Gaul and Flanders as the "Litus Saxonicum" or Saxon coast--thus, a coast under threat from and under guard by Saxons.\footnote{While it may be said that the traditional interpretation of the name Litus Saxonicum as the coast under attack by the Saxons remains the most widely accepted, more recent studies have come to the conclusion expressed here, namely that the 'shore attacked by Saxons' view and the 'shore occupied by Saxons' view are not necessarily opposing views. See White (1961: 83-84), and Johnson (1976: 145).}

The Saxons were not alone in these early waves of raids and minor settlements along the Channel coast. Another tribe, best known for their
part in the Germanic conquest of Britain, the Jutes, also established themselves in this area. Originally from Jutland, the Jutes or some part of them somehow came to be closely associated with the Frisians and it seems most likely that their first area of settlement in the Channel area was not Kent, but rather the Rhine estuary in the Netherlands, i.e., among the marshlands of the modern provinces of Zeeland and South Holland. This Jutish settlement has long been assumed by some historians on the basis of historical and archaeological evidence, as well as the evidence of the Germanic heroic poetry, in which the Jutish association with the Frisians features prominently in the traditions surrounding the battle at Finnsburg.\textsuperscript{80} The historical evidence finds very clear confirmation in linguistic evidence from the Middle English and Dutch dialects, which links areas in Britain, known to have been settled by the Jutes, with the aforementioned area of the Rhine estuary in the Netherlands (see Buccini forthcoming a). Since these Jutish and early Saxon migrations to Britain surely belong roughly to the time traditionally accepted on the basis of Bede's comments and other historical evidence, i.e., the first half of the fifth century, it stands to reason that the eastern Channel coast was at this time already settled by these same peoples.\textsuperscript{81}

\textsuperscript{80} For a detailed discussion of the literary and historical material concerning the Jutes and Frisians, see Tolkien 1963.

\textsuperscript{81} In the case of the very clearly Saxon settlement of northern France, in the Pas-de-Calais region, it has been claimed that the settlement was carried out in the opposite direction to what we have claimed here and, logically, at a somewhat later date. We accept that interpretation as possible and point out that for our concern here, namely the historical evidence of a substantial Ingvæonic presence at an early date along the coast of the future Dutch language area, it makes little difference which path the Ingvæonic settlers took en route to the area.
An interesting fact is that the expansion of the Salian Franks southward belongs to exactly the same period as the first major waves of Germanic settlement in southern Britain. To the degree that our claims are correct that before this time Saxons had settled in northern Gaul and Flanders and Jutes had settled in the lands around the Rhine estuary, it seems reasonable to see a relationship between the Salian expansion and the first major wave of Germanic settlement to southern Britain. Whether the Saxons and Jutes left for Britain, leaving room for the Salian Franks to expand, or whether the expansion of the Salian Franks deprived these coastal dwellers of land into which they themselves could comfortably expand cannot be determined. Nevertheless, the two movements essentially overlap in history.

There is no reason to believe that the departure of the Jutes and Saxons from the eastern Channel coast for the western Channel coast was complete, and it seems probable that some more or less thin layer of population remained in the coastal areas of the Low Countries. Thus, in about the year 450 A.D., the population of the Low Countries seems to have been the following. Along the coast, there was probably a fairly small population of Saxons in Flanders and, to the north, in Zeeland and

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82 It is important to remember that a numerically small group of people in a region which can support only a small population can be sufficient to dominate that region; that is, in demographics, relative size of a population must be considered as well as raw numbers. The point here is that, even if only a relatively small number of Ingvæonic speaking people remained dwelling along the Flemish and Dutch coasts, in such marshy and often inundated regions their small numbers may well have been sufficient to allow them to remain for a long time the dominant linguistic and ethnic group of these areas.
Holland, Jutes and/or the Frisians with whom they lived in close association. Northernmost Holland was probably, judging from its medieval name of "West Friesland", simply Frisian. Thus, the entire North Sea/Channel coast was settled by Ingvæonic peoples.\(^{83}\) Inland from this area was probably, but not definitely, a population that could be considered to have been in some measure Salian Frankish, but as mentioned above, it is not known what that implies in terms of linguistic identity. Again, geography and the findings of dialectology would lead us to presume that, even if they were in some sense 'South Germanic' speakers, it is likely too that their speech contained features shared with North Sea Germanic dialects. It is, of course, also possible that they spoke a

\(^{83}\)There are also reports of Angles and Wæres (Warni, Varini) living somewhere in the lands of the Rhine estuary during early Merovingian times. Both of these peoples originally came from the area of Southern Jutland and adjacent northern Germany. The Angles, who played a major rôle in the settlement of Britain were obviously Ingvæonic speakers and the Wæres, who seem to have been neighbours and close associates of the Angles, were probably also Ingvæonic speakers. Mention of a group of Thuringi, that is, Thuringians, also dwelling in the lower Rhine region during this period is somewhat surprising but, judging from the mobility of the Germanic tribes at this time, by no means impossible. Note that interpretations of the historical references to these peoples are divided, with some scholars claiming the original source text to be badly confused in its geography and that the references are, in fact, to peoples living in northeastern Germany (where the main body of the Thuringians as well as groups of Angles and Wæres were settled). An alternate interpretation of the name Thuringi which better fits the location of the lower Rhine is 'Tungri', a Germanic people of the Germani Cisrhenani group, known already in Caesar's time to be dwelling in the region of modern day Limburg (cf. the place name 'Tongeren'). Of the dialectal and for that matter linguistic identity of the Germani Cisrhenani we know very little. This question is treated in detail in Buccini (Ms. b 1990).
dialect that could better be described as Ingvæonic with some admixture of Frankish features.\textsuperscript{84} I will return again below to the question of the rôle of the Salian Franks in the linguistic development of the Low Countries.

In any event, it seems most likely that a very significant part of the Salian Frankish population did not settle permanently in Belgium but moved on for greener pastures to the south in Gaul. There, in the course of the next two centuries, they gradually adopted Roman cultural and ultimately linguistic habits and, in fusing with the native Gallo-Romance population, gave birth to a culture and language best described as Franco-Romance, the forerunner of French. This fact has considerable importance for the historical and linguistic development of the Low Countries, for it served as a central factor in the gradual shift of power from the very Romanised Merovingians to the less Romanised and therefore more purely Frankish Carolingians. Already before the actual dynastic change, the Carolingians specifically and their people, the Ripuarian Franks, generally, played an ever increasing rôle in the political and military affairs of the Frankish kingdom. In doing so, it seems quite natural that when the Franks, after innumerable campaigns against their southern and eastern neighbours, finally turned their attention northward toward the Frisians, it was especially the Carolingians and their Ripuarian comrades who stood to gain. From their power base in the Maas valley in the modern Belgian

\textsuperscript{84}Since the Salian Franks had been settled on the Betuwe, it seems quite possible and perhaps likely that they had absorbed remnants of the local Germanic tribes mentioned in earlier sources, specifically the Batavians and the Cannenfates. For these coastal dwellers, an Ingvæonic identity seems the most likely, though that is pure speculation based on assumptions of dialect geography.
provinces of Limburg and Liège and adjoining regions, they acquired new domains to the west and north in the Low Countries.

It was, thus, in the course of this Frankish expansion northward at the expense of the Frisians from the end of the sixth century or the beginning of the seventh century, that the Ingvæonic/Frankish linguistic contact in the Low Countries is likely to have begun in earnest. The Frisians had extended or, if the claims about the Jutes stated above are correct, maintained control of the Dutch coast all the way down to northernmost Flanders and had become very active in the trade of goods between the continent and Britain. Reasons for the Franks to wish to expand northward into Frisian territory are not hard to imagine, if indeed any specific reasons were at all necessary. Archaeological evidence points to a gradual growth in trade between the Franks and especially southeastern Britain (i.e., Kent and the Thames valley) during the Merovingian period and the Frisians may well have been perceived as competitors, with an attractive major trading centre, Duurstede, in their own territory on one of the branches of the lower Rhine. The Frisians had by this time also established trading colonies in various important cities abroad, such as London and York. In any event, after a series of campaigns, the Frisians under their king Redbad or Radbod were brought to heel and driven back, out of the southern part of the Low Countries, toward the lands around the Zuiderzee.85

85Redbad's name is a linguistic curiosity, since it is attested in both a specifically Ingvæonic and a specifically Frankish form. The Ingvæonic form shows ē for PGmc *ē₂ over against the Frankish ā and the typical Frisian treatment of PGmc *au₃ as ā versus the Frankish treatment as ā.
While any details of the social relations between the invading Franks and the local Ingvæonic inhabitants (in the west, at least) are unrecoverable, it seems logical to assume that the Franks, as conquerers of the Low Countries, held most or all positions of military and political significance. Since it is probable that the expansion northward was itself largely motivated by an interest in the growing trade in the North Sea area, it can also be assumed that, to some degree at least, they must have entered into the commercial life of the region, though this surely does not mean that they necessarily replaced the native Ingvæonic merchants and tradesmen. If anything, the commercial world was probably one where intense contact between the two groups developed. As the bearers of Christianity to the southern Low Countries, the Franks also surely held a dominant rôle in the Church and, in the early years must have supplied most or all of the clergy to the area. It is quite probable that religion was another field of relatively strong contacts between the Franks and Ingvæonic speakers.

The conclusion seems inescapable that the Franks took a leading rôle and held most positions of power and prestige in this marginal and, from a Christian standpoint, culturally backward area. The degree to which the Franks dominated the leading elements of society was probably especially great in the larger towns and, indeed, it seems quite likely that the major towns and cities of the region such as Brugge and Gent only

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86 The English carried out missionary work among the Frisians with some success but do not seem to have played a major rôle in the conversion of the southern part of the Low Countries.

87 For a history of the Frankish Church, see Wallace-Hadrill (1983, esp. Chapter IX).
came into existence and/or prominence under the Franks. Again, though any direct evidence is lacking for the period, it seems almost certain that the towns and cities must have been relatively more subject to Frankish influence. Presumably, outlying farming and fishing communities long remained relatively unaffected by the Frankish presence and thus maintained their Ingvæonic dialects to a greater degree than those Ingvæonic communities whose speakers lived in towns, attended church and engaged extensively in trade.

An important question is the degree to which this early seventh century Frankish conquest of the Low Countries brought about a new wave of settlement. That the conquest brought the aforementioned groups--political administrators, soldiers, merchants, clergy--is obvious, but it is not clear whether there were also considerable numbers of Franks who settled outside of the towns and cities and joined the ranks of the local peasantry. In this regard, we might well question the claims of some historians that the many village names in -sele (e.g. Brussel, Moorsele, Wilsele, Immerzeel etc) represent early Frankish settlements founded during the move of the Salian Franks southward from Toxandria to the area around Tournai. \(^{88}\) There is no evidence to this writer's knowledge which actually supports such a dating. The identification of these place names as Salian Frankish depends primarily on the distribution of the names, which seems

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\(^{88}\)This is the view taken by Des Marez (1926: 32ff.). For the distribution of the name in -sele, see the accompanying map included at the end of that book.
to follow the course that the Salian Franks took to northern Gaul.\textsuperscript{89} Against the view that the distribution of these names follows the path taken by the Salians stands the argument that the movement of these Franks southward seems not to have been one of gradual expansion and settlement but rather one of a relatively quick shift to the wealthy area of Tournai and the nearby towns such as Cambrai, as mentioned earlier.

If the place names in *-salı* do not date to the time of the Salian move to Gaul, we might well wonder whether they represent an expansion not from north to south but rather from east to west; that is, it seems reasonable to ask whether they represent a wave of Ripuarian Frankish settlement across a broad, north/south front on the heels of the Frankish conquest of the region in the late sixth or early seventh century. From a linguistic standpoint, such an interpretation of these place names is supported by the fact that they range over the area of transition between the western dialects, with their stronger Ingvæonic element, and the central dialects, which Goossens has described as "verbvlaamst Limburgs" (1988: 79). In particular, these names are concentrated in north central Brabant in the Netherlands and western Antwerp province and southwestern Brabant in Belgium, through the heart of East Flanders, and on into the southeastern corner of West Flanders, that is, in the region around Kortrijk. From Kortrijk they follow a more or less straight line toward the coast with two clusters, one around Cassel, and the other north of Boulogne on the coast. Leaving these last two clusters aside for the

\textsuperscript{89}Note that there is no apparent connexion between the Salian Franks' name and the place-name element in question, though the origins of tribal names generally, and of this one in particular, are rarely identifiable.
moment, the area of the these place names roughly covers the southern half of the western bundle of umlaut-isoglosses described in section 3.1.2 and part of the area with unconditioned fronting of *au(> ð> û(e)). All of them taken together seem to form a band which, for the most part, runs around the perimeter of the coastal lowlands and seem more likely to represent a wave of Ripuarian settlement under the auspices of the Merovingians than a remnant of the Salian migration to Gaul. We should note that in the area with place names in -sali, place names containing overtly Ingvæonic features are relatively rare in those locations where Dutch was the local language in later medieval times. This is, however, not the case in the area where we know French to have later been the local language, namely, the line of -sali names, including the two aforementioned clusters, which are found between the area of Kortrijk and the coast. Many of the villages along this line lie in territory which already in the twelfth and thirteenth century was at least partly French in speech. It therefore seems worthwhile to consider the possibility that the coöccurrence of these Frankish placenames with numerous Ingvæonic placenames in French Flanders points to the dominant linguistic trend in the area having been a shift from Germanic, of whatever sort, to French. In East Flanders and adjoining Brabant, on the other hand, where relatively few overtly Ingvæonic place names occur, there may well have been a tendency for older Ingvæonic place names to be translated, as it were, into Frankish, as that form of Germanic gradually became the demographically, as well as socially, dominant language of the region. It is, in any event, striking that the greatest density of Ingvæonic placenames is
found in the southernmost portion of the Flemish coast, where they survive in 'frenchified' form. It seems then quite possible that the 'frankification' process took place throughout Flanders, though not quite so intensely as in the more easterly regions of the -sali settlements in East Flanders and Brabant. In northern France, however, the frankification process was broken off before its completion and supplanted by a process of 'frenchification' which prevented the large-scale obscuration of the Ingvæonic place names.

The notion that the Frankish element in the Low Countries is primarily due to settlement by Ripuarian rather than Salian Franks cannot be proved through direct evidence but can be concluded on the basis of some suggestive circumstantial evidence. First, we should recall that the Salian Franks seem to have moved from their settlement area as Fœderati in Toxandria through central Belgium to northern Gaul rather quickly and, when they arrived there, they seemed to have had sufficient numbers to carry out a major conquest and undertake the occupation and (admittedly thin) settlement of a vast part of northern Gaul, exercising some presence all the way to the Loire. The more powerful evidence is, however, not historical but linguistics in nature, for there is little doubt that the eastern dialects of Dutch and the Ripuarian Frankish dialects of the German Rhineland show no evidence of any early or major structural difference: they form one area that gradually has been and in a sense still is being rent asunder under the influence of culturally and politically more powerful neighbours.
3.3.4 Profile of the Ingvæonic/Frankish Contact

In section 3.3.2 I reviewed the more obvious and well-known linguistic evidence for an Ingvæonic substratal influence in the Frankish of the Low Countries and discussed some of the views proposed by scholars on the nature of Ingvæonic or North Sea Germanic and its relationship to Dutch. In the previous section (3.3.3) I examined briefly the historical evidence for the early Germanic settlement of the region and considered the geographical and chronological aspects of the major population movements. The conclusion of that discussion was that the historical evidence strongly supports the notion that a Frankish expansion into the Low Countries postdated an original Ingvæonic settlement. It remains now to examine in detail the mechanics of the linguistic contact between Frankish and Ingvæonic implied by the relictal linguistic evidence as well as by the historical facts discussed above and to attempt to show how and why this contact also had less obvious but ultimately far more significant structural effects on the development of the Frankish dialects spoken in the Low Countries. In particular, it will be shown that this contact resulted in the disruption of the normal pattern of development of umlaut and with this disruption brought a number of related phonological and morphological adjustments which in the end have come to characterise the western Dutch dialects and the Dutch standard language.

On the basis of the very clear linguistic evidence of the distributions of Ingvæonisims in the Dutch dialects together with the historical evidence, it has been possible to establish beyond doubt that the western half of the Low Countries and especially the western third, were originally populated
by North Sea Germanic speakers. Moreover, there is strong evidence that links these Ingvæonic groups specifically with peoples whose dialects are fairly well known to us. In Holland and Zeeland, the dominant groups were Frisians and Jutes, who, judging from the later attestations of the Kentish dialect of English and Frisian, spoke roughly the same dialect. To the south, in Flanders, it seems probable that a different Ingvæonic dialect was spoken, and probably one which we could reasonably term Saxon, recognising, however, that the Saxon confederation included a great many tribes and probably did not represent a linguistic unity. It seems nevertheless unlikely that the language of this group of Saxons differed significantly from that of the earliest Saxon settlers in the south of Britain.

It was argued above that the Frankish expansion into the Low Countries belonged primarily to the seventh century with the process of 'Frankification' continuing on into the eighth century. The expansion into the Low Countries therefore coincided with the gradual rise of the Carolingian dynasty and the partial shift of Frankish power away from northern France and to the Ripuarian areas between the Maas and Rhine. What the nature and importance of a Salian Frankish settlement in the Low Countries was is difficult to determine, but it seems clear that the main Frankish element in the region arrived during the course of the Merovingian and Carolingian periods and was comprised primarily of Franks of the Ripuarian dialect area. It was further argued that this Frankish expansion into the Low Countries involved a wave of colonisation moving westward along a broad north/south front and extending through the central region of Brabant and perhaps north into
Utrecht. In the south, this colonisation extended further into eastern Flanders but it seems unlikely that Frankish settlers were numerically predominant in the westernmost regions, especially in the lightly populated, marshy coastal zones. In some of these areas then, Frankish settlement was probably limited to a great degree to the more important, larger towns, which served as centres for political, military and religious administration, as well as for trade. That coastal trade centres included an important Frankish element seems a reasonable conclusion in light of the general increase in North Sea trade during the period and the concomitant Frankish political expansion to the north and west. It is moreover significant that the conversion to Christianity of the inhabitants of the Low Countries also belongs to this period.

Both the linguistic and historical facts point to the same relationship between the Ingvæonic peoples and the Franks in the Low Countries during the period of their contact: the Franks were the socially dominant, expansive group, while the Ingvæonic speakers were increasingly a recessive, marginal element of the population. The far-reaching cultural influence that was brought with the arrival of Frankish government, Frankish tradesmen, and the Frankish Church must inevitably have had a linguistic dimension as well, and, from a linguistic standpoint, the results of this influence are quite clear, in light of the fact that no form of Ingvæonic survives in the Low Countries outside of the small Frisian territory in the far north: Ingvæonic was gradually supplanted by Frankish throughout the west. While any direct historical evidence of this process itself is wanting, our knowledge of the historical background allows us to
infer the basic social circumstances of the contact and to analyse the course of its progress.

The degree to which the Frankish linguistic influence would come to be exerted on the local, non-Frankish population must be assumed to have been dependent upon two basic factors, namely, the relative social prestige of Frankish over the native Ingvæonic, and the demographic relationship of the contacting groups. The first of these probably showed relatively little geographical variation within the territories of Frankish administration. The second, however, must have varied considerably from one region to another. It is clear that the intensity of Frankish colonisation generally decreased from east to west. Moreover, it stands to reason that in the west, where Frankish colonisation was probably relatively light, there existed pockets of Frankish speakers concentrated especially in the more important towns, such as Gent, Kortrijk etc.

That the more socially prestigious of the two contacting dialects would exert an influence on the less socially prestigious one is a notion that has long been recognised and, despite misgivings that some sociolinguists have recently expressed about the term 'social prestige', it remains an obviously useful and necessary notion. I must, however, add that the notion can be in a very real sense misleading, for in thinking in terms of one dialect or language influencing another, one loses sight of the mechanisms of contact at the individual level, to which we must ultimately turn if we are to go beyond superficial aspects of the contact and understand its structural implications. In the case at hand we must recognise that for the Ingvæonic population of the Low Countries,
Frankish, as the language associated with the political, military and religious elite of the society, surely represented both a symbol of that elite and a useful, if not indispensable, tool in any attempt to raise one's social standing. In other words, for at least those elements of the Ingvæonic population which were in any position to better themselves, there was a strong impetus or even necessity for them to acquire Frankish and to use it in their dealings with speakers of Frankish. Of course, in those areas where the Frankish expansion included widespread colonisation, the greater density of the Frankish speaking population would naturally increase the amount of exposure of Ingvæonic speakers to the prestige dialect, thereby facilitating their acquisition of it. Moreover, in those same areas of Frankish colonisation there was probably also a greater incidence of intermarriage between Frankish and Ingvæonic speakers, which over time likely furthered the spread of Frankish among the population at the expense of Ingvæonic by means of acquisition of the prestige dialect directly by children. In effect, we would expect the usual mechanisms of language shift and death to operate.

In general terms then we can say that the prestige of Frankish relative to Ingvæonic determined the general direction of linguistic development in the region, while local demographic conditions determined the rate and degree of 'frankification'. But such general statements are hardly a satisfying explanation of the actual structural development of the Germanic dialects of the Low Countries. For such an explanation we must look at the mechanisms of contact at the level of individual speakers and local groups of speakers. The general direction of
development mentioned above, namely in the direction of Frankish, must be more specifically stated: the Ingvæonic population of the Low Countries gave up its native dialect in favour of the more prestigious dialect of their Frankish neighbours. This conclusion is inescapable given the evidence for an original Ingvæonic population in the Low Countries and the indisputable Frankish identity of all the Germanic dialects of the region outside of Friesland. Frisian aside then, Ingvæonic survives in the Low Countries only indirectly, by means of the influence it exerted on Frankish in the course of the Ingvæonic population’s language shift.

At the regional level the linguistic shift from Ingvæonic to Frankish surely did not take place in one sudden step but rather must have been a gradual process that spanned several generations of speakers, perhaps beginning already with the first arrival of Frankish authority and settlers in the region and continuing on well into and perhaps through the Carolingian period. At the level of the individual speaker, this linguistic shift involved the acquisition of Frankish by Ingvæonic speakers and thus, in the model of transfer types proposed by Van Coetsem (1988, cf. section 3.2 above), the process of imposition.
TRANSFER PROFILE OF INGVÆONIC IMPOSITION ON FRANKISH

<table>
<thead>
<tr>
<th>Source Language</th>
<th>Recipient Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingvæonic</td>
<td>Frankish</td>
</tr>
<tr>
<td>(linguistically dominant)</td>
<td>(socially dominant)</td>
</tr>
</tbody>
</table>

Variables:
- acquisition: zero -> max
- imposition: max -> zero
- internally induced change (language specific): zero -> max -> zero
- internally induced change (language universal): max -> zero
- reduction: max -> zero

Reduction in this sense "represents a proficiency related change in reference to the target language" and specifically one by which the communicative power of the target language is restricted (Van Coetsem 1988: 50). In the case of second language acquisition, the speaker's prior knowledge of his own language will generally serve as a means by which restricted communicative competence can be recognized. On the basis of that recognition, compensatory strategies may then be employed in order to supplement the incomplete communicative capacity in the target language, for example, by means of imposition from the speaker's native language. In some cases, however, no compensatory strategy may be employed, or, at the level of the wider speech community, no common one may be found and generally accepted. In many such cases, it is no longer appropriate to speak of imposition in the specific sense of the

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90 This table is based on Van Coetsem (1988: 53).
91 Reduction can occur in first language acquisition as well but is then of a somewhat different character from the standpoint of the speaker of the reduced language form. For a discussion, see Van Coetsem (1988: 49-50).
inclusion of linguistic material of the speaker's linguistically dominant first language in his acquired second language. I say here "in many such cases" for there are cases where a deformation of the target language in sl agentivity may be seen both as a reduction and as an imposition. An example of such a case would be where the source language and the target language share a certain number of morphological categories, e.g. grammatical cases in noun declension, but the target language has some further cases not occurring in the source language. If the acquisition process results in the acquired form of the target language showing the structure of the source language, one may speak of reduction from the standpoint of the target language, but from the standpoint of the source language and the sl agent, there has been no reduction. It is, however, also possible that in such a language contact situation, the acquired form of the target language may show even fewer morphological distinctions than are made in the source language, in which case the reduction cannot be seen as simply the result of a transferred structure from the source language to the target language, but rather it must be seen as a result of the mechanisms of second language acquisition, at most only partially related to the actual structure of the speaker's source language.

In general, the linguistic transfer occurring in the sort of language shift proposed here can be characterised as involving primarily the most stable and structured domains of the speaker's linguistically dominant source language. Put another way, acquisition of the target language will proceed most quickly and completely in the least stable and structured domains. In the case at hand, the Ingvæonic speakers can be presumed to
have learned most easily and quickly the secondary vocabulary of their Frankish target language. During the course of acquisition, passive learning of the primary vocabulary should have proceeded at the same rate as that of the secondary vocabulary, but in actual, active production of Frankish by the Ingvæonic speakers, the tendency to slip, as it were, and impose Ingvæonic forms of basic vocabulary could lag well behind the passive knowledge of Frankish.

As regards the phonological domain, I have suggested above in section 3.2 that we ought to distinguish between primary and secondary subdomains and possibly even tertiary subdomains. Here the relatively easily acquired primary and secondary features would be the grosser, more salient, facultative features. We must assume that features in the target language that do not occur in the learner's own language can be anything from very salient to not at all salient, depending upon a variety of possible factors. Clearly, fine (secondary and tertiary) details of articulation tend often not to be salient; what cannot be recognised and easily heard must necessarily be difficult to acquire. Such details might typically involve more or less minor differences of place of articulation (e.g., dental vs. alveolar realisations of $t$, uvular vs. apical realisations of $r$, or slightly centralised or fronted realisations of vowels). On the other hand, however, acquisition of a foreign phonological system may not be wholly dependent on what is most salient; certain salient segments or suprasegmental features may simply be difficult or nearly impossible for the adult, non-native speaker to acquire, on account of differences in very basic, automatised production gestures. Furthermore, phonological
features may conceivably be sufficiently salient to be noticed by attentive non-native speakers, yet conceptually difficult or impossible to acquire. Such difficulties arise especially in the acquisition of contextually conditioned phonological rules. In these cases, the language learner may carry out either of two strategies: 1) to attempt to analyze and formulate the conditions of the rule, conceivably with only partial success, 2) to ignore the rule and generalise either the input or the output to all possible cases. In the first case, we are dealing with a reconditioning in the course of second language acquisition, as opposed to a reconditioning in first language acquisition, as discussed in Van Coetsem/Buccini (1990). In the second case, we have deconditioning, a process which is quite common in second language acquisition. In this latter case, the decision to favour one or another realisation may well be influenced by questions of saliency; that is, if there is a given conditioned alternation in the target language between two phones X and Y, and of those two phones Y is salient on account of the lack of a correspondence in the learner's native, source language, this salient phone Y may well come to have the psychological status of a primary marker of the target language and therefore to be preferred and generalised. By means of this process of favouring or generalisation of the more salient phone, the alternation may come to be partly or wholly eliminated from the learners' version of the target language. It should also be noted that in the case of related languages, the redistribution or conflation of two phones may not involve an alternation that properly belongs to the target language but rather also etymological
relations between the speaker's own language and the target language, as briefly discussed in section 3.2.3.

Proceeding on the basis of the model of transfer in source language agenty, that is, imposition, shown above and my own earlier discussions of language contact, I propose the following, tentative chronological outline for the progress of the Ingvæonic/Frankish contact.

**CHRONOLOGICAL OUTLINE OF THE INGVÆONIC/FRANKISH CONTACT**

**STAGE 1**
Native Saxons and Friso-Jutes
- Ingvæonic (Saxon, Friso-Jutish)
- Ingvæo-Frankish (high degree of imposed Ingvæonic features)
Frankish immigrants
- Rhine-Maas Frankish (Limburgish/Riparian Frankish)

**STAGE 2**
Native Saxons and Friso-Jutes
- Ingvæonic (Saxon, Friso-Jutish) (borrowings from Frankish)
- Ingvæo-Frankish (high degree of imposed Ingvæonic features)
Frankish immigrants
- Rhine-Maas Frankish (borrowings from Ingvæonic)

**STAGE 3**
Native Saxons and Friso-Jutes
- Ingvæonic (Saxon, Friso-Jutish) (borrowings from Frankish)
- Ingvæo-Frankish (high degree of imposed Ingvæonic features)
Franco-Ingvæones
- Ingvæo-Frankish (lower degree of imposed Ingvæonic features)
Franks
- Rhine-Maas Frankish (borrowings from Ingvæonic)

**STAGE 4**
Coastal/rural Flemings
- Ingvæo-Frankish (high degree of imposed Ingvæonic features)
Inland/urban Flemings
- Ingvæo-Frankish (low degree of imposed Ingvæonic features)
Integrated Ingvæo-Frankish community
- Flemish (Ingvæonized Frankish)
3.3.5 Umlaut Disruption in the Ingvæonic Acquisition of Frankish

In examining the effects of the Frankish/Ingvæonic contact we are extremely fortunate to have independent historical evidence which helps us to date its beginnings. As discussed above in this chapter, the historical evidence points to the earliest contact occurring toward the end of the sixth or beginning of the seventh century. It seems, however, reasonable to allow for some time during which the Frankish presence in the newly conquered territories could attain significant proportions. It can be said then with a fair degree of certainty that the initial stage of the contact belongs to the seventh century. Since we have a reasonably certain idea of the linguistic identity of the two contacting groups and later attestations of the dialects involved (or their very close relatives), it remains only to ascertain what, if any, major structural differences there were between these dialects.

While they were still closely related at the time of the contact, there were several important structural differences differences between Frankish, a South Germanic dialect, and the North Sea Germanic dialects spoken in the western Low Countries (N.B. unless there is need or occasion to refer to dialectal traits within this group, we will refer to them as Ingvæonic tout court ). The degree to which the two languages were mutually intelligible cannot, of course, be determined now, despite
Moulton's (1988) sanguine judgements on the linguistic unity of medieval Germania.\footnote{Moulton's claim is specifically that Germania was "unified linguistically because many speakers of different dialects could, and did, easily learn how to talk with one another" (1988: 26). Speakers of any language, of course, can learn with greater or lesser ease to talk with speakers of another language; the key term therefore is 'ease'. Judging from my own observations of dialect interactions in Dutch-speaking Belgium, I believe Moulton may well be overstating the case and in this regard might be excessively influenced by the great graphic similarity of the older Germanic languages (p. 21ff.). More or less local oddities of phonation types and prosodic structures, as well as of segmental articulations may present quite a challenge to speakers of other dialects (or languages) and, it should be noted, all the instances of descriptions of mutual intelligibility from medieval texts which Moulton cites involve meetings of people who likely already had had contact with the other form or forms of Germanic speech and in some sense had acquired them. The point here is this: Moulton's claim is difficult to prove and is likely overstated. Probably it was relatively easy for speakers of one Germanic language to learn, especially passively, some other Germanic language, just as Italians can learn to function in Spanish, Spaniards in Portuguese etc. But that should not be taken as an indication that there were not major structural differences between certain Germanic 'lects' already at an early date.}

Without a doubt, the most striking and important structural difference between the two languages in the seventh century was the widely differing degree to which they had carried out the allied processes of umlaut and reduction, as demonstrated above in section 2.3.4. These differing rates of development can be summarised as in the following table:
DIFFERING RATES OF UMLAUT DEVELOPMENT IN NSGMC AND SGMC

<table>
<thead>
<tr>
<th>Period</th>
<th>North Sea Germanic</th>
<th>South Germanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (100-350 A.D.)</td>
<td>Raising/Lowering Umlt</td>
<td>R/L Umlt</td>
</tr>
<tr>
<td>II (350-600 A.D.)</td>
<td>Fronting/Rounding Umlt</td>
<td>R/L Umlt, Prim. Umlt</td>
</tr>
<tr>
<td>III (600-850 A.D.)</td>
<td>Umlt &amp; Reduction completed, Unrounding of æ &amp; y</td>
<td>Prim. Umlt, Sec. Umlt</td>
</tr>
</tbody>
</table>

Thus, during the period of the raids and the first wave of permanent settlements along the Channel coast, the Ingvæonic dialects were carrying out the process of fronting/backing umlaut, whereas the South Germanic Frankish dialects were at this time in the period of extended raising/lowering umlaut, i.e., raising before -u (gebu > gibu), continued (or simply more thorough) a-umlaut of u to o (numan > roman) and a-umlaut of i to e (quæc, lëbën). Perhaps toward the end of this period, the transition to fronting/backing umlaut was beginning with the first step of the primary umlaut of ă. In the subsequent period, from about 600 to about 850 A.D., the Frankish and other South Germanic dialects gradually carried out the the 'secondary' fronting umlaut of the rest of the vowels but failed to develop any genuine backing uumlaut. On the other hand, the Old English and Frisian evidence indicates that by this time, fronting i-umlaut was a completed process in these dialects with the degree of reduction of nonprominent (umlaut conditioning) vowels having proceeded to a fairly high degree. As discussed earlier in 2.3.4, the Ingvæonic dialects were already beginning the initial stages of unrounding of the front-rounded i-umlaut products in certain favourable environments. If we set the dialectal developments of umlaut against the chronology of the major events involving the Germanic tribal migrations.
in the Low Countries, we can clearly see how the differing rates affected the structures of the two languages at the time of the first major contact between Ingvæonic and Frankish in the seventh century:

**CHRONOLOGY OF UMLAUT DEVELOPMENT AND THE TRIBAL MIGRATIONS**

<table>
<thead>
<tr>
<th>NSGmc</th>
<th>100 200 300 400 500 600 700 800 900</th>
</tr>
</thead>
<tbody>
<tr>
<td>R/L</td>
<td>F/B</td>
</tr>
<tr>
<td>end</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SGmc</th>
<th>1st Ingv. wave</th>
<th>2nd Ingv. wave</th>
</tr>
</thead>
<tbody>
<tr>
<td>?R/L</td>
<td>Sal. Frks move south</td>
<td>Frk expansion north</td>
</tr>
<tr>
<td></td>
<td>Ingv./Rip. Frk contact --&gt;</td>
<td></td>
</tr>
</tbody>
</table>

It should be remembered that this chronology of umlaut developments presented above is based on the analysis of the evidence from Old English and Frisian (as well as the early Runic inscriptions) in the case of North Sea Germanic, and on the evidence from Old High German (and 'literary' Old Saxon) in the case of South Germanic. While the objection may be raised that the same chronology did not necessarily apply to the dialects of the two branches involved in the contact in the Low Countries, such an objection can only really be raised concerning the Ingvæonic dialects, since the Ripuarian Frankish dialect is directly attested in the Old High German period, albeit in limited texts from the German Rhineland. Concerning the chronology of umlaut developments in the Ingvæonic of the Low Countries, it will suffice for the moment to say that certain details in the Dutch data lend direct support to the assumption that the rates were approximately the same for all the dialects within the North Sea Germanic branch.
Focussing now on the point of development of i-umlaut in the contacting languages during the seventh century, we must assume that in Ingvæonic fronting i-umlaut had fully run its course and reduction of the original umlaut conditioning factors had proceeded quite far along. It is probable that already at this time many nonprominent final syllable vowels were rendered as schwa or even lost in rapid styles of speech, if we can at all draw comparisons with the evidence of the earliest Old English texts from slightly later.\textsuperscript{93} The umlauted allophones had therefore already

\textsuperscript{93}Campbell (1959: 144-145) places the loss of final i and u in the Primitive Old English period but against the claim made here, one might point to the maintenance of final -i in a variety of forms in the Epinal Gloses (nom./acc. sg. of light-root i- stem nouns, e.g., rygi; nom./acc. sg. of jo-stems, e.g., unbryci etc.) (see Sievers 1882: 326-327). From this evidence, it would seem risky to insist on the absolute reduction of final -i already in the seventh century in the Ingvæonic dialects of the western Low Countries, since the Epinal Gloses are usually assigned to the late eighth century. The weight of the Epinal evidence is somewhat diminished when we bear in mind the following points. First, though the Epinal manuscript is from the late eighth century (Brunner 1965: 9), it is quite possible, if not likely, that the extant version is a copy of a considerably older original. Furthermore, we should also consider the possibility that the spelling of the original might itself have been a representation of the most formal and conservative style in use in the speech community (cf. the discussion of the graphic treatment of umlaut and reduction in Old High German in section 2.3.4 above). Finally, we should also bear in mind the fact that the Old English language area was quite large and noteworthy dialectal differences existed already from the early period of settlement in Britain. It should be noted too that Kentish seems to have carried out nonprominent reduction at a much faster rate than, say, West Saxon (Campbell 1959: 161) and such a difference in rate of reduction may also have existed between Kentish and Mercian (the dialect of the Epinal Gloses). That reduction proceeded at a relatively faster rate in Kentish has possible significance for the situation in the western Low Countries, for, as I argue at length in Buccini (forthcoming b), the settlers of the western Low Countries and southeastern Britain were probably especially closely related.
been phonologised in Íngvæonic with the creation of a new series of fronted vowels.

In the Frankish of this time, on the other hand, it seems quite clear that to the degree that i-umlaut had already begun, it was limited to the 'primary' uumlaut of ã which became phonologised not through reduction or loss of conditioning factors but rather through merger of the fronted phone with the reflexes of ë. This claim finds support in the fact that in the earliest Old High German (including Frankish) texts from the next century, the primary uumlaut of ã was already regularly represented graphically, though exceptions, presumably due to the tendency to maintain scribal traditions, are found (see the discussion in section 2.3.4). In these earliest Old High German texts, no indications of secondary uumlaut can be found and they can only begin to be inferred as spellings of the reflexes of the suffix -ĩã- come to be regularly spelt <e> (see above, 2.3.4). As we noted earlier, however, this partial phonologisation of the uumlauted phone need only be taken as a clear sign of the passage of uumlaut to nonautomatic and of the uumlauted phones to facultative status if one follows strictly the notion of "once a phoneme, always a phoneme." In any event, in the previous century, at the time of the Frankish expansion into the Low Countries, it seems most probable that the secondary uumlaut frontings were still automatic, positional variants. Moreover, given the evidence of the development of ã subject to primary uumlaut as well as other evidence discussed in the course of Chapters 2 above, it seems safe to conclude that the longer the fronting i-uumlaut principle was in effect, the more fronted the uumlauted phones tended to become. It would hardly be a
rash claim to say that in the Frankish of the seventh century, a dialect in which the fronting i-umlaut effect was at most just beginning, the umlauted phones were only relatively slightly fronted.

The key to the problem of the apparent failure of the western Dutch dialects to develop secondary umlaut lies in the structural dynamics of the contact between two dialects at very different points in the development of the i-umlaut. Specifically, I propose that the Ingvæonic speakers in whose own dialects umlaut had already passed from a phonological process to simply a source of morpholexical alternations, failed to acquire in learning a Frankish dialect in which umlaut was still in the early phonological or 'allophonic' stage the subphonemic and perhaps for them not at all salient vowel alternations of the target language. Moreover, as speakers of a language in which reduction of unaccented syllables had progressed quite far, the Ingvæonic speakers imposed this reduction on the Frankish they spoke, rendering what were still vowels of clear quality in the target language with their own colourless, unaccented vowels. In this way, the umlaut process was not only disrupted but, in essence, any subsequent development of vowel-to-vowel distance assimilations was rendered impossible, since the potential conditoning was removed. We can exemplify these developments with the following forms:94

<table>
<thead>
<tr>
<th>Source Lang. (Ingv.)</th>
<th>Target Lang. (Frk.)</th>
<th>Ingvæonised Frankish</th>
</tr>
</thead>
<tbody>
<tr>
<td>grōni/grēnē</td>
<td>grōni/grōni (grōiṇi)</td>
<td>grōne</td>
</tr>
<tr>
<td>fōt</td>
<td>fōt</td>
<td>fōt</td>
</tr>
<tr>
<td>fōtē/fēt</td>
<td>fōti/fōti (fōti)</td>
<td>fōtē</td>
</tr>
</tbody>
</table>

94N.B. [œ] is intended here to represent a strongly fronted vowel and [ū] a less strongly fronted vowel.
An important, though perhaps ultimately insoluble, question is the degree to which the disruption of umlaut in the course of the Ingvæonic speakers' acquisition of Frankish was the result of more purely phonetic factors or the result of what the Neogrammarians would call a more "psychological" reduction at the paradigmatic level of phonological organisation. In the first case, we refer to the following processes. In any instance of language acquisition we must consider the ability of language learners to perceive phonetically (though not necessarily phonologically) distinct elements of the target and then to produce them accurately. If, as I have tentatively claimed above in this work, the fronting process of i-umlaut occurred gradually, it is quite possible that Ingvæonic speakers, in whose own language the two sets of phones were both phonetically and phonologically quite distinct, were unable to perceive and/or to render the less differentiated phones of the target Frankish language. In this view, the elimination of umlaut in the version of Frankish spoken by the native coastal population was very much a mechanical process which is well known from other contact situations that have been better documented.95 The similar difficulty in perceiving and/or accurately rendering the distinctive vowel qualities of nonprominent vowels in Frankish would have ruled out any possibility for umlaut to develop subsequently. This

95 Note that Goossens' attempted account of the failure of i-umlaut in the western Dutch dialects (see section 3.1.3), based on the notion that, for reasons unidentified, the umlauted and nonumlauted allophones failed to become sufficiently distinct, can be seen as having come quite near to the argument put forth here. In essence, what is lacking in his account is only that the essential element in the failure of the natural course of differentiation was the process of language acquisition in the Ingvæonic/Frankish contact.
failure in acquisition would, in turn, have fixed morphological marking on the presence or absence of suffixes, since marking by means of radical vowel alternations would not have been possible.

In the second case, the more "psychological" process of umlaut disruption could proceed even if the umlated and nonumlauted phones in the target language were sufficiently distinct for the Ingvæonic speakers to perceive them. In this case, though able to perceive the target language distinctions, language learners, confronted with perhaps phonetic differences between the umlauted phones of the target language and those of their own language and, of equal importance, differences in the distribution of umlauted phones across the lexicon, may well have carried out a process of reduction at the paradigmatic level (i.e., in the phonological inventory of their version of the target language). In effect, they might simply have ruled out all vocalic alternations occurring in morphologically related forms and, having done that, further eliminated one or the other phone even from forms which stood free of any morphologically related vowel alternation. An important motivating factor in this process can arise if specific phones come to be identified with the target language and thus to be psychologically identified with more prestigious speech and ultimately excessively favoured, even where not appropriate in the actual target language. This process may be characterised as a "deconditioning" in the course of language contact.

The disruption of umlaut and the systematic elimination of vocalic alternations, whatever their formal phonological status may have been, is also clearly reflected in the treatment of the inherited West Germanic
diphthongs in coastal Dutch. The process at work in the development of the diphthongs seems to have been the aformentioned deconditioning. Here, in sharp contrast to what we see in other varieties of Frankish and, for that matter, West Germanic, we find absolutely no trace either of an i-umlaut induced split or even of the split brought about through the complex of vocalic and consonantal conditionings traditionally grouped together under the term 'breaking', as shown in the following table:

<table>
<thead>
<tr>
<th>WGmc</th>
<th>Western</th>
<th>Central</th>
<th>Eastern</th>
</tr>
</thead>
<tbody>
<tr>
<td>ao</td>
<td>õ</td>
<td>õ/ō</td>
<td>õ/ō</td>
</tr>
<tr>
<td>au</td>
<td></td>
<td></td>
<td>au/äu</td>
</tr>
<tr>
<td>ae</td>
<td>ē</td>
<td>ē</td>
<td>ē</td>
</tr>
<tr>
<td>ai</td>
<td></td>
<td>ei</td>
<td>ei</td>
</tr>
<tr>
<td>eo</td>
<td>ī</td>
<td>ĭ</td>
<td>ĭ</td>
</tr>
<tr>
<td>iu</td>
<td></td>
<td>ū</td>
<td>ū</td>
</tr>
</tbody>
</table>

In the following table I present a more detailed overview of the developments of the PGmc diphthongs in the major Dutch dialect areas and in neighbouring dialects of Germanic:
CONDITIONINGS OF CHANGES OF PGMC DIPHTHONGS

OLD ENGLISH
*ai > ā generally     *au > ēa generally     *eu > ēo generally
āe i-umlaut            ēe i-umlaut            io i-umlaut

OLD FRISIAN
*ai > ā /_Clab, vel(+Vbk)*au > ā generally     *eu > ia generally
ē i-umlaut            ē i-umlaut            iu i-umlaut
ē/~Cdent (lab, vel) # or +V-bk

OLD RIPUARIAN FRANKISH AND (PRE-)LIMBURGISH DIALECTS OF DUTCH
*ai > ei generally     *au > ou /_Clab, vel     *eu > eo generally
ē /_r,h,w,#            ō /_Cdent, h            eu /_w
(both subject to i-umlaut)          iu i-umlaut

(PRE-)CENTRAL DUTCH (BRABANT, UTRECHT)
*ai > ē /_r, h, w     *au > ō     *eu > eo generally
ē/~ other C-umlmt (subject to i-umlmt) eu /_w
ei i-umlaut            iu i-umlaut

(PRE-)FLEMISH
*ai > ē unconditional     *au > ō uncond.     *eu > eo uncond.

The following table is intended to facilitate comparison of the conditioning factors which gave rise to divergent developments of these diphthongs. Note that I include in this table a separate account of the Hollands treatment of the diphthongs. The findings suggested here are tentative and will be treated in greater detail in Buccini (forthcoming b):
OVERVIEW OF CONDITIONED SPLITS OF PGMC DIPHTHONGS

<table>
<thead>
<tr>
<th>OLD ENGLISH</th>
<th>OLD FRISIAN</th>
<th>RHINE-MAAS FRANKISH</th>
<th>CENTRAL DUTCH</th>
<th>FLEMISH</th>
<th>HOLLANDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>R/L</td>
<td>i-umlaut</td>
<td>R/L</td>
<td>i-umlaut</td>
<td>R/L</td>
<td>R/L</td>
</tr>
<tr>
<td>*ai (V-V?)</td>
<td>yes</td>
<td>*ai VC, V-V</td>
<td>yes</td>
<td>*ai</td>
<td>*ai VC, V-V</td>
</tr>
<tr>
<td>*au (V-V?)</td>
<td>yes</td>
<td>*au (V-V?)</td>
<td>yes</td>
<td>*au</td>
<td>*au no</td>
</tr>
<tr>
<td>*eu V-V</td>
<td>no, but WS yes</td>
<td>*eu V-V</td>
<td>no</td>
<td>*eu V-V, VC</td>
<td>*eu V-V/no?</td>
</tr>
</tbody>
</table>

From this table it can be seen that Flemish shows no conditioned split from either the raising/lowering umlaut period or the later operation of i-umlaut. Some Hollands dialects, on the other hand, seem to reflect regularly the raising/lowering umlaut split of *eu in *iu and *eo while others do not. Forms with a reflex of *iu (i.e. ߱, ɐɬ) appear to have been borrowed during and since the Middle Dutch period (Heeroma 1935). The likely source of these borrowings is the dialect of Utrecht, though borrowings from Brabant are also likely to have occurred, especially during the sixteenth and seventeenth centuries when many Brabanders immigrated to Holland.

The following notes should be added regarding the development of the diphthong *ai in Hollands. Most Hollands dialects present three reflexes of *ai(ei, ē, iə). In general, the distribution of ei corresponds to
the distribution of *eː in Central Dutch (where Raising (or, conceivably, i-umlaut) conditions applied). To some degree, the distributions of ẻ and ɨə resemble those of Old Frisian ǣ and ǣ in non-Raising (/i-umlaut) positions (in which only ǣ occurred), as discussed in section 3.3.2 (cf. OFrs bēn, hēta, Hol. bīn, bīeta). It should be noted, however, that Hollands ɨə is much more limited in occurrence than is Frisian ǣ outside umlaut conditions. Generally similar distributions of reflexes of *eː to those in Hollands dialects can also be found in many Middle Low German dialects.

The strikingly simple treatment of the PGmc diphthongs in the western dialects, a feature which cannot itself be called Ingvæonic, sheds obvious light on the question of the absence of vocalic splits brought about by the operation of i-umlaut. Indeed, one can characterise the western Dutch vocalic system as a simplified or reduced version of what we find in the central or eastern dialect zones, a characterisation which is clearly supported by the reconstructed vocalic systems of the three major dialect areas in the south of the Low Countries during the Middle Dutch period:

**MIDDLE DUTCH SHORT VOWEL SYSTEMS (Goossens 1980)**

<table>
<thead>
<tr>
<th>Western/West Central</th>
<th>East Central/South Eastern</th>
</tr>
</thead>
<tbody>
<tr>
<td>i  ü</td>
<td>i  ü</td>
</tr>
<tr>
<td>e  o</td>
<td>ę  o</td>
</tr>
<tr>
<td>a</td>
<td>é</td>
</tr>
<tr>
<td></td>
<td>a</td>
</tr>
</tbody>
</table>
MIDDLE DUTCH LONG VOWEL SYSTEMS (Goossens 1980)\textsuperscript{96}

<table>
<thead>
<tr>
<th>Western</th>
<th>Central</th>
<th>Southeastern</th>
</tr>
</thead>
<tbody>
<tr>
<td>ï ì</td>
<td>ï ì</td>
<td>ì ì</td>
</tr>
<tr>
<td>é ê</td>
<td>é ê</td>
<td>é ê</td>
</tr>
<tr>
<td>ò œ</td>
<td>ò œ</td>
<td>ò œ</td>
</tr>
<tr>
<td>ëi,ë,ë</td>
<td>ëi,ë,ë</td>
<td>ëi,ë,ë</td>
</tr>
<tr>
<td>á ā</td>
<td>á ā</td>
<td>á ā</td>
</tr>
</tbody>
</table>

From the evidence of the western Ingvæonic relics and the strong indications of a contact-induced alteration of the Frankish vocalic system, we can posit, albeit tentatively, the chronology of dialectal development in the Low Countries before the Middle Dutch period which is shown below:

STAGES OF DIALECT FORMATION WITH RESPECT TO 'SECONDARY' UMLAUT

I ca. 600-650 A.D.

- \textit{Ingvæonic}
  - umlaut completed
- \textit{Frankish}
  - umlaut not yet developed

II ca. 750-800 A.D.

- \textit{Coastal Frankish}
  - umlaut disrupted
- \textit{Coastal Ingvæonic}
  - morph. umlaut disrupted?
- \textit{Continental Frankish}
  - umlaut developed

III ca. 1200 A.D.

- \textit{Flemish}
  - no umlaut
- \textit{Brabants}
  - morph. umlaut disrupted
- \textit{Limburgs}
  - morph. umlaut

In this view, after the initial formation of Coastal Frankish through its transformation in the mouths of the Ingvæonic speakers in the west, this particular variety, especially as spoken in the rising urban centres of

\textsuperscript{96}The subscript vowels indicate the origin of the vowels in the pre- and early Middle Dutch stage of the dialects.
Flanders, such as Gent, Brugge, Kortrijk and Ieper, gradually came itself to be the prestigious and influential linguistic force, not only within Flanders but also in neighbouring Brabant. It is surely under Flemish influence that the tendency to eliminate paradigmatic vocalic alternations came to such full expression at such a relatively early date in the Brabants dialects.

A good case can be made for the relatively long persistence of both geographical and social stratification within the dialects of Flanders, with the degree of Ingvæonic imposition being greater not just the closer to the coast one went but also generally among the rural population and probably among the urban lower classes as well, a situation still reflected in the distribution of relic forms, as has been shown by Taeldeman (1982, 1987). This crossing of social and geographical parameters of variation can be illustrated as in the following table:

**SOCIAL AND GEOGRAPHICAL FREQUENCY OF INGVÆONIC FEATURES**

<table>
<thead>
<tr>
<th></th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Ingv.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+Ingv.</td>
<td>West (Coast)</td>
<td>East (Schelde/Dender)</td>
</tr>
</tbody>
</table>

Indeed, the rise of a literary and ultimately a standard variety of Dutch was focussed in the Flemish cities during the long period of their great prosperity and it had as its starting point the least Ingvæonized varieties of Frankish west of the rivers Dender and Schelde. In this connexion, it is
important to note the importance of the rôle that Gent, as the first literary centre, likely played in the development of an early written form of Dutch.

The final question to be addressed here is that of the 'spontaneous' palatalizations of West Germanic ę and ų. First, as mentioned earlier, the distribution of short ę in the west is highly complex and has proved difficult to interpret. The most detailed study of the question to date is that of Taeldeman (1971), in which he considers the distribution of fronted and nonfronted reflexes both in closed and open syllables. The following table gives an overview of the various treatments:

THE DEVELOPMENT OF GMC. ę IN DUTCH (Taeldeman 1971:257-8)

<table>
<thead>
<tr>
<th>Coastal Dialects</th>
<th></th>
<th>Today</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(-length.)</td>
</tr>
<tr>
<td>+umlaut</td>
<td></td>
<td>brugge</td>
</tr>
<tr>
<td>Gmc.</td>
<td>WGmc.</td>
<td>ONdl.</td>
</tr>
<tr>
<td>ü</td>
<td>ü → u</td>
<td>→ y → y → y</td>
</tr>
<tr>
<td>→ i → i → i</td>
<td>→ p</td>
<td>p</td>
</tr>
<tr>
<td>→ ų → ų → ų</td>
<td>→ u moch</td>
<td>o. sloter</td>
</tr>
<tr>
<td>-umlaut</td>
<td></td>
<td>wulle</td>
</tr>
<tr>
<td>ü</td>
<td>ų</td>
<td>u ----→ y → y</td>
</tr>
<tr>
<td>u ----→ u</td>
<td>→ u doel</td>
<td>----</td>
</tr>
<tr>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Continental Dialects</th>
<th></th>
<th>Today</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(-length.)</td>
</tr>
<tr>
<td>+umlaut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gmc.</td>
<td>WGmc.</td>
<td>ONdl.</td>
</tr>
<tr>
<td>ü</td>
<td>ü → u</td>
<td>→ y → y → y</td>
</tr>
<tr>
<td>-umlaut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ü</td>
<td>ų</td>
<td>u</td>
</tr>
<tr>
<td>o</td>
<td>o</td>
<td>o</td>
</tr>
</tbody>
</table>
The received view in this matter is that umlaut of ā, as in the case of ā, did take place in the Flemish dialects, the rational for this view being that almost all cases of inherited ā which could have been umlauted do indeed show fronting. There are, however, two important wrinkles here: first, there is a small group of words occurring in the west which show not only the expected fronting of umlaut but also unrounding, as shown below:

**UMLAUTED AND UNROUNDED WGMc. ā IN WESTERN MIDDLE DUTCH**

<table>
<thead>
<tr>
<th>MNL</th>
<th>OHG</th>
<th>OE</th>
</tr>
</thead>
<tbody>
<tr>
<td>stic, stuc, stucke</td>
<td>stucci</td>
<td>stycc 'stick'</td>
</tr>
<tr>
<td>pit, pitte, put, putte</td>
<td>pfuzzi</td>
<td>pytt 'pit'</td>
</tr>
<tr>
<td>ric, rigghe, rugghe</td>
<td>rucki</td>
<td>hrycg 'ridge'</td>
</tr>
<tr>
<td>brig, brigge, brugghe</td>
<td>brucka</td>
<td>brycg 'bridge'</td>
</tr>
<tr>
<td>cricke, crucke</td>
<td>krucka</td>
<td>cryce 'crutch'</td>
</tr>
<tr>
<td>din, dinne, dun, dunne</td>
<td>dunnii</td>
<td>þynne 'thin'</td>
</tr>
<tr>
<td>evel, oevel, ovel</td>
<td>ubill</td>
<td>yfîl 'evil'</td>
</tr>
<tr>
<td>crepel, cruepel, cropel</td>
<td>(MHG) krüpel</td>
<td>crypel 'cripple'</td>
</tr>
</tbody>
</table>

Second, there are many words in the western dialects which show fronting though they probably never contained an umlaut conditioning factor. Some of these contrast with other western dialect variants as well as with the standard language and central and eastern forms which reflect an earlier ā. In this group, however, it is possible in most cases to see clear patterns of consonantal influence to which the fronting may be attributed. In the following table, examples are given together the with the total number of words with fronting in each consonantal environment. The data are from De Bo (1891) who lists a total of 43 cases of (modern) West
Flemish [א, ø] "interchanging" with [ɔ] (N.B. he does not specify any parameters of variation):

FRONTED REFLEXES OF ū WITHOUT UMLAUT CONDITIONING

_ rC 14x hurken 'to listen', kurts 'fever'
_ l(C) 8x bulster 'husk', vul 'full'
_ nC 7x dunder 'thunder', nunne 'nun'
_ Cvel 6x buk 'buck', plukken 'to pick, pluck'
_ Clab 4x druppel 'drop', schup 'kick'
_ mm 1x nummer 'never' (ABN nimmer)

There are also some cases of WGmc. ū which should have undergone umlaut but in the standard literary language do not show fronting while in the Flemish dialects they do. Examples of this group of words are koning 'king', Flem. keuning, molen 'mill', Flem. meulen:

EXAMPLES OF FRONTING OF PGMC. ū IN OPEN SYLLABLE (Vereecken 1938).

-ABN sleutel, MNL slotel, sluetel, OHG sluzzil, OS slutil
  WFl. sloter, slotel, sleutel, EFl. & Bra. sleutel
-ABN koning, MNL coninc, OHG chuning, OLF cuning, OE cyning
  WFl., EFl., Bra. keuning
-ABN vogel, MNL voghel, OHG fugal, OS fugal, OE fugol
  WFl. veugel, EFl. veugel (vogel), Bra. vogel
-ABN zoon, MNL sone, zuene &c., OHG sunu, OE sunu
  WFl. zeun, EFl. zeun (zoon), Bra. zoon
-ABN wonen, MNL wonen, OHG wonēn, OS wonon, wunon, OE wunian,
  WFl. weunen, EFl. weunen, Bra. woonen [u]
-ABN molen, MNL molene, muelene, OHG mul, OE mylen (Lat. molina),
  WFl., EFl., Bra. meulen

In these cases Middle Dutch texts from Flanders show obvious patterns, often noted by scholars, of a competition between fronted and non-fronted variants, with the non-fronted variants clearly tending to belong to higher,
literary or solemn registers of the language (cf. Van Haverbeke 1955, Vereecken 1938, Willemijns 1971).\(^7\) Under such circumstances, the development of socially motivated hypercorrections or better, hyperdialectisms modelled on a salient feature of the more socially

\(^7\)Van Haverbeke (1955: 30) makes the following comment about spellings in the thirteenth century charters of Brugge: ‘Grafieën als boter, slotel, scotel, zone bewijzen ten andere zeer duidelijk dat het soms de bedoeling was een [o.] klank weer te geven. Ook Hellinga neemt aan dat sommige woorden met een o. en met een eu uitgesproken werden. Schrijftaaltraditie en streven naar een meer beschaafde taalvorm zullen de keuze van o zonder twijfel bevorderd hebben.” Willeminjs (1971: 157) states the situation for later Middle Flemish texts from Brugge in the following way: “[O]verdachte en alledaagse woorden worden zonder skrupules “ue” gespeld; komt echter voorst of godheid ter sprake dan ziet men in de "o"-spelling wel eens een manier om eerbied uit te drukken. "o" is dus bij uitstek de meer deutige spelling. De schrijfwijze van "wonen" en "moghen" bevestigt bovendien een indruk die we ook op andere plaatsen hebben opgedaan, nl. dat men in ambtelijke teksten meestal iets huiveriger staat tegenover het gebruik van dialektische uitdrukkingen dan privé-personen en vooral dan de rederijkers…” Willeminjs continues, citing Vereecken 1938: “Vereecken wijst erop dat de traditie van de o-spelling [in certain words in the standard language] op het Vlaams moet teruggaan, immers, in vormen met umlautsfaktor kenden de oostelijke vormen nooit o, en de westelijke evenmin, maar dan door spontane pal. Toch werden de o-vormen in Vlaanderen blijkbaar beschaafder aangevoeld en gold de “ue” als minderwaardig “daar we ze niet aantreffen in die stukken van culturele aard, waardoor juist het Vlaams zich doet gelden. Hieruit laat zich wellicht ook afleiden dat de mnl. schrijftaal teruggaat op een traditie, ouder dan de ons overgeleverde teksten.”

Vereecken’s observation that this apparent sociolectal split or competition between two spellings points back to an older written tradition preceding the onset of the Middle Dutch transmission is a subtle and highly interesting one. I would argue, however, that, if we recognise the likelihood of a sociolinguistic split between more strongly Ingvæonised dialects and more purely Frankish dialects, we can say that this competition probably existed in the spoken language first and naturally found expression in the written language too as vernacular writing gradually developed.
prestigious dialect can hardly be surprising. The aforementioned standard/literary forms *koninge* and *molen*, in which *i*-umlaut fronting ought to have operated in all dialect areas, can be easily and convincingly explained as just such hyperdialectisms, that is, as forms which developed specifically in the context of dialect contact.

In attempting to interpret the developments of *ū* we should bear in mind the otherwise general correspondence of the western/central isogloss bundle with the primary/secondary umlaut distinction, discussed at length in section 3.1. The basic fact is that the presence or absence of fronting of *ū* in Flemish does not correspond to the conditions of *i*-umlaut. Rather, it can be seen as a reflexion of a dialect-particular distribution of West Germanic *ū* and *ō* with the fronting of *ū* being a secondary, 'spontaneous' shift for which no specific conditions can be described. Here it should be noted that the Ingvæonic and Frankish distribution of *ū* and *ō* probably differed considerably at the time of the contact. As discussed in section 2.3.3, South Germanic carried out the *a*-umlaut lowering of *ū* to *a* to a far greater extent than did North Sea Germanic, where a number of consonantal environments inhibited the lowering. Of course, in both dialects only *ū* could originally occur in what later came to be the position of *i*-umlaut, and these cases surely retained their *ū* in Coastal Frankish. Where Coastal Frankish and Ingvæonic differed in their distributions of *ū* and *ō* Flemish usually agrees with Old English and thus presumably with the Ingvæonic dialect once spoken in Flanders, particularly where Old English (and Ingvæonic) has *ū* from consonantal conditioning. Examples
of the Flemish agreement with Old English (and often Old Saxon) are shown below, that is, where Flemish has [ʌ] or [ø] from earlier [u]:

**Cognate Lexemes with *ū* in North Sea and South Germanic**

<table>
<thead>
<tr>
<th>Old High German</th>
<th>Old English</th>
<th>Old Saxon</th>
<th>Flemish</th>
</tr>
</thead>
<tbody>
<tr>
<td>foll</td>
<td>full</td>
<td>full</td>
<td>vul</td>
</tr>
<tr>
<td>fogal</td>
<td>fugol</td>
<td>fugal</td>
<td>veugel</td>
</tr>
<tr>
<td>wolla</td>
<td>wulle</td>
<td>wulla</td>
<td>wulle</td>
</tr>
<tr>
<td>wolf</td>
<td>wulf</td>
<td>wulf</td>
<td>wulf</td>
</tr>
<tr>
<td>bok</td>
<td>bucca</td>
<td>–</td>
<td>buk</td>
</tr>
</tbody>
</table>

The Flemish distribution of fronted and non-fronted round short (and secondarily lengthened) vowels corresponds not to the operation of i-umlaut but rather to a particular dialectal distribution of ū and ŏ in the Ingvæonised Frankish of the region, albeit with some local variation much as we find elsewhere in the Germanic languages. The cases of umlauted and unrounded short vowels in Flemish, which clearly pattern geographically and socially with the various other Ingvæonic relics in their distribution, should be seen simply as lexical survivals of the Ingvæonic formerly spoken in Flanders. Two further perturbations of the expected distribution of fronted and nonfronted vocalisms must be borne in mind. First, there are the forms which I have characterised as hyperdialectisms which can be seen as having grown naturally out of a situation in which the existence of a number of obviously cognate forms in the two dialects with differing vocalisms gave rise to a tendency to associate sociolinguistic judgements with the competing pronunciations and then, secondarily, to make minor, word-by-word adjustments to the distributions of sounds across the lexicon. We must also bear in mind the possibility of more or
less local redistributions through reconditioning according to consonantal environments. Finally, we should consider the changing relationships of the dialectal distributions of reflexes of *ū through time. Following the periodisation of the Ingvæonic and Frankish developments presented above, we can summarise these distributions in the following way:

**Dialectal Correspondences in Cognate Lexemes of Reflexes of PGMC ū in the Western Low Countries**

<table>
<thead>
<tr>
<th></th>
<th>I Before ĵ-uml̄t (ca 400 A.D.)</th>
<th>II After ĵ-uml̄t in Ingv (ca.650 A.D.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingvæonic</td>
<td>Frankish</td>
<td>Ingvæonic</td>
</tr>
<tr>
<td>u</td>
<td>u</td>
<td>y/u</td>
</tr>
<tr>
<td>u</td>
<td>o</td>
<td>y/u</td>
</tr>
<tr>
<td>o</td>
<td>o</td>
<td>ø/ø</td>
</tr>
</tbody>
</table>

III After Ingvæonic/Frankish Contact (ca. 700-800 A.D.)

<table>
<thead>
<tr>
<th></th>
<th>ū-uml̄t disrupted</th>
<th>ū-uml̄t in progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingvæonic</td>
<td>Coastal Frankish</td>
<td>Continental Frankish</td>
</tr>
<tr>
<td>i/y/u</td>
<td>u</td>
<td>y/u</td>
</tr>
<tr>
<td>(i)/y/u</td>
<td>o</td>
<td>ø/ø</td>
</tr>
<tr>
<td>e/ø/o</td>
<td>o</td>
<td>ø/ø</td>
</tr>
</tbody>
</table>

IV Dialectal and Sociolectal Interaction before MNL period

<table>
<thead>
<tr>
<th></th>
<th>Flemish Dialects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingvæonic</td>
<td>Rural/Western</td>
</tr>
<tr>
<td>i/y/u</td>
<td>i - y/u</td>
</tr>
<tr>
<td>(i)/y/u</td>
<td>y - o/u - o</td>
</tr>
<tr>
<td>e/ø/o</td>
<td>(e -) ø - ø</td>
</tr>
</tbody>
</table>

Parameters of variation in Flemish short vowels:
1. dialectal (geographical), primarily based on consonantal environment.
2. sociolectal: higher varieties tending toward the Frankish distribution, lower varieties tending toward the Ingvæonic distribution, redistribution through borrowing and hyperdialectisms.

To summarise, the central steps in the development of Gmc. ū/ø in the western Low Countries and, in particular, Flanders were the following:
• Frankish ũ/ō partially acquired by Ingvæonic speakers, with disruption of secondary umlaut.

• ũ/ō distribution altered in coastal Ingvæonicised Frankish through consonantal influence, ũ favoured as in Old English (with the consonantal conditioning probably imposed as part of the Ingvæonic articulatory basis) though subject to occasional, prestige-induced replacement with ő with some instances of hypercorrection.

• umlauted, unrounded forms enter Coastal Frankish from Ingvæonic in part as isolated lexical items, in part under consonantal influence (e.g. before palatal stop).

• ũ fronted together with ũ throughout the southwestern (Flemish) dialect area.

• ũ lowered/centralised in the course of a general lowering of high short vowels.

• consonantally conditioned centralisation/rounding (partly) resulting in the neutralisation of the front/back distinction in some contexts.

    The significance of the last mentioned step for the development of *ũ in Flemish has hitherto been insufficiently appreciated. Recalling the list of Flemish forms with ũ [ʌ] for *ũ without an i-umlaut factor in apparent consonantal conditioning environments presented earlier in this section, I call attention to the following evidence from Middle Flemish. Corresponding to sequences of ĕɔɾ in the more purely Frankish dialects of the central and eastern dialect areas (Brabants and Limburgs), we find in Middle Flemish a clear tendency to confuse spellings with <er> and <u(e)r>, as can be seen in the following examples:
PGMC *ū FOLLOWED BY r+ CONS. IN MFLEM. (Van Loey 1976b: 31)

<table>
<thead>
<tr>
<th>MFlem.</th>
<th>Mod. Dutch</th>
<th>MFlem.</th>
<th>Mod Dutch</th>
</tr>
</thead>
<tbody>
<tr>
<td>burgh</td>
<td>borg 'guarantee'</td>
<td>curt</td>
<td>kort 'short'</td>
</tr>
<tr>
<td>burne</td>
<td>born 'spring, well'</td>
<td>murkelen</td>
<td>(morren) 'to grumble'</td>
</tr>
<tr>
<td>buerstel</td>
<td>borstel 'brush'</td>
<td>tuerve</td>
<td>turf 'sod, peat'</td>
</tr>
<tr>
<td>durre</td>
<td>dor 'dry'</td>
<td>turre</td>
<td>(toren) 'tower'</td>
</tr>
<tr>
<td>durren</td>
<td>durven 'to dare'</td>
<td>vurst</td>
<td>vorst 'frost'</td>
</tr>
<tr>
<td>durst</td>
<td>dorst 'thirst'</td>
<td>wurm</td>
<td>worm 'worm'</td>
</tr>
<tr>
<td>hursel</td>
<td>horzel 'horne'</td>
<td>wurst</td>
<td>worst 'sausage'</td>
</tr>
<tr>
<td>bust</td>
<td>-- 'wooded ground'</td>
<td>wurtel</td>
<td>wortel 'carrot'</td>
</tr>
</tbody>
</table>

MFLEM. <e> FOR PGMC *ū+r+ CONS. (Van Loey 1976b: 18)

<table>
<thead>
<tr>
<th>MFlemish</th>
<th>Modern Dutch</th>
<th>MFlem.</th>
<th>Mod Dutch</th>
</tr>
</thead>
<tbody>
<tr>
<td>bern/born</td>
<td>bron 'source, well'</td>
<td>sterten</td>
<td>storten 'to spill, deposit'</td>
</tr>
<tr>
<td>berstel</td>
<td>borstel 'brush'</td>
<td>versch</td>
<td>vors 'frog'</td>
</tr>
<tr>
<td>derst</td>
<td>dorst 'thirst'</td>
<td>verst</td>
<td>vorst 'frost'</td>
</tr>
<tr>
<td>herken</td>
<td>-- 'to listen'</td>
<td>vertich</td>
<td>-- 'rotten, decayed'</td>
</tr>
<tr>
<td>merkhen</td>
<td>-- 'to rejoice'</td>
<td>werde</td>
<td>worde 'to become (pt. sub.)</td>
</tr>
<tr>
<td>sperte</td>
<td>-- 'bar'</td>
<td>werst</td>
<td>worst 'sausage'</td>
</tr>
<tr>
<td>sterke</td>
<td>-- 'throat'</td>
<td>wertel</td>
<td>wortel 'carrot'</td>
</tr>
</tbody>
</table>

While this graphic variation can be and has been interpreted as an indication of sporadic unrounding of u to e in Middle Flemish, the Modern Flemish evidence points instead to this variation having been purely graphic and having arisen simply as a result of the neutralisation of short vowel qualities in the environment in question. In other words, we must interpret the development as one in which both ĕĆ and ě̄Ć/ŏĆ yielded a central vowel (ơ or ʌ) for which either spelling (<e> or <u>) could be used. The significance of this conclusion is twofold. First, it shows clearly that, in at least this instance, "fronting" of reflexes of *ū in nonumlaut position in Flemish did occur under consonanal conditioning. Second, it
points to a development in the Flemish phonological system which is a close parallel to what occurred in many Old and Middle English dialects. More specifically, we can posit a development in the pre-Middle Flemish stage of breaking of \( \tilde{e} \) before \( rC \) with a subsequent development of a central vowel from the (possible) original short "broken" vowel. That this parallel development may well be the result of the imposition of Ingvæonic articulatory details on Frankish is strengthened by the fact that such developments are relatively uncommon in other Frankish dialects.

A very similar situation can be seen in the Flemish development of \( *\tilde{u} \) in the environment before \( J/C \). As shown above, Modern Flemish has a "palatalised" vowel ([\( \tilde{A} \)]) in a great many forms with that consonant environment. As in the case of the environment before checked \( r \), original front vowels also often show the same central vowel as the reflexes of \( *\tilde{u} \). In this case, it seems possible to detect another Ingvæonic tendency at work, specifically the operation of breaking before \( J/C \) and possibly also the operation of velar umlaut (discussed in 2.3.4 above). The tendency to centralise front vowels before \( u \) in the following unaccented syllable was probably strongest when the intervening consonant exercised a coöperating influence.\(^98\) That this developmental tendency might

\(^{98}\)It should be noted that the acoustic similarity of central vowels and front rounded vowels probably makes it relatively easy for changes from the one to the other to occur in the course of generational transfer (i.e., as a language internal change). In the cases discussed here, modern dialects often show front rounded vowels where I am positing early consonantally conditioned centralisation. In such cases, the line of development envisioned here might be one in which a de-automaticisation of the consonant conditioning is followed by a redistribution of front rounded vowels of the appropriate vocalic height (already present in the language's phonological system) to the old central vowel environments.
reasonably be considered to have been an Ingvæonic feature is supported by the fact that its operation was quite common in Low German and English dialects but relatively uncommon in Frankish and Upper German dialects.\(^9^9\) In the Dutch language area, the phenomenon is most common in the western dialects, though individual lexical items which show the development are found in some central and possibly also eastern dialects.

**POSSIBLE REFLEXES OF VELAR UMLAUT SUPPORTED BY CONSONANTAL INFLUENCE (ESP. LABIALS AND $\l$)**

<table>
<thead>
<tr>
<th>ABN</th>
<th>Du. Dialects</th>
<th>OE</th>
<th>OS/OHG</th>
</tr>
</thead>
<tbody>
<tr>
<td>lenen</td>
<td>leunen</td>
<td>hleonian</td>
<td>OS hlion</td>
</tr>
<tr>
<td>spelen</td>
<td>speulen</td>
<td>spelian</td>
<td>OS spilon</td>
</tr>
<tr>
<td>zilver</td>
<td>zulver</td>
<td>seolfer</td>
<td>OS silubar</td>
</tr>
<tr>
<td>veel</td>
<td>veul</td>
<td>feola, fela</td>
<td>OS filo, filu</td>
</tr>
<tr>
<td>bezem</td>
<td>beuzem</td>
<td>besma</td>
<td>OHG besamo</td>
</tr>
<tr>
<td>zeven</td>
<td>zeuven</td>
<td>seofon</td>
<td>OS sibun</td>
</tr>
</tbody>
</table>

It should be noted in this regard that within Ingvæonic and more specifically the Old English language area, the development of velar...

\(^9^9\)Concerning the Low German situation, Schirmunski (1962: 207): "In den [niederdeutschen] Mundarten, die die gerundeten Vokale erhalten haben, begegnet in einzelnen Wörtern eine historisch unberechtigte Rundung von $i$, $e$ $\to$ $\ddot{u}$, $\ddot{a}$; besonders in der Nachbarschaft von Lippenlauten und $\l$, seltener vor $n$ oder $s$, bisweilen auch unabhängig vom Charakter des benachbarten Konsonanten... Diese Erscheinung ist besonders weit verbreitet im Niederdeutschen, wo sie durch zahlreiche Beispiele schon in mittelniederdeutschen Texten vertreten ist; z.B. mnd. $v\ddot{r}\ddot{o}\ddot{m}e\ddot{d}e$ 'fremd', $t\ddot{w}\ddot{o}\ddot{l}f$ 'zwölf', $w\ddot{o}\ddot{lp}$ 'Welpe', $g\ddot{e}\ddot{m}\ddot{m}\ddot{u}\ddot{t}e\ddot{t}$ 'geschmolzen'" Part. II, $v\ddot{o}\ddot{l}l$ 'viel', $h\ddot{o}\ddot{l}\ddot{p}e\ddot{n}$ 'helfen', $\ddot{s}\ddot{o}\ddot{v}$, $\ddot{s}\ddot{u}\ddot{v}$en 'selbst', $\ddot{s}\ddot{o}\ddot{v}$en 'sieben'; $r\ddot{u}\ddot{n}$nen ($r\ddot{o}\ddot{n}$nen)'rinnen', $d\ddot{u}\ddot{t}$ dieses (nd. $d\ddot{i}\ddot{a}$, $d\ddot{r}\ddot{u}\ddot{d}\ddot{e}$ 'dritte', $s\ddot{o}\ddot{s}$ 'sechs; mit frühem Ausfall von $w$: $\ddot{s}\ddot{u}\ddot{t}$er 'Schwester' (vgs. $s\ddot{y}\ddot{t}$er, engl. $s\ddot{i}\ddot{t}$er), ebenso $\ddot{t}\ddot{u}\ddot{s}$chen (twischen)'zwischen'."
umlaut showed a high degree of variation in conditioning which involved the interaction with the intervening consonantism, as shown below:

**Dialectal Developments of Velar Umlaut in Old English** (adapted from Crépin 1978: 94)

<table>
<thead>
<tr>
<th>Kentish</th>
<th>Anglian</th>
<th>West Saxon</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCV any C</td>
<td>C≠k, g</td>
<td>C=m, n</td>
</tr>
<tr>
<td>VCV V=a, o, u</td>
<td>V=a, o, u</td>
<td>V= u</td>
</tr>
<tr>
<td>mioluc</td>
<td>mioluc</td>
<td>'milk'</td>
</tr>
<tr>
<td>nioman</td>
<td>nioman</td>
<td>niman</td>
</tr>
<tr>
<td>meodu</td>
<td>meodu</td>
<td>medu</td>
</tr>
<tr>
<td>beoran</td>
<td>beoran</td>
<td>beran</td>
</tr>
<tr>
<td>weogas</td>
<td>wegas</td>
<td>'ways'</td>
</tr>
</tbody>
</table>

In light of the apparent western Dutch parallels to Old English breaking and velar umlaut, it should be clear that it is quite reasonable to believe that some of the complexity of the western Dutch and especially Flemish distribution of the reflexes of \*ū\* did indeed involve consonantly conditioned reconditionings.

To conclude the discussion of the development of \*ū\* in western Dutch, I should point out that, if we see the development of ū from the perspective argued for here, we find a clearer correspondence with the development of ū. In short, both high back vowels can be seen to have been affected by the same fronting tendency, and in this way coincide with the fronting of both long and short u in the Old French dialect of neighbouring Picardy. That the Dutch treatment of the high back vowels is directly linked to the northern French treatment is borne out by the high
degree of parallelism in dialectal distributions on both sides of the French/Dutch language border, as shown below:¹⁰⁰

**DIALECTAL DEVELOPMENTS OF ū AND û COMPARED**

**SOUTHERN DUTCH**

<table>
<thead>
<tr>
<th>West</th>
<th>Center</th>
<th>East</th>
</tr>
</thead>
<tbody>
<tr>
<td>ū &gt; ū</td>
<td>ū &gt; o</td>
<td>ū &gt; ū</td>
</tr>
<tr>
<td>ū &gt; ū</td>
<td>ū &gt; ū</td>
<td>ū, (ū +umlaut)</td>
</tr>
</tbody>
</table>

**NORTHERN FRENCH**

<table>
<thead>
<tr>
<th>Picard</th>
<th>Wallon namurois</th>
<th>Wallon liégeois</th>
</tr>
</thead>
<tbody>
<tr>
<td>ū &gt; ū</td>
<td>ū &gt; ū</td>
<td>ū, (ū +umlaut)</td>
</tr>
</tbody>
</table>

This points strongly to the possibility that, in Flanders, French influence conspired with an uncertainty in the distribution of fronted and nonfronted variants caused by the Ingvæonic/Frankish contact in bringing about the generalised fronting of long and short ū.

In conclusion, I believe I have shown that the received view that i-umlaut in (western) Dutch affected short vowels but not long vowels and diphthongs is incorrect, insofar as the claim that the confused distribution of fronted and nonfronted reflexes of *ū* in the west can better be explained as a direct result of the Ingvæonic/Frankish contact in the seventh and eighth centuries posited here. Finally, the failure of umlaut of the long vowels and diphthongs in western Dutch can also best be explained as the result of the dynamics of language contact, involving specifically a conspiracy of the following three processes in the course of the acquisition

¹⁰⁰For examples and discussion of the Walloon development of ū, see Remacle (1948: 64-68) and Francard (1980: 82-86, 107-108).
of Frankish by the native Ingvæonic speakers of the eastern Channel coast: 1) a failure to acquire subphonemic alternations (identification & substitution, e.g. Ingv. /ō/ for Frk. /ō/ [ō, ō]); 2) a failure to acquire vocalic quality distinctions in nonprominent syllables (imposition of automatic reduction of unstressed vowels); 3) accelerated internally induced change (elimination of radical alternations through deconditioning with the compensatory process of increased reliance on suffixation).
3.4 Broader Implications of the Dutch Development of Umlaut

The old saw, "it's the exception that proves the rule," seems to be especially appropriate to the question of the development of umlaut in Germanic. Alone among all the surviving Germanic languages, Dutch seems to present the one clear case in which the fundamental pattern of phonological drift in the language family broke down. The development of umlaut in general and of i-umlaut in particular is one of the most salient features of Germanic as a whole and it can be seen to serve in a complex way as a link between many of the other major structural and developmental characteristics of the family; in particular, it is undeniably linked, although perhaps not so immediately as claimed here, to the metaprocess of the gradual reduction of unaccented syllables and thereby also to the metaprocesses of morphosyntactic change which have led all of these languages down the same typological path. A number of scholars have described the metaprocess at work in the period of Germanic when umlaut first developed as an abandoning of the principle of the autonomy of the syllable which is believed to have reigned in the Germanic parent language, (late) Indo-European. However we might characterise the principle which replaced that of the autonomous syllable or any other such principles in the later history of Germanic, it is striking that in all major respects, Dutch seems to fit perfectly well into the overall pattern of development, except, of course, as regards the development of umlaut.

As discussed above, the Dutch failure to develop i-umlaut normally, if taken at face value, has important implications. Most importantly, it seems to force us to conclude that there is no direct, causal relationship
between the prosodic structure of Germanic, which Dutch, on the basis of the evidence of reduction, must have shared, and the operation of umlaut, which it did not fully share. Following from this conclusion, the Dutch case lends great support to the claim that all umlaut developments in Germanic were in all senses 'einzeldialektisch'. There are two ways in which the Dutch failure to develop i-umlaut supports this view. First, since there is no apparent language-internal, structural feature that allows us to account for the wholesale loss of inherited umlaut allophones, the Dutch facts seem to render the assumption of the existence of such allophones in Northwest Germanic, much less in Proto-Germanic, not only superfluous but actually wrong, as Voyles has argued. Second, the existence of a modern Germanic language without i-umlaut, whose phonological development is reasonably well-known and understood, lends credence to the interpretation of the Gothic evidence which finds in that language no traces of the operation of fronting i-umlaut (e.g., Go. *gasti* with reduction of unaccented -i- but no apparent mutation of the root vowel) nor even of the raising/lowering umlaut developments. Thus, from this one language's failure to develop i-umlaut it is possible or even necessary to draw conclusions about the nature of the development of umlaut specifically in Germanic and more generally about the relationship of the phenomenon to higher-order, i.e., prosodic, structures. In this case, it seems then that the exception, Dutch, does not prove any general rules or theories about the relationship between distance assimilations and prosody or even about the history of umlaut in Germanic; rather, it disproves them.
In considering these topics, it is very much a question of taste, theoretical convictions, and knowledge of specific languages which decides whether one finds it better to accept at face value the negative evidence of the exceptional case and reject the broader theories which attempt to unify disparate facts, or to maintain and refine those theories and question the interpretation of that exceptional case. For umlaut in Germanic, it is not possible for us to make any ultimate and overpoweringly convincing argument about, say, the status of umlaut in Gothic, since our knowledge of that language is and will remain so poor. But in the case of Dutch, the existing historical and linguistic evidence gives us a good opportunity to continue to make progress in our understanding of the language's development. In this dissertation, I have tried to show that the one, clear case which might reasonably be used as a counter-argument against certain theoretical claims concerning umlaut has hitherto been wholly misunderstood. The central line of this reasoning is that the Dutch failure of i-umlaut was not the result of a direct, language-internal phonological development, but rather was the result of systemic interference in the course of language contact. Specifically, this language contact brought about a disruption of the umlaut process at a stage before it had reached the conclusion it would otherwise have reached. The case of Dutch umlaut failure therefore offers no evidence whatsoever in support of the view that there is not extraordinary unity in Germanic umlaut development; rather it bespeaks the operation of a prosodic metaconditioning factor and thus of 'drift' as described in terms of rôles of articulatory and prosodic bases.
I believe I am not alone in having always found the expression cited at the beginning of this section rather curious and took its use more as a peculiar way to dismiss off-handedly unwanted exceptions from consideration than as a statement intended to express some actual, paradoxical truth. With regard to the question of umlaut in Dutch, however, it seems extremely appropriate if we make a slight emendation to the expression: it is the apparent exception which proves the rule. In the case at hand, it has been shown that there is very strong historical and linguistic evidence which points to the time of and the particular languages involved in the aforementioned language contact. It has also been shown that there is clear evidence for the fact that the two languages involved, 'Ingvæonic' and Frankish, which belonged respectively to the North Sea Germanic and South Germanic branches of Germanic, were following paths of umlaut development which, though different in a number of respects, were essentially the same with regard to the development of i-umlaut. The most striking difference in the umlaut developments of these two languages was the rate of development, for, as we have seen, at the time of the contact they were at clearly different stages of the umlaut process. One of the more interesting aspects of the Dutch failure of i-umlaut is the fact that the interruption of the process through language contact resulted in the maintenance of a reflexion of an early stage of umlaut development, a stage which cannot be so clearly reconstructed from the evidence of dialects in which the process ran its full course, such as German or English. Here I refer to the stage during which fronting i-umlaut was just beginning and was limited to the so-called
'primary' umlaut of à. Thus, it is the exceptional failure of umlaut in Dutch which shows most clearly the chronology of developments. Interestingly enough, this glimpse at an apparent chronological progression of umlaut developments has helped bring my view of Germanic umlaut in some ways closer to that held by Germanicists of the 19th century. They too saw primary umlaut as an early harbinger of the more general secondary umlaut and many, moreover, assumed a clear chronological distinction between the operation of the raising/lowering umlaut changes, usually assigned to Proto-Germanic, and the later fronting/backing umlaut changes, which were assigned to the histories of the individual languages. I have proposed a view of Germanic umlaut in which the notion of successive stages of particular umlaut developments is combined with one of an essentially continuous metaprocess in the phonology of the language or language family. In the end, the Dutch case of umlaut failure, which superficially looks like strong evidence in favour of the particularist approach to Germanic umlaut, turns out to be explicable only within the model of umlaut development presented here. Umlaut is a metaconditioned process which, in the course of its development and interaction with other elements of linguistic structure, gradually changes both the form and the range of its effects. Insofar as the metaconditioning is operative, umlaut develops as a regular, economy (or articulation)-driven, 'Neogrammian-type' sound change.

My proposed explanation of the failure of i-umlaut in Dutch has important implications for matters other than the issue of Germanic umlaut. First, the intimate language contact envisioned here makes it
possible for us to understand better the dialectal relationships within what has traditionally been treated as a single, West Germanic branch of Germanic. Specifically, by establishing clearly the time, nature and participants in this contact, we make possible further analysis of those features which are characteristic of the Dutch language area and more particularly of its western half. Surely, a great deal of what gives Dutch at once its independent status within Germanic and also its striking position between English and German can ultimately be seen as direct or, in many cases, indirect results of the Ingvæonic/Frankish contact.

It is hoped that one of the results of this study has been to call attention to the degree of difference there was between Ingvæonic and Frankish at the time of the contact in the seventh century A.D. and thereby to call into question the traditional notion of West Germanic. From the detailed analysis of Germanic umlaut offered in Chapter 2, it seems quite clear that North Sea Germanic had far more in common with North Germanic than it did with South Germanic in the time of the early runic inscriptions and the following few centuries, at least with respect to umlaut and possibly with respect to other important features.

On the other hand, it nevertheless remains an obvious fact that North Sea Germanic and South Germanic share a certain number of features. To account for the shared features of West Germanic, we ought to approach the issue from a broad perspective, considering parallels from later periods. In this regard, it was to a large degree the great rise to power of the Franks and their expansion to the north, into North Sea Germanic territory, and to the east, into 'Upper German' territory (i.e., Thuringia and
northern Bavaria), that brought about the fairly high degree of unity in continental Germanic, discounting, of course, the Scandinavian north. It might even be fitting to think of the Franks as the glue that held together the continental Germanic world. A bolder claim, but one for which a strong case can be made, is that our notion of West Germanic has its origins in the formation of the two great tribal confederations of the north, the Saxons and the Franks. Whereas the composition of the Saxon confederation was probably more purely North Sea Germanic, the tribes of the Frankish confederation were probably for the most part South Germanic; it seems all but certain that both were linguistically mixed. The few linguistic features on which the notion of West Germanic is based arose almost certainly in the period from the second to the fourth centuries when these two confederations were formed in northern Germany. In my view, the confederations served as the bridge over which those innovations were able to spread between two, very strongly differentiated branches of Germanic. Thus, while there must have existed some manner of transitional zone or dialect continuum between North Sea Germanic and South Germanic in central and northern Germany (amidst which arose the confusing Old Saxon/Low German situation), the core areas of the two branches were quite different, as evidenced by the structural ramifications of the contact in the west of the Low Countries and the obvious differences between, say, Old Kentish and Old Rhine Franconian.

A final implication of this work to which I will call attention is its relevance for the history of the English language. Here I refer not only to the proposals made in Chapter 2 to improve the received yet very
unconvincing chronology of pre-English sound changes, but also to the implications that the Ingvæonic evidence from the Low Countries has for the settlement of England. Taking this Dutch evidence into consideration, we can see a picture of the Anglo-Saxon invasion of Britain which is very much in accord both with the historical evidence of early medieval sources and linguistic evidence that can be gleaned from Old and, more importantly, Middle English texts. I have briefly alluded to these questions in my discussion of the external history of the Dutch developments in this chapter. A more detailed consideration of the linguistic and historical developments surrounding the North Sea Germanic migrations, as well as of the early dialectal structure of Germanic, I will leave for another day.


O'Rahilly, Thomas F. 1932. *Irish Dialects Past and Present with Chapters on Scottish and Manx*. Dublin: Browne and Nolan.


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