STUDIES IN THE HISTORICAL PHONOLOGY OF GERMAN

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P R E F A C E

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C.V.J.R.

A B B R E V I A T I O N S   A N D   S Y M B O L S

nom.	nominative
acc.	accusative
gen.	genitive
dat.	dative
sing.	singular
pl.	plural
masc.	masculine
fem.	feminine

B	Bavarian
CG	Central German
ECG	East Central German
Gmc.	Germanic
HG	High German
IE	Indo European
LG	Low German
Lux.	Luxemburgisch
ME	Middle English
MHG	Middle High German
MLG	Middle Low German
NHG	New High German
OE	Old English
RP	Received Pronunciation
UG	Upper German
ahd.	althochdeutsch
dt.	deutsch
mhd.	mittelhochdeutsch
nhd.	neuhochdeutsch

Abbreviations for reference works are to be found after the
first occurrence in the work itself, e.g. Wörterbuch der
Deutschen Aussprache, (WDA).

[   ]   phonetic transcription

/   /   phonemic transcription, or underlying representation

(   )   linguistic variable

*   reconstructed or hypothetical form

a   the letter 'a'

The phonetic symbols used in this work are those of the Internat-
ional Phonetic Alphabet, except for the following:

$\mathbf{b}$ = IPA [v]

$\mathbf{d}$ =   [ð]

$\mathbf{g}$ =   [ɣ]

$\mathbf{s}$ =   [ʃ]

$\mathbf{u}$ =   [w]

$\mathbf{e}$ =   [ɛ]

$\overline{\mathbf{e}}$ =   [ɛ:]

$\overline{\mathbf{e}}$ =   [e:]

$\overline{\mathbf{o}}$ =   [ɔ:]

$\overline{\mathbf{o}}$ =   [o]

Other phonetic symbols are explained in the text.

For typographical reasons B is used for NHG β e.g. daB for daβ .

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1. INTRODUCTION

Historical German phonology is a well-researched field of study
and any fresh attempt to deal with it must be fully justified.
Although the study of language has advanced with great strides
since the first descriptions of historical German phonology
were written, the handbooks have not changed at the same rate.
As examples of such handbooks we will take Hermann Paul's
Deutsche Grammatik[1], reflecting Paul's long career, and Richard
von Kienle's Historische Laut- und Formenlehre des Deutschen.[2]
The former sets out his historical phonology in the following
fashion: Allgemeines über die Vokale, Die einzelnen Vokale der betonten
Silbe, Vokale der unbetonten Silbe, Vokalwechsel, Allgemeines
über die Konsonanten, Die einzelnen Geräuschlaute, Die einzelnen
Sonorlaute, Konsonantenwechsel. Von Kienle sets his handbook
out as follows: Die Entwicklung starktoniger Vokale bis zur nhd.
Zeit: Die Dipthongierung der mhd. Langen ī, ū, ǖ, Die
Monophthongierung der alten Dipthonge ie, uo, üe, Rundung und
Entrundung, Änderungen der Vokalquantität, Änderungen der
Vokalqualität, Der hochdeutsche Konsonantismus nach Einzellauten
dargestellt, Die Dentale, Die Labiale, Die Gutturale und der

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1) 1916, reprinted 1959.

2) 1960.

Hauchlaut h, Die Halbvokale j und w, Die Liquiden r und l, Die Nasale. There are a few differences but, in the main, the plans and interpretations of both these handbooks are similar. Von Kienle's book does not provide any more insight or information than Paul's, although it was written almost half a century later, during which time-span, however, the study of language had advanced a great deal. For one thing the concept of the phoneme had been proposed and widely accepted, albeit in different interpretations.[3] The distinction between synchronic and diachronic and between other Saussurian terms had also become firmly established. Linguistics had gained the status of an academic discipline in its own right. In historical phonology the Prague school suggested that the atomism of Neogrammarians, such as Paul, could be overcome by regarding sound changes as changes in phonological systems: "phonetic changes must be analyzed in relation to the phonemic system which undergoes these mutations".[4] This approach was adopted in Europe and applied to aspects of German as well to other languages.[5] It is of particular interest that most of the phonemic articles dealing with the history of German were written in America in the late 1930's and after . The link

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3) The following represent some of the different interpretations of the phoneme:
Swadesh 1934; Twaddell 1935; Trubetzkoy 1939; Pike 1947 a, Jones 1962.

4) Jakobson 1962, 2.

5) For details, see the bibliography by Juilland 1953.

between the European phonological tradition of the Prague
school and American structuralist phonemics is Herbert Penzl
who, as an Austrian by birth, was awarded his doctorate by
the university of Vienna and arrived in America in 1936,
where he has continued his academic career.[6] A glance at a
detailed bibliography of works on German phonology shows
that a large number of articles exist, which deal with problems
of historical German phonology from the phonemic point of view.[7]
However, most of the articles which propose phonemic solutions
to problems of historical German phonology deal only with sub-
systems, e.g. Die mhd. Sibilanten und ihre Weiterentwicklung,[8]
or with OHG, e.g. The development of Germanic ai and au in OHG.[9]
The valuable insights in these articles have remained scattered
and have not been worked into the traditional handbooks.
Recently an attempt has been made by Penzl to produce a larger
picture of OHG using the phonemic approach,[10] but nothing has
yet been attempted for the period from MHG to NHG. The phoneme
and the phonemic level have been rejected in the last decade by
generative linguists. However, despite such attacks "the dragon
"phoneme" is not going to be slain that easily".[11] Whatever the

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6) Details from Sebeok (ed.) 1972, 9, 1847.

7) Schindler and Thürmann 1971, 14-21.

8) Penzl 1968a.

9) Penzl 1947.

10) Penzl 1971.

11) Keller 1968, 114.

outcome of the debate surrounding the phoneme may be, there still remains the task of writing a phonemic history of German. In section two of this work the impact of generative phonology on historical phonological theory will be discussed, and the model adopted in this work will be set out. In some cases it was found necessary to revise the traditional phonemic model of sound change, particularly to allow for the grammatical conditioning of sound change. Sound changes have been explained in various ways and it is our belief that this is possible in many cases. Section three concerns itself with the nature and delimitation of explanation in historical phonology.

A phonemic approach to historical phonology does not merely mean the manipulation of phonemic symbols on paper. It includes not only an inventory of phonemes and how their number changes, but also changes in their phonetic realization, allophones, distribution and incidence, i.e. the set of words which contains them.[12] Changes in incidence have traditionally been handled as exceptions to regular sound correspondences. In dealing with this part of sound change it was found necessary to examine the provenance and date of many words which were either exceptions to regular changes, or else which formed small irregular changes, i.e. the representation of MHG ā[13] by long [o:] in NHG. Intensive examination of

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12) This is emphasised by Keller 1968, 107.

13) The macron ¯ will be used to designate vowel length in MHG examples instead of the usual ^ for typographical reasons.

individual words had to be undertaken in order to handle this properly. Philological spade work had to back up historical phonemics. Variation in Early NHG also demanded such work. The handbooks present a clear, perhaps too clear, equation of A becoming B, but in this study it was found that, in many cases, there was considerable variation and uncertainty in some words. Exceptions were often discovered to be selections from among variant forms.

The span of time involved in this study is immense: from MHG to NHG. The exact date and nature of MHG is deliberately kept unspecified. A detailed phonemic analysis of MHG, taking into account all kinds of manuscripts from different regions, would be a major task in itself. It was assumed, rightly or wrongly, that for the task of highlighting the overall development from MHG to NHG, normalized MHG as it is presented in the handbooks would suffice. Since the pronunciation of MHG is only obtainable by indirect evidence, a section was necessary which deals specific-ally with the reconstruction of the pronunciation of languages which are no longer spoken. The principles for reconstruction of this kind are set out in chapter four. As each sound is dealt with, the MHG pronunciation reconstructed for the sound, or sounds involved in the change, is presented.

During the history of a language the prestige model may change.[14]

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14) Trim 1959, 25. (The traditional dates for MHG and Early NHG will be used in this work, e.g. MHG, 1150-1350, Early NHG, 1350-1600. For a slightly different division, see Moser 1957, 100.)

In MHG that model was the literary language of courtly culture, which was, to a certain extent, standardized. In Early NHG this model had gone out of favour and several regional models were struggling for supremacy. Eventually the written language of MeiBen seems to have been accepted as the prestige model, only to be replaced in the nineteenth century by the North German model centred on Prussia.[15] A full history of German would deal with the selection of these different models in detail. Although there has been a change of model, not once but several times in the history of German, the relationship between MHG and NHG is not so discontinuous that they cannot be easily compared and regular correspondances set up between them. MHG will be taken as a reference point rather than as a direct ancestor of NHG. Early NHG presents an often bewildering array of forms taken from texts from different styles and regions. V. Moser's Frühneuhoch-deutsche Grammatik was used as a guide through all these forms.[16] No attempt was made to base the analysis on one particular text or region, nor to examine direct manuscript evidence. This course of action was felt to be justified since the goal of the study was the large-scale development from MHG to NHG. Direct comments on the language and its forms were available in Müller's interest-ing collection of extracts.[17] Also the comments of the more

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15) Eichler, Bergmann 1967.

16) 1929, 1951.

17) Reprinted 1969 with an introduction by M. Rössing-Hager.

important grammarians, such as Schottel, Gottsched and Adelung, were taken into account. To some extent even NHG presented problems since one is not dealing with a completely uniform language but one which has stylistic and regional variations. However in NHG there is direct access to colloquial speech and regional dialects, as well as to the formal standard.

A minor problem was the choice of a framework for presenting the changes. The 'sound-by-sound' approach of Paul was not considered satisfactory, since sounds frequently develop in groups and not individually. A study of those works which have been written about the history of various languages from a phonemic point of view was not very fruitful. These works showed a similar lack of uniformity to the traditional handbooks. The earliest of them by Jakobson,[18] describes the changes in the development of Russian in very general terms, for example : "Changement protorusse de je- initial en o- et faits similaires des autres langues slaves, Altérations dialectales russes du vocalisme atone."[19] He does not describe the changes according to his typology of phonological change which, although not published until later,[20] he had probably worked out by this time. Other works which follow, written either by linguists in the Prague school or in the American structuralist tradition, use a phonemic

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18)   1929, also reprinted in Jakobson 1962.

19)   1962, 52 and 68.

20)   Jakobson 1931.

typology of sound change as the main basis of presenting their

historical phonology. They use either general phonetic terms,

refer to classes of sounds, or individual sounds or sound changes.

Haudricourt and Juilland use the general headings: "La disparition

de la quantité latine et ses conséquences en galloroman, Les

palatalisations romanes et galloromanes."[21] Llorach has such

headings as: "Diptongación y otras fenómenos, Serie de sonores

con varación."[22] Fairbanks is more specific with subheadings such

as: "The phoneme /f/, loss of /ʒ/, Nasal vowels."[23] They never

discuss the ways in which they have classified the sound changes.

One reason for not using a phonemic typology of sound changes is

that any typology, whether phonemic or any other sort, tends to

be simply classificatory and not to capture the dynamic processes

of sound change. However, a more important reason for not using

a phonemic typology to present sound changes is that changes which

are part of one phonological process may have to be separated and

dealt with in completely different sections, because they each have

a different effect on the phonemic system. The development of the

nasals in German presents rather a striking illustration of this.

In the development from MHG to NHG there is a general process

whereby oral stops are assimilated to preceding nasals. MHG medial

ng, [ŋg], as in singen, became assimilated to [ŋŋ] which later

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21) Haudricourt and Juilland 1949.

22) Alorcas Llorach 1954.

23) Fairbanks 1965.

became shortened to [ŋ]. MHG /mb/, kumber, also became assimilated, to [mm], which was subsequently shortened to [m]. In the case of the shortening of [mm] the resultant sound merged with an already existant phoneme /m/: MHG kumber, swimmen, NHG Kummer, schwimmen. MHG [ŋg] however when it had undergone assimilation to [ŋŋ] and subsequent shortening to [ŋ], did not merge with any already existing phoneme, but was a new phoneme /ŋ/. The first change, MHG /mb/ to /m/, is a change in the distribution of /b/ — it no longer occurs after /m/, whereas the change of MHG /ng/ to /ŋ/ is a phonemic split, which adds a new phoneme to the phonological system. Added to this is the fact that using an abstract framework for classifying changes makes it difficult for others to consult the work. Jakobson's work on Russian, and Weinrich's on the Romance languages[24] can certainly be criticized on this ground.

It was decided that although individual changes would be classified according to the phonemic change involved, e.g. the emergence of the new phoneme /ŋ/, the merger of MHG /s/ and /z/, the conditioned merger of MHG /s/ and /ʃ/, the main classification of changes in the development from MHG to NHG would be in phonetic terms, e.g. the sibilants, the stops, the short vowel system. This has the great advantage of making the work easy to be consulted and yet keeping the innovation of dealing with changes in phonemic terms. The general format is in fact very similar to that of traditional handbooks, but within the sections the treatment of sound changes is quite different. This question is really one of formalization

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24) Weinrich 1958.

rather than one of substance.

This work is the first of its kind to attempt an overall coverage of the development from MHG to NHG in detail from a phonemic point of view. Fleischer deals with this period, but not in great detail.[25] The goals of this work are modest: to apply the concept of the phoneme to the section of the history of German from MHG to NHG, and to examine in detail the problems thus raised. This entailed a detailed examination of exceptions and an attempt to find satisfactory explanations for them.

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25) Fleischer 1966.

2. S O U N D   C H A N G E

2.1   COMPETENCE AND PERFORMANCE

Most of the traditional theories of sound change have recently

been labelled, pejoratively it seems, performance theories.[1]

Under this heading can be subsumed both traditional neogrammar-

ian and structuralist phonemic theories of sound change. In

performance theories sound change is seen to be due to

variation in the articulation of a sound which shifts in one

direction or another. Various analogies have been used to

describe this: for example, that the speakers fail to hit the

target,[2] or that a log is gradually being sawn until it is

eventually sawn through. A crucial question, which was largely

left unanswered by traditional linguists, was: when does this

'inaccuracy' in performance lead to a change in the language

system? Structuralists have, however, tried to answer this.

Since these variations (or inaccuracies, call them what one will,)

were largely gradual and not perceived by the speakers, it was

assumed that sound change was gradual and unconscious. The

Neogrammarians seem to have generally assumed that sound change

could only be seen by its effects and that one could not see

sound change in action.[3] This view was adopted by Bloomfield

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1) Kiparsky 1970, 304f.

2) Paul 1920, 54f.

3) Paul ibid., 55f.

and Hockett, but with one important addit_ion: the distinction

between allophonic and phonemic sound change. For Bloomfield

phonetic change (variation in performance) was sub-phonemic,

unconscious and gradual, whereas sound change proper occurred

when the gradual accumulative effect of phonetic change led to

change in the phonemic system.[4] This is sudden and may proceed

by leaps. Bloomfield does not seem to clearly identify this

distinction of phonetic change and sound change with the

distinction conscious versus unconscious change. He says that

"these non-distinctive sub-phonemic variants are subject to

linguistic borrowing (imitation) and to analogic change

(systematization)".[5] However the example he cites is one of

analogy, which does not tell us whether other non-morphologically

determined sound changes are consciously perceived, but he does

concede that this is perhaps possible when speakers are in

contact with speakers of another dialect.[6] How does Bloomfield

imagine the change from phonetic change to sound change proper,

phonemic change? When dealing with the merger of short a and o

in some varieties of American English, he simply says that they

have fallen together "and we say, accordingly, that a sound-

change has taken place".[7] The sound change can only be seen by

its effect but the step from the stage when the two phonemes

contrasted to when they no longer contrasted is presumably a

4) Bloomfield 1935, 364f.

5) ibid., 365.

6) ibid., 369.

7) ibid., 367.

sudden one. On the other hand a shift of the type [o:] to [u:]
and [e:] to [i:] is seen as proceeding gradually through a stage
where there were both higher and lower variants of both vowels.
Gradually the lower variants go out of use and sound change is
complete.[8] Another way in which phonetic changes may become
phonemic changes is by a change in the conditioning factors
which brought about the phonetic change. These may be changed
radically or even lost.[9] The first and third way in which a
phonetic change affects the phonemic pattern of the language do
not seem to have taken place gradually and yet Bloomfield
separates sound change from phonetic replacement, the latter
being seen in dissimilation, where one phoneme is replaced by
another without any gradual phonetic development from one to the
other.[10] For Bloomfield, phonetic change is gradual and phonetic
replacement is abrupt. Later structuralists, like Hockett, have
explicitly stated that phonemic restructuring is sudden, whereas
"sound change itself is constant and slow. A phonemic restructur-
ing, on the other hand, must be, in a sense, absolutely sudden".[11]
The diffusion of a phonemic change, however, is gradual. This
of course had been said long before, most explicitly by Jacobson:
"Wir sprechen von Mutation , um den sprunghaften Charakter der
phonologischen Veränderungen hervorzuheben".[12] As an example he

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8) ibid., 365.

9) ibid., 377.

10) ibid., 390.

11) Hockett 1958, 456f.

12) Jakobson 1931, 249.

cites the merger of Russian unstressed a and o where there may be different phonetic intermediate stages, but phonemically there are only two stages: when the two vowels are in contrast and when they have merged.

Generative grammarians have been quite insistent in rejecting the idea that sound change is gradual and in maintaining that it is always abrupt.[13] Most of their argumentation involves finding examples of sound changes which could not possibly have occurred gradually, but only by phonetic leaps. Another of the reasons why they reject sound change as being gradual is that they reject sound change as such. They prefer to speak of grammar change: either a rule has been added to the grammar of a speaker or it has not.[14] There can be no intermediate stages. For them, theories which limit linguistic change to performance variation are to be rejected in favour of their theory that linguistic change is a change in the competence of the speaker, his internalized grammar. Although they believe that linguistic change in the shape of grammar change is sudden, they share Hockett's view that the spread of a change through a speech community is gradual.[15]

Those linguists, myself included, who still believe that sound change may come about gradually are faced with the difficulty of accounting for sudden changes like the much quoted Romanian 'leap'

13) Kiparsky 1965, 11-17; King 1969, 108ff.

14) King 1969, 79ff.

15) Hockett 1958; 456, King 1969; 119.

from k to p, or the loss of initial k in English, knowledge,

whereas in acknowledge it is retained. In fact these are not

difficult to deal with. They and the other examples of sudden

sound changes (excluding dissimilation and similar cases), are

all consonant changes. Suddenness may be characteristic of

consonants, whereas gradualness is more characteristic of vowels

and dipthongs.[16]

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16) Samuels 1972, 32; Householder 1971, 325.

2.2. PHONETIC AND PHONEMIC SOUND CHANGE

There seems to be no real reason to reject the ~~fact~~ *Proposition* that sounds,

particularly vowels, may be subject to gradual change. A more

crucial question is: when do these changes affect the phonologic-

al system of a language and how? Jakobson made a distinction

between extraphonological change, which simply increases the

number and type of combinatory variants, and phonological

mutation, which affects the phonological system. According to

Jakobson this is due to any of the following processes:

1. merging a phonological opposition,

2. introducing a new phonological opposition,

3. changing a phonological opposition from a correlation to a

   disjunction, or a disjunction to a correlation.

As soon as a sound change affects the phonological system in these

ways, it has passed a crucial stage and has become a phonological

mutation.[17] Several years later Hill made a similar distinction

between phonetic changes "which involve no shift in the phonemic

pattern"[18] and phonemic changes which do. This distinction

corresponds to Jakobson's extraphonological and phonological

change respectively but Hill draws his dividing line between them

at a different place. For Jakobson, extraphonological change,

phonetic change, plays only a minor role, whereas for Hill, changes

in the relationships between phonemes "which leave the phonemes as

far *apart* as at the start of the change", (Jakobson's rephonologisation)

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17) Jakobson 1931, 249-258.

18) Hill 1936, 15, (reprinted in Joos 1957, 81).

are phonetic and not phonemic changes. Hill, in fact, only

recognizes two type of phonemic change, "the falling together

of two phonemes", merger, and "the splitting of a phoneme",

because of the loss of a sound which caused a combinative

change".[19] Hockett has built on this distinction, and he makes a

similar division. Sound change proceeds gradually but may only

affect the phonemic system in two ways: "two maxima drift closer

together and finally coalesce", or "a single maximum splits into

two, which then drift apart".[20] This view is repeated in a

later work.[21] Earlier in 1958, when Hockett was discussing

various type of historical change, he defined phonemic change as

"any change in the repertory of phonemes or in arrangements in

which they can occur" which seems to cover wider ground than just

the merger and split of phonemes.[22] Since, however, Hockett has

reaffirmed in detail his view that sound change only becomes

important when two phonemes merge, or two allophones split, his

comments on p. 380 must be interpreted in this narrow way.

However, as was pointed out, this limits historical phonology a

great deal: "The full body of historical phonology with its

phonetic flesh and blood is thus reduced to a rattling skeleton

of formal units".[23] Circular shifts, where the phonetic

realization of the units change but not their number, a very

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19) Hill 1936, 18, (Joos 1957, 82).

20) Hockett 1958, 446.

21) Hockett 1965, 202.

22) Hockett 1958, 380.

23) Weinreich 1959/1960, 330.

common type of sound change, would not therefore be called phonemic change. This approach, which seems to have its origin in Hill, is followed by Lehmann who regards merger and split as the only two types of phonemic change. Phonetic change, for him, involves not only changes in positional allophones but "any modification in sounds, whether or not they lead to changes in the phonological system".[24]

The problem seems to be: 'What is meant by a change in the phonemic system of a language?' Jakobson dealt with shifts of sounds involving no change in the number of units by saying that the type of opposition had changed: "die Umbildung eines phonologischen Unterschiedes in einen andersartigen phonologischen Unterschied, der sich in einer anderen Beziehung zum phonologischen System befindet als der erste".[25] He recognizes three types of such changes:

1. the change from a correlation to a disjunction,
2. the change from a disjunction to a correlation,

                                                          and

3. the change from one type of correlation to another.
Later scholars labelled this change 'phonemic shift', although they dispensed with different types of phonological opposition. Penzl broadens the concept of phonemic shift by saying that it "consists of the change of a phoneme of one type to a phoneme of

24) Lehmann 1962, 153.

25) Jakobson 1931, 255.

another sound-type".[26] The examples he gives are of single sounds changing, Germanic b to d, and Latin ū to French [y:]. Moulton keeps phonemic shift as a phonemic sound change "which neither adds to nor subtracts from the phonemic inventory, but which changes the system of distinctive features".[27] There is thus a division among phonemicists as to whether phonemic shifts are, in fact, phonemic sound changes in the strict sense of the term.

Another type of change which causes difficulties is conditioned merger, also known as partial merger,[28] split with merger,[29] and conditioned merger with primary split.[30] In NHG, MHG /b/ and /w/ have merged medially after /l/ and /r/ in /b/. MHG selbe : gelwe, sterben : varwe; NHG selbe, gelbe, sterben, Farbe . It seems to be generally agreed that this type of change affects only the distribution of phonemes and not the phonemic inventory, Jakobson included changes like this in his phonological mutations as changes in phoneme clusters, thus in our example the clusters /lw/ and /rw/ would have been lost from the phonemic system. Neither Hill nor Hockett mention this type of change. Probably they would not regard it as being phonemic, since it only affects the distribution of the phonemes.

The distinction between phonetic and phonemic sound change as it stands, and as it has hitherto been interpreted, is too simplistic.

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26) Penzl 1957, 194.

27) Moulton 1967, 1406.

28) Penzl 1957, 196.

29) Moulton 1967, 1397f.

30) Hoenigswald 1960, 91f.

We have seen that whereas some linguists would include shifts as

phonemic sound changes others would not. Similarly some

linguists seem to regard changes in the distribution of phonemes

as phonemic sound changes,although there seems to be no compell-

ing reason to do, since they do not affect the phonemic inventory.

Penzl includes even *the development of* allophonic variation as a phonemic change

and excludes only changes which "affect only the shape of certain

morphemes".[31] In a later work he even goes as far as to reject

Jakobson's distinction between extraphonological (phonetic)

change and phonological (phonemic) change: "Jedes historische

Ereignis, jeder Lautwandel, wenn er zu erkennen ist, ist

Gegenstand der historischen Lautlehre. Auch deshalb verwende

ich lieber die Bezeichnung "Lautwandel" als "Phonemwandel"".[32]

Instead of the dichotomy between phonetic and phonemic sound

change, a more finely graded scale is needed, which is suggested

here. This scale is based on the effects that a particular

sound change has on the phonological system, which is taken to

include the phonetic realization of the combinatory variants, the

distinctive features, their distribution and also their incidence,

that is, the class of words in which they occur.[33] The most

obvious way in which a sound change may affect the phonological

system is by changing the phonemic inventory, that is by either

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31) Penzl 1957, 193.

32) Penzl 1971, 23.

33) Kurath 1972, 31.

increasing it or decreasing it. This is usually brought about

by merger and split. Secondly, there may be a change in the

distribution of phonemes. Voiced obstruents no longer occurred

in word final position in MHG. This type of change is brought

about chiefly ^by conditioned merger, in this case the merger of

voiced and voiceless obstruents in word final position. Thirdly

there may be a change in the incidence of phonemes, usually in a

small list of words. This can usually be determined historically,

or geographically by dialect studies. These three types of

change just listed affect the number, distribution and incidence

of phonemes in the phonological system. The remaining two types

of change affect the phonetic realization of the phonemes, but

not their number or distribution. A change in the distinctive

features of the phonological system may affect the whole system,

e.g. in the first sound shift the distinctive feature of voice

was replaced by the feature of occlusion.[34] Secondly the

allophones of the phoneme may be affected. New allophones may

arise, e.g. the palatal [ç] in NHG, or old ones may disappear.

In our study of the historical phonology of German we shall be

concerned with all these aspects of sound change.

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34) Fourquet 1954, 12-14; Mossé 1956, 58-61.

2.3. RESTRUCTURING AND PHONEMIC CHANGE

In recent years the phonemic approach has been criticized on several grounds, some concerning historical linguistics and some concerning the theoretical status of the phoneme. We will restrict ourselves to criticisms on historical linguistic grounds.[35] For the generative linguist, linguistic change is not sound change but grammar change. The units with which he works are systematic phonemes which form underlying or phonological representations. Phonological rules then convert these underlying phonological representations into a systematic phonetic or surface representation.[36] Linguistic change comes about when a phonological rule is added to the grammar of the native speaker, to his competence. This rule addition will, of course, effect a change in his performance, but the origin of the change is to be sought in the speaker's competence and not first in his performance. Thus in Germanic all the underlying short and long vowels, a, o, u were realized as short and long a, o, u in surface representation. When the umlaut rule was added to the grammar of OHG the surface representation of short a, o, u before i, ī, j in the following syllables were e, ö and ü.[37]

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35) For a critique of the phoneme, see: Halle 1959; Chomsky 1964; Chomsky and Halle 1965.

36) For generative phonology, see: Chomsky and Halle 1968; Harms 1968; Lightner 1971; Schane 1973.

37) King formalizes the rule as follows, 1969, 94:

$$\begin{bmatrix} V \\ \langle -\text{long} \rangle \end{bmatrix} \rightarrow \begin{bmatrix} -\text{back} \\ \langle -\text{low} \rangle \end{bmatrix} / \underline{\quad} C_1 \begin{bmatrix} -\text{consonant} \\ +\text{high} \\ -\text{back} \end{bmatrix}$$
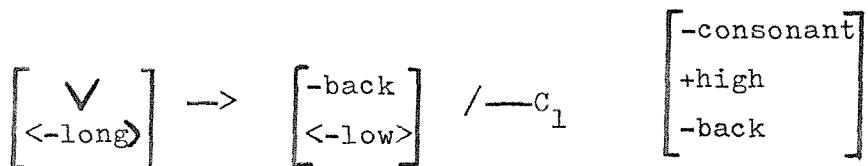
He writes the long vowels produced by this rule, ǣ, ȫ, ǖ.

Here the phonemicist would say that Germanic short and long a͟,
o͟, u͟ developed the allophones e͟, ö͟, ü͟ before i͟, ī͟, j͟ of the
following syllable. Both theories are adequate in describing
what has happened, one in term of rules, the other in terms of
allophones. Indeed all King's examples of rule addition can be
described in phonemic terms, as phonemic shifts, phonetic change
in allophones, and phonemic merger.[38] However, he maintains
that the latter change is better treated as grammar simplificat-
ion. The difference between the two theories seems mainly one of
terminology. The same thing can be described by both theories,
but using different terms.

The main point where the theories are said to be different is
with regard to when the grammar of a language is restructured or
changed in any significant way. Taking umlaut as an example, the
crucial question for the historical linguist is: When do the
umlaut vowels become phonemes, or underlying vowels, instead of
being merely variants or just occurring in surface representations?
Opinions have varied on this but it is generally agreed that at
least by MHG the umlaut vowels   had become phonemes,
or appeared in underlying representations. Phonemicists generally
assumed that this happened when the conditioning factors, e.g. i͟,
ī͟, j͟ began to disappear. The earliest stage at which this happen-
ed, was when j͟ disappeared , before the ninth century.[39] For the

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38) King 1969, 39ff.

39) Penzl 1971, 117.

generative grammarian, however, all that happens then is that a
rule of j-deletion is added to the grammar. There is   no
need to change the underlying representations. Later when the
unstressed vowels merged in schwa, another rule, vowel reduction,
was added to the grammar.[40] For the phonemicist, the falling
together of the unstressed vowels phonemicizes the umlaut
allophones. The generative approach presented by King assumes
restructuring of the grammar (changes in the underlying forms) at
a later date than the phonemicist. This only happens when the
vowel reduction and j-deletion rules are lost from the grammar.
For MHG, it would be possible to have two grammars to deal with
umlaut, one would be basically the OHG grammar plus the two rules
of j-deletion and vowel reduction, and the other would   allow
umlaut vowels in underlying representations where the forms did
not alternate with forms without umlaut, and dispense with the
j-deletion and vowel reduction rules. It is assumed that the
second grammar is the one that characterizes MHG. Grammar 1 is
typical of adults, in that the innovations are rule additions,
whereas Grammar 2 is typical of the reconstruction of a simpler
grammar to account for the same set of data by the children of
another generation. King assumes that the two theories, phonemics
and generative phonology, accept that the restructuring of the
grammar took place at different times.[41]

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40) King 1969, 95 and 99.

41) King ibid., 95.

In his review of King, Robinson[42] says that if Kiparsky's strong
alternation is accepted, then restructuring can be assumed to
have occurred before the ninth century, at least for the fem. jō
stems like OHG <u>suntja</u>, even in a generative account of umlaut.
If Kiparsky's strong alternation condition,[43] or Vennemann's
strong naturalness condition,[44] is accepted, then even in a
generative account some restructuring will have taken place when
<u>j</u> is lost in the ninth century in surface forms. This is, in
fact, almost the same time that phonemicists assumed the first
restructuring to have taken place! The two theories, even
though, according to King, they are very different, seem much
closer together than was previously thought - at least in the
question of the data of restructuring in the case of umlaut
vowels. Acceptance of the strong alternation condition brings
the date of the start of restructuring set up by both theories
nearer together. The discrepancy between the two theories in
this respect is seen to result from a choice of competing theories
within the generative framework. However, turning aside from the
date of restructuring, this change represents a phonemic split.
Most examples of restructuring mentioned by generative grammarians
can also be described in terms of phonemic split or merger.[45]
This is not surprising since the crucial fact for both approaches
is that restructuring or phonemic change brings about a significant
change in the grammar of the language concerned.

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42) Robinson 1973, 346.
43) Kiparsky 1968, 8-25.
44) Vennemann and Bartsch, in: Althaus, Henne, Wiegand 1973, 44.
45) Chomsky and Halle 1968, 281.

2.4. GRAMMATICAL CONDITIONING OF SOUND CHANGE

Another way in which phonemic theories of sound change are found
to be deficient is that they are supposed to limit sound change
to phonetic environments, and not to make any use of grammatical
information in the formulation of sound changes.[46] This is a
little more difficult to answer since not all phonemicists take
the same line. Most phonemicists   wanted
to keep phonology separate from grammar[47] and in historical
studies do not mention grammatically conditioned sound changes.
Bloomfield states this view quite explicitly: "The limitations
of these conditioned sound-changes are, of course, purely phonetic:
phonetic change is independent of non-phonetic factors".[48] Any
change which seems to require grammatical information like
Bloomfield's example of Carter, with a short vowel, and cart + er,
e.g. "one who carts something", with a long vowel, is put down to
analogy with the long vowel of the simple form cart. Pike did not
share this opinion that phonology could make no use of grammatical
information, but he did not apply this to sound changes.[49] One
reason for the neglect of grammatical information is that in many
cases, such as the one mentioned by Bloomfield, they can be handled
by analogy. Also it appears that there are very few examples.
Postal, for all his furore against taxonomic sound change, gives

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46) Kiparsky 1970, 307f.

47) Hockett 1942, 21; Harris 1963, 76-78; Gleason 1961, 274.

48) Bloomfield 1935, 353.

49) Pike 1947b.

only one example of a grammatically conditioned sound change.[50]

King cites the example of the loss of final -e in the history of

Yiddish, which took place everywhere except in the case of

adjectives in attributive position (and in a few other cases).[51]

He need not have looked as far as Yiddish for even in German the

loss of retention of final unstressed -e depends on morphological

conditioning factors. This was recognized by Wilmanns[52] as long

ago as 1911: "Besonders charakteristisch ist das Bestreben, die

Flexionen, insofern sie Unterschiede der Person, des Numerus,

Tempus, Modus, Kasus bezeichnen, zu schützen, und zwar zeigt man

sich dabei weniger besorgt um die Erhaltung des unbetonten -e

als um die Erhaltung einer vernehmbaren Flexion". Kiparsky also

gives examples of grammatically conditioned sound changes.[53]

In synchronic studies the neglect of grammatical information in

phonology led to the setting up of phonemes with zero allophones,

or juncture phonemes which could be realized as zero.[54] In

historical studies sound changes, which are grammatically

conditioned, have been handled by dealing with how the sound

change has affected each part of speech separately.[55]

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50) Postal 1968, Chapter 11.

51) King 1969, 123f.

52) Wilmanns 1911, para. 280.

53) Kiparsky 1965, 17f.

54) Moulton 1947, see criticism by Haas 1954.

55) Wright 1907, 79-86.

This is not such a stumbling block as King and Postal would
have us believe, since it is quite easy to follow Pike and allow
grammatical information in phonemic analysis, and consequently
then in historical phonology. This will be the view adopted
here. By grammatical information is meant word and morpheme
boundaries and categorial information - whether a sound occurs
in a noun or verb, or in the past or present.

2.5. RULE REORDERING

A much more serious example where it is claimed that change by
rules is to be preferred over change by phonemes is where rules
of the grammar are said to be reordered. Various examples of
this are cited and we will take the example concerning the
German velar nasal. In MHG it is assumed that the surface form
dinc was derived from the underlying form /ding/ by a rule
which devoiced obstruents in word final position. This did not
affect the pl. form dinge which is assumed to have been pro-
nounced [dinge]. The NHG forms are Ding [din] and Dinge [dinə]
with the [g] after the velar nasal lost. This has come about, it
is argued, by the addition of a g-deletion rule. Since the final
devoicing rule was added at the end of OHG and the g-deletion
rule at the end of MHG, they should apply in that order in NHG.
However, if we apply the rules in that order we get the following
derivation:

underlying forms	/ding/	/dinge/
devoicing rule	[dink]	[dinge]
g-deletion rule	[dink]	[dine]

The resultant forms [dink] and [dine] are, of course, not the standard
NHG forms. They do, however, occur in North German colloquial
speech. If we reverse the order of the rules then we get the
following derivation:

underlying forms	/ding/	/dinge/
g-deletion rule	[din]	[dine]
devoicing rule (not applicable to final nasals)		

Thus, placing the g-deletion rule before the devoicing rule does give us the correct forms for standard NHG.[56] This seems plausible, given a framework of generative rules, but how was it dealt with before phonological rules were thought of? As an answer let us quote Wright:[57] "In final stressed syllables ŋg became ŋk in MHG., as MHG dinc, junc, lanc, beside gen. dinges, junges, langes, pret. sing. sanc beside pret. pl. sangen. This final ŋk sound has been retained in NHG in the dialects - often also amongst educated people - of a great part of North and North Middle Germany. On the other hand the intervocalic form ŋ has been generalized in the recognized standard language and in the dialects of South and South Middle Germany". An alternation ŋk - ŋ has been levelled out by analogy in favour of ŋ. The example given by generative grammarians of rule-reordering can easily be handled by analogy. Interestingly enough some generative linguists are departing from rule-reordering and giving more weight to analogy. For instance Kiparsky has advocated a constraint on phonological change of paradigm coherence which says that "allomorphy within a paradigm tends to be minimized".[58] Vennemann has emphasized what he calls Humboldt's universal - one form for one meaning.[59] Both these

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56) Vennemann 1970, 79; Anttilla 1972, 120f., Kiparsky 1971, 599.

57) Wright 1907, 128.

58) Kiparsky 1971, 698f.

59) Vennemann 1974, 138: "The principle of 'one meaning, one form' (i.e. what I call Humboldt's Universal).

principles are aimed at saying that if two phonologically differing forms are created by a sound change, the difference will tend to level out.

Having considered various criticisms of phonemic historical phonology by generative grammarians, we have come to the conclusion that at the moment there seems no compelling reason for adopting a framework which describes phonological change solely in terms of rules. In this study we will adopt a phonemic framework with the condition that grammatical information can be used to describe conditioned sound changes. Where generative grammarians have sought to give answers to individual changes, these will be reviewed. It is hoped that the phonological changes in this study will be easily convertible into rule form.

2.6. SYNCHRONIC VARIATION AND SOUND CHANGE

Regardless of whether linguistic change is described in terms of rules or phonemes, there is a more fundamental way in which both approaches have been found to be deficient. Both seem to regard language as being homogeneous. Chomsky is quite explicit on this point: "Linguistic theory is concerned with an ideal speaker-hearer, in a completely homogeneous speech-community...".[60] Most phonemicists also tried to find a homogeneous variety of language to describe. The most explicit example of this is Bloch's attempt to define the idiolect as "The totality of possible utterances of one speaker at one time in using language to interact with one other speaker...".[61] He excludes the possibility of a speaker using a different style. This seems to have been accepted in principle by most structuralists except for Fries and Pike, who, in a famous article, set out "to demonstrate the validity of the assumption that two or more phonemic systems may coexist in the speech of a monolingual".[62] This was not taken up at the the time, but recently the concept of a language or an idiolect being linguistically uniform or homogeneous has come under fire from linguists such as Labov, who quotes the article by Fries and Pike as "a real advance because they did more than set these elements aside as extraneous: they saw that

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60) Chomsky 1965, 3.

61) Bloch 1948, 7.

62) Fries and Pike 1949, 29.

there could be a rich variety of systematic relations within such complex mixed systems".[63]   Labov attempted to describe the pattern of urban speech.   Previously it had been assumed that phonological variation and fluctuation in urban speech was quite random and could not be systematized.   However in his study of New York speech, Labov found that this was not so.   He discovered that phonological variation could be correlated to differences of style and social class.   He introduced the notion of the linguistic variable in his study,   that is, a phonological element which showed a phonetic range which "may be easily quantified on a linear scale".[64]   The potential phonetic variation of this variable was plotted on a numerical scale and speakers' performance scores were also plotted on this same scale.   Two more factors were taken into account to give a full description of the linguistic variable: style and socio-economic class.   The performance of speakers from ten socio-economic classes were plotted with the added dimension of their performance in four different contextual styles: careful speech, casual speech, reading style and word-list style.   Sometimes he added the style: minimal pairs.   Taken together, this resulted in a graph with two axes: the score in producing the linguistic variable by each class on the vertical axis, and horizontal axis showing how they differed from style to style.   The classes were reduced to four by merging some of them together: 0-1 represent the Lower Class, 2-5 the working class

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63)   Weinreich, Labov, Herzog 1968, 160f.

64)   Labov 1966, 49.

(at some points Labov wants to distinguish between Lower WC, 2-3,
and Upper WC, 4-5), 6-8 the lower middle class, and 9 the upper
middle class. For example the linguistic variable (r) is given
two values, 1 for the consistent use of "a definitely constricted
r-like sound" and 0 for consistent use of "an unconstricted
glide, or no glide".[65] The values on the graph are expressed in
percentages of r's. The percentage of r's is greatest in minimal
pairs and word lists for all classes, whereas it is smallest in
the casual speech of all classes. The variable shows stylistic
variation in all classes. It is also socially differentiated
since the higher the class the higher the percentage of r's in
every style (an exception to this is   with regard to the
variable (r)   in the two most formal styles, word lists and
minimal pairs, where the LMC has a higher score than the UMC).[66]
The graphs can be extended to show variation between age groups
in each class, or between men and women in each class. Labov
starts with the presupposition that language has an inherent
variability. The variation of a linguistic variable may only
show a variation according to social class or age, but no
stylistic variation. In this case the linguistic variable is an
indicator of a particular class or age group. This type of
variation is not linguistic change but is part of the language
community. It is, however, predictable: given the social class,

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65) Labov 1966, 50.

66) Labov 1966, 237-243.

one can predict the realization of the linguistic variable.
These types of automatic variation seem largely unconscious to
the speakers and in most cases are stable, having not changed
over the years. Labov does not give any examples of such
automatic variation although he admits that "some types of
variation are themselves invariant from generation to generation".[67]
If changes do happen to these variables, and the values of them
in all classes shift in any one direction without any crossing
over of classes, then this would be a linguistic change from
below, largely unperceived by the speakers themselves. Labov
reports that he discovered no such case in New York English.
This may rest in the choice of his linguistic variables, since
Trudgill, in his study of Norwich speech, found examples of variables
without any appreciable stylistic stratification.[68] Stylistic
variation does not follow automatically from social variation, but
only comes about when speakers become conscious of sociolinguistic
variation. Trudgill also found examples of seeming random vari-
ation. RP [ou] is realized in Norwich by a wide variety of
phonetic variants.[69] Variation, although mostly structured, may
sometimes be quite random. This may depend on the amount of
phonetic space available to the variable concerned, and its nature.
Vowels will tend to have potentially more variability in pronunc-
iation than consonants. Interestingly enough, most of the
linguistic variables picked out by Labov and Trudgill are vowels.

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67) Labov 1966, 318.

68) Trudgill 1974, 96ff.

69) Trudgill 1974, 117.

The only examples of consonants are postvocalic (r), initial (th) and (dh) by Labov, and initial (h), intervocalic and final (t) and (ng) in the ending -ing by Trudgill.

These cases of class indicators, social variation without stylistic variation, are inherent in the linguistic system and are part of the competence of the speech community. They do not constitute a linguistic change although they may be the beginning of one.

In most traditional accounts of linguistic change a distinction is made between the origin of a change and its propagation through a speech community or overageographical area.[70] Labov, on the other hand, does not want to make this distinction but says "the origin of a change is its propagation or acceptance by others".[71] In this way he says that sound change is observable - something that previous linguists said was impossible. However it must be said that what Labov means by "sound change" in progress is what other linguists would call the propagation of a sound change. The great value of his studies lies in the fact that the forces he observes today are probably the same as those which operated in the past. This he calls the uniformitarian hypothesis.[72] Labov sees the progression of a sound change in the following terms: A sociolinguistic indicator of a class or

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70) Bloomfield 1935, 362.

71) Labov 1973, 209.

72) Labov 1971, 423.

age group becomes differentiated stylistically and becomes a
sociolinguistic marker. At this stage the variable may acquire
greater scope, phonetic range and become more conscious to the
speakers. Then, having become conscious to the speakers, it
may be stigmatized or become regarded as a prestige pronunciat-
ion.[73] At this stage hypercorrection may step in. Trudgill is
explicit on the point that stylistic variation only occurs when
variables are consciously perceived: "Stylistic variation takes
place in the case of variables which are subject to class differ-
entiation only when social consciousness is directed towards
these variables."[74] As an example of a variable with both social
and stylistic variation Trudgill cites (ng) in the present
participle ending -ing. Its pronunciation varies between 000 for
a consistent use of [ŋ] to 100 for a consistent use of [n]. In
casual speech the MMC has a score of 028, the LMC 042, the UWC
087, the MWC 095 and the LWC 100. The classes in this style are
clearly differentiated by their scores. However in Word List
Style (WLS) they are still differentiated in the same order but
the scores are much lower, showing a greater use of [ŋ] for all
classes: MMC 000, LMC 000, UWC 005, MWC 023, LWC 029. The graph
as a whole shows a rise in the use of [n] in all classes from WLS
to CS. The working class shows a steep rise in the percentage
from reading passage style to formal style : UWC from 015 to 074,
MWC from 044, to 088, and LWC from 066 to 098. The middle class

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73) Labov 1973, 243.

74) Trudgill 1974, 103.

shows only a small rise here but a greater rise from FS to CS:
LMC from 015 to 042, MMC from 003 to 028. In this example not
only are the classes differentiated, but also each class shows
differences according to which style is being used.[75] He
examines the reasons why speakers may have become conscious of
these variables in greater detail than Labov. For Trudgill,
consciousness of stylistic variation results from four factors:

1. the forms may be being obviously stigmatized. This may
   take varying forms. The pronunciation may be subject to
   ridicule, discouragement in schools, or perhaps it violates
   spelling conventions. This would apply to (ng).

2. The forms may be undergoing linguistic change.

3. The forms may be involved in surface, i.e. phonemic, contrasts.
   He cites the variable (yu), which is involved in contrasts
   like do : dew, as an example.[76]

4. The pronunciation concerned may vary greatly from the prestige
   variety, in this case from RP, i.e. the variable (ō), with
   values [u:], [ʊ].[77]

As soon as a variable is consciously perceived by speakers then it
may be accepted or rejected by them. A further development of a
linguistic marker is that it becomes a stereotype "discussed and
remarked by everyone".[78] This seems more a difference in degree

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75) Trudgill 1974, 91f. On p. 91 in the last paragraph [n] and [ŋ]
    should be reversed. As it stands the sentence is contradicted
    by the results given on the next page.
76) 1974, 103.
77) 1974, 100.
78) Labov 1973, 243.

than a particular linguistic difference. For Labov, a sound change
will have become complete "only when a group of speakers use a
different pattern to communicate with each other".[79] Most of
the sound changes investigated by Labov and Trudgill have been
sound changes in progress. Trudgill has two examples of 'almost'
complete sound changes where there is only relic pronunciation,
mostly in the lower classes. When a sound change has been
completed, all classes show the same pronunciation with no
stylistic shifting. The variable (ir), as in <u>bird</u>, <u>hurt</u>, <u>fern</u>,
has three values: 000 for consistent use of [ɜ:], 100 for
consistent use [ʋ:] and 200 for consistent use of [aː]. The
middle class has 000 and the UWC 003 in all styles whereas
only the MWC and LWC have higher values. The highest, however, is
only 082 in the FS and CS of the LWC. The variant [ɜ:] which is
the RP value has almost ousted the other variants in most classes
and styles.[80] For Labov, a completed change may have stylistic
variation but it may well have "maximum differentiation between
the highest and lowest social groups, as a result of overt
social correction".[81] In another place he elaborates further:
"Eventually the completion of the change and the shift of the
variable to the status of a constant is accompanied by the loss
of whatever social significance the feature possessed".[82] I

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79) Labov 1973, 209.

80) Trudgill 1974, 112.

81) Labov 1971, 475.

82) Weinreich, Labov, Herzog 1968, 187.

think that it is not so much the loss of any social significance
but, in many cases, the loss of any conscious social significance,
which is important. The inherent social variation with no
stylistic stratification may well be the result of sound change.
Obviously in some cases, a variable may be diffused throughout
all styles and social classes, thus becoming a constant. However
only time will help us to know if this has indeed happened. Both
possibilities have been found. Trudgill, in his study, is more
explicit about how to recognise when a linguistic change is going
on. If there is an "unusual class differentiation pattern", [83] or,
"a reversal of order of classes", [84] or, "overlapping in the social
class differentiation diagram", [85] then there is a linguistic
change in progress. In these cases the automatic social variation
has been disturbed. One variable is extending its range. One can
no longer predict which class will be characterized by which
variable. The change may not only affect social variation but sex
differentiation as well. Trudgill has one example of a change in
progress where there is no difference in the range of the variable
among the social classes, but only between the men and women of
the lower classes. The variable (o) has two values: a rounded
[ɔ] and an unrounded [ɑ]. It shows regular social variation with
the MMC having mostly only [ɔ] in all styles. It also has

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83) Trudgill 1974, 107.

84) Trudgill ibid., 104.

85) Trudgill ibid., 112.

stylistic variation, chiefly among the working class, whereby the highest percentage of rounded vowels is used in WLS and the lowest in CS. This is also true of the LMC, but the variation is mostly to be seen in the change from FS to CS. This is a similar picture to that of (ng) and other variables which show regular social and stylistic variation. No change seems to be in progress. However, if we examine the value of this variable for men and women separately in each class a different picture presents itself. MC men have a higher score than MC women, i.e. use more unrounded vowels, whereas the opposite happens in the WC. WC women have consistently more unrounded vowels than WC men. Trudgill interprets this as the introduction in Norwich speech by WC men of the rounded vowel [ɒ], which is the RP form as well as that of the surrounding dialects.[86] The variable (ng) also shows a similar differentiation. In this case the women of all classes show a lower percentage of [n] forms than men. This can be seen most clearly among WC speakers.[87]

Another interesting fact that Trudgill discusses is the case of a conditioned merger in some styles but not in others. The variables (er) and (ɛr) cross over phonetically in the casual style of the Upper Working Class, but speakers from this class still keep the sounds apart in other styles.[88] This seems to be

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86) Trudgill ibid., 108f.

87) Trudgill ibid., 93f.

88) Trudgill ibid., 120f.

more frequent than is realized. I have observed myself that speakers, who do not normally distinguish between /ʍ/ and /w/ in casual speech, can do so in word list styles. e.g. <u>which</u> : <u>witch</u>. This is presumably an example of a sound change in progress, which will eventually be completed by the merger of the two sounds in all styles.

2.7. VARIATION AND SELECTION

The studies by Labov and Trudgill have shown that language
shows inherent variation, and that sound changes can be observed
in progress. This is of supreme importance for historical
linguistics. It must not merely deal with diachronic correspond-
ances[89], which show the victorious forms,but also, if possible,
the stage at which forms were in competition. To a certain
extent linguists were aware of this,although variation was
mostly labelled 'dialect borrowing'. Sturtevant is quite
explicit that variation did exist in the past: "We have actual
record of periods of vacillation between rival phonemes, leading
to the complete victory of one or the other".[90] The Hungarian
Fonágy also comes to the same conclusion: "Wir sehen, daB der
Lautwandel im Kampf von Varianten vor sich geht".[91] In 1959,
Trim, reviewing the development of historical linguistics says:
"The mechanism of sound laws gives evidence only of regularity
and coherence of development. It provides no dynamic".[92] Trim's
aim was to try and suggest some ways in which historical
linguistics could be made dynamic. He suggests that this could
be done by examining sound change at work. This would entail a
detailed examination of stylistic, regional and class variation.
The dynamic is provided by "the balance of co-existent competing
forms".[93] Having examined the variation in language, one can

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89) Andersen 1972, 12ff.
90) Sturtevant 1947, 80.
91) Fonágy 1956, 245.
92) Trim 1959, 20.
93) Trim ibid., 24.

then "observe changes and identify the types of selection pressure which have operated".[94] These suggestions were programmatic, but they were taken up by Samuels,who explicitly uses the terms 'variation' and 'selection' in his framework for historical linguistics.[95] For Samuels, variation is always at work in language. It may result in assimilative changes on the syntagmatic level, many of which can be put down to ease of articulation. This is true of both vowels and consonants. There may also be variation which is due to sounds being articulated differently in different styles, e.g. relaxed style variants versus formal style variants. This is especially the case with vowels and dipthongs.[96] According to Samuels, three principle things may happen to these variants produced by the spoken chain. They may be rejected, that is they may never be anything more than idiosyncratic variants, mistakes, and thus be unheeded and unrepeated. Secondly, they may be selected "according to current requirements of the system for the maintainance of equilibrium and of the level of redundancy".[97] The reasons for the selection of variants vary from case to case, and, according to Samuels, are ad hoc. Thirdly, the variants may be so numerous that they force themselves to be selected by the system. This happens mostly with forms from other languages. For Samuels,

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94) Trim ibid., 23.

95) Samuels 1965, 15f.; 1972 passim. Originally from Whatmough, 1956.

96) Samuels 1972, 9-27.

97) Samuels ibid., 140.

selection is the prime mechanism by which mechanical change in
the spoken chain and change in the linguistic system, functional
change, are linked together. Neither of these types of change
has priority over the other, but both are equally important.[98]
If the studies by Labov and Trudgill are typical, there is no
reason to doubt that the amount of variation that exists in a
language at one time is large and needs complex networks to
describe. The historical linguist, on the other hand, has much
more limited data. A process of selection has already been made
for him,and he must content himself with the evidence available.
However if we examine the period from the Middle Ages to the
seventeenth century and beyond in any European language we can
find ample evidence of variation.[99] First of all there are the
manuscripts and texts of the language itself. These, particularly
for Early NHG, present a superabundance of different forms from
different parts of the country. For this sort of evidence we
will rely largely on secondary literature which has studied and
analyzed these primary sources.[100] With the begining of the
interest in the study of the national languages of Europe,grammars
and primers were produced in abundance, for foreign as well as
native learners of the language.[101] These two sources often

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98) Samuels ibid., 138f.

99) CF. for variation in grammar: Feudel ed. 1972, especially
    pp. 79-166, and Nerius 1967.

100) V. Moser 1929, 1951.

101) Müller, reprinted 1969, High Dutch Minerva, reprinted 1972.

provide evidence of variation, and even evidence of which form

is to be preferred over another one. This large amount of

variation continued unabated till most languages achieved a

written standard at least. The search for a standard in German

lasted for a long time, and even today NHG exhibits regional

variants in vocabulary, e.g. Sonnabend and Samstag for'Saturday',

in grammar, ich bin gesessen, ich habe gesessen, and of course

in pronunciation. The development from MHG to NHG is a fruitful

field for the study of variation in the past and the selection of

forms for the standard. How much variation and how many competing forms

there are varies from change to change. In many, if not most,

cases the historical linguist merely sees the victory of one or

more competing forms. Samuels sees variation in the past mostly

as conditioned variation, i.e. the variants can be predicted to

occur in certain styles or areas. It may also be the case that

variation in the past was free and unconditioned but since our

records are not sufficiently detailed we may never know the

conditioning factors. When there are two variants, whether they

are conditioned or not, a usual development is that one will die

out. In the sixteenth century in France [wɛ] and [wa] were used

to pronounce the sequence oi. In modern European French [wa] is

the only acceptable form, [wɛ] having died out.[102] Sometimes two

phonologically different forms of one word,which may or may not

be in free variation,may become differentiated semantically. NHG

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102) Fonágy 1956, 251.

drucken 'to print' and drücken 'to press' were probably regional

variants of one word at some time, but this variation has been

rationalized as a difference in meaning.[103]   Standard languages

do not seem to tolerate variation in forms for a long time.   A

standard language by definition is uniform and does not tolerate

variation.   This demand, which is implicit in the formation of a

standard language, for decisions on whether a pronunciation or

word form is to be accepted, is of great help to the historical

linguist in enabling him to see how forms were selected from

among variants.   Prescriptivism in grammar, which has been so

often condemned by descriptive linguists, is a great assistance

to the historical linguist in showing him what forms or

constructions were in variation and how speakers evaluated them.

In this study of part of the history of German, attention will be

paid to competing forms, where evidence for them exists.   Sound

change is not simply a matter of diachronic correspondances, but

comprises dynamic changes, which involve variation and selection

from among variants.

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103) Deutsches Wörterbuch (hereafter abbreviated Dt. Wb.), 2,
      1441.

3. EXPLANATION OF SOUND CHANGE

3.1. INTRODUCTORY

Early explanations of sound change were often sought in extralinguistic factors such as the climate, or the physiology of the speakers. Thus, the second or High German sound shift in which the initial Germanic voiceless stops became affricates before vowels, e.g. p, t, k became [pf], [ts], [kx] (the latter only in UG), was viewed by some linguists as being caused by the Alpine climate. Since it was carried through most completely in Southern Germany, Austria and Switzerland, which are mountainous regions, it was assumed that there was a causal relationship between the sound shift and the climate or geography of the region. This view was advanced by serious linguists, but it was soon refuted by Jespersen. He pointed out that the tendency to affrication of voiceless stops was not confined to mountainous regions, but that there was a strong tendency to affricate initial pre-vocalic t in the colloquial speech of Copenhagen.[1] Most scholars have been hesitant to explain sound changes in terms of extralinguistic factors, but even in more recent days attempts have been made to do this, notably by Brosnahan, who, building on the work of the geneticist Darlington,

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1) Jespersen 1922, 256f.

sought to show that the distribution of certain sounds, for
example [θ] th, and their changes through time, was due to genetic
factors in the speakers.[2] This has not been accepted although
it is an interesting hypothesis.

The most widely accepted way that extralinguistic factors are
used to explain change is in the substratum theory. The Latin
of the Roman Empire was imposed on countries with other native
languages, e.g. Celtic in France, and consequently the natives of
these countries imposed the features of their own language on
the Latin they learned. These original, or substrate languages
died out in most cases, but have left their mark in the different
way Latin has developed in different countries. For instance
some linguists claim that the French change of Latin ū to [yː],
e.g. Latin mūrus, French mur, is due to the Celtic substrate, or
that the shift of f to h, which is then lost in pronunciation in
Spanish is due to the Basque substrate. In general it is accepted
that some changes may be due to substrate languages but the actual
extent of this is not agreed.[3]

Much of the use of extralinguistic factors in explaining sound
changes has been speculative and many changes have been found
which could not be put down to these factors. This led linguists
in two directions. Bloomfield, and structural American linguists

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2) Brosnahan 1961, 48f.

3) Elcock 1960, 172.

in general, thought that the search for explanations or causes

of sound change was fruitless. Hockett's 'Course in Modern

Linguistics' contains no references to the causes of sound change,[4]

and Bloomfield said explicitly "The causes of sound-change are

unknown".[5] Other linguists, notably the Prague group, swung away

from extralinguistic causes completely to the other extreme,

wanting to see the causes of linguistic change in the linguistic

system itself.[6] They, and later Martinet, are the prime exponents

of this view. They did not regard sound laws as blind, as the

Neogrammarians did, nor fortuitous as De Saussure thought,[7] but

rather purposeful. Sound change was seen as teleological, goal

directed. This might take various forms. There might be various

'goals', the removal of peripheral phonemes, e.g. /ʍ/ in English,[8]

or of phonemes with a low functional yield, e.g. the merger of

/ɛ̃/ and /œ̃/ in French,[9] or the making of an asymmetrical system

symmetrical. A more recent example of the last type of change has

been given by Moulton.[10] Classical MHG is assumed to have the

following short vowel system:

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4) Hockett 1958.

5) Bloomfield 1935, 385.

6) They did not say that all changes were caused by the phonologic-
al system. cf. Martinet, Introduction to Haudricourt and
Juilland 1949, 9.

7) De Saussure, 1915, 127.

8) Vachek 1964.

9) Martinet 1945, 147f.

10) Moulton 1960, 155-182.

$$i \quad \ddot{u} \quad u$$
$$e \quad \ddot{o} \quad o$$
$$\ddot{e}$$
$$\ddot{a} \quad a$$

This is an asymmetrical system, since the back vowels have one less tongue height than the front unrounded vowels. In the North East of Switzerland this system was made symmetrical by the split of /o/ into /o/ and /ɔ/: "The asymmetry of the MHG system lay in the fact that the front vowels contained one more relevant level than the back vowels. In the West and Centre this asymmetry was removed by decreasing the number of front vowels ... In the North and East the asymmetry was removed by increasing the number of back vowels: the /o/ of MHG ofen, hose split into modern /ofə/ ≠ /hɔsə/".[11] The result of this change was a symmetrical short vowel system. There was a complementary split of MHG /ö/ into /ö/ and /ɔ̈/. Jakobson attempted to illustrate his teleological view of sound change by applying it to Russian. For example, the akanje, the merging of unstressed a and o, in Russian and other dialects, is seen as resulting from the change of the correlation: musical accent - unstressed vowels, to expiratory accent - unstressed vowels.[12]

Martinet, building on the work of the Prague school, developed the notion of the push-chain and drag-chain. When a phoneme moves

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11) Moulton ibid., 172f.

12) Jakobson 1962, 92ff.

phonetically in one direction and approaches another phoneme, e.g.
/A/ -> /B/, then /B/ may also move towards another phoneme, /C/,
/B/ -> /C/. This chain reaction is a push-chain, /A/ pushes /B/
towards /C/. Another possibility would of course be that /A/ and
/B/ merge, but Martinet is more interested in the cases where this
does not happen. If, taking the three phonemes /A/ /B/ /C/, /C/
moves first, away from /B/, then /B/ may well also be dragged into
the space vacated by /C/, and then /A/ may be dragged into the
space left vacant by the shifting of /B/.[13] For instance, in early
OHG there were two dental obstruents (excluding the sibilants), þ,
and d. The latter was shifted to /t/ and the space thus left
vacant was then filled by the shift of /þ/ to /d/.[14] This kind of
chain reaction is called a drag-chain. This approach to sound
change was taken up by many linguists, among them Weinrich, who,
in his studies of Romance sound change, sought to explain them
without using extralinguistic factors.[15] A reviewer of his book
maintained that all Weinrich's explanations were, in fact, only
descriptions: "A mon avis, et j'espére pouvoir montrer par la
suite qu'il est bien fondé, la phonologie diachronique ne pourra
être que descriptive, ne saura jamais répondre à la question:
POURQUOI? Pour répondre à cette question, il faut toujours
recourir à des facteurs externes".[16]

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13) Martinet 1952, 5ff., Martinet 1955, 48ff.

14) Penzl 1971, 165.

15) Weinrich 1958, 5ff.

16) Togeby 1959/60, 402.

This type of approach to sound change has been criticized on several grounds. The push-chains, drag-chains, development towards symmetry are only tendencies.[17] There are asymmetrical sound systems —for instance many UG and CG dialects have two front vowel phonemes /e/ and /ɛ/ but only one back vowel phoneme /o/. Enough evidence seems to have been produced that in certain cases sound changes can be explained in terms of other changes, but there are also many changes which cannot be thus explained. Also any teleological view of sound change is circular. In the Swiss German example taken from Moulton it could be seen that the result of the split of MHG /o/ into /o/ and /ɔ/ was a symmetrical short vowel system. It was also claimed that the cause of the split of MHG /o/ was the drive towards a symmetrical short vowel system. The result and the cause are in fact the same thing.[18] However, although criticisms have been levelled against this approach, it has produced many worthwhile results.

The scepticism which Bloomfield expressed at ever finding explanations of sound changes has been continued by generative grammarians. The most extreme position is that taken up by Postal: "There is no more reason for languages to change than there is for automobiles to add fins one year and remove them the next, for jackets to have three buttons one year and two the next".[19]

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17) King 1969, 191ff.

18) Anttilla 1972, 193f.

19) Postal 1968, 283.

On the whole, the generative school has been criticized for not

seeking explanations for sound change. This is not entirely fair,

since opinions among generative linguists seem to vary. King,

for instance, is not as sceptical as Postal: "If there is little

risk in being a cynic about the origin of phonological change,

there is also very little profit. In fact, linguistics has a

great deal to lose by the position that the cause of phonological

change is beyond principled research".[20] However, he does not

give any clear explanation of sound change. One approach to

explanation in sound change can be illustrated from Kiparsky's

historically orientated article entitled 'Explanation in phonology'.

He states: "I have suggested a way in which the concept of a

'tendency', which lends functionalist discussions their character-

istic unsatisfactory fuzziness, can be made more precise in terms

of hierarchies of optimality, which predict specific consequences

for linguistic change, language acquisition, and universal

grammar".[21] For Kiparsky, explanation in sound change is determin-

ed by constraints such as the conservation of functional

distinctions, i.e. a sound change will tend not to eliminate

number or tense endings. When sound changes cause phonological

alternation within an inflectional paradigm, i.e. lengthening of

short vowels in open syllables, North German [ta:gə], but nom. [tax] or

[tak], the alternation will tend to be removed to make the paradigm

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20) King 1969, 190f. For criticism of generative grammarians,
    see, Vachek 1970, 24-31.

21) Kiparsky 1972, 224.

regular, cf. standard German, <u>Tage</u>, <u>Tag</u>. Some sound changes may

act together in a 'conspiracy' to produce a certain kind of

phonological structure.[22] However these constraints do not

always apply. For instance modern German still retains the

phonological alternation between medial voiced obstruents and

final voiceless obstruents. This has been in existence since

late OHG and yet has not been levelled out except in a few

dialects.[23]

We have so far used the term explanation without any real

definition. In the following sections four ways in which it is

used will be examined and their usefulness evaluated.

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22) For the notion of 'conspiracy' among phonological rules, see
    Kisseber th 1970, and for its application to historical
    problems, see Lass 1974.

23) For example in Alemannic, cf. Keller 1963, 65f.

3.2. THE EXPLANATION OF SPECIFIC CHANGES

One of the most widespread interpretations of explanation is
the explaining of one event by another. Bloomfield puts this in
the following way: "A favoured earlier event, the 'cause', pulls
a kind of invisible string which, in some metaphysical sense,
forces the occurrence of a later event the 'effect'".[24] This
assumes that one can connect some linguistic effects but not
others. For instance, in the Germanic languages many original
final vowels have been lost or reduced to [ə]. That is one
linguistic event. It is also assumed that the stress accent in
Germanic, instead of falling potentially on any syllable, became
fixed on the root syllable. This represents another linguistic
event. Most linguists link these two events together, the fixing
of the stress accent causing the weakening and loss of unstressed
syllables : "The strong stress accent on the stem (or first
syllable) caused in Germanic a progressive weakening of un-
accented syllables".[25] Similarly the mutation of the short and
long back vowels a, o, u in the Germanic languages at various
times has occurred before an i, ī , or j in the following
syllable. In this case it is usually said, not that one event
caused another, but that one factor, the existence and nature of
the following i, ī and j, caused the change known as i-mutation
or umlaut. The following quotation illustrates this clearly:
"There are two types of mutation in O.E., one, A., which affects

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24) Bloomfield 1934, 34.

25) Prokosch 1939, 133.

back vowels is caused by a following i or j, the other, B.,
which affects front vowels, is caused chiefly by u, or o, in
some dialects also by a".[26] This mode of explanation refers
chiefly to individual conditioned changes. Where changes are
not phonetically conditioned, the explanatory power of one
change or factor in terms of another one is not so convincing.
Attempts have been made to explain one unconditioned change in
the light of another. This is the type of event which Martinet
has dubbed push- or drag-chain. The Great Vowel Shift in English
has been explained in this way. The two most important steps in
the vowel shift are the diphthongization of the long high vowels
ME $\bar{\imath}$ and $\bar{u}$, and the raising of the long mid vowels ME $\bar{e}$ and $\bar{o}$.
Scholars have postulated causal relationships between these
changes. Luick thought that the raising of the mid vowels
happened first and caused the already existing high vowels to
diphthongize: "Aus den näheren Umständen, wie sie insbesondere
eine Vergleichung der Mundarten erkennen läßt, ergibt sich, daß
die Bewegung des ersten Lautes, (e.g. ME $\bar{e}$) die des zweiten
(e.g. ME $\bar{\imath}$) veranlaßt hat und man vorbildlich von einem
Verdrängen des letzten durch den ersteren sprechen kann".[27]

Jespersen, on the other hand, thought that the dipthongization
of ME long $\bar{\imath}$, $\bar{u}$ created a hole, into which the mid vowels ME $\bar{e}$,
$\bar{o}$ were dragged: "Luick ... thinks the transition /e/>/i/ the

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26) Wyld 1927, para. 103.

27) Luick 1929/40, 11, para. 477.

primary change which caused the diphthongization of /i/. But
the nexus may be equally established the other way: after /i/
and /u/ had been diphthongized, there was nothing to hinder /e/
and /o/ from moving upwards and becoming /i/ and /u/".[28]

It is very often not possible to establish with accuracy the
direction of the explanation in unconditioned changes such as
this. Documentary evidence may be lacking or inconclusive.
These explanations of changes in terms of other factors or events
have one great drawback: they are not final explanations. It
may be the case that the raising of the mid vowels caused the
diphthongization of the high vowels, or, that the fixing of the
stress accent on the root syllable caused the weakening or loss
of unstressed vowels. Even so there still remains the explanation
of why the mid vowels were raised in the first place, or why the
stress in Germanic became fixed to the root syllable. In other
words, final causation is not provided for at this level. The
type of explanation discussed here is of a specific sound change
or changes. These will probably only occur in one language or in
related languages and be tied to a particular period in that
language. Most linguists would accept that this level of
explanation, linking events to other events, as cause and effect,
is indeed possible but that it is a weak form of the explanation
of sound change.

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28) Jespersen 1909, 1, 232f. The slant lines do not represent
     phonemic notation!

3.3. UNIVERSALS OF SOUND CHANGE

In the last section we dealt with the explanation of individual

changes, but sound changes are often more general. For instance,

the raising of long mid vowels has not only caused diphthongiz-

ation in English, but also in Dutch, and probably also in German.[29]

There is not an infinite number of sound changes but a restricted

number. If these can be characterized, then an explanation can be

attempted for a much smaller number. For the Neogrammarians,

sound laws were fixed to one place and one dialect at one time.

Consequently they did not believe in universals of sound change.

For them, what was universal was that sound laws had no exceptions.

However the whole question of universals has been re-opened by

generative grammarians, not only on a synchronic level,[30] but also

on a diachronic level. This has chiefly taken the form of

characterizing the possible forms of linguistic change and to what

constraints they are subject.[31] Universals can help to explain

sound changes in that they reduce the number of possible sound

changes to a finite number. Sound change is viewed as consisting

of a set of meta-rules, palatalization, nasalization and so on,

from which a language selects one, which, subject to certain

language specific constraints, will proceed in a defined way.

For instance, if a language palatalizes consonants, first the

velars will be affected, then the dentals and finally the labials.

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29) Lass 1969, 12-14.

30) Chomsky 1965, 27-30; Ross 1967. Jakobson has dealt with
    phonological universals in Jakobson 1962, 328-401.

31) Kiparsky 1971, 1972.

It will not affect labials, only or dentals only. The consonants
(only obstruents have so far been considered) will be palatalized
before high front vowels first, then before mid front vowels and
finally before low vowels.[32] As an example, Italian has
palatalized Latin k only before front high and mid vowels: Latin
civitatem, centum, Italian città, cento, but this has not occurred
before low vowels: Latin cantare, Italian cantare. French, on the
other hand, has palatalized Latin k before a as well: French cité,
cent, chanter. This approach does not completely solve the
question of causation of linguistic change, but it does attempt to
overcome the ad hoc explanation of individual changes. Thus the
change of Latin k to [tʃ] and further to [ʃ] in French is not seen
as an isolated change but as part of the larger change of
palatalization. Chen cites examples from many different languages
which make his thesis seem plausible, but he has to admit that there are
exceptions. In Ancient Greek IE /kw/ and /t/ are palatalized to
/t/ and /s/ respectively before /i/ and /e/. However IE /k/
remains unpalatalized before /i/ and /e/. According to Chen's
scheme, if a dental stop has been palatalized then a velar stop
will have been palatalized as well. The reason for this exception,
he says, is that IE /kw/ and /t/ are involved in a drag-chain. IE
/s/ became /h/ in Ancient Greek, initially and medially, and the
space left by the shifting of medial IE /s/ was filled by the

32) Chen 1973a, b.

palatalization of IE /t/ before /i/ in certain cases (there are exceptions to this).[33] The gap created by the change of /t/ to /s/ before /i/ was then filled by IE /kw/ becoming /t/ before /i/ and /e/.[34] Language specific changes like this drag-chain in Ancient Greek can invalidate the universal trend of palatalization. This example may well turn out to be an isolated case, but on the other hand it belies the strong predictive power that Chen would like his theory to have.

Another approach to the problem of universals has been to set up universal strength hierarchies. For example, if obstruents are deleted in a language, velars are most likely to be deleted first, then dentals and finally labials.[35] Lass,in his study of Old English obstruents, comes to a different conclusion.[36] When stops become weakened to fricatives the order is: dentals first, then labials and finally velars. He does not think that this negates Foley's order of velars, dentals and labials, but that he is dealing with intervocalic lenition, whereas Foley is dealing with the deletion of consonants. Counter-examples to Foley's order can be provided from Dutch where /d/ is deleted

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33) Buck 1933, para. 141: "The assibilation of τ before ι is
    seen in large classes of words. But τ may also remain
    unchanged before ι, and the precise conditions governing
    this difference of treatment cannot be satisfactorily
    formulated".

34) Chen 1973a, takes his interpretation from Allen 1957-8, 122f.

35) Foley 1972, 96f.

36) Lass 1971.

intervocalically, whereas the labial and velar obstruents
remain.[37] Also historically the Germanic dental fricatives
/þ/ and /ð/ have generally been lost *between vowels* in Dutch, e.g. English
weather, feather, Dutch weer, veer, whereas the other fricatives
have remained, leven, regen.[38] Perhaps there should be a
different hierarchy for fricatives? This search for universal
hierarchies is still very speculative and more detailed studies
must be available before it can be proved to have a more solid
foundation. A phenomenon which is similar to strength
hierarchies is the concept of the Reihenschritt.[39] If one
phoneme of a phonetic order changes, then all the other phonemes
of the same order change in the same way. A classic example is
provided by the First Sound Shift where each member of each
order of consonants changed its manner of articulation: the
voiceless stops p, t, k became the voiceless fricatives f, þ, x,
the voiced aspirated stops bh, dh, gh became either voiced stops
or voiced fricatives according to their position in the word
b/ƀ, d/đ, g/ǥ , the voiced stops b, d, g became voiceless stops
p, t, k.[40] Similarly all the MHG long high vowels, MHG ī, iu, ū
diphthongized, not just one or two of them. The concept of
Reihenschritt has been adopted by Kranzmayer, who handles his

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37) Smith 1973.

38) Loey 1959, 33ff.

39) Pfalz 1918 used Reihenschritt for vowel changes. A free
     translation in English might be 'parallel development'.

40) Fourquet 1954.

changes in terms of _Reihen_ rather than under the traditional

headings of vowel and consonant changes.[41] Martinet takes up

this concept to show how sound changes proceed by changes in

distinctive features.[42] In generative grammar the fact that

parallel groups of sounds may change has been accounted for in

terms of 'natural classes': "Phonological changes tend to

affect natural classes of sounds (p, t, k, high vowels, voiced

stops), because rules that affect natural classes are simpler

than rules that apply only to single segments".[43] The use of

the word _tend_ is significant in this quotation since these

changes do not always take place. We have already quoted the

example of Dutch medial /d/ which is deleted but the other medial

obstruents are not. Similarly‸ intervocalic Germanic þ and d have been deleted

in the development of Dutch but not the other obstruents. On

the basis of natural classes one cannot always predict that of

three voiceless stops, if t becomes an affricate, then p and k

will become affricates as well. This may perhaps happen, as

it does in some UG dialects, but it is by no means automatic.

Any universals that do exist seem, at the moment, to be only

universal tendencies.[44] Similar changes can be seen at work in

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41) Kranzmayer 1956, VIf. and 9f.

42) Martinet 1952, 17.

43) King 1969, 122.

44) Even Chen uses the term 'tendency' 1973a, 183.

many genetically unrelated and geographically widely dispersed

languages. These universal tendencies are said to "originate

in the common articulatory and perceptual mechanisms used by

human speakers and listeners".[45] The important thing that this

search for universals has shown is that sound change, or phonetic

drift, is not random but, all things being equal, sound changes,

e.g. palatalization, will proceed in a predictable way, e.g.

affecting velars first, then dentals and finally labials. But

unfortunately in languages all things are not equal. Many other

factors intervene. There may be the influence of the rest of

the sound system, the morphology and syntax, and external

influences from other dialects or languages. The social prestige

of certain forms and the desire to avoid a homonymic clash may

influence changes. All these factors may and do interfere in the

smooth ~~outworking~~ *effectuation* of these universal tendencies. There seems no

way of predicting when these other factors will intervene. The

search for universals has still not supplied an answer to the

problem of the explanation of sound change in general.

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45) Ohala 1971, 25.

3.4. GENERAL HISTORICAL EXPLANATION

Bloomfield outlines this type of explanation in the following
terms: "Where the facts are accessible, we can define a feature
of a language in terms of some earlier habit plus a change of
habit".[46] This is something which belongs to the explanation of
most things. Something in the present can always be explained
by saying that it represents something in the past plus a change.
The strange shape of a house, for example, may be explained
historically by saying that in the past there were two houses,
which were then joined together. A linguistic example would be
the explanation that umlaut in NHG is due to the fact that in
OHG the vowels affected were followed by an i, ī, or j:
"Umlaut is used to express the change from a, o, u and au to ä,
ö, ü and äu respectively ... . The cause of these vowel-changes
can, as a rule, not be seen in modern German: in order to under-
stand them, one requires to go back to the earlier stages of the
language".[47] This type of explanation is of limited use in
linguistics since it is common to all disciplines which have a
historical branch. It has also fallen out of favour since it
mixes the synchronic and the diachronic. De Saussure in his
discussion of the necessity of separating the synchronic from
the diachronic uses umlaut of noun plurals as part of his
argument. He takes two stages in the development of German and

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46) Bloomfield 1934, 34f.

47) Eggeling 1961, 34f.

English: At stage A the pl. of some nouns is formed by adding -i: OHG gast, gasti, OE fōt, fōti. At a later stage B, the pl. is formed by changing the vowel, and in the case of German, adding -e: Gast, Gäste, foot, feet. For De Saussure these ways of marking the pl. have no historical connection. The only connection is between individual forms, e.g. gasti, which becomes Gäste.[48] For him, umlaut in NHG would not be explicable in terms of OHG. This attitude of De Saussure's seems to have influenced linguists in turning away from the diachronic study of language to place more emphasis on the synchronic study of language. This represents, in other disciplines as well as linguistics, "a general loss of faith in the efficacy of historical explanation. We try to understand our present position by analysing the component forces in play, not by tracing post facto the long chain of major forces which have brought it about but may have ceased to operate".[49] However in recent years since that was written the strict separation of synchronic and diachronic has been brought into question, especially through the use of 'rules', which may be used synchronically and diachronically.[50] Even so, this level of explanation is very general and is characteristic of historical linguistics in general. It can be applied to almost any form of any language. It does not help us explain sound change or sound changes.

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48) De Saussure 1915, 120ff.

49) Trim 1959, 19.

50) Saporta 1965.

3.5. THE PREDICTIVE POWER OF LINGUISTIC EXPLANATION

This level of explanation can be characterized as the one "in which we could account for the occurrence of a certain linguistic change at a certain place and time: e.g. Why did pre-Germanic change p, t, k to f, þ, h or why did English analogically extend the -s pl. of nouns? The answer would be a correlation of linguistic change with some other recognizable factor enabling us to predict the occurrence of a linguistic change whenever this factor was known".[51] Bloomfield sets this up as a goal to be reached, but does not offer, here or elsewhere, any solution. Nor, must we say, has any linguist to date. Chen, who deals with prediction in phonological change, has to set his sights lower: "Even though we cannot predict that palatalization will take place in language X, we can nevertheless predict that if palatalization occurs at all it will spread along two dimensions or axes".[52] Once a sound change has taken place, its course can be predicted within certain limits, but we cannot predict why palatalization should take place in French but not in Dutch. This has been called the 'actuation problem' by some scholars: "Why do changes in a structural feature take place in a particular language at a given time, but not in other languages with the same feature, or in the same language at different times?"[53]

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51) Bloomfield 1934, 39f.

52) Chen 1973a, 177,

53) Weinreich, Labov and Herzog 1968, 102.

For instance, why did the Germanic long high vowels diphthong-

ize in German, English and Dutch but not in the Scandinavian

languages? This type of question is the strongest and most

interesting demand that could be made of a theory of explanation

in historical linguistics. Unfortunately no answer can be

given to it with the present state of linguistics, and it is

doubtful whether there will ever be an answer.

3.6. CONCLUSION

What can be reasonably demanded of a linguistic theory is that
it should explain language specific changes. This is how
explanation will be considered here and used in our history of
German. Other types of explanation are far more difficult, if
not impossible, to formalize. Research into universals may
help, but much more evidence for many more different processes
will have to be forthcoming before it is based on a surer
footing.

One thing, however, on which most linguists are agreed is that
languages are subject to change, that there is variation in
performance. Where they differ is on the emphasis placed upon
this. The fact that language is subject to ~~change,~~ variation does not
explain sound change (this variation is simply a characteristic of
language), but it does point to the possible origin of sound
change. Variation in the spoken chain produces variants in
pronunciation, grammar and vocabulary. The important thing is
what happens to these variants once they have arisen for what-
ever reason. Two things are important here. The variants may be
idiosyncratic and not spread at all, or they may find their way
into the linguistic system.[54] It is at this point that the
question 'why?' may begin to be asked. Here we find ourselves at
the level of ad hoc language specific explanations. These entail
what has been called the 'transitional problem', i.e. what

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54) Samuels 1972, 140.

intermediate forms there are, the 'embedding problem', i.e. how does a change fit into a) the linguistic system as a whole, and b) into the social structure of the users of the language concerned? There is also the 'evaluation problem', i.e. how the speakers themselves reacted to the change.[55] The question 'why?' seems only answerable in the case of why a particular variant was selected by the linguistic system in a certain case, rather than saying why one was not selected.

Explanations or causes of sound changes can be given as long as it is realized that they merely entail connecting phenomena to their effects, the reason for the selection of a particular variant or process may be due to several factors, in other words there may be multiple causation.[56] All such explanations are ad hoc, even though they represent a selection from a restricted range of sound changes.[57] The ultimate causes of sound change are unknown but in many cases we can see with varying degrees of confidence what the immediate causes are.

55) Weinreich, Labov and Herzog 1968, 184ff.

56) Malkiel 1967.

57) Samuels 1972, 155f.

4. METHODS OF RECONSTRUCTING THE PRONUNCIATION OF 'DEAD' LANGUAGES

4.1. INTRODUCTORY

A present day language is known to us through both the spoken and the written medium, but our knowledge of languages from the past is restricted to the medium of writing. One of the main tasks of the historical linguist is to reconstruct the pronunciation of languages which are no longer spoken, to fill 'dead' letters with life. "Er muB über die toten Buchstaben hinaus bis zu den tatsächlichen Lautwerten, die mit den Buchstaben gemeint sind, vordringen".[1] However the task of doing this has tended to remain rather on the periphery of historical linguistics. One of the difficulties has been the relationship between speech and writing. Grimm used only 'Buchstaben' and seemed to assume that sounds and letters were in a one-to-one correspondance.[2] However it was soon discovered that this was not the case, and that every change in spelling did not automatically mean a change in pronunciation: "Es hat sich vielmehr die ErkenntniB aufgedrängt ... daB die Lautgeschichte mit den Wandlungen der Orthographie ganz und gar nicht identisch ist".[3] This was also recognized by Paul: "Es ist wichtig für jeden Sprachforscher niemals aus den

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1) Kranzmayer 1956, 4.

2) Grimm 1822.

3) Kauffmann 1892, 243.

Augen zu verlieren, dass das Geschriebene nicht die Sprache

selbst ist, dass die in Schrift umgesetzte Sprache immer erst

einer Rückumsetzung bedarf, ehe man mit ihr rechnen kann",[4]

but he gives no clues as to how to reconstruct the pronunciation

of texts of former times. Kauffmann comments in more detail on

this in a later work. He mentions two things as aids to the

reconstruction of pronunciation of OHG: the development of

sounds in MHG and NHG, and the values of sounds in modern

dialects.[5] Jespersen[6] and Wright give a brief account of

"the chief sources for ascertaining the approximate pronunciation

of the speech-sounds of our ancestors".[7] The types of evidence

they suggest, which coincide almost exactly, comprise statements

by phoneticians and grammarians, (including foreigners teaching

English to their own countrymen), rhymes by poets, and occasional

phonetic spellings. In addition Jespersen mentions puns. Since

there is so much agreement between them, it **seems** that these

principles had been thought out years before, but they are hardly,

if at all, stated explicitly in works written in the Neogrammarian

tradition. Even in very recent works on historical linguistics

they are barely mentioned. Samuels deals with them in one

sentence,[8] and Anttilla deals only with inverse spellings.[9]

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4) Paul 1920, 373.

5) Kauffmann 1917, 36 and 45.

6) Jespersen 1909, 1, 3-13.

7) Wright 1924, 3.

8) Samuels 1972, 4.

9) Anttilla 1972, 36.

Bloomfield deals with this problem in slightly more detail.

The 'real phonetic values' of letters can be ascertained by

the occasional spellings of words by scribes or inverse

spellings. Rhymes may furnish more clues, as well as loan words.

Finally there are statements by grammarians, but these must be

treated with caution.[10] Generative linguists have also not

dealt with the principles of reconstruction of pronunciation.

Chomsky and Halle assume the traditional analysis of Middle

English and reconstruct the phonological changes by using the

works of contemporary phoneticians through the centuries.[11] They

never make their principles explicit. Kranzmayer and Penzl are

notable exceptions to this general lack of explicitness in this

question of the methods of the reconstruction of pronunciation.

Kranzmayer, for instance, uses four historical sources "um...

die leeren Lautsymbole ... zum wirklichen Leben zu erwecken".

These are: the old German dialect speech islands in Eastern

Europe and Italy which were settled in the early Middle Ages,

loan words from German in other languages, medieval literary

German with rhymes which reflect dialectal pronunciation, and the

written language of legal documents.[12] Kranzmayer uses all these

sources in his exposition of the historical phonology of Bavarian.

Penzl, whose main concern has been with the history of standard

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10) Bloomfield 1935, 294-6. Briefly mentioned in Sturtevant
    1947, 27-29.

11) Chomsky and Halle 1968, 249-289.

12) Kranzmayer 1956, 4.

German, uses the following sources for ascertaining the
pronunciation: evidence from spelling, i.e. occasional or
inverse spellings, evidence from loan words, and comparative
evidence which, in his opinion, includes not only evidence from
other languages of the same language family but also from the
dialects of the same language.[13] In later works he adds another
source, viz. the comparison of the assumed pronunciation with
previous or, more importantly, subsequent sound changes: "Durch
Vergleich mit den angenommenen Lautveränderungen und Lautwerten
in der späteren Entwicklung können wir nicht nur Phoneme, auch
deren Allophone mit konkret phonetischen Eigenschaften zu
bestimmen versuchen".[14] Penzl has written two detailed case
histories, and other articles on sound changes, on how to
reconstruct pronunciations.[15] One of the main sources emphasized
in practice by both Kranzmayer and Penzl is the study of modern
dialects. This is not a new principle since Kauffmann set it out
earlier, along with the spelling and rhymes of MHG poets. It
seems a source which has been particularly relevant for the
history of German. Although dialect studies started at almost
the same time in England and Germany, they developed more quickly
in Germany, and much more dialect material has always been avail-
able to the linguist investigating the history of German.[16]

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13) Penzl 1957, 197-200, and 1972, 72-79.

14) Penzl 1971, 21.

15) Penzl 1961, 1964.

16) Bach 1950, Brook 1963.

Two detailed reconstructions of the pronunciation of Latin and Greek have been produced by Allen.[17] In the foreword to both books he lists six sources for the reconstruction of pronunciation, all of which we have already covered. One of his principles is 'development in the Romance languages', i.e. the way in which sounds have developed in the Romance languages may help us to reconstruct their phonetic value in Classical Latin. For example Classical Latin short i and long ē merged in Italian and some other Romance languages, as did Classical short u and long ō.[18] Allen deduces from this that "for late Latin at least short i and u will have been nearer in quality to long ē and ō than to long ī and ū, and long ē and ō nearer in quality to short i and u than to short e and o".[18] This is a much clearer exposition of what Penzl meant by the use of subsequent sound changes to ascertain the pronunciation of sounds.

Some linguists have gone to the other extreme and, although not denying that pronunciation can be reconstructed, they want to emphasize the study of the orthographic features of texts in their own right.[19] These studies are undoubtedly valuable, but our task here is to try and reconstruct the pronunciation of MHG and the sound changes to NHG. In this section we want to set out methods of doing this very explicitly. One important thing that cannot be stressed too much is that we cannot rely on one type of evidence

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17) Allen 1965, 1967.

18) Allen 1965, 48.

19) McIntosh 1956. This approach is partially adopted by Fleischer 1966.

alone. There is no need to be pessimistic or cynical about the task of reconstructing pronunciation. Allen is quite positive about it: "The degree of accuracy with which we can reconstruct the ancient pronunciation varies from sound to sound, but for the most part can be determined within quite narrow limits".[20]

20) Allen 1965, vi.

4.2. STATEMENTS ON PRONUNCIATION BY CONTEMPORARY OR NEAR CONTEMPORARY GRAMMARIANS AND OTHER WRITERS

This is the nearest one can come to direct evidence for pronunciation in the past, but ,even so, it is subject to many limitations. Evidence like this is not available for all languages at all times. The classical languages, for instance, are quite well endowed in this respect, particularly Sanskrit,[21] but evidence for the other European languages does not really start till after the Renaissance when, with the decline in Latin, the vernacular languages began to be widely used in writing. There is, however, one isolated example in the Germanic languages of a contemporary phonetic description of a language at an earlier date. This is the account of the spelling and pronunciation of twelfth century Icelandic by the so-called First Grammarian.[22] His phonetic descriptions are for the most part quite accurate. For instance he noticed that the letter n before g was pronounced as a velar nasal, "The n which comes immediately before a g in one syllable is spoken less in the nose and more in the throat than the other n's, because it received some slight admixture from the g".[23] He also recognized nasal vowels as distinctive in Old Icelandic, a fact which scholars had not hitherto assumed. His is the only evidence for them, "But now each of these nine letters will produce a new one if if is pronounced

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21) Allen 1953.

22) Editions by Haugen 1950; Benediktsson 1972.

23) Benediktsson 1972, 237.

through the nose, and this distinction is in fact so clear that
it can change the discourse, as I shall now show in what follows,
and I shall place a dot above those that are pronounced through
the nose: har 'hair', hår 'shark'".[24] This work is an out-
standing exception in the Germanic languages, unmatched by any
other.

Statements about the pronunciation of German do not really start
till about the sixteenth century. A useful collection of short
works is provided by Müller,[25] and for later periods one has the
grammars by Schottel, Gottsched and Adelung. One obvious
drawback of using such writings to ascertain the pronunciation
of the language of the time is that phonetic knowledge at that
time was not very advanced. For instance the use of the term
hart does not specify whether this should be voiceless or fortis.
The following is a typical quotation: "Das /b/ und /p/ sein
auch gleich/ allain das /p/ herter ist dann das /b/ Also auch
das /t/ dann das /d/".[26] There is clearly a distinction, but
the exact nature of it is still unclear.

Furthermore the descriptions frequently do not tell us what we
would like to know. For instance the description of the
pronunciation of the letter g "so die zung das eüsserst des
gümens berürt / wie die Gens pfeysen wenn ainen anlauffen

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24) Benediktsson ibid., 217.

25) Müller 1882, reprinted 1969 with an introduction by
M. Rössing-Hager.

26) Müller 1882, 130.

zůbeyssen"[27] does not state clearly whether it is pronounced
as a stop or a fricative. On the other hand, some descriptions
are quite detailed, particularly as to the place of articulation.
The pronunciation of f is described as follows: "Das /f/ würdt
geblasen durch die zene/ auf die untern lebtzen gelegt /und
stymmet wie naß oder grün holtz am feüre seüt".[28] This is
obviously the description of a labio-dental fricative. In some
instances contemporary descriptions are plainly wrong. The
umlaut vowels are sometimes described as being diphthongs.[29]
Double letters are sometimes taken as being pronounced double by
Frangk: "Diese wort/ hofeman/ hefen/ teufel u./haben ein f /
hoffen /teuffen/helffen u./ zwey ff/ Solchs lernt die
aussprache".[30] This could conceivably be true of ff inter-
vocalically which was originally a long sound after short vowels,
but improbable after a diphthong, and impossible after l. In
the study of German we are unlucky in not having a phonetician
of the status of John Hart, Wallis or Cooper,[31] although
there are a few interesting comments on pronunciation in Müller's
collection of articles which help to show when a sound change
has taken place.

As well as comments by grammarians for native speakers there is

27) Müller ibid., 128.

28) Müller ibid.

29) Müller ibid., 66.

30) Müller ibid., 100.

31) See Dobson 1968, Vol. 1.

also evidence provided by foreigners who want to describe
English to their compatriots. These sources are generally
regarded as being less reliable than those provided by native
speakers, since   their mastery of the language is not
always perfect.[32] There do not seem to be many works for English
people learning German. The best example that could be found is
the High Dutch Minerva of 1680.[33] In this work the German
sounds are described in terms of English ones: "AE short as
the English EA, e.g. to learn i, laernen, to earn i, aernen, or
aernden, oft one for another ...".[34] This tells us about the
pronunciation of English at that time, as well as German, since
                        in these words
the English sequence ear ⌐is now pronounced [ɜ:], but in ~~the~~ some
dialects that retain post-vocalic /r/ it is still pronounced [ɛr].
This statement tells us that phonetically the type of German
described did not distinguish between short AE and E. By this
time in this type of German the merger of MHG short /e/ and /ẽ/
had taken place. This first type of evidence is of two kinds.
As in the last case it may merely show us what sounds were
considered to represent the same pronunciation, or in the case
of /f/ it may tell us the place of articulation. Such sources
have to be used with caution remembering Jespersen's warning:

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32) Jespersen 1909, 1, 6.

33) Reprinted 1972 in : English Linguistics 1500-1800, R.C.Alston
     ed.

34) Ibid., 4.

"It would be an extremely grave error to suppose that every

little notice found in an old grammar about the pronunciation

of such and such a word is the exact truth ...".[35]

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35) Jespersen 1909, 1, 9.

4.3. THE USE OF LOAN WORDS

Words borrowed into languages suffer many fates. They may contain sounds already present in the borrowing language, e.g. kitsch borrowed from German by English. They may be altered from their original form to the sound pattern of the borrowing language: in North German the French nasal vowels are replaced by a vowel plus a velar nasal: Bonbon is pronounced [bɔŋbɔŋ], Chance is pronounced [ʃaŋsə] since German has no nasal vowels.[36] In other cases the words may retain their original sound, which is eventually borrowed into the sound pattern of the borrowing language, if sufficient words are borrowed, e.g. /ʒ/ in NHG. For the reconstruction of pronunciation, the optimum state of affairs is when the sound can be assumed to have remained the same, either if it merges with an already existing sound, or if it provides the borrowing language with a new sound. In many cases, however, the sound in the word which is borrowed is adapted to the phonological system of the borrowing language and merges with the phonetically nearest phoneme. This occurs very frequently and on this basis the use of loan words to establish pronunciation must be very tentative and always backed up by other evidence.

If the borrowed sound exsists in a present-day language then the reconstruction is on much firmer footing. This is the case with

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36) Wörterbuch der deutschen Aussprache, 184 and 189, (WDA).

the use of Old French loan words in modern English to establish

the pronunciation of Old French. The initial affricate in English,

chant, chain, is presumed to represent the Old French pronunciat-

ion of initial ch. These words were borrowed into English in

the Middle Ages at a time when initial ch was pronounced [tʃ].

In the history of French this affricate has become simplified to

the fricative [ʃ]. When words like chant were borrowed into

English, they merged with an already existing ch from Germanic k

by palatalization, church, chin, chicken.

The dating of the French change of [tʃ] to [ʃ] is also provided

by loan words. MHG did not possess an initial [tʃ], ~~but~~ *except where* it borrow-

ed ~~many~~ words from French with initial [tʃ]. Many of ~~them~~ *these* have

two forms, beginning with either [tʃ] or [ʃ] and some have only

initial [ʃ]. From this it is concluded that when MHG borrowed

these loan words from French, during the thirteenth century, Old

French initial [tʃ] was changing to [ʃ].[37]

These last examples were relatively easy to interpret, but in

other cases the conclusions have been more difficult to draw.

Many scholars consider OHG s to have been pronounced more like

sch than s.[38] To support this theory they have cited German

loans in Slavonic where OHG s has been rendered by Slavonic [ʃ],

Wendish špəl, OHG spil, Czech štola, German Stollen. In OHG s

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37) Nyrop 1914, Vol. 1, para. 402.

38) Braune/Mitzka 1961, para. 168, Karstien 138.

is used to render s̲ in Slavonic place names. In 1030 the village name S̲c̲h̲e̲u̲f̲l̲i̲n̲g̲ was written S̲u̲v̲l̲i̲c̲h̲.[39] Since Hungarian began to be written in the Latin alphabet about this time, the Hungarian use of the letter s̲ to render [ʃ] (whereas s̲z̲ is used to render [s]) has also been cited to support the hypothesis that OHG s̲ was pronounced like [ʃ].[40] Since OHG s̲ is also used to render Slavonic z̲, Schwarz assumes that it was voiced, but Lessiak is a little more cautious.[41] Much of this must remain speculation, since in NHG the OHG s̲ is represented by [z] initially before vowels, s̲a̲g̲e̲n̲, and medially between vowels, l̲e̲s̲e̲n̲, [s] when doubled, M̲e̲s̲s̲e̲, and finally, d̲e̲s̲. Only initially before consonants has it developed to [ʃ].

The German pronunciation of K̲a̲i̲s̲e̲r̲ with the diphthong [ai] is often cited as a pointer that Latin a̲e̲ was pronounced as a diphthong at the time of the borrowing.[42] It may certainly have been a diphthong, but we do not know its exact phonetic realization. It may have been [ai], [ae], as in NHG, [ei] or [ɛi]. This type of evidence more than any other must be used with the utmost caution. There are a number of pitfalls to be avoided. Both the sound in the borrowing language and in the language from which it was borrowed may have changed. In the case of

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39) Schwarz 1926, 39.

40) Porzig 1950, 276; Lockwood 1965, 60.

41) Schwarz 1926, 14f.; Lessiak 1933, 87, is a little more cautious.

42) Allen 1965; 60, Porzig 1950, 275f.

Latin <u>caesar</u> and OHG <u>keisar</u> we are working with two unknowns,
whereas with English <u>chant</u> at least there is the present day
phonetic evidence.

When words are borrowed into another language they most frequent-
ly change their form to become adapted to the sound system of
the language concerned. Some examples of borrowings from English
by NHG will be used to illustrate this. The English word <u>Job</u>
[dʒɔb] has been borrowed into NHG with the widespread pronunciat-
ion [tʃɔp].[43] All final obstruents in NHG are devoiced, and, since
NHG   does not usually have the initial cluster /dʒ/, it is
merged with the nearest sound /tʃ/. English /a/, which varies
phonetically from [a] to [æ],[44] is perceived and pronounced by
Germans as [ɛ], since they have no [æ], although it is still
written <u>a</u>, e.g. <u>trampen</u>, [trɛmpən].[45]

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43) WDA, 305, gives [dʒɔp].

44) Gimson 1962, 101.

45) WDA, 496.

4.4. PHONOLOGICAL DEVELOPMENT IN THE LANGUAGE ITSELF

In some cases sounds which contrast in a present day language

do not contrast orthographically in an older period

of the language. Unless there is good reason for us to assume

that they have resulted from the split of one sound then it can

be assumed that the phonemic contrast of the language in its

modern period also existed at an earlier stage. A good example of

this is the assumption of short and long high vowels in MHG.

In writing no distinction was made between them in MHG: wibe,

libe, siben, spiln, are all written with i. However if we

examine their reflexes in NHG we find that wibe, libe are

represented by diphthongs, Weibe, Leibe whereas siben and spiln

are represented by long vowels [ziːbən], [ʃpiːlən]. There is

no evidence to show us that the phonetic values in NHG resulted

by a split from one original MHG sound. Since they are distinct

in NHG, we can also assume that they were distinct in MHG.

However this does not tell us how they were distinguished in

MHG. By contrast, the modern English contrast /u/ : /ʌ/, as in

put, putt, is not assumed to have existed in Middle English.

The vowels of ME ful, putte, up, thus, hunte were all written

with the same sign, u. In modern English, however, full, put are

pronounced with [u] and up, thus, hunt with [ʌ]. According to

the principle we have set up, we can assume the /u/ : /ʌ/

contrast for ME if there is no evidence of a phonemic split of

ME /u/. In this case, unlike the MHG case just mentioned, there

is evidence of a phonemic split. The distribution of the phoneme

/u/ is restricted. Words in modern English written with <u>u</u> and pronounced [u] usually begin with a labial, e.g. <u>pull</u>, <u>full</u>, <u>put</u>, <u>butcher</u>, <u>bull</u>, <u>pully</u> and often end in <u>l</u>, whereas [ʌ] does not appear so often after initial labials.[46] It has been assumed that ME /u/ developed a lowered, less rounded allophone [ʌ], except after labials. At one time [u] and [ʌ] were in complementary distribution. Due to the shortening of ME <u>ō</u>,which had then been raised to <u>ū</u> before <u>k</u>, as in <u>book</u>, <u>look</u>, <u>cook</u>, minimal pairs like <u>look</u>: <u>luck</u> = /u/ ≠ /ʌ/, were created.[47] There is additional evidence that most northern and North Midland dialects do not show a split of ME /u/. This however belongs to section 4.7. This brief outline shows some of the reasoning why we would not want to project the modern English /u/ ≠ /ʌ/ opposition back into ME.

Another example of a present day contrast which can be projected back into the past is the case of Modern French /u:/ and /ɔ/, as in <u>court</u>, <u>porte</u>. In Old French these words were written <u>cort</u> and <u>porte</u>. There is no evidence that the modern French sounds resulted from the split of one Old French sound, so this contrast must be assumed for Old French as well. Another example is from English. In ME, <u>rote</u> and <u>note</u> have the same vowel sign. However in modern English these two words are pronounced [ru:t] and [nəut].

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46) Gimson 1962, 112ff, There are exceptions, e.g. <u>bulb</u>, <u>butter</u> etc.

47) Kurath 1964, 96.

This distinction in Modern English cannot be seen to result from a split of a single sound in ME. It must be assumed that the symbol o in ME represents two phonemic values.

This method of reconstruction is quite effective for projecting contrasts in the present back into the past, even if there is little or no orthographic evidence for the distinction in ME or MHG. In this way phonemic oppositions can be established, but not the exact phonetic realization of the phonemes.

4.5. SPELLING CONVENTIONS AND VARIANTS

In many texts, particularly in Early NHG, the spelling seems to be in a great state of flux. Many words are spelt differently even in the same sentence. The same sign is used randomly, varying with different ones in different words. For example, the NHG word Zeit is written in one text: zeit, zeyt, zit, zyt and the NHG word Bein is written: bein, beyn, bain.[48] There is an overlapping of the signs ei, ey in the spelling of these two words. In some words ei, ey alternate with i, y and in other words with ai. If, instead of looking at the individual signs, we look at groups of signs, then the fluctuation seems less random and more capable of regular description. In the example just quoted, we have, what might now be called two graphemic 'variables', one comprising the set // i, y, ei, ey // and another comprising the set // ei, ey, ai //. Since there are two sets of signs, even though ei and ey occur in both of them, it is assumed that we are dealing with two different sounds, which are in opposition. This is further supported by the fact that the words in these two sets never rhyme. For the texts in question we can say that the reflex of MHG /ī/, represented by the set /ei, ey, i, y/, and the reflex of MHG /ei/, represented by the set /ei, ey, ai/, are still distinguished. Sometimes, however, the mere establishment of two sets is not sufficient in itself to show whether two sounds are still kept apart. Statistical evidence can help still further. We are fortunate in having

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48) Philipp 1968, 4f. and 93ff.

suitable statistical evidence available for a Bavarian text of the seventeenth century.[49] MHG /ī/ and /ei/ are again represented by two sets, MHG /ī/ by the set /ei, ey, i/ and MHG /ei/ by the set /ei, ey, ai, ay/. It seems, on the face of it, that this is a similar situation to the one in Murner's works, MHG /ī/ and /ei/ are still kept apart. However if we examine the percentages of each sign, we are forced to a different conclusion. The percentages of the signs representing MHG /ī/ are as follows: 73% of the words have ei, 24% have ey, and 1% have i. In the case of MHG /ei/ 60% of the words have ei, 1% have ey, 20% have ai and 10% have ay. In this case the sign with the largest combined percentage is ei with 133% out of 200%. The other signs are really only in occasional use. From this it may be inferred that the reflexes of MHG /ī/ and /ei/ have, in fact, merged.[50] The evidence of statistics can help us decide whether two sounds have merged or not. Unfortunately this type of evidence is not available for all texts.

Changes in spelling most often happen when phonemic mergers take place. In the case of the merger of MHG /ī/ and /ei/ the sign ei becomes predominant. This also happened in the case of the merger of MHG /s/ and /z/ when s eventually became used as the main sign. The first sign of a phonemic merger is that two signs, which hitherto have been kept carefully apart, become used wrongly,

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49) Piirainen 1968, 103ff. and 109ff.

50) Piirainen 1968, 114.

e.g. das is written for MHG daz, and allez for MHG alles.[51]
This type of evidence is known as inverse spellings.[52] At the
beginning of the orthographic recognition of a merger this may
not happen very frequently and then such variations, or 'slips',
are often called occasional spellings. Such spelling 'mistakes'
usually show any phonemic change which involves conditioned
merger, and changes in the incidence of phonemes.[53] The
conditioned merger of MHG /w/ and /b/ after /l/ and /r/ is reflected in
ECG documents in the use of the letter b for /w/ in this position.
The irregular representation of MHG /ā/ by [o:] in NHG is reflected
in ECG written sources by the use of the letter o for MHG /ā/ in
certain words, e.g. ohne for MHG āne.[54]

Other phonemic changes may also be reflected in orthography but
not to the same extent. Phonemic shifts are sometimes reflected
in changes in orthography, e.g. the shift of Germanic þ to d is
reflected in the change in OHG orthography from th or dh to d.
However in the history of English the Great Vowel Shift is not
reflected in orthographic changes, ME ī and ū are still written
i and ou, and ME ō is still written oo. The shift of Latin ū
to French [y], Latin tu, French tu, is also not reflected in the
orthography at all.[55] This is evidence of the fact that
phonemic shifts do not normally affect the number of phonemes in

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51) Schulze 1967, 38f.

52) Jespersen 1909, 1, 4.

53) Penzl 1957, 200f.

54) Fleischer 1966, 85; Kettmann 1967, para. 6 b.

55) Penzl 1957, 200.

the phonological system, but only the phonetic relationships between them. Very often phonemic splits also only receive belated recognition in the orthography although they produce new phonemes.[56] We are only concerned with phonemic splits, which result from a change in the conditioning factors of allophones, which are in complementary distribution and produce new phonemes. This applies to the umlaut vowels in German, particularly NHG $\ddot{o}$ and $\ddot{u}$, which were often written without ¨ in MHG and Early NHG.[57] The split of MHG /n/ into /n/ and /ŋ/ has no reflection in spelling, except that the sequence ng in NHG can always be read as [ŋ], (but see p.218).

Most sound changes usually result in a change in orthography and consequently a study of orthographic signs is one of the most important clues to pronunciation and sound changes. It must be added that some changes in orthography do not reflect changes in pronunciation, e.g. the change of OE hūs to ME house was merely the introduction of the Anglo-Norman digraph ou for OE ū.[58] Also some variation in texts, e.g. erbe and erthe, merely reflects orthographic variation and not variation in pronunciation.[59] Apart from these cautionary remarks, spelling and its changes remains a major source for the reconstruction of sound changes and pronunciation.

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56) Penzl ibid., 201.

57) V. Moser 1929, 1, 1, para. 16.

58) Penzl 1957, 198.

59) McIntosh 1956, 33.

4.6. THE EVIDENCE FROM RHYMES AND PUNS

The evidence from rhymes and puns tells us which sounds were pronounced in the same way or considered to be pronounced in the same way, and by implication, those sounds which were not rhymed were not pronounced the same. Like the other methods of reconstruction which we have considered, rhymes tell us little about the actual phonetic realizations of the sounds, but only whether they contrast with other sounds or not. Rhymes can usually tell us about stressed vowels, intervocalic consonants and final consonants and vowels.[60] Initial consonants are not accessible by this method. When, in the oldest Germanic poetry, the alliteration of initial consonants and vowels was demanded by poetic convention, then the value of initial but not medial and final sounds could be deduced.[61]

Rhyming practice has been one of the main supports for the view that MHG possessed two short e sounds, a close [e], historically from Germanic a by i umlaut, and an open [ɛ], representing Germanic e.[62] Most MHG poets did not rhyme these two sounds, and even though they are both spelt e it is assumed that MHG had two phonemes /e/ and /ë/.

ME had two long ē sounds, /ē/ and /ę̄/. In Modern English they have both merged in [i:], meed, mead. However in the seventeenth

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60) Philipp 1968, 3.

61) Penzl 1972, 74.

62) Zwierzina 1900.

and eighteenth century there is evidence from rhymes that there
was one type of English in which ME /ē/, meed, was separate
from ME /ę̄/, mead, which rhymed with the reflex of ME /ā/ and /ai/,
made, maid. This type of English existed side by side with the
type in which ME /ē/ and /ę̄/ merged in [i:], which became the
standard pronunciation.[63] Most of the evidence for a type of
English where ME /ē/ merged with ME /ā/ and /ai/ is provided by
rhymes, e.g. weak-take.[64] The two words that rhymed then

no longer rhyme in Modern English. This example has
shown that we can find out which sounds have not merged, but
rhymes can also help us to find out which sounds have merged.
In early MHG final /z/ and /s/ did not rhyme, but in the late
~~fourteenth~~ thirteenth century there is evidence that by then they had merged,
since now they did rhyme: This can be illustrated by some lines
from Meier Helmbreht,[65] composed in the late thirteenth century:

> den diep blinden, Helmbreht
>
> brāhte ein stap und ein kneht
>
> heim in sīnes vater hūs
>
> er behielt in niht, er treip in ūz.

In classical MHG the last two couplets would not have ~~been~~ contained a
pure rhyme.

Caution must be displayed in using rhymes to ascertain which

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63) Samuels 1965, 146f.

64) Wyld 1927, 171.

65) ed. by C.E.Gough, 1947, lines 1707-10.

sounds were pronounced the same, since some rhymes are only
rhymes to the eye, eye-rhymes, and not rhymes to the ear, e.g.
in English, <u>love</u>: <u>move</u>, <u>pant</u>: <u>want</u>. This practice seems to
have developed in the sixteenth century and thereafter.[66]
It does not seem to have played a role in German versification.
A peculiar feature of German rhymes is the practice of rhyming
front rounded and front unrounded vowels: e.g. <u>müssen</u>, <u>wissen</u>.
This originally started with poets from Saxony in the sixteenth
and seventeenth centuries. Zesen lists <u>Elbe</u> and <u>gewölbe</u> as
having the same vowel. This was for CG poets of the sixteenth
century not an impure rhyme but reflected the unrounding of
front unrounded vowels which can be seen in the modern dialects.
However it spread as a poetic convention and was used by North
German poets for whom it was an impure rhyme and became established in
German poetry.[67] It is even used in popular modern songs, e.g.

> Hinter den Kulissen von Paris
>
> ist das Leben noch einmal so süB.[68]

Puns perform a similar task to rhymes. They indicate which
words are considered to have the same pronunciation. The use of
puns for reconstructing sound changes has chiefly been applied
to English. No examples seem to exist in the history of German.

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66) Wrenn 1943, 34f.

67) Neumann 1920, 113f. (see 6.4).

68) Klose 1971, 15.

Kökeritz cites many puns from Shakespeare, e.g. from <u>Romeo</u>
<u>and Juliet</u>, Act. 3, Scene 5, 127ff.[69]

> When the <u>sun</u> sets, the earth doth drizzle dew
>
> But for the <u>sunset</u> of my brother's <u>sonne</u>
>
> It raines downright.

This is one of Shakespeare's most frequent puns. Another
example is from Henry VI Part 1, Act 3, Scene 1, 51f.[70]

> Winchester: <u>Rome</u> shall remedie this.
>
> Warwick: <u>Roame</u> thither then.

This type of evidence, from rhymes and puns, can help us to
ascertain which sounds were considered the same or different,
but in the main it does not usually help us to establish more
exact phonetic values for sounds.

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69) Kökeritz 1953, 147.

70) Kökeritz 1953, 141.

4.7. COMPARATIVE AND NEOCOMPARATIVE EVIDENCE

Any European language that we study does not exist in a vacuum.
It has dialects which have either been studied or are open to
study by the linguist. Except in the case of Basque, ~~there are~~ each
European language belongs to a definite language family, e.g. German to Germanic.
~~other languages with which most European languages are related.~~
Penzl uses the adjective comparative to describe evidence of genetically
related languages, and neocomparative for the evidence from the
dialects of a language.[71]

Comparative evidence is mostly used to reconstruct the oldest
stage of the language or the proto-language from which it is
descended. English has the interdental fricative [θ], thing,
and it assumed that this is the original pronunciation, the
other Germanic languages having changed it from a fricative to
a voiced stop, German, Dutch ding, or a voiceless stop, the
Scandinavian languages except Icelandic, ting. This type of
evidence is usually not as relevant for the reconstruction
of MHG. For this we can lay more weight on the evidence of the
present day dialects, that is, neocomparative evidence. Not all
the dialects are of the same value in reconstructing MHG. Large
sections of what is now the East Central German Dialect area
were only just being settled in MHG times.[72] Literary MHG was
mostly written by Upper Germans, Gottfried von Straßburg,

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71) Penzl 1957, 199. "All diachronic interpretation implies a
     comparison, of course".

72) Mitzka 1944.

Hartmann von Aue, who probably came from present day Switzerland,
Walther von der Vogelweide, who came from Austria and the East
Franconian Wolfram von Eschenbach.[73] In MHG the digraphs uo
and ie are used guot, miete where in NHG we have long close
monophthongs [u:], [i:]. In the UG dialects the words which
were written with them in MHG are pronounced with diphthongs.
It is assumed from this that the digraphs uo and ie and also
üe represented diphthongs in MHG.[74] However what was the exact
phonetic representation of the diphthongs? Did uo represent [uɔ],
or [up], as in present day Bavarian, or [ue] as in present day
Alemannic? These questions are quite open. Some linguists
assume that MHG uo literally represents [uo], and that the second
component was unrounded and lowered or centralized in Bavarian.[75]
Evidence from dialects is thus not free from problems.

Another example where dialects can help is in the reconstruction
of the two short e phonemes of MHG. Although there is no
distinction in writing some poets maintain a difference between
MHG /e/, from Germanic a by i umlaut, and MHG /ë/, from Germanic
e, by not rhyming them. UG dialects and many CG dialects also
keep a distinction between these two MHG phonemes.[76] The phoneme
/e/ is usually a close [e] and the phoneme /ë/ is usually a very
open [æ], which in some dialects has been lowered to [a]. Since

73) H. Moser 1957, 123f.

74) Paul/Mitzka 1959, 60.

75) Von Kienle 1960, para. 51.

76) Von Kienle ibid., para. 38.

most dialects maintain a distinction between the reflexes of
MHG /e/ and /e̋/, and there is no evidence that they have
resulted from a phonemic split, we can assume they were also
distinct in MHG. In this case we find that CG can help in the
reconstruction, as well as UG dialects.

In the Middle Ages many German settlers colonized areas in
Eastern Europe and Italy. Some of the settlements eventually
formed a continuation of the German speaking area, extending it
eastwards from the Elbe. The dialects of Silesia and East and
West Prussia would be examples of this. Other settlements were
surrounded by speakers of other languages and formed what are
known as speech islands. There were a great many of these up to
1945 in Eastern Europe.[77] It is difficult to say how many exist
today. Since the settlers who formed these speech islands
originally came from the their homelands at times which can be
documented exactly, their speech may reflect the pronunciation
of their home dialect from that time. Kranzmayer lays great
stress on this.[78] Well known examples are the speech islands in
Northern Italy and Siebenbürgen in Romania. For instance, one
of the pieces of evidence which is adduced for the pronunciation
of OHG s as [ʃ] is that the speech island Gottschee has a [ʃ]
pronunciation for OHG s, even initially before vowels.[79] This

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77) Althaus, Henne, Wiegand (ed.) 1973, 367-377.

78) Kranzmayer 1956, para. 15.

79) Schwarz 1926, 16f.

type of evidence is not really different from that provided by
other dialects, except that it may be less reliable because the
speakers were frequently bi-lingual and were open to influences
from the other language they spoke.

If we regard   NHG as a 'dialect' which has acheived the
status of a standard language, then it also is often taken as
providing help in the reconstruction of MHG pronunciation.
Mostly this takes the shape of assuming that if no change has
taken place then we can assume that the phonetic value of a
sound in NHG is the same as that for MHG. The NHG nasals m and
n, bilabial and alveolar can on this basis safely be assumed for
MHG. Similarly MHG sch can be assumed to have been pronounced in
MHG as it is in NHG. This assumption is made in most historical
phonologies of German, but it is never made explicit.[80]

The evidence from dialects is used very often in the reconstruct-
ion of MHG but it must be emphasized that we cannot simply
project a particular pronunciation from a dialect on to MHG.
The dialect itself, as well as the assumed MHG pronunciation,
may have changed. Nevertheless the modern German dialects do
give us phonetic values which, in many cases, are very close, if
not identical,   to those we reconstruct for MHG.

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80) Paul/Mitzka 1959, para. 85, para. 114.

5.0   T H E   D E V E L O P M E N T   F R O M   M I D D L E

      H I G H   G E R M A N   T O   N E W   H I G H   G E R M A N:

      T H E   C O N S O N A N T S

5.1 THE AFFRICATES

5.1.1 <u>The development of MHG /pf/, /ts/ to the NHG clusters /p/ +</u>

       <u>/f/, /t/ + /s/</u>

Most phonological descriptions of NHG recognize two affricates,

[pf], spelt <u>pf</u>, and [ts], spelt <u>z</u>, <u>tz</u> and <u>ts</u>. Initially before

vowels [ts] is spelt <u>z</u>, <u>Zeit</u>, medially after diphthongs it is

spelt <u>z</u>, <u>heizen</u>, and after long vowels it is spelt both <u>z</u>, <u>duzen</u>,

<u>siezen</u>, and <u>ts</u>, <u>Lotse</u>, <u>Rätsel</u>. Medially and finally after short

vowels it is spelt <u>tz</u>, <u>sitzen</u>, <u>Sitz</u> and <u>zz</u> in Italian loans, <u>Pizza</u>.

There is also a third affricate in NHG, [tʃ], e.g. <u>Peitsche</u>,which

is usually considered to be a consonant cluster. Affricates are

usually defined phonetically as a stop followed by a fricative at

the same or similar point of articulation.[1] By this definition

[tʃ] would indeed be an affricate as it is in English.[2] Historic-

ally, however, [ts] and [pf] came from single phonemes, Germanic

<u>t</u> and <u>p</u> respectively, whereas [tʃ] has a different origin (see

5.1.3). In a traditional phonemic analysis the question arises

as to whether [pf] and [ts] are unit phonemes, i.e. monophonematic,

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1. Abercrombie 1967, 148; Martens 1961, 212.

2. Gimson 1962, 169; Kurath 1964, 44.

/pf/, /ts/, which adds two phonemes to the phonemic inventory,

or whether they are clusters of already established phonemes,

i.e. biphonematic, e.g. /t/ + /s/, /p/ + /f/, which would leave

the number of phonemes the same. Linguists are divided on this

question, some regard [pf] and [ts] as unit phonemes and some

as clusters.[3] Since historically they came from single sounds,

it is probable that at one time they were monosegmental affricat-

es. The question that is then posed, at least by those who

regard them as bisegmental in NHG, is: when did they change from

unit phonemes into clusters? For those linguists who assume

that the [pf] and [ts] are unit phonemes in NHG the question

does not, of course, arise. Traditional studies have never consider-

ed this to be a problem. They assume that the affricates have not

changed from OHG to NHG, except for minor changes, e.g. after l

and r OHG pf is simplified to f, OHG helpfan, MHG helfen.[4]

Moulton, however, assumes that NHG [ts] was at one time (he does

not say when) a unit phoneme /ts/. Then by a phonemic change,

which he calls fission, it becomes a sequence of two phonemes

/t/ + /s/. Instrumental in bringing about this change was the loss

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3) The following regard NHG [pf] and [ts] as clusters of two
   phonemes: Gerhardt 1950, 132-7; Morcinciec 1958, 49-66; Moulton
   1962, 24. There seem to more linguists who regard NHG /pf/ and
   /ts/ as unit phonemes: Trubetzkoy 1939, 44 and 53; Hintze 1950,
   83; Becker 1953, 253-8; Philipp 1970, 52. There is an account
   of the problem in Werner 1972, 50-55. Vennemann, 1968b, 226,
   regards the affricates as being derived from underlying /p, t, k/.
   In 1968a he regards them as monosegmental in initial position,
   but polysegmental elsewhere.

4) Wright 1907, paras. 251, 261.

of unstressed [ə] before the ending -st. This meant that MHG
wertes became NHG Werts where the sequence /ts/ was divided by
a morpheme boundary between the stem Wert- and the ending -s.
For Moulton this is a pointer to the fact that NHG [ts] may be
analysed as /t/ + /s/. Through this change, fission, the unit
phoneme /ts/ has been lost from the phoneme inventory.[5]

This is similar to the way in which Penzl handles the diphthong-
ization of MHG/ī, iu, ū/ He calls their diphthongization in NHG
to /ai/, /oi/, /au/, diphonemization. This presupposes on his
part the analysis of the diphthongs of NHG as clusters and not
unit phonemes. If they are interpreted as single unit phonemes,
then diphonemization has not taken place.[6] This type of change
is dealt with by Daniel Jones who calls it: 'Replacement of a
sound by a sequence of two sounds'. He cites diphthongization
in Old French of Latin short [ɛ] to [jɛ], but he gives no
examples of consonantal changes. He is cautious about the
development but says that it was the introduction of [iɛ] from
other sources which "caused the diphthongal iɛ of such a word as
brief to become disyllabic".[7] It is really a question of

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5) Moulton 1967, 1399.

6) Penzl 1957, 197. Moulton 1967, 1400, although accepting the
   reinterpretation of MHG /ts/ as two phonemes /t/ + /s/, he
   does not accept NHG diphthongization as an example of fission,
   since the Polivanov factor, another phonetic change, did not
   bring about any reinterpretation of the diphthongs as
   sequences of two sounds.

7) Jones 1962, 246.

phonemic interpretation whether a phonetic sequence or segment
is to be viewed as one phoneme or two. A decision that the
affricates or diphthongs in NHG are unit phonemes removes the
question of when their development from unit phonemes to clusters
was completed. It is significant that terms such as affrication,
diphthongization are phonetic rather than phonemic terms. Penzl
is right when he says that diphonemization "resembles a phonemic
shift".[8] In 2.2 we pointed out that a phonemic shift is, in fact,
not really a change in the number of phonemic units, but rather
of their distinctive features. However, for those linguists who
assume that NHG [ts] is bisegmental, then the change of /ts/ to
/t/ + /s/ means the loss of the affricate /ts/ from the phonemic
inventory.

As far as NHG [pf] is concerned, neither Moulton nor any one
else deals with its parallel development from a unit phoneme
/pf/ to cluster /p/ + /f/. Moulton regards it as /p/ + /f/,[9]
since there are other consonant clusters with /p/ as first
member. He could have strengthened his argument by saying that
/p/ and /f/ also occur separated by a morpheme boundary, as in
Abfall, Abfahrt. Due to the fact that these forms were abeval,
abevart in MHG, he could have further assumed, as in the change
of /ts/ to /t/ + /s/, that the loss of unstressed [ə] changed
the unit phoneme /pf/ to the cluster /p/ + /f/, since now they

8) Penzl 1957, 197.

9) Moulton 1962, 24.

were separated by a morpheme boundary. If we can postulate

a fission of MHG /ts/ to /t/ + /s/, then we can also postulate

the development of MHG /pf/ to /p/ + /f/. Again there is a

subtraction from the phoneme inventory.

The change from a unit phoneme to cluster may be justified on

phonemic grounds: but the question arises whether it is

supported by any phonetic evidence. In colloquial speech there

is no phonetic difference between [ts] in Sitz or Zeit, and [ts]

in rätst or lädst. As far as NHG [pf] is concerned there is

also no phonetic distinction in colloquial speech between the

[pf] in Apfel and the [pf] in Abfall. Siebs, however, says

that when [pf] is a 'feste Lautverbindung', then the [p] is not

aspirated, but when the sequence [pf] results from the juxta-

position of two consonants, as in abfahren, then the [p] is to

be aspirated. But he has to admit that in colloquial speech the

first of two consonants is sometimes not properly released, and

presumably, although he does mention this, it is not aspirated:

He continues: "am ersten ist eine solche Aussprache zu dulden,

wo durch den Zusammenstoß in der Wortzusammensetzung oder der

Wortfolge ähnliche Lautgruppen wie pf, ts, tʃ, kʃ entstehen,

also: abfahren ..."[10] The aspiration of the prefix ab before

another consonant is not demanded by the Wörterbuch der

Deutschen Aussprache: "Die Verschlußlaute werden (meistens)

nicht behaucht: ...2. vor folgenden Konsonanten, z.B. absorbiern

...rätlich..."[11] Duden Grammatik gives detailed rules for the

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10) Siebs 1958, 77f.

11) WDA, 45.

aspiration or non-aspiration of stops. It prescribes non-aspiration of ab- before labial stops, ab Bonn, abpressen, and aspiration before the affricate [pf], or the clusters [ps], abpfiff, Lobpsalm, and aspiration in all other cases, absetzen, Abgang. There is unfortunately no example with ab before [f] but it seems likely that Duden would require aspiration here.[12] This of course would be in line with Siebs. It is impossible to understand exactly what happens in the 'gemäBigte Hochlautung' and 'Nicht hochlautung' since there are no examples given of ab before [f]. The previous edition of Duden Grammatik, however, states quite clearly that the [p] in Apfel and Abfall are different. Of the latter it says: "Ist in pf ... zwischen dem ersten Teil und dem zweiten Teil eine Silbengrenze / also p/f ..., so spricht man p ... unbehaucht".[13] It mentions later that it is a characteristic of colloquial speech that aspiration is weakened or lost. The syllable boundary can be moved: "Abfall HS ap/fal, US a/pfal (wie in Apfel a/pfəl)".[14] Although Wardale gives only the examples Abmarsch and abwenden of ab before labial sounds, he says that a stop, when it precedes a homorganic fricative, becomes unaspirated.[15] By implication, this loss of aspiration would apply to [p] before [f] examples like Abfall.

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12) Duden Grammatik 1966, 47.

13) Duden Grammatik 1959, 34.

14) Duden Grammatik 1959, 38. HS = Hochsprache, US = Umgangssprache

15) Wardale 1955, 27.

It has been necessary to explain in detail that the affricate
[pf] and the cluster [p + f] are pronounced the same in all
but the most formal spoken German in order to emphasize the
point that the change of unit phoneme /pf/ to a cluster /p/ +
/f/ is really a question posed by a phonemic analysis of the
affricates as clusters, rather than by an actual phonetic change.
The aspiration demanded for the standard probably only existed
in a declamatory style. The affricates [pf], and [ts], have
therefore undergone no real phonetic change since MHG.

5.1.2 Changes in the distribution and incidence of MHG
/pf/ and /ts/

In NHG the affricate /pf/ occurs initially before vowels, Pferd,
Pfad, and before /l/ and /r/ pflügen, Pfründe. Medially and
finally it only occurs after short vowels and /m/: klopfen,
kampfen, Kopf, Kampf, with the exception of the one word Karpfen,
where it occurs after /r/. In MHG, /pf/ occurred medially and
finally after /r/ in the following words: MHG scharpf, harpf,
karpfe and also after /l/ in the word gelpf. All these words had
variants with f in MHG except for karpfe which had a variant
with p, karpe.[16] The MHG gelpf, which was both an adjective,
'shining', and a noun, 'noise, insolence', and the related verb
gelpfen have died out in NHG, This has changed the distribution
of /pf/ in NHG, since apart from the one word Karpfen, it no longer

16) Lexer 1876, II. Paul/Moser/Schröbler 1969, para. 87. In
MHG both pf and ph are used for the labial affricate.

occurs after /l/ and /r/. Phonetically this change of [pf] to [f]

represents a simplification of the affricate to a fricative.

This change had begun in late OHG when, again after l and r,

OHG [pf] became simplified to [f], OHG helpfan, MHG helfen.[17]

This did not produce a new cluster since in NHG /lf/ has also

come from Germanic lv, as in Wolf cf. MHG wulven, or the

sequence l + vowel + f, NHG Schilf, OHG sciluf, NHG elf, OHG

einlif. This change is a conditioned merger which changes the

distribution of /pf/. It now no longer occurs medially and

finally after /l/ and /r/. Paul assumes that the occurrence of /pf/

after /l/ and /r/ in MHG scharpf, harpfe, gelpf is due to the fact

that these words originally contained a geminate p which was

always shifted to the affricate,[18] cf. English apple, NHG Apfel,

whereas single p is shifted to ff, English open, NHG offen.

This assumption of pp in these words is unnecessary. Since it

only involved a change in the distribution of /pf/, it is quite

plausible to suppose that individual words developed variants,

one form with pf and the other with f. In this case the spelling

is a bad guide to pronunciation, since even in NHG in North German

and ECG colloquial speech initial pf is often pronounced f.[19]

The lay informants of the DSA often write pf when, according to

dialect studies, they would use [f] for forms such as Pfund in

ECG.[20] For them the spelling pf can be regarded as [f]. This

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17) Braune/Mitzka 1961, para. 131, Anm. 5.

18) Paul 1916, II, para. 160.

19) Paul ibid., para. 157; Martens 1961, 213.

20) Deutscher Sprachatlas (DSA), Map 62 Pfund.

could be the case with MHG <u>scharpf</u>, <u>harpfe</u>, <u>karpfe</u>, and

<u>gelpf</u>. The spelling <u>pf</u> or <u>ph</u> does not preclude the simplifi-

cation in pronunciation of [pf] to [f] having already taken

place in some regions, since this change may not be reflected

in spelling until later. It seems that in MHG <u>scharpf</u> and

<u>scharf</u> were geographical variants, <u>scharpf</u> being UG and <u>scharf</u>

CG.[21] The form <u>Karpfen</u> still remains to be explained. In MHG

this had a variant with <u>p</u>, <u>karpe</u>. It is a Latin loan word and

Goethe still has the form <u>Karpen</u>. The spelling with <u>pf</u>

established itself later.

The substitution of /f/ for /pf/ in initial position has taken

place in two words in NHG. This has not changed the distribution

of MHG /pf/, only its incidence. NHG <u>Flaum</u> 'down', and <u>fauchen</u>

'spit, puff' had the forms <u>pflūme</u> and <u>pfūchen</u> in MHG. The

selection of the form with /f/ in the case of NHG <u>Flaum</u> made

clear the distinction, at least in writing, between <u>Flaum</u> and

<u>Pflaume</u> 'plum'.[22] In MHG these two words were homonyms. In

speech, however, this could lead to misunderstandings. Many

school-children in North German have wondered how to interpret

Mörike's line: <u>O flaumenleichte Zeit der dunkeln Frühe!</u>[23] There

seems no obvious reason for the selection of /f/ in <u>fauchen</u>.

Another change in the distribution of MHG /pf/ concerns only

onomatapoeic words. In MHG /pf/ is found forming an initial

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21) Paul ibid., para. 160, Anm.

22) Paul ibid., para. 155.

23) Mörike I, 13.

cluster with /n/ in words which render the sound of heavy breath-
ing, wheezing or similar sounds, phnāsen, phnast, phnëhen,
phnuht, phnesten, phnurren, phnust, phnuten.[24] This combination
is no longer possible in NHG. No information seems to exist as
to when, how and why it died out.

The NHG affricate [ts] has a slightly different distribution.
Initially it occurs before vowels and w: Zeit, zwei, medially
and finally it occurs chiefly after short vowels, diphthongs and
/l, r/ and /n/ sitzen, reizen, schmelzen, Schmerzen, blinzeln,
Sitz, Reiz, schmilz, Schmerz, ganz. Medially it also occurs
after ch, jauchzen, ächzen. Medially after long vowels it also
occurs in a few words: Brezel, duzen, Flöze 'strata', Lotse,
Rätsel, siezen. Of these examples only Brezel and duzen occurr-
ed in MHG,[25] the latter being obviously morphologically related
to du. It is not clear why Brezel should have also been an
exception in MHG. Perhaps -zel was regarded as a diminutive
ending. At all events it seems that the occurrence of a long
vowel before [ts] has become more prevalent in NHG, but it is still
not frequent. Lotse and siezen are first recorded in the
seventeenth century.[26] Flöz pl. Flöze, is a technical mining

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24) Lexer 1876, II, 259. Some words were recorded in Notker,
Sehrt 1962, 56.

25) Kluge/Mitzka, Brezel 99, duzen 150.

26) Duden Etymologisches Wörterbuch (DE), Lotse 447, siezen 642.
The use of Sie as a polite pronoun of address dates from the
seventeenth century, Lockwood 1968, 62.

word, which is first recorded in the sixteenth century.[27] Rätsel

is not recorded until the late fifteenth century and its use

by Luther furthered its selection over geographical rivals like

UG Rätersch. Since it is not recorded earlier, it may be assumed

to go back to an unrecorded OHG *rātisila, the ts being the

result of the loss of unstressed OHG -i-, MHG -e-.[28] Another

word which is quoted with a long vowel before NHG [ts] is flözen.

Paul says that this is etymologically the same word as flößen.

In MHG there are many other cases of verbs with an affricate or

fricative in variation. Sometimes the standard has selected the

form with the affricate, beizen, reizen, and sometimes the form

with the fricative, büßen, grüßen. In the case of flözen and

flößen these variants have become distinguished in meaning.[29]

This distinction which Paul makes between them is accepted by

Götze.[30] These two would seem to be the only people to make this

distinction. Most recent dictionaies do not recognize the form

flözen.[31] If there was a distinction between them then this

existed either as pedantic attempt to differentiate between the

two words or only for a short time. Modern German certainly

does not seem to distinguish between them. In MHG the doublets

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27) Kluge/Mitzka 209.

28) Kluge/Mitzka 584; DE 552.

29) Paul 1916, II, para. 247, 3, Anm.

30) Trübners Deutsche Wörterbuch 2, 393.

31) Wörterbuch der deutschen Gegenwartssprache (WDGS), 2, 1325;
    Jones 1967, 2, 76.

spriuʒen, with fricative and spriuzen, with affricate existed. In NHG the form with the affricate has been selected, spreizen.[32] NHG geizen goes back to MHG gītesen. In NHG the affricate [ts] has resulted from the loss of medial unstressed -e-.[33] (These changes are minor changes in the incidence of MHG /ts/.) When NHG [ts] appears medially after fricatives this is usually in the verbal suffix -zen, ächzen, seufzen, schluchzen. This cluster chz probably did not exist in MHG, but came about by the loss of medial -e-, MHG jūchezen, NHG jauchzen. The resultant clusters with the affricate z are new in NHG and have increased the freedom of distribution of z.[34] In some cases, however, these verbs underwent assimilative changes. This applies to those verbs whose stem ended in a velar stop, e.g. MHG blickezen. After the loss of the -e- the cluster [kts] was reduced to the affricate [ts], NHG blitzen. This also happened in the case of NHG schmatzen, related to schmecken. If the stem ended in nk, then the k was lost but the n remained, MHG blinkezen, NHG blinzen.[35] The cluster ks does exist in NHG verbs, drucksen, klecksen, but these are later formations.[36]

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32) Kluge/Mitzka 731.

33) Paul ibid., para. 215.

34) The cluster chz may have existed in MHG. Lexer 1872, I, 18, gives one example of a verb containing it, e.g. (ä)chzen. The change from MHG siuften to NHG seützen is a morphological one, whereby -ten has been replaced by the morpheme -zen. Kluge/ Mitzka 706.

35) Paul 1920, V, para. 87.

36) Kluge/Mitzka, drucksen 144, klecksen 374.

5.1.3 The emergence of the affricate [tʃ] in NHG

The third affricate in NHG [tʃ], which is regarded not as a unit

phoneme but as a cluster of /t/ + /ʃ/, has a more restricted

distribution.[37] It is spelt tsch and occurs initially before

vowels, but only in proper names, Tscheche, and medially and

finally after both long and short vowels and diphthongs:

Bratsche, fletschen, Peitsche. Initially it is spelt c in the

words Cello and Cembalo, 'harpsichord'. Historically medial

tsch goes back to MHG, /ts/, tz in native words, MHG vletzen,

NHG fletschen. The change from MHG /ts/ to NHG [ts] is not a

regular sound change. Paul comments: "Unklar bleiben noch die

Bedingungen, unter denen sich tsch aus z entwickelt hat, wie denn

auch in anderen Fällen der Urprung dieser Lautgruppe unaufgeklärt

ist".[38] This has not happened to every MHG medial tz, MHG, NHG

sitzen. It would seem that Fleischer is the only linguist to

have seriously considered this question and presented a phonemic

situation. He assumes that originally [tʃ] was a stylistic

variant of [ts] in expressive or onomatopoeic words which has

become a separate phoneme in NHG.[39] The affricates [ts] and [tʃ]

are in free variation in some present day German dialects. In OHG

the sequence tsch did not exist and even in MHG it seems to have

been infrequent. One of its first occurrences is in the word

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37) Philipp 1970, 52.

38) Paul 1916, II, para. 223, Anm, 1.

39) Fleischer 1966, 89-92.

tiutsch where t and sch have become juxtaposed because of the
loss of an unstressed vowel, cf. OHG diutisk. Sometimes in
MHG this cluster is simplified to sch, tiusche. This seems to
be the earliest example of tsch. During the MHG period and
thereafter the incidence of tsch increased due to the introduct-
ion of Slavonic loan words such as Kutscher,[40] Peitsche,[41] and
LG loans like quatschen.[42] The word Gletscher is of Romance
origin and was borrowed from the Alemannic dialects in the seven-
teenth century.[43] Italian loan words provided [tʃ] in initial
position, Cello, Cembalo.[44] In MHG French loan words are also
spelt tsch in initial position, tschapel, tschevalier, but they
also have variants with initial sch, schapel, schevalier.[45]
These doublets have been interpreted to show that Old French
initial [tʃ] was changing to [ʃ] at this time.[46] None of these
words has survived in NHG with initial tsch. The word for 'joust'
has a variety of forms in MHG, schuste, tjoste.[47] The spelling
tj for Old French [dʒ] seems to be limited to this word, but again
it has not survived into NHG. French loans could have provided

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40) Deutsches Wörterbuch (Dt. Wb.) 5, 2885.

41) R. Müller 1966.

42) Dt. Wb. 7, 2333.

43) Dt. Wb. 4, 8336.

44) Cello DE 93 18th/19th century, Cembalo, also 19th century,
    Maurer-Stroh 2, 482.

45) Lexer 1876, II, 659, 715.

46) Nyrop 1914, I, para. 402.

47) Lexer 1876, II, 1451.

the source for initial tsch, but they did not do so. During the
late MHG period the sequence tsch did exist and it has been
increased. Some proper names had variants with tsch, Fritsche.[48]
In onomatapoeic words the [tʃ] which had merely been a variant
of [ts] now found written expression since the affricate [tʃ],
tsch already occurred in the language, e.g. blietsch-plob.
In NHG there are many onomatapoeic words with medial tsch which
came from MHG /ts/, tz. The incidence of tsch has been increased
in recent times by more than loan words, and the sequences /ts/ and
/tʃ/ are now distinguished by a number of minimal pairs, e.g.
Kitz : Kitsch, Putz : Putsch, putzen : putschen.[49] The emergence
of the sequence [tʃ] seems to have been a cumulative process
starting with the creation of MHG diutsch. It has been supplement-
ed by loan words and by the phonemicizing of [tʃ], the stylistic
variant of [ts], in onomatapoeic words.

In NHG there are also a few words beginning with [dʒ] spelt dsch.
However they are all of recent origin, Dschungel, Dschunke,
which was earlier written Juncke,[50] and Dschodpur. The affricate
[dʒ] also occurs in English loans, where it is spelt j, Jazz, Jeep,
Jockey. The words Jazz and Jockey have alternative pronunciations
with [j].[51] In colloquial speech [tʃ] is usually substituted for
[dʒ], which is only found in these loan words.

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48) Fleischer 1959, 303-322.

49) Fleischer 1966, 91ff.

50) Dschungel, Dschunke Kluge/Mitzka 145.

51) WDA 304, 305.

5.2 THE STOPS

5.2.1 The change in the articulation of the initial stops

The description of the development of the system of stops in German is complicated by the use of many phonetic terms to describe their articulation: voiced : voiceless, lenis : fortis, tenues : media , aspirated[1] :unaspirated and also by the fact that these articulations vary according to their position in the word. Phonemically in NHG there are three points of articulation for the stops: labial, alveolar and palatovelar,[2] and for each of these points of articulation there is, in the standard language, an opposition between a voiced and voiceless stop: dir : Tier, leiden : leiten, Bein : Pein, rauben : Raupen, Gunst : Kunst, lagen : Laken. In final position there is no such distinction and the resultant sound is regarded as voiceless, [laet], Leid. This final devoicing, which also affects fricatives, was rendered in MHG normalized ortho-graphy by writing the final sound with the corresponding voiceless symbol: leit, leides, tac, tages, wip, wibes.[3] The NHG spelling

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1) Viëtor 1904, para. 74; Bithell 1952; 108f, Werner 1972, 44-46. Ezawa 1969, 115 says that the features fortis and lenis have no acoustic correlates: "In spektrographischen Darstellungen kommen den Eigenschaften fortis/lenis keine eigenen Züge zu, während die Stimmhaftigkeit und Behauchung jeweils als solche erkennbar sind und sich dabei phänomenal auschlieBen".

2) This useful term has been taken over from Keller 1961, 175, to designate a phoneme whose point of articulation varies from palatal to velar according to the preceding vowel.

3) This is not always so consistent in manuscripts, Paul/Moser/ Schröbler 1969, para. 88. "Die "Auslautverhärtung" des normalisierten Mhd, zeigen die Handschriften weithin nicht".

of the nominative, _Tag_, _Leid_, _Weib_ with the same symbol as in

medial position, e.g. _Tages_, _Leides_, _Weibes_, is the result of

the principle enunciated by many grammarians, including Gottsched,

that the spelling of word forms should be uniform.[4] This differ-

ence between MHG and NHG is merely one of spelling and does not

reflect any change in pronunciation. Where a phonemic distinct-

ion of voice or intensity does occur finally, as in Alemannic

dialects or Yiddish, it is regarded as being a secondary develop-

ment.[5]

The prescribed pronunciation for NHG initial /p, t, k/ is that

they should be aspirated, and that initial /b, d, g/ should be

voiced.[6] This rule, however, does not represent normal colloquial

pronunciation, particularly in Central and Southern Germany,

Austria and Switzerland, where /p, t, k/ are not aspirated and

where /b, d, g/ are unvoiced.[7] They are usually said to oppose

each other as fortis : lenis or _hart_ : _weich_, which is probably

how they were distinguished in MHG if we reconstruct the pro-

nunciation on the basis of UG. What we have is not so much a

phonetic change but rather a change of linguistic model, whereby

the prestige pronunciation of one area has supplanted   that of

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4) Gottsched 86.

5) Keller 1963, 65f.; Sadock 1973, 790-797.

6) Siebs 1958, 76f.

7) Luick 1923, para. 50f.; Boesch 1957, 30f. is not clear on
    this point, WDA, 67f.

another area. When <u>Das Meißnische Deutsch</u> was set up as the

best model to be imitated, the two series of consonants were

probably distinguished fortis : lenis, but with the decline in

prestige of Saxony and the rise of Prussia and furthermore the

rise of Berlin as the centre of German life, the North German

model of pronunciation came to be regarded as the prestige

model.[8] When High German extended its area into Low German

speaking areas from the sixteenth century onwards, the Low German

speakers acquiring High German, at first as a written language,

when it was read and used formally, in church, in law courts and

increasingly on a colloquial level, pronounced the letters with

Low German pronunciation.[9] The Low German initial voiceless

stops were aspirated and initial <u>b</u>, <u>d</u>, <u>g</u> were voiced, so that

this became the model pronunciation which Siebs and others

recommended when a standard pronunciation, at first for the

stage, and later for more general use, was set up.

5.2.2 Changes in the incidence of stops

Between the phonemic system of stops initially and medially in

MHG and the corresponding system in NHG there has been no change

in the number of units or their distribution. There have, however,

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8) Eichler, Bergmann 1967, 41; Viëtor 1904 para. 74, Anm. 5,
   comments that: "der hochdeutsche Süden (einschließlich
   Mitteldeutschlands) die Wortformen - oder, wenn man will die
   Sprache -, der niederdeutsche Norden die Lautinterpretation -
   die Aussprache - liefert".

9) Kirch 1952, para. 97; Gernentz 1964, 128ff.

been considerable changes in their lexical incidence. Some

words with initial /b/ in MHG have /p/ in NHG, MHG beh, NHG Pech.

There is a considerable interchange between the reflexes of

initial MHG /t/ and /d/. Many words which in MHG had initial /t/

have /d/ in NHG, MHG tump, NHG dumm. A smaller class of words

which had /t/ medially in MHG have /d/ in NHG, e.g. MHG dulten,

NHG dulden. Another small group of words which in MHG had

initial /d/ have /t/ in NHG, e.g. MHG dōn, NHG Ton 'sound'.

These changes have not affected the phonemic system as such but

only individual words. In every case the changes are reflected

in spelling. This interchange between voiced and voiceless stops

has been most frequent in initial position before vowels. It

has most affected MHG /t/ and /d/, /b/ and /p/ to a lesser

extent, and /g/ and /k/ not at all. The chief example of these

changes are given in the following lists:

MHG /t/ corresponding to NHG /d/[10]

MHG	NHG	MHG	NHG
tübel	Döbel 'dowel'	tampf	Dampf
tam	Damm	tiutsch	deutsch
teich	Deich	tung	Dung
tengeln	dengeln 'to whet'	tūren	(be)dauern
tolde	Dolde 'umbel(bot.)'	tocke	Docke 'doll'
tuft	Duft	topel-	doppelt
tunkel	dunkel	tūs	Daus 'deuce(of dice)'
tump	dumm	tuom	Dom

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10) Von Bahder 1890, 239f.

MHG	NHG	MHG	NHG
tāht	Docht	toter	Dotter
till	Dill	tihten	dichten
tāhele	Dohle 'jackdaw'	tucken	ducken 'to stoop'
tunst	Dunst	tutzen	Dutzend
tolmetscher	Dolmetscher	tūren	dauern
trache	Drache	trut	Drude 'witch'

The following are the main examples of MHG /t/ corresponding
NHG /d/ medially:

dulten	dulden	geltes	geldes
milte	milde	multe	Mulde 'trough'
schiltes	Schildes	bortes	Bortes
kleinotes	Kleinodes	rietes	Riedes

The following are examples of MHG /d/ corresponding to NHG /t/:

MHG	NHG
dōsen	tosen
dōn	Ton 'sound'
dorpære	Tölpel
drum 'end piece'	Trümmer

The correspondence, MHG /b/ : NHG /p/, is represented by the
following examples:[11]

MHG	NHG	MHG	NHG
bābest	Papst	būke	Pauke
beh	Pech	bicken	picken

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11) Von Bahder ibid., 224ff.

MHG	NHG	MHG	NHG
beh	Pech	bicken	picken
berle	Perle	budel	Pudel
burzeln	purzeln	bredigen	predigen
blappern	plappern		

Many of these examples are loan words and are recorded with /b/ and /p/ in MHG.[12] The initial /d/ in the loan words Dutzend, doppelt, Dolmetscher, dauern 'to last', Daus, Dom, dichten, Drache are probably due to their initial d in the original languages, e.g. Latin dictare, dūrare.[13] The traditional interpretation of this interchange has been that these words (excluding the loan words) are either borrowings from LG, where they represent forms which have not undergone the High German shift of initial Germanic d to t, or else they are borrowings from dialects where MHG initial /t/ and /d/ are 'confused'.[14] Thus the initial alveolar stop could represent either /t/ or /d/. The interchange of the reflexes of initial MHG /b/ and /p/ is probably also due to the dialects which did not distinguish between initial /b/ and /p/. Again there are loan words among the words where MHG /b/ corresponds to NHG /p/, and these may be due to p in the original language, e.g. Latin papa, predicāre. The writing of p for MHG initial /b/ occurs most often in CG

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12) Paul/Moser/Schröbler 1969, para. 87, Anm. 3.

13) Paul 1916, II, para. 209.

14) Karstien 1939, 127; Von Bahder ibid., 241; Wright 1907, para. 266.

texts. From here the forms found their way into the standard.
Some words which were written with initial p in Early NHG were
not selected, e.g. pusch, pauer.[15] In present North German
speech the word Buckel 'back' is nearly always pronounced
[pukəl].[16]

These suggestions were made before the detailed work on German
consonants by Lessiak and before the advent of the phoneme
principle. For this 'confusion' Lessiak coined the term
'binnendeutsche Konson antenschwächung' which he defines as
"den Übergang von ursprünglicher Fortis in stimmlose Lenis
oder Halbfortis ... Alle Mundarten, die an der hd.
Konsonantenschwächung teilhaben, kennen nur stimmlose
VerschluBlaute und mit einigen Mittelbairischen Ausnahmen auch
nur stimmlose Reibelaute".[17] Phonemically this has resulted
in "the complete coalescence of the fortis and lenis stop
series",[18] or, to put it another way, "la perte de l'opposition
forte -douce".[19] This complete merger of the two series of
stops can be seen in all CG dialects except Silesian and North
Thuringian in the East, and Ripuarian and Moselle Franconian
in the west. It occurs in UG except for South Bavarian and

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15) Von Bahder ibid., 225.

16) Paul ibid., para. 139.

17) Lessiak 1933, 13.

18) Kufner 1960, 25.

19) Philipp 1965, 284ff.

High Alemannic.[20] This is an important restructuring of the whole consonant system and must be examined in detail. Firstly, it only occurs initially and medially since a coalescence in final position occurs in nearly all dialects and has been accepted by the standard language. Secondly, the only real opposition affected is that between the reflexes of MHG /t/ and /d/. Although there is an opposition initially between /b/ and /p/ in MHG, it is of a low functional yield since /p/ mostly occurs in loan words. Before vowels there is no merger of the reflexes of MHG /g/ and /k/, although this does happen before /l/ and /r/ and intervocalically.[21] Thirdly, in medial position coalescence is avoided in some dialects by the reflexes of the MHG lenis or voiced stops in the labial and velar series becoming fricatives. This may be regarded as ~~is, in fact,~~ a push-chain, the MHG long intervocalic fortis stops become single lenis stops and the single lenis stops become fricatives. This can be diagrammed as follows:

MHG /-pp-/ > /-b-/ , /-b-/ > /-v-/ , MHG /-kk-/ > /-g-/, /-g-/ > /-ɣ-/.[22]

There is a similar push-chain in the development of the Western Romance languages.[23] In the alveolar series there is usually

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20) Lessiak ibid., 13.

21) Keller 1961, 131f. and 214ff.

22) Philipp 1965, 289ff. This is rejected by Lessiak 1933, 23.

23) Lausberg 1956, II, para. 492; Weinrich 1958, 158, regards the degemination as the factor which phonemecizes the 'weak' variants of Latin b, d, g.

no push-chain since MHG /-tt-/ and /-d-/ merge.

Structurally the "Konsonantenschwächung" or consonant lenition
does not seem to be as revolutionary in its effects as perhaps
might be supposed, but it has spread over a wide area. Why
was it not then accepted into the standard language but left
only traces in the shape of the interchange between MHG /t/
and /d/ and /b/ and /p/? The answer seems to be twofold.
Firstly, written records have always maintained a strict separat-
ion of voiced and unvoiced consonants in all parts of Germany,[24]
and secondly, the age of the consonant lenition does not seem to
have been established. The date suggested for its commencement
varies from OHG to 1300.[25] The writing of Germanic b, d, g as
p, t, k in the UG dialects of OHG and then later as b, d, g
again is regarded as showing that the consonant lenition may
have begun even in OHG. But, as Penzl points out, this does not
represent a merger of the voiced and voiceless stops since such
an opposition, initially at any rate, did not exist to any great
extent. The Germanic voiceless stops had become affricates
initially in these dialects. Even Germanic k was always written ch and not
k.[26] OHG initial p only appeared in loan words. There is only
really a coalescence of Germanic b and d.[27] Lessiak gives no
clues as to the date of the consonant lenition, except to say

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24) V. Moser 1951, para. 137; 8, para. 142, 3; para. 148, 9.

25) Paul/Mitzka 1959, para. 64; Von Kienle 1960, para. 82.

26) Braune/Mitzka 1961, para. 88, Anm. 3.

27) Penzl 1971, 164.

that it can be found in two groups of dialects: Central and

Northern Bavarian, where geminates are not weakened, and in

another group comprising Low Alemannic, and all of CG except

Silesian, North Thuringian, Ripuarian and Moselle Franconian.[28]

Building on this assumption, Kranzmayer separates the develop-

ment in Bavarian from the 'binnendeutsche Konsonantenschwächung'

proper. He dates the Bavarian consonant lenition about 1300.[29]

The picture, as it can be reconstructed from V. Moser, shows some

variation: $t > d$ initially is quite frequent in Low Alemannic

in the fourteenth and fifteenth century and the d spellings

spread to East Franconian and ECG in the sixteenth century.[30]

According to Philipp, however, the consonant lenition had not

taken place, intervocalically at least, in Low Alemannic in the

late fifteenth century.[31] This seems to contradict V. Moser's

picture. The answer may well be that the lenition took place

at different times in different places in the word. V. Moser

deals with initial lenition, whereas Philipp deals with inter-

vocalic lenition. In UG texts of MHG there is a fluctuation

in spelling between b and p and d and t in a number of words but

there seems to be no wholesale coalescence in spelling.[32] This

is also true of ECG records where the fluctuations are fewer.[33]

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28) Lessiak 1933, 19.

29) Kranzmayer 1956, para. 34c.

30) V. Moser 1951, 143, 1 a.x.

31) Philipp 1968, 209f.

32) Weinhold 1883, reprinted 1967, paras. 159, 164, 184, 192.

33) V. Moser ibid., para. 143.

In Early NHG it seems that t for d is only used in a small

number of words, as is the case of d for t, but this latter

change is not recorded till the sixteenth century in High

Alemannic and only from the fourteenth and fifteenth centuries in

Low Alemannic.[34] The Early NHG grammarians of all areas

continually distinguish between fortis and lenis consonants:

Kolroß, from the Alemannic region says: "Zů dem vierden solt

du dich verhüten/das du nit b für p oder ouch d für t schrybet/

Sunder ein yedes nach syner würckung/diewyl b und d lyß und

lind/oder gantz sanft/dargegen p und t starck ir ußsprechen

hand".[35] Frangk from Central Germany says: "Darumb das sie

einander vast ehnlichenn/Aber bey der Schwachheit und sterck/

einer für den andern erkant wird/Odder/an der gelindheit und

scherpff allein underschieden sein/Also/w.b.p./d.t/v.f.ph/

ch.g.k.ck".[36] Peter Jordan from Mainz comments "... yedoch das

p ist harter dann das b ... und so man den athem mit gewalt

herrauß truckt wirts eyn t/ so mann aber lind truckt/ wirts ein

d".[37] Finally the East Franconian Ickelsamer says: "Das /b/

und /p/ sein auch gleich/ allain das /p/ herter ist dann das /b/

Also auch das /t/ dann das /d/".[38]

These representative quotations show that p and b, t and d are

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34) V. Moser ibid., para. 142, 1 b.x.

35) Müller 1882, 74.

36) Müller ibid., 107.

37) Müller ibid., 114.

38) Müller ibid., 130.

considered to be different, and without more conclusive evidence it can be said that the consonant lenition had not yet taken place in the educated speech of most regions by the sixteenth century. We cannot, however, exclude the possibility that it had taken place in colloquial speech and the grammarians are prescribing a difference between p and b and t and d because there is a difference in spelling. The clearest indication of a date by which the consonant lenition had taken place is provided by the letter published by Gottsched as an example of the worst type of Leipzig speech.[39] Gottsched chooses to show this by using the symbols for the voiceless sounds for voiced sounds: e.g. pissgen, NHG biBchen, Pruter, NHG Bruder, Malate NHG malade, trübben, NHG drüben, kesund, NHG gesund, but before vowels d is nearly always used, daud, der. His use of symbols is not consistent but sufficient to show that voiced and voiceless consonants had probably merged, and an attempt to try and distinguish them in writing leads to wholesale confusion of the two sets of signs. It is hard not to think that if the consonant lenition had taken place earlier more confusion of the symbols for the voiced and voiceless stops would have taken place in the standard. There are other contemporary references to speakers confusing b and p and d and t and Gottsched's letter is not an isolated example.[40]

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39) Cited by Becker/Bergmann 1969, 146. The letter was original- ly published in : 'Die vernünftigen Tadlerinnen', hrsg. von F. Reichel, Bd. 1, Berlin o. J.

40) Becker/Bergmann ibid., 149f.

From the very first time that High German was used in Berlin

initial MHG /d/ and /t/ were not distinguished. This character-

istic of the written language of Berlin reflected the spoken

form of High German which was used in Berlin. This variety of

High German which was used by the population of Berlin was

Upper Saxon, and it has been suggested that the consonant

lenition must have been present in the variety of Upper Saxon

which was taken over by speakers in Berlin. The date of the

first use of High German in Berlin was about 1500. Therefore

in Upper Saxon at least the consonant lenition had taken place

by this date. This pronunciation is reflected in some informal

letters in such forms as deuffel, dochter, Disch, but not in

official records.[41] This then is the possible evidence for

consonant lenition in Upper Saxon in the sixteenth century.

Whatever the exact date of its inception, and it seems unlikely

to be before the sixteenth century, the type of speech contain-

ing the consonant lenition seems to have been branded as un-

educated, even by the eighteenth century probably because it

did not reflect the spelling of the written standard. The words

with the interchange of t and d and those containing p for MHG b

are isolated cases of hypercorrect forms which slipped into the

standard and were not rejected.[42] The native words which have

been affected in the interchange between MHG t and NHG d are

mainly words connected with domestic or rural life. Apart from

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41) Lasch 1928, 249, 79f.

42) Mitzka 1957, 231-238.

dunkel and dumm, which are adjectives, and dengeln, ducken, which are verbs, they are all nouns. In nearly every case it is difficult to say why these particular words and not others found their way into the standard.

Gottsched quotes examples of words with both initial t and initial d: "tocken oder Docken, docht oder Tocht", and in some cases he tries to differentiate them semantically: "dauen wenn das Eis schmilzt, thauen auf der Straße, tichten, sinnen, dichten fingere",[43] but neither of these attempts at semantic different-iation have been accepted. Goethe, although he allows himself to use rhymes with d and t: e.g. Faust I: lines 218-221,[44]

> Was hilft es viel von Stimmung reden?
>
> Dem Zaudernden erscheint sie nie,
>
> Gebt ihr euch einmal für Poeten,
>
> So commandiert die Poesie.

is strict in demanding actors to distinguish between d and t.[45] The cause and effect are difficult to dis entangle here: did the consonant lenition arise too late to have any real effect on the standard language, which carefully maintained the distinction between voiced and voiceless stops? Or was the consonant lenition early in speech but not reflected in writing, which artificially kept the distinction alive until it was taken over

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43) Gottsched 145, 118.

44) Goethe, Artemis Ausgabe 1949, 5, 148.

45) Goethe ibid., 14, 73.

into the speech of the Low German speakers of High German to become a characteristic of the standard? Convincing evidence is lacking on both sides, but it certainly seems that by the eighteenth century, the confusion of voiced and voiceless stops was regarded as a vulgar pronunciation. System_ic pressure in the shape of avoidance of too many homonyms may have been a further factor involved in keeping this distinction. Another factor, which has been suggested, is that although the reflex of MHG /g/, initially before a vowel, may be devoiced, it does not merge with MHG /k/. Initial MHG /g/ has either become an affricate, e.g. in some High Alemannic dialects, which has been simplified to a velar fricative in Swiss German, in Low Alemannic it has become an aspirated [gh].[46] This phonemic distinction may have spread from the palato-velars to the dentals and labials and fostered the distinction of keeping the two series apart.[47] On the basis of the study of colloquial speech in Swabia, which also shows a great fluctuation between lenis and fortis [b] and [p], and [d] and [t], this has also been suggested.[48] The description of Swabian colloquial speech and the fluctuation between the consonants may be a picture of the situation in Upper Saxony in the eighteenth century. The fluctuation in modern Swabian is

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46) Sprachatlas der dt. Schweiz (SDS) 11, map 94 only shows two occurrences of a velar affricate in the east of St.Gallen and one in Appenzell; Kranzmayer 1956, para.38; Philipp 1965, 182

47) Pfalz 1936, 12.

48) Bynon 1970, 25-61

accounted for by postulating underlying systematic phonemes: /PTK/, which are always realized as fortis [p t k], and underlying /G/ and /KH/, which are realized as fortis [k] and aspirated [kh], and underlying /BDG/, which are optionally realized as fortis [ptk] of lenis [bdg]. The amount of fortis stops in the speech of the informant stood in correlation to his or her amount of education, being the influence of the written norm upon speech. The difficulty with this type of description is that it cannot be predicted when underlying /BDG/ are realized as [ptk] and when as [bdg], but it seems to be a fact of Swabian 'Umgangsprache' and probably of other areas with consonant lenition in the local dialects that there is this large margin of variation. Even in educated colloquial speech in most parts of German, the word toll is subject to variation, being pronounced sometimes as toll and sometimes as doll, and the word Tollpunkt has the variant Dollpunkt.[49] However, this variation refers only to toll 'phantastic'. When toll is used for 'mad', as in Tollwut, it is never pronounced doll.[50] This seems to be the only case of doublets with initial t and d becoming differentiated in meaning. Vennemann lists other doublets: Atem, Odem,[51] Dackel, Teckel, Düte, Tüte.[52] The doublets Atem, Odem are stylistically conditioned. The form Odem is only used in poetic contexts.[53] A more difficult

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49) Küpper 1958, 407.

50) Vennemann 1968 b, 224.

51) Vennemann ibid., 108.

52) Vennemann ibid., 224.

53) WDGS 4, 2690.

pair are _Dackel_, _Teckel_ for 'dachshund'. They are not etymologic-
ally the same, but in NHG they are nevertheless used as variants.
The form _Teckel_ is more common in the north.[54] The last pair of
doublets mentioned by Vennemann are _Düte_, _Tüte_, but this pair is
probably only to be found in areas with consonant lenition where
every initial /t/ will alternate freely with /d/ The verb _gucken_,
pronounced [kukən], is not an example of interchange of initial _g_,
and _k_ which are always kept apart before vowels in all German
dialects, even those with consonant lenition. The pronunciation
with initial [k], which is widespread, particularly in North
Germany (although _Siebs_ and _Duden_ have [gukən]),[55] is due to the
influence of LG _kieken_, 'to look', which is etymologically un-
related.[56] All these changes have concerned the incidence of
individual words.

A final change which involves MHG /t/ and /d/ is restricted to two
grammatical classes: the ordinal numbers and the past tense of
weak verbs. In MHG the ordinal endings -_de_ and -_te_ were
allomorphs in complementary distribution, -_de_ occurred after
stems ending in -_r_ or -_n_, _vierde_, _niunde_, and -_te_ occurred else-
where, _sehste_, _vünfte_. In NHG the ending -_te_ has been levelled
out to all forms, NHG _vierte_, _neunte_.[57] This is an analogical
change which affects the distribution of MHG /t/ and /d/ in this

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54) Kluge/Mitzka 775.

55) Siebs 1958, 137; Duden Aussprachewörterbuch (DA), 336.

56) Kluge/Mitzka 276; Paul 1916, II, para. 180.

57) Paul ibid., para. 202; Von Kienle 1960, 234.

grammatical class. In the past tense of weak and modal verbs

in MHG the ending -de was used sometimes after nasals, kunde,

rūmde, and occasionally after liquids, solde, after other

consonants -te was used, dahte.[58] In NHG the ending -te is

always used, konnte, räumte, except when the verb stem ends in

d or t, when the ending -ete occurs, redete, rettete.

5.2.3 The development of an epenthetic [t]

Both Moulton and Anttilla recognize epenthesis, or excrescence,

as a type of phonemic change, since it changes the distribution

and incidence of phonemes, although it does not change their

number.[59] In NHG an epenthetic alveolar stop, [t] spelt t or

d, has developed, in some cases, after an alveolar nasal, MHG

nieman, NHG niemand, and after other consonants, MHG habich,

NHG Habicht, MHG obez, NHG Obst. Most excrescent sounds, whether

vowels or consonants, are developed to ease the transition in

articulation from one sound to another. Only a limited number

of words with an epenthetic consonant have been selected by NHG.

This change probably produced many more variants in speech that

were not selected. Some evidence for this is given by Adelung

who recognizes that an epenthetic [t] is inserted "um des

Wohllautes willen", and he continues: "In einigen obd. Gegenden

gehet man noch weiter und schreibt und spricht daselbst -

zwüschend, nebend, diesselbent".[60] Even in colloquial speech

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58) Paul/Mitzka 1960 para. 168, Anm. 4.

59) Moulton 1967, 1402; Anttilla 1972, 70.

60) Adelung 4, 891.

today there are forms such as ebent, which result from the same
phonetic process. There is also evidence in the past of a t
between n and sch, e.g. verwüntschen, for NHG verwünschen,[61]
but no words with t between n and sch have found their way into
the standard.

Usually the insertion of an epenthetic consonant is treated as
being an irregularity. It is our contention that in many cases
this is in fact not so. Epenthetic consonants appear chiefly
after -n, -s, -ch. The development of [t] after -s and -ch will
be dealt with separately and will be seen to be due to various
factors. After /n/ and before /l/ in NHG there are still examples
of alternations between forms with an epenthetic consonant and
those without, eigen, eigentlich, hoffen, hoffentlich. The main
conditioning factor seems to be the transition from [n] to [l].
The epenthetic [t] makes the transition from the nasal to the
lateral easier. As the speaker goes from one to the other, the
point of articulation remains the same, but the manner of
articulation changes, from nasal to lateral. When the speaker
closes the nasal passage, and before the shape of the tongue is
changed to lateral pronunciation, an alveolar oral stop is
produced.[62] It was probably in this context, between [n] and
[l] that the epenthetic [t] first arose. In NHG all words which
insert a [t] before the suffix -lich: eigentlich, öffentlich,

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61) Paul 1916, II, para. 206, 2.

62) Anttilla ibid., 68.

gelegentlich, hoffentlich, namentlich, wesentlich, wöchentlich, wissentlich, have **base** forms without [t]. NHG flehentlich, which goes back to MHG vlehelich, is best regarded as being derived, synchronically at least, from the infinitive flehen. NHG ordentlich could be regarded as being derived synchronically from ordnen. Although it has been suggested that these forms with [t] are derivations from the present participle, this is ~~thought~~ unlikely.[63]

This insertion of [t] between [n] and [l] is so regular that in a generative phonology of NHG it could be accounted for by a /t/-insertion rule. However neither Vennemann nor Wurzel deal with these forms nor formulate such a rule.[64] The epenthetic consonant seems to have arisen in this position in the fifteenth century.[65] Epenthetic [t], spelt d finally in NHG, is also to be found after a final n which is preceded by an unstressed vowel, e.g. nirgend, irgend, Dutzend, jemand, niemand. The epenthetic consonant appears in some cases even in MHG.[66] Normally this is treated as an irregular sound change, but if grammatical inform-ation is taken into account it can be formulated as a regular sound change. An epenthetic [t] develops after final [n] preced-ed by an unstressed vowel, either [ə] or [a], if the -en is not a grammatical ending or the word is not a preposition. There is

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63) Paul ibid., para. 206.

64) Vennemann 1968 b; Wurzel 1970.

65) Paul ibid.

66) Paul/Moser/Schröbler 1969, para. 105, 1.

no epenthetic [t] in: sagen, gaben past tense, Gästen, dat. pl.,

neben, prep. Before a morpheme, however, the dat. pl. of pronouns

and pronominal adjectives developed a [t], e.g. allenthalben,

beidenthalben, and the Early NHG forms meinenthalben,

meinentwegen. In these latter forms the n has been lost in NHG,

possibly by dissimilation with the final -n.[67] An apparent

exception to our formulation is the adverb zusammen, MHG

zesamene. The development of an epenthetic [t] must have taken

place before the loss of unstressed final -e, otherwise we

would have *zusamment in NHG.

Another case where the development of an epenthetic [t] is

conditioned by grammatical categories is where it has developed

after a final s preceded by an unstressed vowel, e.g. Palast,

Morast, Axt, Obst, selbst, nebst, MHG palas, moras, ackes, obez,

selbes, nebens. An epenthetic [t] is not added after the gen.

sing. ending -es. In MHG selbes, NHG selbst, the -es had lost its

gen. function. Prepositions take an intermediate stand in this

respect. The [t] is firmly established in nebst, whereas in

mittels (t), vermittels (t) it is optional,[68] and in the case of

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67) Paul ibid., para. 243.

68) Duden Grammatik quotes the two forms as variants without
    any comment. In the examples, however, only mittels is used,
    para. 3415. The only comment about their distribution
    that was found, was in Andresen 1923, 81: "Zwischen mittelst
    und mittels schwankt der Gebrauch, doch hat die durch
    Zutritt eines t verlängerte Form das Übergewicht".

zwecks it does not occur.[69] The final [t] in NHG jetzt may
also be part of this general addition of t to -(e)s, -as,
except when -es was a gen. ending.

Among adjectival suffixes used in MHG were -ec and -eht. The
latter had a restricted use, only forming adjectives from
concrete nouns, e.g. vels, velseht 'rocky'. The suffix -ec,
on the other hand, was the most widely used adjectival suffix.[70]
In the seventeenth century, however, the suffix -eht, Early
NHG -icht, spread to many other adjectives at the cost of MHG
-ec, Early NHG -ig, e.g. MHG dornec, Early NHG dornicht. This
may possibly have been to avoid a morphemic merger of the MHG
suffixes -ec, which is pronounced [iç] in NHG, and -lich,
especially in the case of those adjective with stems ending in
-l, billig. Was the suffix in fact -ig, or -lich? In the
eighteenth century there was a reaction against the use of the
adjectival suffix -icht and the only adjective left with this
suffix in NHG is töricht.[71] The MHG suffix -eht not only spread
to other adjectives but also to a small number of nouns with the
MHG suffix -eh. In NHG these nouns have all taken the suffix
-icht, which now expresses the 'collective', Röhricht, Kehricht,

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69) All the prepositions ending in -s, such as zwecks, behufs,
    betreffs, are of recent origin and come from the formal
    style of the Chanceries. Paul 1919, IV, para. 302.

70) Wilmanns 1899, II, para. 276.

71) Paul 1916, V, para. 69; Henzen 1957, 199f.

<u>Dickicht</u>, and new formations like <u>Feilicht</u>.[72] Only the collect-
ive <u>Reisig</u> has not taken the suffix -<u>icht</u>. Although the nouns

<u>Habicht</u>, <u>Predigt</u> are not collectives they have also adopted the

suffix -<u>icht</u>. In all these cases the apparent epenthetic [t]

is not of phonetic origin, but results from the adoption of the

MHG suffix -<u>eht</u>, NHG -<u>icht</u>.

The cases of epenthetic [t] so far dealt with have largely shown

a regular development, but there are some cases of the appearance

of an epenthetic [t] which are clearly due to irregular and

sometimes unknown factors. A [t] has developed after /f/ in NHG

<u>Saft</u>, <u>Hüfte</u>, MHG <u>saf</u>, <u>huf</u>, but there is no obvious reason for it.

The final <u>t</u> in <u>doppelt</u> and <u>gewohnt</u>, MHG <u>doppel</u>, <u>gewon</u>, is due to

the influence of the past participles <u>gedoppelt</u> and <u>gewohnt</u>.

The <u>t</u> in <u>anderthalb</u> is possibly due to the forms of other

numerals like <u>dritthalb</u>.[73] MHG <u>mãne</u>, NHG <u>Mond</u> is the only

example of an epenthetic consonant after an <u>n</u> preceded by a

stressed vowel, and presents a special case. It would also

seem to be exceptional in that the epenthetic consonant must have

developed after the loss of final -<u>e</u>, whereas we have assumed

that NHG <u>zusammen</u> did not develop an epenthetic consonant, since

in MHG it ended in -<u>e</u> and epenthetic consonants arose after the

loss of -<u>e</u>. This need not be a stumbling block since the

development of MHG <u>mãne</u> was probably influenced by MHG <u>mãnõt</u>

'month'. NHG <u>Mond</u> with epenthetic [t] is probably due to

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72) Fleischer 1969, 142f.

73) Paul II, para. 207.

contamination with MHG mānōt, late MHG mōnet, NHG Monat.

Both words are often used in the meaning of 'month' in Early

NHG.[74]

In the case of epenthetic [t], variants have found their way

into the written language. Where [t] developed between [n]

and [l] the change is regular. There was also in Early NHG an

epenthetic [p] often spelt b, in verbs forms such as kombt.[75]

In the pronunciation of many speakers this still exists, but the

spelling mp or mb before t has never been accepted by the

standard. The reason for this may well lie in the fact that the

cluster mp is only found in loan words, e.g. Lampe, and the

cluster mb was rejected by some grammarians since the b was not

pronounced.[76] Also the insertion of an oral labial stop, whether

voiced or voiceless, between [m] and [t] was automatic and did

not need to be written. There is, for some speakers at least,

a similar epenthetic consonant in singt, [ziŋkt], which is

pronounced the same as sinkt.

5.2.4 The merger of initial MHG /tw/ with /zw/ or /kw/

MHG /w/ could combine initially with /t/, twel, /z/ zwīvel, /k/,

written qu, quelle and /s/ swimmen. In NHG words which had the

initial cluster /tw/ in MHG show the NHG initial cluster /kw/,

qu, Qualm, quer, Quark, Quirl, quasseln, Quarz MHG twalm, twer,

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74) Paul 1916, II, para. 207.

75) V. Moser 1951, para. 129, 7.

76) Schottel 204, rejects mb in words such lamb. Epenthetic [d]
     occurs irregularly in NHG, Quendel, 'wild thyme', Spindel,
     minder, Paul ibid., para 211.

twark, twirl, twas, twarz, or the cluster /zw/, Zwerg, Zwerch,
zwingen, Zwinger, MHG (ge-)twerc, twerh, twingen, twinger. It
cannot be determined phonologically or grammatically whether a
MHG word with initial /tw/ has merged with /zw/ or /kw/. This
change is an unpredictable merger of the reflexes of MHG
initial /tw/ with either /zw/ or /kw/, which has resulted in the
loss of the initial cluster /tw/ from the German sound system.
There were not many words with initial /tw/ in MHG and they were
either assimilated into groups which had a greater lexical
incidence, or they were replaced by other words, for instance
MHG twahen has been replaced by NHG waschen.[77]

In the modern dialects East CG shows almost exclusively a merger
of MHG /tw/ with /kw/, but a few exceptions which are of recent
origin show /zw/. A merger of /tw/ with /zw/ is shown chiefly
by the UG dialects, but there are some relic forms with /tw/.
From forms in Bavarian which show a wrong substitution of /zw/
for MHG /kw/, Zwecksilwer for Quecksilber, and the meadow and
farm name Quehenberg, which was written Twehenberg till the late
eighteenth and nineteenth century and does not show initial NHG
/zw/, it has been deduced that Bavarian, and probably all the
UG dialects, showed a merger of MHG /tw/ with /kw/ and the forms
with /zw/ are later substitutions. The merger of MHG /tw/ with
/kw/ can, from records, be noted as early as the thirteenth
century.[78] In Swabian zw appears the earliest, in the

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77) Fleischer 1966, 87.

78) Reiffenstein 1963, 339f.

thirteenth century and in Alsatian and East CG qu appears
in the fourteenth century.[79]

MHG /tw/ has merged with already exis.ting clusters, /kw/ and
/zw/, and was thus eliminated from the German sound system.
However recent loans from English such as Tweed, Twill, Twinset,
twisten 'to dance the twist', and the new formation Twen,[80]
have re.introduced the cluster /tw/ into NHG. This is again a
case where the standard shows a compromise selection of forms,
some having initial /zw/ and some initial /kw/ for MHG /tw/.

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79) V. Moser 1951, para. 144.

80) For Twen see Carstensen 1965,253.

5.3. THE LABIAL FRICATIVES

5.3.1. The shift of initial MHG /w/ to NHG /v/

NHG has two labial fricatives which contrast medially after long vowels: Höfe : Möwe, and initially before vowels: Wein : fein. Finally only the unvoiced /f/ occurs in NHG, which is spelt ff after short vowels, schlaff, and f after long vowels and diphthongs, Hof, Lauf. In some foreign words it is spelt v, brav. NHG /v/, spelt w also occurs initially before /r/ in words from LG, Wrack, wringen, Wruke 'Swedish turnip', and also in names such as Wrede. Phonemically this contrast is described as being between one of voice, /v/, spelt w, representing a voiced labio-dental fricative [v], and /f/ representing a voiceless labio-dental fricative [f]. This is valid for North German speech, on which standard German is based, but in Central and Southern German colloquial speech w is realized as a voiced bilabial fricative, [β].[1] The labio-dental pronunciation for /f/ is at least as old as the fifteenth century for Ickelsamer describes it in detail: "Das /f/ würdt geblasen durch die zene / auf die untern lebtzen gelegt, und stymmet wie naB oder grün holz am feüre seüt", whereas w is clearly described as bilabial: "Das /w/ wie man in ain hayB essen bläst".[2] Gottsched gives us no information as to the place of articulation

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1) Viëtor 1904, para. 100, Anm. 1; Martens 1961, 161; Siebs 1958. 66; Bithell 1952, 128; Paul 1916, II, para. 162.

2) Müller 1882, 128. This quotation, however, does not tell us whether there is any friction.

of w , but simply says: "w lautet wie das lateinische,

italienische, französiche v, das noch viel gelinder, als b und

f und als das deutsche v".[3] This shows that Gottsched considered

w to be voiced, and it may be that it was labio-dental since

modern Italian and French v are formed at that point of

articulation.[4] The labio-dental pronunciation of w, as prescribed

by Siebs, is characteristic of North German and, as such, it has

become the accepted model in the standard, although educated

speakers from Central and Southern Germany will use the bilabial

variant. Both the standard labio-dental [v] and the CG and UG

bilabial [β] are assumed to have developed from a semi-vowel [u].

This may represent the phonetic value of initial w in MHG.[5]

Strong evidence for this is provided by UG dialects where the

reflex of initial MHG w is a voiced bilabial semi-vowel without

lip rounding and friction,[6] and by English which pronounces

initial w as a bilabial frictionless continuant.[7] In NHG this

semi-vowel has changed its point of articulation from bilabial

to labio-dental, and its manner of articulation from semi-vowel

to fricative. There was no need for this change to be reflected

in spelling since no phonemic change was involved. It seems

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3) Gottsched 36.

4) For Latin v, see Allen 1965, 40ff. Spanish v is bi labial,
   Stirling 1935, 43f., and since Gottsched does not mention that
   language, this would be a strong indication that he is
   advocating a labio-dental pronunciation for German w.

5) This is the traditional value assumed for MHG w: Paul/Mitzka
   1960, para. 76, Weinhold, Ehrismann, Moser, para. 69.

6) Keller 1961, 51, 217.

7) Gimson 1962, 210f.

plausible to regard the CG and UG bilabial fricative of

colloquial speech as represe͜nting an intermediate stage between

the semi-vowel of MHG and the labio-dental voiced fricative [v]

and the standard

of Low German͜showing the change of only one phonetic feature

The latter is the same value as the

reflex of Germanic initial w in the Scandinavian languages. If

this is so, then there are good structural reasons for a change

of bilabial fricative to labio-dental fricative. This would

represe͜nt a complete integration of the reflex of MHG w into the

system of fricatives, where it would enter into a correlation of

voice with /f/. Depending on whether MHG initial v was either

voiced or voiceless, the change could be regarded as either a

drag-chain or a push-chain. If MHG v was phonetically a voice-

less sound, then the semi-vowel [u̯] was dragged into the empty

space to form a voiced partner for it. If, on the other hand,

MHG v was voiced, then the development of a voiced fricative

from the semi-vowel [u̯] may have pushed the voiced v into becom-

ing a voiceless fricative.[8] Whatever the actual process, the

result has been the creation of a phonemic voiced-voiceless pair

of labio-dental fricatives initially in North German and the

standard. Kranzmayer[9] says that the change of a semi-vowel to

bilabial fricatives began about 1100, since the neighbouring

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8) Penzl 1964, 306, mentions Schwarz 1929, 57, and Lessiak 1933,
   57, who have noticed the causal relationship between these
   changes.

9) Kranzmayer 1956, 74.

languages substituted [b] for [β] and not [v]. The oldest

speech islands show a bilabial [β], and this they will have

brought with them from their homeland. In the Zimbrian speech

island in northern Italy MHG /w/ and /b/ have merged in a

bilabial fricative which is always written b̲, but MHG /b/ in

initial position is not part of this merger since it has become

/p/: part 'beard', puoxe 'beech', bint 'wind', läber 'liver'.[10]

The spelling with b̲ does not indicate a bilabial stop

pronunciation, but is used for the voiced bilabial fricative

/β/ phoneme in all positions. Phonetically there is no voiced

stop [b]. From all the evidence, direct and indirect, it is

difficult to say when the semi-vowel [u̯] became a fricative in

North Germany, but the labio-dental pronunciation prescribed by

Siebs reflects North German pronunciation.

The historical development of the semi-vowel or glide [u̯] to

the labio-dental [v] in initial position is reflected in the

synchronic rules of a generative phonology of German which

derives all occurrences of surface [v] from the underlying glide

/w/.[11] This reflects the historical change as we have discussed

it for initial position, but obviously underlying forms such as

/mü w/ have no historical warrant in the history of NHG. This is

also the case in generative treatments of German dialects, but

Becker limits his rule to Darmstadt Hessian and, by implication,

10) B. Schweizer (hrsg.) 1939, para. 20, 26.

11) Vennemann 1968b, 90-95; Wurzel 1970, 244-248.

it would seem he assumes a glide pronunciation for initial w̲ in
the other two dialects he treats, Züritüütsch and Alsatian.[12]
For him, MHG /u/ and /w/ only differ in the feature syllabicity.[13]
However the fact that these otherwise exceptional forms can be
made to fit easily into a generative description of German, shows
how they fill a hole in the pattern, or fit into an already
existing phonological rule.

5.3.2 The Merger of MHG /w/ and /b/ after /l, r/

In NHG both /b/ and /v/ occur after /l/: selber, Salve, but the
words which have v̲ in this position are all Romance loan words.
NHG /b/ after /l/ and /r/ represents both MHG /b/ and /w/: MHG
sterben : varwe; selbe : swalwe; NHG sterben : Farbe ; selbe :
Schwalbe. The spelling w̲ reflects the pronunciation of MHG w̲
as a bilabial fricative, which is still current in many dialects.
By this change no new phonemes have been created and none lost,
but after /l/ and /r/ the reflexes of MHG /w/ and /b/ have
merged and the resultant sound is a voiced bilabial stop. It
is more natural to assume a change involving only one phonetic
feature, from fricative to stop, rather than to assume that a
semi-vowel changed directly into a stop. This conditioned
merger is most widespread in UG dialects and is part of a more
general merger of MHG /w/ and /b/, which affected all occurrences
of MHG /w/ and /b/, except for initial /b/ before vowels which

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12) Becker 1967, 124.

13) Becker ibid., 18f.

has become /p/.[14] The UG dialects, particularly Bavarian, are
the source of this merger, from which the standard language has
selected the conditioned merger of /b/ and /w/ after /l/ and
/r/,[15] which merely increased the distribution of /b/ and decreas-
ed that of /w/. In traditional histories of German this change
is described as a shift of a fricative to a stop,[16] but is this
in fact so? It seems more 'natural' for a change to occur the
other way round, i.e. for a voiced stop to become a voiced fricative.
This has happened in Spanish and also in Danish.[17] The develop-
ment of Germanic medial ƀ, đ, ǥ, to stops is not a certain
example, as it lies too far back in time. In Bavarian, the
dialect from which lb and rb have been imported into the
standard, it is not strictly true to say that MHG /w/ developed
into a stop. What happened was that MHG /b/ and /w/ merged in a
bilabial fricative [β], which was written b. The actual phonetic
development consisted of exactly the opposite: the voiced bi-
labial stop [b] lost its occlusion and became a voiced bilabial
fricative [β], and the bilabial semi-vowel [ɯ] became a voiced
bilabial fricative [β]. The result was that the two sounds
merged, since they and the resultant phoneme could be written
either w or b. This merger was reflected in the spellings lb, rb

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14) Kranzmayer 1956, para. 25.

15) Fleischer 1966, 85; Karstien 1939, 141.

16) Wright 1907, para. 235.

17) For Spanish, Menéndez Pidal 1958, para. 41, for Danish,
     Skautrup I, 1944, 228f.

for MHG lw, rw although they would probably have been pronounced as fricatives in Bavarian itself. The spellings lb, rb found their way into the standard and came to be pronounced with a voiced stop as the second element. Since they reflected historically MHG /lw/, /rw/ it looks as if there is a change from a fricative to a stop, which is rather unusual. In this case the spelling has played an important role. Some CG dialects have no phonemic contrast between /v/ and /b/ after /l/ and /r/ but the two sounds are in free variation[18], and this may have continued for some time in standard colloquial speech, but the spelling with b has furthered the acceptance of the stop pronunciation. The spelling rb and lb has become firmly established in ECG by the sixteenth century.[19] This conditioned merger does not seem to have brought about any homonymic clashes.

In the inflexion of some adjectives in MHG, /w/ alternated with zero: gel, gelwes, fal, falwes. In these cases doublets have arisen, one with b after l as the regular development of the inflected forms gelb, falb and one with no b, from the nominative, gehl, fahl.[20] These doublets seem only to have arisen among the adjectives.

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18) Schädlich 1966, 190.

19) V. Moser 1951, para. 131, 3; Fleischer 1970, 220.

20) Karstien 1939, 141, fn. 1.

5. 3. 3   The loss of medial MHG /w/

The sign w was also used medially between vowels in MHG:

houwen, snīwen, būwen, niuwe, blāwes, ēwec. As in initial
position it seems reasonable to assume a semi-vocalic pronunciat-
ion. In NHG this semi-vowel [w] has been lost after MHG long
close high vowels and diphthongs: hauen, schneien, bauen, neue.
Mechanically this change consists of loss of liprounding in the
case of schneien, and the coalescence of the semi-vowel with the
resultant rounded second element of the diphthongs in hauen,
bauen, neue. (The latter diphthong has a rounded second
element only in some pronunciations see 6.3.3.)[21] Phonetically
this change is parallel to the loss of medial MHG /h/ and /j/,
and is part of the general tendency for weakly articulated semi-
vowels and the aspirate /h/, which acted as hiatus consonants
between stressed vowels and unstressed schwa to be lost.[22] This
created a new type of distribution for long vowels and diphthongs,
allowing them to occur before unstressed schwa in 'free position',
as Moulton calls it.[23] In this case it is difficult to separate
the mechanical change -weakening of articulation -from the
functional change, -elimination of hiatus consonants.

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21)   This pronunciation is prescribed by Siebs 1958, 58, WDA,
      42, but Moulton uses /oi/ to transcribe it, 1962, 64f.

22)   Heffner 1950, 184.

23)   Moulton 1962, 69.

There is a slight variation of this development when /w/
followed the long, low back vowel MHG /ā/ in which case it combines
with it to form the diphthong au and thus merges with the
reflexes of MHG /ū/ and /ou/: MHG blāwes, NHG blaues. The NHG
uninflected blau, MHG blā, is an extension of the diphthong of
the inflected forms to the nominative used in predicative
position.[24] Evidence for this change is provided by the spelling
aw which is used not only for the MHG sequence /āw/ but for the
reflexes of MHG /ou/ and /ū/ in ECG in the fifteenth century:
haws, bawm, MHG hūs, boum.[25] The spelling au, however, becomes
accepted as the standard form.

After long /ē/ MHG /w/ disappeared, MHG sēwes, NHG Sees but in
the case of MHG ēwec, NHG ewig, with w representing a labio-dental
fricative pronunciation we have an exception. This may be the
result of spelling pronunciation or wrong morphological analysis
into ē - wec, in which case w, being then in morpheme initial
position, developed in the same way as w word initially. There
seem to be no recorded forms with b for ewig. Luther, of course,
uses the word frequently, ewiges Leben.[26] The reflex of MHG /iu/
was spelt ew by Luther and others. In some dialects medial MHG
/w/ has become a stop or bilabial fricative even in such forms
as blāwes which become blabes.[27] This spelling need not reflect

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24) Wright 1907, para. 236; Priebsch and Collinson 1958, 128.

25) Paul 1916, II, para. 160.

26) Dt. Wb. 3, 1201.

27) SDS II, Maps 157, 159. Most occurrences are scattered, a few
in Grabünden, St. Gallen and Appenzell, with a few in Glarus
and Wallis.

a stop pronunciation but simply the fact that MHG /b/ and /w/

have merged in this position. Moser says that the forms with

b were widespread in all areas except High Alemannic, but they

only maintained themselves in Bavarian where the present

dialects reflect this merger.[28] Kranzmayer regards forms such

as snaibm as 'bairische Kennformen', but some very archaic

dialects have even retained w in inflected forms such as

sneowe.[29] Three words in NHG reflect this, Eibe[30] hieb,[31]

which became general in the middle of the sixteenth century,

and Witwe which appeared in the form Wittib in parts of CG even

in the seventeenth century. The form Wittib appears in UG

sources in late MHG with a b and finds its way into the standard,

but in the eighteenth century the form Witwe ousted it.[32]

5.3.4. The merger of MHG /v/ and /f/ in medial position

MHG differentiates clearly in spelling between v and f medially,

grāven : slāfen and this is taken to reflect a lenis : fortis

distinction in pronunciation, which is still maintained in some

UG dialects, notably Alemannic.[33] In Bavarian the two fricatives

are still realized as lenis and fortis phonetically, but the

occurrence of lenis or fortis depends on the length of the

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28) V. Moser 1951, para. 131, 3, Anm. 13.

29) Kranzmayer 1956, 75.

30) Dt. Wb. 3, 77.

31) V. Moser ibid.

32) Dt. Wb. 14, 2, 839.

33) Keller 1961, 54.

preceding vowel: short vowel before fortis consonants, long
vowel before lenis consonant.[34] In NHG they have both merged
in a voiceless labio-dental fricative: Grafen, schlafen. This
merger does not seem to reflect the situation in the ECG dialects
but is a development peculiar to the standard language. In some
UG dialects the reflexes of the two sounds are kept apart,
phonetically if not phonemically, and in CG and Low Alemannic
the reflexes of MHG /v/ have merged with the reflexes of MHG medial
/b/.[35] The resultant sound is sometimes realized as a labio-
dental fricative and sometimes as a bilabial fricative.
Phonemically a merger has taken place but the two sounds are
in free variation. The functional yield of MHG /v/ was not
very great and thus the natural reaction of the phonological
system seems to have been to eliminate it, either by merger with
/b/ or /f/. The dating of the merger in the standard language is
very difficult,because in most areas scribes,for a considerable time,
distinguished MHG /v/ and /f/ by writing the latter ff and the
former f.[36] In Bavarian in the sixteenth century there is clear
evidence that the merger has taken place,since no distinction
is made in writing between them.[37] Grammarians also insist on
distinguishing between the use of f and ff. Frangck comments:
"Diese wort/ hofeman/ hofen, teufel u./ haben ein f/ hoffen,

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34) Keller ibid., 213ff.

35) Schirmunski 1962, 368.

36) V. Moser 1951, para. 140, 2.

37) Jellinek 1906, 322.

teuffen, helffes u./ zwey ff/ Solchs lernt die aussprache".[38]
It is difficult to know whether his comments are really based
on a phonetic distinction, or whether he assumes that a
difference in spelling must reflect a difference in pronunciation.
The NHG rule for the orthographic use of f and ff is sketched
out by Gottsched: "f wird häufig gedoppelt, aber gleichfalls
nur nach kurzen vocalen z.E. raffen, gaffen, treffen, schiffen,
hoffen, Stuffen. Falsch aber würde es nach langen Vocalen
geschrieben, Graf, Hafen, Schlaf, Schaf, Strafe, Hof, denn diese
klingen ganz anders, als schaffen, schlaff, straff, soff".[39]
It is interesting to note that nowadays NHG has Stufen with a
long vowel, and not Gottsched's Stuffen with a short vowel.
That the spelling of a word with f or ff may influence its
pronunciation can be seen from the NHG word Neffe which in MHG
was neve. If this word had undergone the regular development
it would be *Nefe, but since it came to be spelt with ff, it
was pronounced with a short vowel. Luther uses the form Neffe,
but Schottel has two forms neffe, nefe.[40] The 'Deutsches
Wörterbuch' has an interesting quotation from a dictionary of
1741: "neffe wird nur von vornehmen leuten gebraucht". If
this is so, then it may explain why it is an exception. More
educated speakers would encounter the written word more often

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38) Müller 1882, 100.

39) Gottsched 52.

40) Schottel 1386.

and pronounce it as it came to be written, with ff.[41] Neffe

is not the only word which becomes spelt with ff in Early NHG.

Other examples are Hafen, UG for 'pot', Schiefer, Tafel, but

the spelling ff is later replaced by f. Paul refers to this as

a sound change:'Verdoppelung und Verschärfung des f' and 'die

nhd. Gemination', but it is really only a change in spelling.[42]

The main reason for the merger of medial MHG /v/ and /f/ in

NHG seems to be the low functional yield of /v/. Germanic

f, of which it is the reflex, goes back to IE p, but only when

the stress came immediately in front of it. In other stress

conditions it merged with the reflexes of IE bh, which is

represented by b in OHG and MHG. Thus Germanic f and its

successor were not frequent. The only words containing

reflexes of MHG /v/ in NHG are: Eifer, elfe, Frevel, Geifer,

Hofe-, Käfer, Neffe, Ofen, Schaufel, Schiefer, schnaufen, Tafel,

Teufel, Ufer, Ungeziefer, Wolf, Zweifel.[43] MHG /v/ and /f/

only contrasted in two positions, medially between vowels and

after /l/ but there are not many examples of MHG /v/ after

/l/ e.g. wulven. In other cases, such as the numerals vinf, zwelf,

elf and the verb dürfen, only /f/ occurs, where historically one

would expect /v/, which shows that even in OHG these phonemes

had merged in this position. The merger causes no homonymic

clashes, since words like MHG offen and oven are kept apart in

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41) Dt. Wb. 7, 519.

42) Paul 1916, II, para. 152.

43) Fleischer 1966, 88.

NHG by vowel length, <u>offen</u> with a short vowel. <u>Ofen</u>, with a

long vowel. This merger was also similar to general developments

in CG where MHG medial /v/ was eliminated by merging it with MHG

/b/. Some CG dialects, however, do have a merger with /f/ as in

the standard language.[44]

Although the reflexes of medial MHG /v/ and /f/ have merged in

NHG, a new voiced labio-dental partner for /f/ has been created

by the borrowing of words from LG like M̈owe, <u>stowen</u>, from French

<u>brave</u>, and other languages, <u>Diwan</u>, <u>Lava</u>.[45]   In the case of

<u>Lowe</u> ∠ " the medial /v/ is from a spelling pronunciation of one form of a word, since

there was an alternative, <u>Leu</u>.   Luther uses both the forms <u>lew</u> and

<u>lewe</u>, but at this time the forms <u>löw</u> and <u>löwe</u> become the main

forms in the standard. From the evidence of rhymes like <u>lewe</u>

<u>trewe</u> it seems that the <u>w</u> is not yet pronounced as a labio-dental

fricative [v].[46]   The word M̈owe is first recorded in the   fifteenth

century. Schottel has the form <u>meu</u>. Luther does not use the

word.[47] These two words seem to have a similar history but it is

impossible to say exactly when the <u>w</u> became pronounced as [v],

but this had certainly happened by the nineteenth century. Some

LG loans have given up their medial voiced <u>v</u> by analogy, <u>Haff</u>, is

recorded in Early NHG with inflected forms <u>haves</u>, <u>have</u>. NHG <u>keifen</u>

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44) Penzl 1964, 299f.

45) Only words where <u>v</u> occurs after a stressed vowel are included.
    Thus words like <u>Lawine</u>, <u>Lavendel</u> are excluded.

46) Dt. Wb. 6, 825.

47) Dt. Wb. 6, 2166ff; Kluge/Mitzka 489.

corresponds to MLG kīven, and possibly the voiceless [f] was
levelled out from those forms like keift where it was
automatically devoiced. The f in Hufe, measurement of land, is
a devoiced MLG v.[48] A variant word form of Hafen with medial v
in spelling, but not in pronunciation, exists in place names
such as Wilhelmshaven, Cuxhaven. Proper names have medial v,
but it is pronounced voiceless, David, Eva, Beethoven, Havel.
The only common noun to have a medial v in spelling, which is
pronounced [f], is Frevel. The place name Hannover with its
inhabitants Hannoveraner is usually cited as a case where voiced
and voiceless fricatives alternate. Hannover, where the stress
precedes the v has a voiceless [f] and Hannoveraner, where the
stress does not precede the v, has a voiced [v].[49] This is
usually said to be a modern illustration of Verner's Law. However
Siebs also allows a voiceless fricative in Hannoveraner. The
people who are called Sievers fluctuate as to whether they use a
voiced or voiceless fricative in their name.[50]

The creation of the opposition /v/ : /f/ medially between vowels
in NHG is the result of extralinguistic borrowing which fills a
gap in voiced - voiceless correlation among the fricatives, since
the opposition /s/ and /z/ already existed in this position.

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48) Paul 1916, II, para. 154. An UG form hube existed till the
     eighteenth century.
49) Bach 1965, para. 31; Kuhn 1964, 13-18.
50) Siebs 1958, 66.

Many people in colloquial speech seem to substitute a voiceless
[f] for v in loan words. Duden Grammatik lists this with the
examples, evangelisch, Klavier, Vikar, Vulkan, as 'Nichthochlautung'.[51]
Historically this seems to have been the first reaction to the
introduction of words with medial v. An Early NHG examples is ein
braffr soldat, and Lessing has Motif, Motife.[52] Probably the
pronunciation of v as a voiced labio-dental fricative is quite
recent. One example where this has been in flux is Nerv, Viëtor
gives for the plural, "[nɛrvən] oft [nɛrfən]", and the adjective
[nɛrviç],[53] whereas the Duden gives only [nɛrfən],[54] and Siebs,
1958 edition says: "doch heißt die Mehrzahl [nɛrfən] und nicht
[nɛrvən]".[55] The WDA has both forms for the pl., as well as [nɛrfiç,
nɛrviç] with no comment.[56] Medially between vowels there are
examples of the substitution of the voiced stop for French v or
MLG v: Abenteuer, schraube, schnauben, MHG aventiure, MLG schrove,
snuven.[57] These words were probably borrowed before the
reintroduction of voiced v. Abenteuer is a special case for
which there is no immediate reason.

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51) Duden Grammatik 1966, 61.

52) Paul 1916, II, para. 153, Anm.

53) Viëtor 1931, 277.

54) DAW 537.

55) Siebs 1958, 66.

56) WDA 378.

57) Paul 1916, II, para. 149.

5.3.5 The development of MHG initial /v/

Initial NHG /f/ is spelt both v and f before vowels, Vater,
Fahrt, vor, für. New loan words coming into NHG with initial v
are pronounced with the voiced /v/ Vektor, Vandale, verbal, vulgär,
Virus, Vikar. Initially before l and r, f is the usual sign with
the exception of the one word Vließ. Sometimes the distinction
v : f is used to differentiate graphemically between homonyms: viel,
fiel, Vetter, fetter. Attempts to do this with vest, adj. and
Fest, noun, were made up to the eighteenth century,[58] but nowadays
this orthographic difference is maintained by the difference
small letter versus capital letter. Initial Germanic f continued
to be written f in OHG and it was not till MHG that it became
written v. Why was the reflex of Germanic f written v medially
but f initially? The reason is quite clear when it is remembered
that the reflex of Germanic p between vowels in OHG is the fortis
labio-dental fricative f. If the reflex of Germanic f were
written f medially, then there would be a graphic merger of the
reflexes of Germanic f and those of Germanic p in this position.
To avoid this, the reflex of Germanic f is therefore written v,
which graphic sign comes from the Romance languages.[59] Initially
the reflex of Germanic p was written pf or ph and here Germanic
f could still be written f, as there was no danger of any graphic
merger. As well as the difference lenis : fortis, OHG v and f

58) Paul ibid., para. 149.

59) Penzl 1964, 309; Must 1967, 460.

59a) The sign v is not used with any frequency until the ninth century.
In the tenth and eleventh centuries, the use of f and v fluctuates. In Notker's works
however v is generally used initially after words ending in sonorants,
tu váhest, otherwise f is used, ih fähe. However f also appears after
words ending in sonorant as well. Braune/Mitzka 1961, para. 139, Anm. 1
and para. 163, Anm. 3.

may also have been distinguished by their place of articulation, v being bilabial and f labio-dental.[60]

Although lenis character is certain for medial MHG /v/ the phonetic character of initial MHG v is not so certain. The increase, and almost exclusive writing, of v initially for MHG /v/ seems to imply that it was lenis. However the increased use of v may be of a merely graphic nature.[61] In MHG the reflexes of Germanic f are written v before a, o, e, i, and f or v before other sounds. Finally Germanic f is only written f.

Indirect evidence in the shape of loan relations between OHG and Slavonic and Romance, and the reflexes of MHG /v/ in relic speech islands have also been adduced to support the hypothesis that MHG initial /v/ was lenis. MHG v renders the voiced Romance v, while the voiceless Romance f is rendered by MHG pf. Germanic f first rendered Slavonic p (there is no Slavonic f) and then later in the ninth century, Germanic f (OHG v) rendered Slavonic b. Similarly the relic speech islands, such as Gottschee, have a voiced [v] as the reflex of MHG initial /v/.[62] Both these

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60) Penzl ibid., 311f.

61) Penzl ibid., 314: "Die spätahd. Verbreitung des frühahd. Inlautgraphems <u (v)> im Anlaut ist nicht notwendigerweise ein Zeichen für den vollständigen Schwund früherer Fortisallophone in dieser Stellung. Da frühahd. <f> und inlautend <v> dasselbe Phoneme /f/ bedeuten, ist der graphische Ausgleich zwischen Inlaut und Anlaut zu erwarten und läßt kaum noch Schlüsse auf die Allophonverteilung zu".

62) Schwarz 192 , 43f, Lessiak 1933, 59f.

pieces of indirect evidence are not absolutely conclusive,[63] and, in fact, OHG and MHG initial /v/ may have had quite a wide phonetic realization. It could have been fortis, semi-fortis or lenis since strength of articulation was not a relevant distinctive feature in initial position.

63) Penzl 1964, 313.

5.4 THE SIBILANTS

5.4.1 The merger of MHG /s/ and /z/

MHG has a contrast in writing between s and z, medially, wīse, wīze, and finally des, daz, and between ss and zz medially: messe, wazzer. This is assumed to reflect a phonemic contrast which now no longer exists in NHG.[1] All these words have in NHG a voiceless alveolar fricative [s] for the MHG signs s, z, ss, zz. The assumed opposition between /s/ and /z/ in MHG in these positions is not to be found in any modern German dialect, and if it existed, it must have been lost universally. Historical and comparative evidence supports the graphic evidence that there was a phonemic contrast between /s/ and /z/. MHG /s/ is represented by a voiceless or voiced alveolar fricative in modern English and Dutch, was, (the English final voiced sound is a later development), whereas MHG /z/ is represented by a voiceless alveolar stop t in Dutch water, dat, and English, water, that. This latter correspondence is, of course, part of the second or High German sound shift. Further evidence is provided by the fact that most MHG poets did not rhyme s and z[2] and that scribes kept them apart until the thirteenth century.[3] There is a great deal of indirect, but conclusive, evidence that the graphic opposition s:z must represent a phonemic opposition as well. The difficult

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1) Joos 1952, 223; Paul/Moser/Schröbler 1969, para. 109f, Penzl 1968a.

2) Priebsch and Collinson 1958, 124.

3) Schulze 1967.

question is how this opposition was realized phonetically.
Traditionally it has been assumed that MHG s ..."stand etwa
zwischen *s* und *š*" and had "eine dem sch ähnliche Aussprache".[4]
This seems to be confirmed by the merger of MHG /s/ with MHG
/ʃ/ before initial consonants and after /r/ in NHG (see 5.4.3).
It has also been assumed that MHG /s/ and /z/ not only differed
lenis : fortis but also according to their point of articulat-
ion.[5] MHG /s/ may well have had voiced allophones, medially
between vowels and finally, but in the positions where the merger
took place, finally and when doubled, it was voiceless. An
attempt has been made, on the basis of the sibilants which occur
in Basque, to identify MHG /s/ and /z/ phonetically. They are
both assumed to be voiceless and alveolar but /s/ is pre-dorsal,
symbolized [s̄], whereas /z/ is apical, symbolized [ṡ].[6] This
distinction describes what part of the tongue approaches the
palate to make the narrow cavity through which the air is forced
to produce friction. In the case of [s̄] it is the front part of
the dorsum or back of the tongue, and in the case of the [ṡ] it
is the tip or apex of the tongue. These phonetic details seem to
be plausible,[7] but even if these exact articulations were proved
conclusively to be wrong, there would still be enough evidence

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4) Paul/Mitzka 1959, para. 110.

5) Karstien 1939, 125.

6) Joos ibid., 222. [s̄] and [ṡ] are used here for typographical
   convenience. His actual signs are [s̲] and [s̤].

7) Abercrombie 1967, 52f. shows that this is a general variation
   with alveolar fricatives. What is interesting for MHG is
   that the difference is taken to be phonemic.

that /s/ and /z/ are phonemically distinct in MHG.

In standard NHG and all HG dialects these two phonemes have
merged in final position and medially after a short vowel in a
voiceless alveolar fricative [s]. MHG des, daz, NHG des, das,
MHG wazzer, messe, NHG Wasser, Messe. The merger has an
obvious phonetic and phonological reason: the distinction
between the sounds was quite small and would not have allowed
much variation in pronunciation, and secondly it was the only
distinction of its kind among the MHG consonants, as far as can
be judged. Mechanically two sounds which do not differ a great
deal tend to merge, and functionally this opposition (pre-dorsal :
apical) was an anomaly in the consonant system. The functional
yield of the opposition /ss/ and /zz/ after a short vowel was
not great since MHG /ss/ came from IE t + t and this may have been
an added factor in not preventing the merger. Finally the
merger could have created homonyms, but since most of the words
were distinguished in other ways, e.g. by their vowels, des,
daz, or had a voiced counterpart in inflected forms: MHG wīz,
wīs, NHG weiß, weise, [z], they merely paralleled other cases
where voiced and voiceless sounds are neutralized in word final
position, e.g. MHG hof, hoves. A homonymic clash was avoided in
the case of the reflexes of MHG waz, was, by the latter being
replaced by war on the analogy with the plural waren. This
merger of MHG /s/ and /z/ may be seen as contributing to the
elimination of the alternation between /s/ and /r/ in the verb 'to be'
which is retained in English was, were and Dutch was, waren.

In German, however, the /s/ still remains in the past participle
gewesen, which gives weight to the ~~fact~~ suggestion that the replacement of
was by war ~~was~~ may have been to avoid a homonymic clash of these two words,
MHG was, waz, rather than to eliminate the /s-r/ alternation as is
done in verbs such as NHG verlieren, MHG verliesen, verloren
(see 5.7.3).

In the case of the MHG third person neuter sing. pronoun,
nominative and accusative ez, gen. es, there was a merger of
both forms in es, In NHG there is no longer any distinction
between the gen. and acc. This merger is tolerated by NHG, since the use of
the gen. of pronouns and nouns in general has become less and
less frequent and is usual only after a few verbs: bedürfen,
begehren, brauchen.[8] The merger of MHG ez and es fits in with a
general decline in the use of the gen., but it did in fact
introduce a new syntactic possibility, that of an adjective
governing the acc.: er ist keinen Pfennig wert. Most of the
grammar books do not recognize this as a separate category of
adjectives, but usually list ~~them~~ the construction with the accusative as an alternative ~~forms of~~ to that with
the gen. or a preposition governing the gen. or now more frequently the acc.
~~adjectives which govern the gen. and are now being replaced by~~
~~prepositions taking the acc. case.~~ The actual number of
adjectives which govern a straight accusative still appears to
very small: fähig, gewahr, gewohnt, los, müde, satt, überdrüssig,
voll, wert, which shows that this a recent development.[9]

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8) Duden Grammatik 1966, 536; Curme 1922, 507f.; Eggeling 1961,163.

9) Duden Grammatik 1966, 492: "In Konkurrenz mit dem Genitiv steht
der Akkusativ oder der Präpositionalfall", Curme ibid., 493
and 514f. Dt. Wb. 3, 1126f. lists a great deal more.

A similar merger has taken place with MHG acc. _allez_, and gen.

alles. Where a distinction is needed from the acc., a construct-

ion with _an_ + the dat. has developed to show this: _ich bin an_

alles gewöhnt. The need to differentiate forms which might be

pronounced the same may also be a contributory reason for the

relative pronouns gen. forms, _dessen, wessen_ with the enlarged

forms. In unstressed position MHG _waz, wes·_ and _daz, des_ may

have been pronounced the same in certain styles as [vəs], [dəs].

This can be documented from present day German.[10] To make the

distinction clearer the ending -_en_ may have been added. It was

already present in sentences such as: _des en weiz ih niht_,[10a] and

it is also used in NHG _deren_. This avoidance of a merger of

the two pronouns may have been a contributory factor in the

acceptance of the extended forms with -_en_. There is, however, a

timelag between the merger of final /s/ and /z/ in the thirteenth

century and the emergence of the forms like _dessen, wessen_ in the

fifteenth century. Luther did not use the extended forms but

Hans Sachs used both forms. The short forms _des, wes_ were used

right into the eighteenth century, cf. Goethe, Faust I:line 494, "Bist

du Faust, des Stimme mir erklang."[11]

The merger of medial MHG /ss/ with /zz/ and of /s/ and /z/ in

final position can be followed in medieval documents, but it is

difficult to set up its chronological and geographical spread.

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10) Bohmeier, 31.
10a) MHG _en_ is a negative particle generally used before the verb, with or without _niht_.
11) Dt. Wb. 2, 955. Goethe Artemis Ausgabe 1949, 5.

In some places after a period of great uncertainty in distinguish-
ing the signs s and z, later scribes distinguish them carefully.
Similarly geographically there is, for example, in North Bavarian
an area with the centres Würzburg, Bamberg and Langheim and in
the south an area from Augsburg to Ellingen, both of which show
a graphic confusion of s and z and other signs for the two
phonemes. However between these two areas there is a broad strip
with the centre Nürnberg which has only a very occasional confus-
ion of the phonemes.[12]

It must be emphasized that the confusion of the graphemes s, ss,
z, zz, applies to all the allophones of MHG /z/ but only to the
voiceless allophones of /s/, that is when doubled or finally.
The voiced medial /s/ remains spelt s, and is only occasionally
written z in CG.[13]

In the Alemannic area the merger must have taken place about the
end of the twelfth century because when German documents appear,
none of them shows a clear graphemic, and thus phonemic, distinction
between the phonemes.[14] In the northern and central part of
Bavarian and East Franconian the graphemic and phonemic merger
would seem to have occurred by the middle of the thirteenth
century.[15] In the ECG area documents in German do not appear
until later, and the merger cannot be dated with certainty, but it

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12) Schulze 1967, 377.

13) V. Moser 1951, para. 146. 2b.

14) Boesch 1949, 154f.

15) Schulze 1967, 168.

probably began in the second half of the thirteenth century. Most of the chanceries kept the voiced and voiceless alveolar fricatives apart by writing the voiced one ∫ and the voiceless one ∫∫ . Only Bavarian distinguished them differently, writing the voiceless one zz and the voiced one ∫. After the middle of the fifteenth century this gave way to the ∫, ∫∫ system.[16] In late MHG and Early NHG there were a great number of signs used to designate the alveolar fricatives ∫∫, ∫z, zz, z∫, ∫. Initially before vowels and consonants ∫ was used, and s and z were used finally. For the single medial voiced reflex of MHG /s/, s, z and ∫ were used and ∫∫, ∫z, zz, z for the voiceless sound.[17] Of the signs, only ∫, ∫∫, ∫z, are used later to designate the alveolar fricatives. In Early NHG the use of s for initial and medial voiced reflexes of MHG /s/ had been regularized, but for the voiceless sound ∫∫ and ∫z were used indiscriminately medially and s and ∫z in final position. Reformers of orthography tried to regulate the use of these various signs and in the seventeenth century there existed two types of spelling systems.[18] One, used by Johann Fischart (1547-1590) and followed by Rompler von Löwenhalt (1610-1670), wrote ∫z mostly finally and ∫∫ medially after a short vowel and ∫ after a long vowel. This system had the disadvantage that after long vowels and diphthongs no distinction was made between the

16) V. Moser ibid.

17) Schmitt 1936, 36.

18) Michel 1959, 466 and table on 467.

voiced and the voiceless alveolar fricative, both being written
ʃ. The other spelling system, which was to be the basis for
modern spelling, used ʃʃ medially only after short vowels and
ʃz only after long vowels and diphthongs. This system, however,
was not generally adopted but in the eighteenth century it was
adopted by Gottsched. He too set up ẞ after a long vowel or
diphthong and ss after a short vowel for the voiceless alveolar
fricative.[19] Gottsched had opponents, but when finally his system
was adopted by the lexicographer Adelung, it was assured of
success.[20] The use of ẞ was finally settled by the Second Berlin
Conference on Orthography in 1902. NHG thus has three symbols
for the voiceless alveolar fricative s, ss and ẞ, the latter
symbol not ₍normally₎ being used in works published in Switzerland. The
symbol s is used when there is an inflected form with medial s,
representing a voiced [z]: las, lasen, ss is used medially after
short vowels wissen, whereas ẞ is used medially after long vowels
and diphthongs, reiẞen, flieẞen, and finally when the inflected
forms show intervocalic ss or ẞ, rissen, riẞ, flieẞen, floẞ.
There are, however, some anomalies: s is used in aus, des, wes,
despite the forms auẞen, dessen, wessen. According to the rules
they should be written auẞ, deẞ, weẞ. But das and daẞ with
different functions are kept apart graphically. The word bewuẞt
has ẞ, probably by analogy with gewuẞt, or wuẞte, and the
derivational suffix -nis appears as -nisse in the plural,

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19) Gottsched 56f.

20) Adelung 3, 1239.

Gleichnis, Gleichnisse. That B is unnecessary is shown by
the fact that the Swiss do not _normally_ print it. What then is its
justification in present day German? None, as far as showing the
pronunciation of the fricative is concerned, since the signs ss
and B both represent voiceless sounds in müssen and flieBen.[21]
In some cases, however, it does show that the preceding vowel is
long : Masse, MaBe. But there do not seem to be many minimal
pairs, Busse, BuBe is another. In neither word could ss or B be
be replaced by s, since this would indicate the voiced sound as
in Masern. An alternative would be to introduce aa for the long
vowel and separate the two words: Masse, Maasse. Grosse
eliminates B from the German orthography and introduces aa, ee
for long vowels but it does not seem clear how he separates [s]
from [z].[22] Theoretically it would be possible to do without B,
but it is still retained and it has almost become a sign of a
good education if one can use it properly![23] Its use seems to
reflect a rationalization of a sign which was already present,
but did not reflect any difference in pronunciation.

In MHG /s/ was also used initially before vowels and medially
between vowels, MHG sünde, les en. In NHG this corresponds to a
voiced alveolar fricative [z] but the spelling has not changed.

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21) For some UG speakers the resultant sound is also longer than
    the voiced sound, SDS II, map 182, Keller 1961, 45.

22) Grosse 1967, 126.

23) German school children make mistakes in the use of s, B and
    ss, e.g. writing das for daB, Füsse for FüBe.

What value can we ascribe to MHG /s/ in these positions? Medially
it contrasted with /zz/ and /ss/: lesen, messe, bezzer, and in
this position it may have been voiced even in OHG. ~~since the~~
~~other voiceless fricative Germanic f became voiced medially~~
~~and was spelt v.~~ MHG short vowels are lengthened before
medial /s/ and, since it will be shown that short vowels were only
lengthened before single voiced consonants, this a pointer to the
fact that MHG medial /s/ was voiced at that time. Some scholars
use the evidence that since OHG medial s is rendered s and z in
Slavonic this is evidence not only for the pre-dorsal character
OHG s but also for the fact that it is voiced.[24] In standard
NHG there is an opposition between voiced and voiceless alveolar
fricatives medially between vowels, after long vowels and
diphthongs: Fliesen:flieβen, Masern:Maβe, reiβen:reisen, after
short vowels only the voiceless fricative occurs. In most CG
and UG dialects, apart from High Alemannic and Upper Bavarian,
MHG medial /s/ and /z/ have merged in a semi-fortis sound. This
is the area of the consonant lenition which affects fricatives
as well as stops.[25] It has been shown that at least in Low Alemannic
the merger of medial /s/ and /z/ did not take place until after
the first part of the sixteenth century, since Murner clearly
distinguished them. Perhaps it did not even take place until
the seventeenth century.[26] The merger of medial /s/ and /z/ had

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24) Schwarz 1926, 14ff; Lessiak 1933, 87.

25) Lessiak ibid., 13 (see 5.2.2).

26) Philipp 1968, 166.

been effected in Upper Saxon speech in the eighteenth century,
since rhymes like Riesen: fließen are used, and Gottsched, in
his letter portraying the worst type of colloquial speech, uses
spellings such as disse for diese and kraussen for großen.
Otherwise MHG medial /s/ is always written s: kewesen,
wäsen.[27] This merger is, however, omitted by Bergmann when
talking about 'obersächsische Umgangssprache' but it is clear
from the evidence presented that it has taken place. Klopstock
gives us direct evidence that the two sounds have merged, if
only in the speech of some people:[28] "daß ss zwischen zwei
Selbstlauten wird ausgesprochen Flissen, beflissen. Dis können
gleichwol in gewissen Gegenden so gar die Grammatiker nicht von
Flisen unterscheiden". In North Germany and particularly in
Berlin a clear distinction is made between voiced [z] and voice‐
less [s] medially.[29] This pronunciation has been the model for
the standard language, coupled with the fact that the two
fricatives are usually distinguished in writing. Since this
merger in the dialects took place after a written standard had
been established, and since it did not reflect the spelling, it
was considered substandard and not a prestige pronunciation.

Medially after labial and alveolar nasals NHG has no contrast
between /s/ and /z/, only the voiced /z/ occurs in the standard:

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27) Becker/Bergmann 1969, 147.

28) Klopstock 9, 378.

29) Lasch 1928, 259. In Berlin there was an extra source for a
     voiceless [s], the assimilation of MHG hs to ss, e.g. wassen,
     MHG wahsen.

Gänse, Binse, Gesimse. In Gänse, the [z] corresponds to MHG /s/ gense, but in Binse, Gesimse it corresponds to MHG /z/ binez, gesimeze. Through the loss of unstressed e, MHG /z/ came to stand after /n/ and /m/ and MHG /s/ and /z/ merged in this position. This development has also occurred in NHG emsig, Gemse, Simse. The number of words affected is small, but the development shows no exceptions.

5.4.2. The voicing of MHG initial /s/

MHG /s/ initially before vowels presents a slightly different case in that it only contrasts with the affricate /ts/ written z, and in the NHG standard Siebs prescribes a voiced value for it, [z].[30]. This follows North German pronunciation and there is no phonological reason why it could not be realized as a voiceless or semi-fortis [s], which indeed happens in South Germany. In Switzerland it is recommended that initial s be pronounced 'stimmlos-schwach' initially before vowels and medially.[31] In the pronunciation of many educated speakers in South Germany and Austria a clear opposition is maintained between NHG /s/ and /z/ medially in pairs such as reißen :reisen, but initially NHG /z/ is pronounced voiceless, or at least as a semi-fortis sound which is phonetically more similar to the fricative in reißen, and would thus be regarded as a member of the /s/ phoneme and not of the /z/ phoneme as in the standard. When did initial MHG /s/ become voiced? Since there is considerable latitude in its

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30) Siebs 1958, 67.

31) Boesch 1957, 31.

pronunciation in NHG this same freedom could basically have obtained in MHG, that is voiced, perhaps in CG and voiceless in UG. There is possible evidence from a CG medieval Yiddish poem from the end of the fourteenth century that the initial MHG /s/ was already voiced then, since the Hebrew character Sajn is used for initial MHG /s/ before vowels and medial MHG /s/, whereas the Hebrew sign Sin is used for MHG /s/ before consonants and when doubled, as well as for /z/. For the alveo-palatal MHG /ʃ/ the sign Schin is used.[32] The voiced pronunciation of NHG initial /s/ before vowels, which is prescribed by Siebs, is another example of a North German feature being accepted as standard.

5.4.3 The partial merger of MHG /s/ and /ʃ/

In MHG /ʃ/ occurred initially before /r/ and vowels, schündet, schrïben, medially after /l/, /r/ and /n/: valsche, vorschen, wünschen and finally after /l/ and /n/, valsch, wunsch. In native words in NHG /ʃ/ still appears initially before vowels and /r/: schön, schreiben. But it also appears before any initial consonant except /k/: schwimmen, schlafen, schnell, spät, stehen. Except before /t/ and /p/ the NHG phoneme /ʃ/ is spelt sch. This change has not resulted in the loss or gain of any phoneme but represents a change in the distribution of MHG /ʃ/, which has become more frequent due to its merger with MHG /s/ before initial consonants. The use of the grapheme sch for [ʃ] initially before, /l, m, n, w/ starts in Alemannic sources in the thirteenth century

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32) Norman, Schwarz, Ganz (ed.) 1964, para. 20 and 37.

and by 1500 it has become universal in both UG and CG sources.[33]

The question that naturally arises is why sch does not appear

in writing before /p/ and /t/ in NHG? In the South West German

dialects the 'breite Aussprache', as Viëtor calls the pronunciat-

ion of s as [ʃ] before /t/ and /p/,[34] occurs not only before

initial /p, t/, as in the standard, but also before medial /p, t/

as in fescht, kaschper.[35] This pronunciation is typical of

present day Alemannic dialects but it also seems that, at least

before /t/, it was   widespread in Bavarian at one time and

was thus a general UG characteristic.[36] The spelling with sch

was probably used before /l, m, n, w/ since it already existed

before /r/ in MHG,[37] and there was also no orthographic need to

designate the pronunciation of initial and medial st, sp as [ʃt],

[ʃp] since Alemannic speakers would automatically realise the

sign s as [ʃ] before any consonant, except where a morpheme

boundary intervened. The use of sch ⟨before t and p⟩ does appear, but only

sporadically in Alemannic in the fourteenth and fifteenth century,

but it does not seem to have been accepted into the standard.[38]

Fabian Frangk makes the following comment on this:[39] "Widderumb

aber ist dis kein abbruch/ sondern für gnug/ und ein zierd

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33)   Aron 1893, 225-271.

34)   Viëtor 1904, 191.

35)   DSA map 23, Jutz 1931, 199.

36)   Freudenberg 1965, 300.

37)   V. Moser 1951, para. 147, 1b, Anm. 6.

38)   V. Moser ibid., para. 147, 2, Anm. 16.

39)   Müller 1882, 104.

angenohmen/ so weilands ettliche buchstaben ubersehen werden/

als da ch jnn diesen unnd der gleichen/ sprach sprech/ storch/

straus/für schprach/ sprecht/ schtorch/ schtraus u. Und ist

eine gemeine regel. Wenns p odder t nach dem sch/ von rechte

gefordert/ sowirds ch vermieden/ und das p odder t schlechts

zunehst ans s gesetzt/ wie itzt gesehen". Opposed to this

extreme of [ʃ] before both initial and medial /t/ and /p/ is

another extreme, the 'spitze Aussprache', where MHG /s/ is only

pronounced as [ʃ] before initial /l, m, n, r, w/, but before /t/

and /p/ as [s], regardless of position.[40] This is characteristic

of the High German spoken in areas where Low German was previous-

ly universal, except Eastphalia, Brandenburg including Berlin,

and East Prussia, where initial st, sp is pronounced [ʃt, ʃp]. In

Berlin the pronunciation of st, sp as [ʃt], [ʃp] can be traced

back as far as the sixteenth century.[41] The standard represents

a compromise between these two extremes, with [ʃt, ʃp] initially

and [st, sp] medially and finally. How did this compromise

arise? It seems probable that it is the result of the mixture of

UG and LG settlers in ECG in the Middle Ages. Since East Prussia

was colonized after 1300 it must have arisen before then, because

High Prussian represents the compromise pronunciation.[42] The

change of spelling was not strictly necessary but this develop-

ment of s to sch demonstrates that OHG s was probably pronounced

40) Viëtor 1904, 191.

41) Lasch 1928, 56.

42) Kuck/Wiesinger 1965, para. 75.

as [ʃ] in certain positions. It has been suggested that with the simplification of consonant clusters medial [ʃt] merged with [ʃ] from OHG sk in some dialects.[43] Today the medial clusters [ʃt] and [ʃp] have become characteristic of Alemannic dialects. In the case of the word Wurscht meaning 'egal' in the phrase: Es ist mir Wurscht the [ʃt] pronunciation has been extended to occur in colloquial speech in all parts of Germany. Both the spelling wurst and wurscht are recorded.[44] After medial and final /r/ in MHG /s/ and /ʃ/ also contrasted: vorschen: kirse, bars: marsch. In this position a merger between the two sounds in /ʃ/ is assumed for NHG, NHG forschen, Kirsche, Barsch, marsch.[45] This did not occur if the final -s occurred after a morpheme boundary, thus in NHG there is no merger in des Haars, versehen übersehen, ersehen. There are, however, a number of words which are recorded in OHG and MHG which do not show medial and final [rʃ], rsch, in NHG: Pfirsich, Ferse, Färse 'heifer', Hirse 'millet', Vers. It has been suggested that these exceptions can be explained by saying that after /r/ only West Germanic ss became [ʃ] not single s,[46] or that only in the cases where the /s/ after /r/ was voiceless did it become [ʃ].[47] The exceptions may

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43) Freudenberg 1965, 305.

44) Küpper 1958, 469. The form wurscht seems to have arisen among students in Berlin in the early nineteenth century and to have become part of Berlin colloquial speech.

45) Penzl 1968a, 348. Marsch is not recorded until the 17th. c. both in the meanings 'march' and 'bog', Kluge/Mitzka 462f.

46) Lessiak 1933, 97; Kranzmayer 1956, 90.

47) Von Kienle 1960, 101.

be borrowings from LG.[48] The feminine _Hirse_ is first used by

Schottel,[49] and is almost certainly a LG import. The sequence

[rz] in NHG comes, in some cases, from later Romance loan words:

Börse, _Mör ser_ and exists in modern formations like _morsen_ 'to

transmit by morse code,' but there still remains the problem of

the exceptions. That these words had only a single or voiced

[z] in MHG and all the others like _Bursche_, _Kirsche_, _herrschen_,

Knirschen had a voiceless or double /ss/ seems unlikely, since

there is no trace of this in the spelling. Some are native

words and some are old borrowings. Of the exceptions, _Hirse_

and _Vers_ are recorded in Early NHG with _sch_.[50] It seems more

likely that the exceptions represent a random selection by the

standard language at a time when the new sequence [rz], as in

Börse, was being accepted by the language. The forms _Ferse_,

Färse, _Hirse_, _Pfirsich_, _Verse_ were accepted along with the loan

words _Börse_, _Mörser_. As we have seen, if _Verse_ and _Hirse_ had

variants with [rʃ], _rsch_, then the other words may also have had

variants. In fact most of them occur with [rʃ], _rsch_, in UG

dialects.[51] _Ferse_ appears as _Versche_ in Luther but the form

ferse is used by other writers.[52] Through the loss of unstressed

_e_ MHG, /z/ came to stand after /r/ in the MHG word _hirez_, _hirz_,

and the reflex of MHG /z/ in this position is [ʃ] _sch_: _Hirsch_.

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48) Karstien 1939, 143.

49) Schottel 1337.

50) Dt. Wb. 4, 2, 1571.

51) Schwarz 1926, 31f.

52) Dt. Wb. 3, 1543.

This seems to be the only example of /ʃ/ from MHG /z/ in this

position, and therefore would be an example of a 'regular' sound

change applying to one word!

The occurrence of /ʃ/ is largely predictable in NHG, in that it

occurs initially before consonants, medially between vowels and

medially and finally after /l, r, m, n/, It contrasts only with

/z/ initially before vowels, and /z/ and /s/ ~~finally after vowels,~~

Finally after vowels it contrasts only with /s/.

~~and~~ medially between vowels. Consequently it has been suggested

that /s/ might be derived from an underlying /s/. Since in the

positions where /ʃ/ contrasts with either /s/ or /z/ no consonant

cluster /sk/ occurs in native words, /sk/ could be posited as

the underlying representation. Thus surface forms like Schule,

waschen, falsch would have the underlying forms /sku:l/, /vasken/,

/falsk/. Where /ʃ/ occurs before or after consonants, it is to be

regarded as underlying /s/: e.g. /snel/, /bars/, /slim/, /swe:r/,

/sreiben/.[53] There is in the grammar a general phonological rule

which turns /s/ into /ʃ/ before or after any consonant, as long as

a morpheme boundary does not intervene. Wurzel formulates the

rule as follows:

$$
\begin{bmatrix} + \text{cor} \\ + \text{cont} \\ - \text{voice} \end{bmatrix} \longrightarrow \left\{ \begin{array}{l} [-\text{Rule (c)}]\,/+\_\_\_\_ \\[2ex] [+\text{high}] \end{array} \right. \left\{ \begin{array}{l} \text{\#}(+)\text{\#}\_\_\_\_\begin{bmatrix} +\text{cons} \\ (\text{high}) \end{bmatrix} \\[2ex] \begin{bmatrix} +\text{cons} \\ -\text{obstr} \end{bmatrix}\_\_\_\_+ \end{array} \right\}
$$
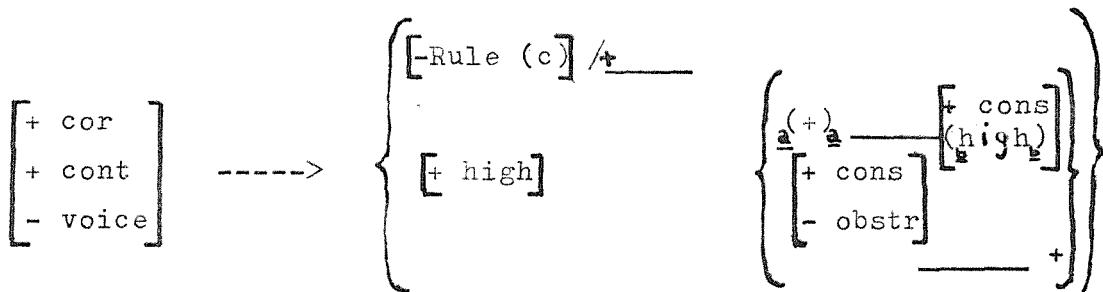
This produces the forms /ʃku:l/, /vaʃken/, /falʃk/, /barʃ/.

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53) Wurzel 1970, 226f.; Vennemann 1968 b, 111-131 has a slightly
    different solution. The features in this rule have been
    translated, as is the case with all the rules discussed in
    this work.

Then there is a further rule needed to derive the surface forms, i.e.
the dropping of the /k/ after /ʃ/:

$$
\begin{bmatrix} + \text{ obstr} \\ + \text{ high} \end{bmatrix} \quad \text{-----}> \quad \emptyset \ / \quad \begin{bmatrix} + \text{ obstr} \\ + \text{ high} \end{bmatrix} \underline{\quad\quad}
$$
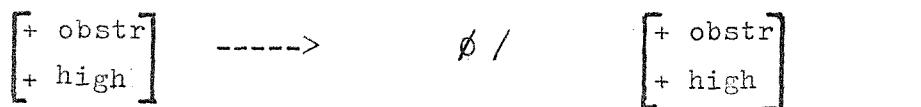
The rule does not apply to foreign words like Skat, Skandal. A
more acceptable solution would be to retain /ʃ/ in the underlying
forms, i.e. /ʃuːlə/, /vaʃən/, but keep underlying /snel/, /slim/,
and have a redundancy rule that specifies that initially before
a consonant an alveolar fricative is always [+ high]. This
solution is reflected in the spelling proposed by the author of
the High Dutch Minerva, where it is suggested that initial and
medial sch before vowels be always spelt sh, shoepfer, fleishes,
but NHG sch before initial consonants be always spelt s,
auferstandan, sweger, spil.[54] This rule obviously reflects the
historical change as we have postulated it.

5.4.4 Changes in the incidence of MHG /z/

In the history of the development of MHG /s/ and /z/ there are a
few anomalous forms which need to be mentioned individually.
They do not involve any change in the distribution of any phoneme,
but simply in its incidence, i.e. in its occurrences in individual
words. NHG Pilze is taken as representing MHG bülez, cf. Latin
boletus. In this word the MHG fricative /z/ has been replaced
by an affricate. The first recorded spelling with tz is in the
fourteenth century and the affricate in NHG may simply be a

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54) High Dutch Minerva 1680, 11.

spelling pronunciation.[55] It must also be said that it is a word that is used only in North Germany, the South German word being <u>Schwamm</u> or <u>Schwammerl</u>.[56] The existence of the word <u>Bilsenkraut</u> 'henbane', raises the supposition that to avoid a merger of <u>bülez</u> and <u>bilise</u>, the fricative in <u>bülez</u> was replaced by an affricate. A similar change has taken place in NHG <u>Münze</u> where, possibly the form <u>Moneten</u> and perhaps, though semantically different, the form <u>Minze</u> 'peppermint' may have influenced the replacing of a fricative by an affricate.[57] But the details are far from clear and we can only conjecture. NHG <u>Gischt</u> would seem to be the only word in NHG where <u>sch</u> occurs before a final stop which is not a verbal ending, as in <u>mischt</u>. MHG has two verbs connected with it, <u>jësen</u> and <u>gischen</u> and it is a derivation from the latter. The <u>sch</u> in <u>Gischt</u> first appears in the seventeenth century. It does not seem to be a borrowing from South West German dialects.[58]

Some words in NHG show, exceptionally, a voiced [z] as the reflex of medial MHG /z/ between vowels where the regular correspondence should be a voiceless [s]: <u>Loses</u>, <u>Los</u>, <u>Kreises</u>, <u>Kreis</u>, <u>Ameise</u>, <u>mausen</u>. <s>Verweis, verweisen.</s> The verb <u>mausen</u>, may be a secondary derivation from the noun <u>Maus</u>. The cause of this change is apparently the spelling. All these words were at some time

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55) Dt. Wb. 7, 1857.

56) Kretschmer 1918, 372f.

57) <u>Pilz</u>, Dt. Wb. 7, 1857; <u>Münze</u>, Dt. Wb. 6, 2703.

58) <u>Gischt</u>, Dt. Wb. 4, 1, 4, 7564.

written with ß, in some cases even into the eighteenth century, but probably they also became written with s and pronounced [z].[59] These are all cases of spelling pronunciations which have found their way into the standard. Probably these words represent a tendency to try and correct the overuse of ß and are, in fact, hypercorrect spellings.

5.4.5 The emergence of the phoneme /ʒ/

The phoneme /ʒ/ in NHG is found exclusively in loan words. It is spelt g initially before front vowels, Giro, Gelee, or before unstressed [ə], Etage, Page, Garage. Initially before back vowels it is spelt j, Jalousie, Journal. In standard NHG it forms a voiced partner to the voiceless /ʃ/, but there seem to be no minimal pairs. Moulton cites the near minimal pair Giro : schier to show that they contrast.[60] The distribution of /ʒ/ is limited. Initially it occurs only before vowels, Genie, Jacket. Medially it appears only after long vowels, Page, and after /n/, rangieren 'arrange, shunt', Orange. It does not normally enter a phonological alternation with its voiceless counterpart /ʒ/. One possible exception is the colour term beige. When this is inflected it will contain a medial voiced /ʒ/, beigenfarbig, but the word beige on its own is either pronounced [beːʒə], [bɛːʒə][61] or [beːʃ].[62] It is not clear how widespread the last pronunciation is. If it is used frequently it means that at least for

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59) Kreis, Dt. Wb. 5, 2144; Los, Dt. Wb. 6; 1153, mausen, Dt. Wb. 6, 1831; Verweis, Dt. Wb. 12, 2182.

60) Moulton 1962, 22.

61) DAW 155.

62) WDA 174.

some speakers the medial /ʒ/ is devoiced in word-final position

for this word. Apart from the possible example of beige, the

phoneme /ʒ/ is not involved in any phonological alternations.

Many linguists disregard it when describing the sound system of

NHG.[63] In colloquial speech certainly it is usually devoiced

and pronounced /ʃ/. Duden Grammatik regards this as part of a

'Nicht-hochlautung' pronunciation.

Since many speakers of German use the phoneme /ʒ/ a historical

phonological study cannot ignore its existence and must explain

its occurrence. It was borrowed into the standard language

through the adoption of French loan words. Since it forms a

voiced partner for the voiceless /ʃ/, it was more easily accepted

to fill this particular 'hole in the pattern'. When did this

happen? Most of the words containing /ʒ/ in NHG are quite

recent borrowings. The sound was certainly not present in MHG:

Gelee, Genre, Regie, Garage, generös are not recorded in the

Dt. Wb., but some are considerably older. The two words Giraffe

and Page are recorded in 1497, but spelt schiraff, and pasche.[64]

Courage occurs first in Simplicissimus spelt Courasche.[65]

Journal also appeared first in the seventeenth century.[66] The

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63) Werner 1972, 47: "Ein /z/ erscheint nur in (frz.)
     Fremdwörtern ... so gehört es nur bedingt ins dt,
     Phoneminventar". Vennemann 1968, Philipp and Wurzel 1970 do
     not regard it as part of the NHG phonological system.

64) Giraffe, Dt. Wb. 4, 1, 4, 7544; Page, Dt. Wb. 7, 1407.

65) Dt. Wb. 2, 637.

66) Dt. Wb. 4, 2, 2338.

word <u>Giro</u> was also first recorded in the seventeenth century, but only came into wide-spread use at the end of the nineteenth century.[67] <u>Genie</u> is, of course, a key word of the eighteenth century.[68] All these words were spelt with <u>sch</u> when they first appeared. Only later does the spelling with <u>g</u> or <u>j</u> come into use, in order to make them like their French forms. The integration of /ʒ/ into the sound system of German has taken a long time and has occurred gradually. As the number of loans containing this sound increased, and knowledge of French spelling and pronunciation became more widespread, the loans came to be pronounced with the French sound /ʒ/.

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67) Dt. Wb. 4, 1, 4, 7549.

68) Dt. Wb. 4, 1, 2, 3396.

5.5.   THE PALATAL AND VELAR FRICATIVES AND MHG /h/

5.5.1   The development of the NHG allophonic variation [x] - [ç]

Phoneticians recognize that there is a phonetic difference

between the NHG fricative written ch in nicht and that in Nacht.

In nicht it is considered to be palatal, and is symbolized [ç],

whereas in Nacht it is considered to be velar, symbolized [x].

They are both voiceless.[1]   Although it is agreed that this

phonetic difference exists, there is disagreement about its

status.[2]   Are [x] and [ç] phonemes or allophones?   For the most

part they are in complementary distribution.   The voiceless velar

fricative occurs after low and back vowels, Bach, Loch, Buch,

Bucht, Bauch, and the palatal fricative [ç] occurs after front

vowels, dich, recht, Bücher, tüchtig, möchte, Seuche.   However

there appear to be minimal pairs where [x] and [ç] contrast,

tauchen : Tauchen 'little rope'; rauchen : Frauchen; Kuchen :

Kuhchen.   On the basis of these pairs it would seem feasible to

set up the phonemes /x/ and /ç/.   Moulton considers setting up

[ç] as a separate phoneme but discounts it in favour of using a

phoneme of juncture, /+/,   This may have an allophone comprising

a pause or a zero allophone.   Thus NHG Kuchen is phonemically

/'ku:xen/, and Kuhchen is phonemically /+'ku:+xen/.   The

allophone [ç] appears after front vowels and the juncture phoneme

/+/.[3]   This type of analysis has been criticized on several

_____

1)   Martens 1961, 195, 185; Viëtor 1904, paras. 77, 79.

2)   There is an account of the secondary literature in Werner 1972,
     46-50.

3)   Moulton 1947, 223.

grounds.[4] In a later work Moulton sets up two separate phonemes,
/x/ and /ç/. However, he says that for teaching purposes, both
solutions, that of /x/ and /ç/ as separate phonemes and that with
them as allophones, are needed.[5] No one else seems to have
seriously considered setting up /x/ and /ç/ as separate phonemes
for NHG. Trim has suggested that [x], [ç] and [h] could be
combined into one phoneme,[6] but Daniel Jones does not accept this
since there are numerous words with initial [ç] in NHG even though
they are foreign words.[7] The apparent contrast of [x] and [ç]
can be easily dealt with if grammatical prerequisites are allowed
in phonological analysis.[8] Whenever [ç] occurs after a back
vowel it is always in the diminutive suffix. We can now say that
the allophone [ç] appears after front vowels, and initially in
words, e.g. Chemie, or in morphemes, e.g. [-çən], and after /n, l/
and /r/, manch, solch, durch. This solution still leaves some
problems unanswered: e.g. how does one regard the syllable
initial [x] in Wacholder, Achat? Generative phonologists are
agreed that for NHG only an underlying /x/ need be posited. Both
[ç] and [h] can be derived from this: [ç] by a /x/ -fronting
rule, and [h] by a /x/ - weakening rule.[9] In our account we will
consider [x] and [ç] to be allophones of one phoneme, /x/, in NHG.

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4) Haas 1954, 58f.

5) Moulton 1962, 22f.

6) Trim 1951, 41,

7) Jones 1962, 69.

8) Pike 1947, 170-172.

9) Vennemann 1968 b, 50, 95-98; Wurzel 1970, 243.

It is uncertain when the allophonic variation between palatal
[ç] and velar [x] first came into being. Viëtor maintains that
the velar sound is the older, and cites grammarians and
orthoe̱p̱ists who do not make any distinction between them.[10]
The quotations which he uses are, in fact, inconclusive - the
only conclusion that may be drawn from them is that the writers
seem to be unaware of any difference between velar and palatal
fricatives. KolroB describes the articulation of the di_graph
ch: "So hat das ch sin uBsprechen uB dem mund/ glych sam einer
in die hand khucht oder wie ein gans thut die junge hat/ so
man gegen ir geedt".[11] Fuchsperger merely gives a sentence with
examples of the sounds: "Ch macht den Pruckschlager oder
holtzklieber durch den schlegelschlag keichen/krachen/ und
wachen den Storchen".[12] Even Ickelsamer, who describes most of
the consonants quite adequately, does not mention ch. The only
clue he gives to its pronunciation is: "... in den wörtern/
machen/ rechen u. da das /ch/ bey ainander muB bleyben/ und
lutet doch auch zu ainer end silben hart/ also, mach en/ und gibt
der nachgeende Vocal ainen harten anfang".[13] By 'hart' he
presumably means voiceless since he comments elsewhere: "allain
das /p/ herter ist dann das /b/".[14] Gottsched also does not comment

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10) Viëtor 1904, para. 77, Anm. 1.

11) Müller 1880, 76.

12) Müller ibid., 173.

13) Müller ibid., 145.

14) Müller ibid., 130.

on any difference between [x] and [ç]. He regards <u>ch</u>
as representing two <u>h</u>'s, as <u>ck</u> represents two <u>k</u>'s.[15] It is not
until the nineteenth century and the beginning of scientific
phonetic study that the difference in place of articulation
between [x] and [ç] was noticed.

If the observations of native speakers of the language do not
help, neither does the spelling, since the palato-velar phoneme
/x/ is spelt <u>ch</u> in every position in NHG and the spelling has
not varied much since OHG when the signs <u>h</u>, <u>hh</u> as well <u>ch</u> were
used.[16] The signs <u>ch</u> and <u>h</u> seem to have been used in free
after vowels e.g. naht, nacht, vuhs, vuchs, sah, sach:
variation in MHG before consonants and finally/ between vowels *they contrasted*
~~however~~ ch ~~and hh were~~ *was* used to designate MHG /x/, whereas <u>h</u> was
brechen : sehen.
used for the aspirate MHG /h/. Since this difference in place
of articulation is only allophonic,   (phonetically
untrained native speakers are very often unaware of it) the
sixteenth century grammarians cannot be too severely criticized
for not having noticed it. Also the palatal sound did not occur
in any major foreign language as a separate phoneme. This is
another reason why they would be unlikely to be aware of its
existence. We thus seem to have no direct evidence to tell us
how old the allophonic variation [x] - [ç] is.

We can, however, say that it is probably not very old, since it
does not exist in many German dialects. In saying this we are

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15)   Gottsched 52f.

16)   Braune/Mitzka 1961, para. 145.

assuming that the palatal pronunciation of MHG /x/ started at

one point in the German speaking area and spread to others.

It can be seen that the Alemannic dialects in Switzerland and

also South Germany do not show this variation. The exact extent

of dialects with only velar [x] after both front and back vowels

has not been ascertained exactly, but it seems to lie within the

area delimited in the north by the isogloss kint/khint.[17] The

dialects outside this area do show the palatal-velar variation

and in some cases, notably in the middle Rhineland, words like

[dax] - [deçər] show the alternation [dax] - [deʃər] where

probably an earlier [ç] has merged with MHG /ʃ/.[18] From the

absence of the [x] - [ç] variation in some dialects, it seems

justified to assume that at some time in the past, perhaps in

MHG or OHG, the allophonic variation [x] - [ç] did not exist but

that only [x] appeared after both front and back vowels.

How then did this velar fricative [x] develop a palatal allo-
phone after front vowels? The most plausible answer is that it

is simply a case of the assimilation of the fricative to the

point of articulation of the preceding vowel: after front

vowels a fronted variation was created, while after back vowels

the back variant remained. The whole process would then be

due to ease of articulation. However there are two problems:

firstly why was this assimilation not carried out universally in

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17) Jutz 1931, 208; DSA map 17.

18) Wurzel 1970, 234f.; Philipp 1968, 173f.

all dialects, and also in other Germanic languages which have
velar fricatives, albeit from different sources, such as Dutch?
Secondly, why does the front variant [ç] also occur after a back
consonant, the uvular [R] as in durch, Furche, Kirche?

The reason why the assimilation of [x] to [ç] is not universal
lies in the sound system as a whole. One of the characteristics
of the Alemannic dialects of Switzerland and Dutch, which have
only a velar fricative and no allophonic variation [x] - [ç], is
that they both have a velar fricative in initial position before
vowels. In this position the velar fricative is always fortis
in Alemannic, but in Dutch it is sometimes voiced and sometimes
voiceless.[19] In those dialects, including standard NHG, where
[x] has become [ç] or has developed further to [ʃ], there is no
initial pre-vocalic velar fricative. Also the velar fricative
in Dutch and Alemannic does not change its place of articulation
before front vowels.[20] Perhaps this non-variation is a sign
that the phoneme /x/ is very stable in these languages. It is
certainly a characteristic sign of Dutch and Swiss German, since
in this position it is a difficult sound to acquire for speakers
of other Germanic languages. In those dialects, except Bavarian,
which have the allophonic variation [x] - [ç], and in which the [ç] has
not merged with [ʃ], there is a voiced fricative counterpart,
from MHG /g/ medially and finally, which also has palatal and

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19) Eijkman 1955, 88.

20) Keller ibid., 51.

velar allophones. Examples will be drawn from Luxemburgisch
to illustrate this. In final position only a voiceless [ç] and
[x] occur: [zaːx] 'thing', [frɛç], but medially between vowels
the voiced and voiceless sounds contrast: [ʃpijəl] : [ziçən]
'to seek', [laːɣən] : [maːxən]. The intervocalic fricatives,
particularly the voiced ones, are also sometimes lost: Lux.
[jeːər], NHG Jäger, and even the voiceless [x] is lost in
colloquial speech, [maːxən] becomes [maːn].[21] In a large part
of the Rhineland the palatal [ç], which in final position may
represent Germanic g as well as k, merges with [ʃ]: Leisch
'funeral', u'heeflisch 'impolite'.[22]

Casting our glance at other Germanic languages where there are
still fricative reflexes of Germanic h, the development of
palatal allophones has also occurred. In English, Germanic h
has now been lost in all positions except initially before
vowels, but it is a well known fact that, even in this position,
it is lost in most dialects and colloquial speech. Before it
was lost in post-vocalic position, or became [f] as in laugh,
cf. NHG lachen, it developed palatal allophones similar to the
variation in NHG.[23] Since some dialects and languages have the
[x] - [ç] variation, whereas others do not, and only have [x],
it seems that this assimilation is not purely mechanical, but
rather depends on the other sounds in the phonological system

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21) These are forms from Luxembourg informants.

22) Keller 175.

23) Dobson 1968, II, para. 424.

and their distribution. Where there was no longer any initial

velar fricative, through the change of Germanic x to h initially,

and a new velar fricative did not arise, as in Swiss German, from

initial Germanic k, then the non-initial velar fricative [x],

whether from Germanic h, g or k, has tended to be assimilated

to the preceding vowel and tended either to disappear as in

English and some central German dialects or merge with MHG /ʃ/

as in Rhineland and ECG. It has been suggested that the lack of

a strongly articulated velar fricative in initial position has

led to [x] becoming less strongly articulated and being

assimilated to its environment, i.e. to [ç], after front vowels,

thus creating a closer voiced : voiceless correlation between

the voiced palatal fricative and the voiceless palatal fricative.[24]

This is diagrammed as:

$$j$$
$$(ç \longleftarrow x)$$

This process is still said to be incomplete. The voiced sound

/j/ only occurs initially before vowels and the voiceless sound

occurs after front vowels and /l, r, n,/ as well as initially in a

few loans like Chemie. The distribution of the two sounds seems

to be so different that this suggestion of an assimilation to

create a voiceless partner for /j/ must be viewed with scepticism.

Other scholars view the assimilation of [x] to [ç] as part of a

universal change [x]>[ç]>[h]> ∅.[25] According to this view NHG has

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24) Lüdtke 1959, 178-183.

25) Vennemann 1972, 875, fn. 31.

reached the second stage of this development. But Dutch and

Alemannic create a difficulty here. Why have not these languages

embarked upon the first stage of the universal change? They

have, it is true, lost Germanic h in certain positions, but in

some UG dialects MHG medial /h/ has actually merged with MHG /x/

and has not been lost! [26] The velar fricative in Dutch, which

represents Germanic g, has remained for a long period of time.

Such facts as these make one doubt whether Vennemann's proposal

is really a universal change. It does tend to happen but that

does not make it a universal law. This assimilation, as has been said,

is, in general, an assimilation of a velar to a palatal fricative

after palatal vowels. It has been formulated in distinctive

features thus: [27]

$$\begin{bmatrix} + \text{ cons} \\ - \text{ cor} \\ - \text{ ant} \\ + \text{ cont} \end{bmatrix} \longrightarrow [- \text{ back}] \, / \, [- \text{ back}] ----$$

This change also happens after /r/, which is usually uvular in

NHG. Wurzel is aware of this problem and postulates as the

underlying /r/ a dental trill, although uvular [R] is equally

widespread. Underlying dental /r/ is converted into uvular [R]

by an optional rule. Since dental /r/ is [- back] the rule

changing underlying /x/ to [ç] can be applied even in the context

of dental /r/. After the application of this rule, the optional

rule converting /r/ to [R] can be applied giving surface forms

26) Kurath 1965, 34.

27) Vennemann 1968 b, 59; Wurzel 1970, 232.

where palatal [ç] occurs after uvular [R], e.g. [duRç].[28] This

ordering of the two rules would then reflect the historical

order of the changes: first the assimilation of [x] to [ç]

and then secondly the change of dental /r/ to uvular [R].

However these two rules have completely different results. The

change of [x] to [ç] is an automatic assimilation of which the

native speaker is generally unaware, whereas the change of [r]

to [R] is a sound substitution of which most native speakers

are aware. An examination of the words in NHG where [ç] occurs

after /r/ opens up another possibility of interpretation due to

the fact that these all have forms with an epenthetic or

svarabhakti vowel between r and the velar fricative in OHG,which

no longer appears in MHG and NHG spelling.

NHG	OHG
durch	durah
Kirche	kirihha
Lerche	lērihha
Pferch 'fold, pen'	pferrich
Furche	furuh
horchen	(late OHG) hōrechen

The words schnarchen and Schnorchel have no recorded forms in

OHG.[29] The origin of the vowels is twofold: those in OHG

kirihha, lērihha, pferrih, were original vowels, whereas those in

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28) Wurzel 1970, 234f.; Vennemann 1968 b, does not deal with the
    articulation of NHG /r/ at all!

29) NHG schnarchen, Kluge/Mitzka 668; NHG Schnorchel is a modern
    word from N. E. Germany, Ullstein Lexicon 1969, 791.

the other words developed in OHG between 1 and h or r.[30] The

svarabhakti vowels are not universal in OHG, but they are certain-

ly widespread. In MHG these vowels, whatever their origin, are

not represented in orthography at all. Since in MHG there was

no contrast between the sequence r + vowel + h and rh, the r

before h may have been pronounced as [rə] or even [rɪ]. In

NHG there is no direct evidence of such pronunciation[31], but it

is precisely in those words which had svarabhakti vowels in OHG

that the velar [x] has become [ç] after the NHG uvular [R]. Why

were these svarabhakti vowels not written in MHG if they existed

then? One reason has already been given. Other possible reasons

are: the fact that unstressed -e was generally not written after

1 or r *preceded by a short vowel* and secondly, in late MHG in Bavarian there are some

instances of svarabhakti vowels after r, though not before h:

zoren, turen.[32] It seems plausible to assume that MHG /x/, ch,

became assimilated [ç] after front and also the non-low central

vowel [ə]. Through the loss of the intervening [ə] after r, the

palatal [ç] came to stand next to a dental [r], which in NHG has

largely been replaced by a uvular [R]. Palatalization of MHG /x/

after [ə] could also be responsible for the diminutive suffix

beginning with [ç], e.g. Kuhchen MHG *kuoechen. This explains

historically how such forms as [kuːçən] and [frauçən] came into

being. For those linguists who regard /x/ and /ç/ as two phonemes

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30) Braune/Mitzka 1961, para. 65.

31) The svarabhakti vowels do exist in some dialects, e.g.
    Alsatian, Atlas Linguistique *et ethnographique* de L'Alsace, I, map 77.

32) Paul/Moser/Schröbler 1969, para. 25.

in NHG, the loss of unstressed _e_ before the diminutive ending would be the change that has phonemicized them. The NHG palatal allophone [ç] also appears after /n/ and /l/. The cluster /lx/ existed in MHG, _solche_, and like MHG /rx/, it may have been realized with a svarabhakti vowel [ləx] or [lix]. Many words with /lx/ in NHG have an intervening ~~svarabhakti~~ vowel in their OHG form, NHG _solch_, _Kelch_, OHG _solih_, _kelih_. cf. Latin _calicem_. The cluster /nx/, however, did not exist in MHG. Even in NHG there are only a few words where this cluster occurs e.g. _Fenchel_ 'fennel', _Mönch_, _tünchen_, _manch_[33] (MHG _manec_, for the development of MHG -_ec_ see 5.5.1). All these words have OHG or MHG forms with an intervening vowel between /n/ and /x/, MHG _venichel_, _münech_, OHG _tunihhōn_. We are not dealing with forms where there is a morpheme boundary in NHG between the /n/ and /x/, e.g. _Söhnchen_. If the cluster /nx/ had existed in MHG then the palatal [ç] would not have developed after it, since MHG /nx/ would have been realized phonetically as [ŋx], with a velar nasal allophone of MHG /n/, which also occurred before the velar stops /g/ and /k/, (see 5.6.1). MHG /x/ developed a palatal [ç] allophone except after back vowels and velar consonants. In the case of NHG /nx/ the palatal [ç] developed not after the dental /n/ but after unstressed [ə].[34] This is a further support to our contention

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33) In NHG _lynchen_ the _nch_ is pronounced [nç], DAW 481, but this is a modern word, Kluge/Mitzka 451.

34) Vennemann 1968 b, 144f., assumes an intervening [ə] even for his synchronic phonology of German, which is then deleted by a syncopation rule. He also assumes that the underlying form of the suffix -_chen_ is /ik'Vn/. He gives a sample derivation of a diminutive form on p. 146.

that in the case NHG /rx/ (and /lx/), palatal [ç] developed not merely after front vowels but after [ə] as well. In the case of NHG /rx/ and /lx/ we can only assume unstressed [ə] in MHG, but in the case of NHG /nx/ there is direct evidence for [ə] in MHG.

5.5.2. The development of the MHG suffix -ec

In NHG the derivational suffix -ig which is used to produce adjectives from nouns and verbs: grasig, willig, is pronounced [iç]. The suffix also appears in nouns such as König, Essig, Reisig 'twigs'. In the last two words it represents MHG -ech, -ich.[35] In MHG this suffix was written either -ec or -ic, in normalized MHG texts -ec is the more common form. The vowel may have been [ə] or [i]. The final consonant, written c in MHG, was presumably a voiceless stop. It is the same sign used for the final consonant in tac, which in standard and South German has a stop pronunciation. The suffix MHG -ec is pronounced [ik] in South German today.[36] Although the standard prescribes the pronunciation [iç], the shape of the suffix varies according to the adjacent sounds e.g. [kønikliç], [køniɡə], [køniçraeç]. The variant of the suffix [iç], its allomorphic shape, before the suffix -lich is characterized by a final voiceless stop, which is probably how the c in the spelling -ec should be interpreted in MHG. In NHG in final position this voiceless stop pronunciation has been replaced by a voiceless fricative [ç]. However this

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35) Fleischer 1969, 236-239.

36) Siebs 1958, 82; WDA 56.

change of final MHG [k] to [ç] only occurs in this suffix.

Words like MHG wec, tac still retain their voiceless stop

pronunciation of the reflex of MHG c in NHG. In the North and

parts of Central Germany the final c of tac and wec is also

pronounced as a voiceless fricative, [tax], [we:ç]. The geographi-

cal extent of this pronunciation is less than that of [iç] for

MHG -ec.[37] This is probably due to the fact that, as a suffix,

MHG -ec had an independent existence, and the final consonant was

no longer identified with the final consonant of MHG wec or tac.

It does present an anomaly in those south German dialects which

have [iç] and the standard, in that it is the only morpheme which

has an alternation between a medial voiced palato-velar [g],

grasige, and a final voiceless palatal fricative [ç], grasig.

Despite its being an anomaly this alternation in pronunciation

has been accepted by NHG, but only in this one suffix. There are

no forms which in MHG had -ec and which have [ik] in NHG. Where

the suffix [ik] exists in NHG it is in words such as Metrik,

Mathematik, which are learned words of recent origin.

The fricative pronunciation of the final consonant in -ig is the

result of a compromise borrowing of a widely spread pronunciation

into the standard language. It is instructive to note that here

we have a case of a sound change conditioned, not phonologically,

but grammatically, occurring only in this suffix.

Any morphemic merger with the MHG suffix -ich has been avoided by

the development of the suffix -ich to -icht, e.g. MHG dornih,

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37) Schirmunski 1962, 313.

NHG <u>Dornicht,</u> (see 5.2.3.).

The morphophonemic alternation [g] - [ç] is unique in NHG and does not occur in any dialects. This, however, is only the case with regard to the phonetic realization of the alternation, the spelling shows no alternation, e.g. Kӧnig, Kӧnige, milchig, milchige. This orthographic unity may be realized differently in the pronunciation of speakers in different regions: some North German speakers will realize this as an alternation between a voiceless and voiced palatal fricative, [køniç]. [kønije], whereas some South German speakers will realize it as an alternation between a voiceless *and a voiced* stop, [kønik], [kønige]. The standard prescribes a voiceless palatal fricative alternating with a medial voiced stop. This is a contamination of the two, taking the form [kønige] from South German, and the form [køniç] from North German, although it is also widespread in CG. Since the standard was agreed upon, many speakers have become accustomed to this compromise alternation, which is an anomaly in NHG morphophonemics, whereas in the eighteenth and nineteenth centuries *when* the spelling alone provided the unity of a written standard language, the g in Kӧnig, Kӧnige, could be realized by each speaker according to his own regional pronunciation. This is still the case with the allophonic variation [x] - [ç], each allophone being spelt ch. The majority of Germans will use the variation but the Swiss are quite free to use only the allophone [x].

5.5.3. The shift of MHG /xs/ to NHG /ks/

It is usually assumed that the sequence hs was pronounced [xs]
in MHG. In NHG chs is pronounced [ks]. The pronunciation [x]
is noted by Ickelsamer: "Wa aber ain mitstymmer dem /ch/ volgt
so reymbt sichs bas/ alß wachsen/ trachten/ da lautet es vil
senfter".[38] The sequence ch has the same pronunciation in these
two words, probably that of the velar fricative [x]. Fuchsperger,
however, shows that ch before s is pronounced as a stop and he
spells the sequence x in some words. "Ein x schnalzt mit der
gaysel/ Singt wie ein zeysel oder maysen/ unnd lockt den tauben/
wie in den worten/ Nix fux/ fachs/ sechs".[39] The spelling x,
which is modeled on Latin, e.g. rex, does not seem to have found favour,
nor does the spelling ks or cks for MHG hs. The use of x for
[ks] in NHG is mostly restricted to foreign words and names:
mixen, Xerxes, but in Axt, Hexe, Faxen 'tricks', it represents
MHG hs. The symbols gs and cs were also used in Early NHG for
[ks].[40]

Conservatism has prevailed in orthography. There was no need to
designate the velar stop as k in this position, since no merger
resulted from the shift in pronunciation from fricative stop.
Words with /ks/ in NHG, which do not come from MHG chs, are of
more recent origin: English loan words: mixen, boxen, or
onomatapoeic words, mucksen, drucksen, klecksen, knacksen, which
all date from the eighteenth century onwards.[41] Although not

38) Müller 1882, 145.

39) Müller ibid., 173.

40) V. Moser 150, 2.

41) Kluge/Mitzka, drucksen 144, klecksen 374.

explicitly stated in generative studies, it seems that the

sequence <u>chs</u> in NHG is taken as representing underlying [ks],

but it would be perfectly feasible to postulate underlying [xs],

and derive [ks] from it.   In the forms <u>sechzehn</u>, <u>sechzig</u>, NHG <u>ch</u>

is pronounced [ç] whereas in <u>sechs</u> it is pronounced [k].   On

the basis of this alternation a phonological rule could be set up, perhaps

called a 'plosivization rule', since it converts a fricative

into a plosive or stop.   Other terms such as 'hardening' might

be used, since 'plosivization' is rather clumsy.   Vennemann uses

the term 'Interrupting Rule' for a rule that converts a fricative

into a stop.[42]   But even this term does not show the process

clearly.

It would also have to be stipulated that the rule did not apply

if there were a morpheme boundary between [x] and [s], for there

are gen. sing. forms such as <u>Dachs</u>, as against <u>Dachs</u> [daks] nom.

'badger'.   This could easily be achieved by a simple ordering of

the phonological rules, the rule changing [x] to [k] before [s]

would apply before the optional rule deleting unstressed schwa

in the gen sing.:

underlying form	/daxs/	/daxəs/
plosivization	[daks]	[daxəs]
schwa deletion	(does not apply)	[daxs]
surface forms	[daks]	[daxs]

The widespread pronunciation of <u>nächste</u> and <u>höchst</u> 'highest' and

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42) Vennemann 1968 b, 211.

the firm Höchst as [ne:kst] and [hø:kst] could be then explained

as being due to a change in the order of the plosivization and

schwa deletion rule.[43] The latter applying before the former,

thus:

underlying forms	/hø:xəst/	/ne:xəst/
schwa deletion	[hø:xst]	[ne:xst]
plosivization	[hø:kst]	[ne:kst]

These two adjectives each have long vowels whereas adjectives

with short vowels such as schwach and flach, or with diphthongs

such as reich, have a fricative in their superlative form.

The pronunciation [ks] tallies with development of MHG /xs/ in

Upper Saxony from which region it was adopted by the standard

language. It is also found in Bavarian, and partly in Silesian

and Bohemian. The other main dialect areas, particularly Low

German, show an assimilation of [xs] to [s] as does Dutch, NHG

Fuchs, Dutch vos, NHG wachsen, Dutch wassen. The only except-

ion to this is the south of Brandenburg, which has [ks]. Between

these two main areas there are transitional zones with [s] and

[ks].[44]

The reason for this change seems to be ease of articulation, the

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43) King 1969, 44, regards this change as the addition of a

morpheme structure constraint, since it goes against the

principle that rules which operate within morphemes, should

also operate across morpheme boundaries (Chomsky and Halle

1968, 364). Vennemann has a rule changing /xs/ to /ks/ but

he gives it no name, 1968, 84.

44) Wagner 1925/26, 30-46.

combination of a stop and fricative being easier to pronounce
than two fricatives. It is, however, a counterexample to the often
quoted fact that [x] tends to be weakened. Exactly the same
change occurred in English, but it had already happened by Old
English, e.g. wax, fox.[45] No structural reasons seem to exist as
to why it should take place, it merely increases the distribution
of the stop /k/. Its acceptance by the standard is due to the
ECG and Brandenburg dialects having this pronunciation. Frings
sees this change of MHG /xs/ to /ks/ as starting in the south
east like the NHG diphthongization and spreading south west and
north east and west.[46] The other change from [xs] to [s] does
affect the spelling in those areas where it occurs. The shift
of [xs] to [ks] might be interpreted as an overreaction to the
assimilation of [xs] to [s]. The difference chs / s became an
important distinguishing mark and the pronunciation [ks] a
sign of a prestige variety. There is a large area with [s] in
Swabia, and it could be that this is a relic area and that the occurr-
ence of chs, [ks] north of it is more recent. Even in Bavarian,
which is usually assumed to be a stronghold of the [ks]
pronunciation, many rural words e.g. Deichsel 'shaft', Leuchse
'ladder support', show s in dialect forms, and place names in
Early NHG are recorded with ss instead of hs: 1170 Sassengasse
for Sachsen gasse. The pronunciation [s] for [ks] or [xs] seems
to have been more widespread than it is now.[47] This change also

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45) Campbell 1959, para. 416.

46) Frings 1956, 40.

47) Kranzmayer 1956, 92f.

covers different areas according to different words used to

illustrate it. The isogloss ss/ks varies from word to word in

the Rhineland: sechs is the northernmost form with [ks], then

Ochsen, and then wachsen. This is used by Bach to show that:

"Jedes einzelne Wort, und jede einzelne Wortform ihre eigenen

Geltungsbereiche, ihre eigenenGrenzen im Sprachraum besitzen".[48]

There is need for a detailed examination of records to document

this change exactly. Although phonetically due to ease of

articulation, phonemically this is only a change in the distribut-

ion of MHG /k/ and /x/ and not_in_the number of phonemes

in the system. Within morpheme boundaries, NHG /x/ does not

occur before /s/. MHG /k/ has now increased its distribution and

appears before /s/. Its distribution therefore was increased

after the loss of unstressed e when /k/ or /g/ came to stand before

/s/, even though there was a morpheme boundary between them, tags,

Glücks. The pronunciation [ks] played an important role in

identifying a prestige form of German. The Imperial Chanceries

also had a similar development to the ECG dialects. The

pronunciation [ks] for chs is always listed as being one of the

characteristics of the variety of German which was eventually

accepted as the standard variety.[49] A sign that [ks] was a

prestige pronunciation may be seen in its hypercorrect use in

foreign words in Berlin and in North Germany, Eksenz for Essenz,

although Lasch tries to explain this phonetically.[50]

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48) Bach 1950, 56.

49) Bach 1965, para. 122 a.

50) Lasch 1928, 248.

5.5.4. The loss of MHG medial /h/

It is traditionally assumed that in MHG medial h before vowels was pronounced as an aspirate.[51] In NHG there is no aspirate in this position but the preceding vowel is long, and sometimes (in careful speech or in declamatory style) it is pronounced when followed by [ə]:sehen, as [ze:en], [ze:hen], [ze:n]. The evidence for this MHG pronunciation is slender and is rarely outlined, since it always appears before a following vowel, the letter h is said to be pronounced as an aspirate in syllable initial position, parallel to cases like hant, where it is in word-initial position. Penzl assumes a lenis velar fricative for OHG h medially, since there is a parallel voicing of Germanic [f] to [v] and Germanic [s] to [z], although in the latter case, like that of h, there is no change of spelling.[52] The dialects likewise have no medial aspirate corresponding to MHG /h/. In Upper Bavarian, however, MHG /h/ and /x/ are both represented by a velar fricative [x], e.g. laixen corresponds to both NHG leihen and Leichen.[53] Orthoepeists and grammarians describe the pronunciation of h as "ein scharpfer Atem/ wie man in die hende haucht", and "wie man mit eynem starcken athem in die hendt haucht",[54] but this seems to refer only to the pronunciation of initial h. Such comments as do exist on medial h show that it

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51) Paul/Mitzka 1959, para. 97.

52) Penzl 1971, para. 6:14.

53) Kurath 1965, 34.

54) Müller 1882, 114.

is largely superfluous or, since it is used, it must somehow

show that the vowel preceding it is pronounced 'scharpf'.

These comments certainly do tell us that medial h̲ was probably

not pronounced in the sixteenth century, but whether this loss

happened earlier we cannot be sure. By Gottsched's time medial

h̲ was definitely not pronounced: "In der Mitte nach einem

Selbstlaute, und vor einem Mitlauter, wird es bis weilen nicht

gehöret, als in fuhren, ...Uhr".[55]

In MHG some clue as to the pronunciation of medial h̲ may be

found in the fact that it alternates with both c̲h̲ and g̲. The

parts of the MHG verbs s̲e̲h̲e̲n̲ and z̲i̲e̲h̲e̲n̲ illustrate this: s̲e̲h̲è̲n̲

s̲i̲h̲e̲, s̲a̲c̲h̲, s̲ā̲h̲e̲n̲, g̲e̲s̲e̲h̲e̲n̲, z̲i̲e̲h̲e̲n̲, z̲i̲u̲h̲e̲, z̲o̲c̲h̲, z̲u̲g̲e̲n̲, g̲e̲z̲o̲g̲e̲n̲.

The past tense sing. of both MHG s̲e̲h̲e̲n̲ and b̲r̲e̲c̲h̲e̲n̲ end in the

same consonant s̲a̲c̲h̲, b̲r̲a̲c̲h̲ and these two verbs frequently rhyme

in MHG. In NHG, however, the past tense of s̲e̲h̲e̲n̲ is s̲a̲h̲[za:],

with no trace of any velar fricative in final position, whereas

the past tense of b̲r̲e̲c̲h̲e̲n̲ is b̲r̲a̲c̲h̲, which retains the velar

fricative. It seems implausible that MHG c̲h̲ should alternate

with nothing at all, and therefore it seems safe to assume that

MHG medial h̲ was pronounced with some sort of friction, probably

glottal or velar. This alternation of final c̲h̲ and medial h̲ is

also to be seen in nouns and adjectives in MHG: s̲c̲h̲u̲o̲c̲h̲,

s̲c̲h̲u̲o̲h̲e̲s̲, h̲ō̲c̲h̲, h̲ō̲h̲e̲s̲. In NHG the only relic of this alternat-

ion is to be found in the adjective h̲o̲c̲h̲ with its inflected

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55) Gottsched 33.

forms <u>hohe</u>. The majority of words in MHG with medial <u>h</u> are word forms which alternate with forms with <u>ch</u> in final position. The loss of medial <u>h</u> is, historically, simply a loss before unstressed [ə] and then the extension, or generalization, of the interior form with no <u>h</u>, [ze:] - to final position, which in turn ousted the form with <u>ch</u>, thus eliminating the alternation <u>h</u> - <u>ch</u>, except in the case of <u>hoch</u>. This alternation is still present in derivation, e.g. <u>schmähen</u>, <u>Schmach</u>.[56] NHG <u>nahe</u> has forms with a palatal fricative or stop before -<u>st</u> in <u>nächste</u>, <u>demnächst</u> but the comparative form is <u>näher</u>, with no fricative. In MHG the positive form was <u>nāch</u>, which is still present in NHG <u>Nachbar</u>, but is now morphologically unrelated to the adjective. The final -<u>ch</u> MHG <u>nāch</u> 'near' may have been dropped to avoid a morphemic merger with <u>nāch</u> 'after, to'. The loss of <u>h</u> cannot simply be formulated as a loss before another morpheme, since <u>h</u> is lost in <u>Zähre</u>, MHG <u>zähere</u>, <u>zehn</u>, MHG <u>zehen</u>, <u>Gemahl</u>, MHG <u>gemahel</u>, <u>Stahl</u>, MHG <u>stahel</u>, <u>Ähre</u>, MHG <u>äher</u>, <u>erwähnen</u>, MHG <u>gewähenen</u>, <u>Fehde</u>, MHG <u>vēhede</u>, <u>Dohle</u>, MHG <u>tāhele</u>, where the [ə] plus consonant is not a morpheme. In all these examples the following [ə] is never pronounced, even in careful speech. Other adjectives in NHG, such as <u>jäh</u>, <u>zäh</u>, had forms ending in unstressed <u>e</u> in MHG, <u>jæhe</u>, <u>zæhe</u>, and the NHG forms are the result of a regular loss of <u>h</u> before unstressed <u>e</u>. The adjective <u>brach</u> is a recent formation and does

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56) Kiparsky 1972, 208. In a generative description, this levelling out of the forms with <u>h</u> in inflection would be described as rule loss. It can, however, be adequately described as levelling.

not represent a retention of word final MHG ch.[57] The NHG

adjectives froh, früh owe their final h in spelling to the use

of h as a length sign: the MHG forms were vrō, vrüe. The MHG

adjective rūch 'hairy' is represented in NHG by both rauch and

rauh. In the latter form it has developed the meaning 'raw,'

although in the former it still means 'shaggy' but is mostly

used in compounds e.g. rauchfüßig, Rauchwerk.[58] Here the

alternation h-ch has led to the use of both forms   with

different meanings.   The basic form ending in

ch has now become restricted in use. The words noch and doch

were not restructured, since although the ch reflects Germanic h,

these words had no inflected forms with the medial h. The

levelling out of medial h also occurred in strong verbs: e.g.

MHG class I: līhen, lēh, gedīhen, gedēh, NHG lieh, gedieh, Class

2: fliehen, vlōch, NHG floh, Class V: sehen, sach, geschehen,

geschach, NHG sah, geschah. In the case of MHG ziehen, zōch, the

ch was replaced by g of the past tense pl. and past participle,

but this did not happen in the case of gedīhen, where the old

past participle with g, gediegen is retained as an adjective.

After the loss of unstressed e in the second and third person

sing. of the present these verbs changed the h to ch in morpheme

final position. This can be clearly seen from Early NHG forms such as:

es geschicht, er fleucht.[59] Later, however, the forms with ch

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57) DE 79.

58) Kluge/Mitzka 586, Paul 1916, II, para. 248.

59) Paul ibid.

were replaced by those with h: geschieht, flieht.[60] The h-ch

alternation has been eliminated from the inflection of NHG,

except for the isolated example of hoch, höher. It has not

been eliminated from the grammar in that it exists in word

formation: schmähen, Schmach, sehen, Sicht, fliehen, Flucht.

All these examples, except Schmach, show an alternation of h-ch

before t and this is part of a more general phonological process,

whereby all intervocalic voiced obstruents become voiceless

fricatives before the derivational suffix t, e.g. graben, Gruft,

tragen, Tracht. Being part of a more general process is what has

led to the h-ch alternation   being retained in NHG derivation.

Generative descriptions of German have used this alternation to

postulate an underlying voiced velar fricative /ɣ/[61] which becomes

voiceless before the suffix t, and is eliminated in morpheme final

position before pause, otherwise from verbs like glühen, nähen,

nouns like *Glucht and *Nacht instead of Glut and Naht, would be

formed. However this could easily be avoided by specifying that

the only verbs with underlying forms like /fli:/, which have an

[x] inserted before t in derived nouns, are strong verbs. If this

is done then the underlying voiced velar fricative /ɣ/ could be

eliminated from the consonant inventory.[62]

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60) Gottsched 335, 344, has forms with ch and h but he prefers
   forms such as siehst.

61) Ross 1967, 51.

62) Vennemann 1968 b, 217, also assumes an underlying /ǯ/, 217.
   Wurzel 1970, 248, admits that /ɣ/ only has a peripheral
   position in the consonant system of NHG.

In NHG /h/ generally only occurs in word initial position but
there are three apparent exceptions: Ahorn, Uhu, and Oheim.
The word Oheim has now been replaced by Onkel. The seeming
occurrence of /h/ medially in Ahorn is probably by analogy with
Horn, and although the word is a morphemic and semantic unit,
nevertheless the /h/ is felt to be in syllable initial position.[63]
The same could be said of Uhu,[64] which word form today has a
wide circulation as the brand-name of an adhesive, even outside
Germany. Since /h/ only occurs initially before vowels, generative
phonologists derive it from underlying /x/[65] which does not occur
initially before vowels except in foreign names. This solution
is not the only one that could be suggested. In a case like
fliehen, Flucht, underlying /h/ could be posited /fli:h/, which
is then eliminated in morpheme final position before a pause.
This is rejected by Wurzel, since it would complicate the
phonological entries in the lexicon by requiring more phonologic-
al features.[66]

Of the suffixes in NHG with initial h, -haft, -heit, only the
latter alternates with a form with initial k: Bosheit, Sauberkeit.
These two forms are in complementary distribution,[67] -keit occurs

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63) Mitzka 1951, 10ff.

64) In Early NHG Uhu is recorded as Huhu, which is obviously an
onomatpoetic word, Dt. Wb. 11, 2, 749.

65) Vennemann 1968b, 95-98; Wurzel 1970, 241f.

66) Wurzel ibid., 241.

67) Fleischer 1969, 139.

after derived adjectives' ending in -ig, -isch, -lich, -bar,
-sam, and after simple adjectives ending in unstressed -el, and
-er. There are only seven exceptions to this. In a generative
treatment the initial [h] and [k] of the allomorphs -heit, -keit are
both derived from an underlying /x/. Historically this variation
comes from a reanalysis of derived forms. The MHG noun vrumeceit
comprised the adjective vrumec plus the suffix -heit, which lost
its initial h after the final c, [k], elsewhere it was retained,
wārheit. The motivation for the formation was made clearer by
the spelling, Frömmigkeit, giving the full form of both suffixes.
Since in some cases new adjectives like fromm were created by
back formation, there arose a new suffix -igkeit, which in NHG is
obligatory after -los and -haft, Lieblosigkeit, after -er, -el
the suffix was reanalysed as -keit alone. Thus, in NHG, we have
a unique morphophonemic alternation between [h] and [k]. Judging from
Gottsched's list of derivations, the alternation had already been
reached by his time.[68]

After medial MHG h was lost in pronunciation it was often still
retained in spelling, and since its preceding vowel was always
long it came to be used to signify vowel length, and thus h
tended to be used where it was historically not justified, merely
to indicate vowel length. This usage first appeared in CG where
it increased in the first half of the sixteenth century. Fabian Frangk
describes this usage: "Wenn das h bey odder nach einem stimmer
gesatzt wird/ do es nicht scherpff und also seins ambts müssig

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68) Gottsched 212, Bitterkeit, Fröhlichkeit, Langsamkeit,
    Mäßigkeit.

steht/ so erlengt und er höcht es den beygesazten stimmer/ als
ahm, nahm, vernehmlich/ ihm/ ihn/ ihr/ vernihm/ oheim, genohmen,
uhm/ muhme".[69] As a length sign h is first used before m, n and
r. However the use of h to show vowel length has not become
universal before NHG /l, m, n, r/, cf. malen, Namen, Mond, Moor.
The only example of the combination: long vowel plus h before
another consonant seems to be Fehde, but here the h is historic-
ally justified, cf. MHG vēhede. Where it is used finally: sah,
Stroh, Floh, there is always an inflected form with medial h,
sahen, Strohes, Flöhe.

Gottsched is against an overuse of h as a length sign and says:
"Man setze das h bey denen aber nicht, die solche nicht nöthig
haben", but he recommends its use to distinguish homonyms, e.g.
malen : Mahlen, war : wahr.[70]

5.5.5. The development of MHG /j/

In NHG the voiced palatal fricative /j/ occurs initially before
vowels where it is always spelt j : ja, Joch, jung. It only
appears medially between vowels in loan words from LG, Boje,
Koje. Generative descriptions of NHG assume that both NHG /v/
and /j/ are to be derived from underlying glides /w, j/ by a
Glide Spirantization Rule.[71] NHG initial /j/ has more friction
than the initial sound in English yes.[72] Even in MHG, /j/ had a

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69) Müller 1882, 98.

70) Gottsched 90.

71) Vennemann 1968 b, 91f.; Wurzel 1970, 244-248.

72) Viëtor 1904, para. 80.

very limited distribution, but in some words in MHG /j/ occurred

medially between vowels: sæjen, wæjen, dræjen, blüejen, brüejen.

These verbs occurred both with and without medial j. Sometimes

the medial j was spelt g particularly in Alemannic before MHG

/ei/, /i/. There were also graphemic alternations between g and

j: jesen, infinitive, but giset, third person sing. present.[73]

This reflects the fact that in many dialects MHG /g/ had a

fricative pronunciation. Parallel to the development of MHG

/w/ and /b/ after /l/ and /r/, MHG /j/ and /g/ merged in /g/.

However this development is not general and is only reflected in

the two words Ferge, 'ferryman', and Scherge 'executioner'.[74]

The palatal fricative /j/ occurred after /r/ in other forms in

MHG, nerjen, herjen, but it was removed by analogy in NHG, nähren

(ver) heeren. NHG jäh goes back to MHG gæhe and shows the

development of /g/ to /j/ initially.[75] In ECG dialects hyper-

correct forms with /g/ for /j/ are far more frequent since MHG

/j/ and /g/ have merged there. These hypercorrect forms are

even found in Upper Saxon documents in Early NHG, e.g. vergagen,

NHG verjagen, der gunge, NHG der Junge.[76] In those verbs with

medial /j/ in MHG, which have lost it in NHG, the hiatus consonant

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73) Paul/Moser/Schröbler 1969, para. 79.

74) Paul 1916, II, para. 183.

75) Kluge/Mitzka 329.

76) V. Moser 1951, para. 132, I, Anm. 2. Gottsched 68 rejects
    the Upper Saxon forms Jott, Jabe, jut for NHG Gott, Gabe,
    gut.

between the long vowel and the [ə] is usually spelt h, drehen,
blühen, brühen. In säen no h sign has been used. It seems that
although these verbs have lost their MHG medial /j/, with the
influx of loan words medial /j/ again occurs in NHG, e.g. Boje
'buoy', Koje 'bunk'.[77]

NHG initial [je:] in je, jeder, jemand, jetzt goes back to the
MHG diphthong /ie/, MHG ie, ieder, ieman, ietze. It is usually
assumed that by a shift of stress from the first to the second
component the first component has become a palatal semi-vowel
or fricative i.e. MHG [íə] > NHG [jéː].[78] As the signs j and i
were not used in their present way, i.e. j for the fricative
and i for the vowel, until the fifteenth century,[79] the spelling
gives us no clue as to when this change came about. Paul
assumes that it began in North Germany and that the form with initial
[íə] existed in UG as late as the eighteenth century.[80] This is
not surprising since UG has retained the diphthongal pronunciation
of MHG /ie, üe, ue/ until the present day(see 6.3.4.). The
sequence /je/ existed in MHG jener, so the change of MHG initial
[íə] to [jéː] is an example of a shift with merger. The only
exceptions to this change are NHG immer, and irgend, MHG iemer,

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77) Boje, Kluge/Mitzka 89, was first recorded in 1575; Koje, Kluge/
Mitzka 357, was already present in MHG. Forms like Kajüte,
Pyjama, Major, where the j occurs after the chief stress, are
not taken into account.

78) Priebsch and Collinson 1958, 151; Paul 1916, II, para. 193.

79) V. Moser 1929, para. 12.

80) Paul ibid.

iergen. But even in MHG these words had unstressed variants
with short vowels instead of diphthongs.[81] Probably the exist-
ence of /je/ in jener caused the other pronominal forms MHG
ieder, ieman to change to /je:-/. That the presence of jener
was crucial can be seen from Dutch, which had ghene in Middle
Dutch for the demonstrative and where the modern Dutch forms
ieder, iemand are pronounced [i:dər], [i:mant].[82] Final [j]
or [i] in Latin loan words has developed into a fricative.
There are only a few examples of this: Eppich 'celery', Latin
api(um), Kafig, late Latin cavi(a), Mennig 'red lead', Latin
mini(um), and the place name NHG Venedig, Latin Veneti(a).[83]
The [i] came to stand in final position and palatal [ç] became
pronounced after it, possibly first of all at the end of
utterances. This was then later perceived as the same as NHG
[ç] and written either g or ch. Both spellings were posiible
after unstressed [i].

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81) Paul/Moser/Schröbler 1969, paras. 10, Anm. 4 and 23, Anm.
4. The unstressed variant of MHG ietze, itzt, was widely
used in Early NHG but was not selected finally for standard,
which has the stressed form NHG jetzt, Kluge/Mitzka 332.

82) Loey 1959, 147 and 149.

83) Paul ibid., para. 183, Wright 1907, para. 243.

5.6. THE NASALS

5.6.1. <u>The development of MHG /mb/ to /m/, MHG /ng/ to /ŋ/</u>

   <u>and other assimilations</u>

In NHG there are three nasal phonemes,[1] bilabial /m/, alveolar /n/ and velar /ŋ/: <u>schwimmen</u> : <u>sinnen</u> : <u>singen</u>; <u>schwamm</u> : <u>sann</u>: <u>sang</u>. In MHG since the spelling <u>mb</u>, <u>mp</u> in final position occurs for NHG <u>mm</u>: MHG <u>tump</u>, <u>tumber</u>, NHG <u>dumm</u>, <u>dummer</u>, it can be assumed that in the cluster <u>mb</u>, [b] has undergone an assimilation to [m], losing the oral stop. It can also be assumed that the spelling <u>ng</u> in MHG similarly represents a cluster [ŋg] and not simply the velar nasal [ŋ] as in NHG. Evidence for this comes from alternations in MHG like <u>singen</u>, past tense <u>sanc</u> (also the past tense <u>sinken</u>), and from the evidence of North German **speech** which still retains [ŋk] in final position.[2] The comparative evidence of English also suggests the interpretation of MHG <u>ng</u> as a cluster. Here [ŋ] alternates with [ŋg]: <u>strong</u> - <u>stronger</u>, and in morphologically isolated words [ŋg] occurs, <u>finger</u>, <u>linger</u>. On the basis of this evidence it can be concluded that <u>ng</u> in MHG represents [ŋg]. This has been taken to mean that MHG only had two nasal phonemes, labial /m/ and alveolar /n/. In MHG [ŋ] is merely an allophone of /n/ before the velar stops, /g/ and /k/ but in NHG it has become a phoneme and contrasts with /m/ and /n/:

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1) The status of /ŋ/ as a separate phoneme is controversial.
See discussion in Werner 1972, 55-57. Generative phonologists assume that [ŋ] is derived from underlying /ng/, Vennemann 1968 b, 134-138; 1970, 65-81; Wurzel 1970, 209-225.

2) Viëtor 1904, para. 118, Anm. 2.

singe, sinne, schwimme.[3] The changes of [mb] to [m] and of

[ŋg] to [ŋ] are phonetically both of the same type and involve

an assimilation of the oral stop to the preceding nasal. MHG

/mb/ and /ŋg/ were first assimilated to long nasals, which were then

shortened, as were all long consonants between MHG and NHG.

Evidence that there was probably an intermediate stage with a

long nasal comes from the fact that only short vowels occur

before NHG /m/ and /ŋ/ which comes from MHG /mb/ and /ŋg/.[4] In

spelling NHG /m/ is spelt /mm/ and /ŋ/ is spelt ng. The

results of the shortening, however, have had different results

in the phonemic system of the language: the sound produced by

the shortening of [mm] merged with the already existing /m/

phoneme, but the sound produced by the shortening of [ŋŋ] was a

new phoneme /ŋ/ since it did not merge with any existing sound.

In standard NHG alternations like MHG singen : sanc do not

exist, but they do exist in North German. This is used as

evidence by generative grammarians that the elimination of the

alternation /ŋ/ - /ŋk/ is due to rule reordering. In the history

of German a rule of g-deletion is posited, which derives [diŋə]

from underlying /diŋgə/ and a general final devoicing rule which

derives North German [diŋk] from /diŋg/. If they are applied in the

order: 1) final devoicing, 2) g-deletion, then taking /diŋgə/ and

/diŋg/ as underlying forms, the North German forms [diŋə] and

[diŋk] are produced. If, however, the order of application of

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3) Fourquet 1963, 85; Moulton 1961, 4; Penzl 1968, 344.

4) Schirmunski 1962, 392.

the rules is reversed: 1) g-deletion, 2) devoicing, the standard
NHG forms are produced: [diŋə], [diŋ]. The g-deletion rule
applies both to underlying /dingə/ and /ding/ and removes any [g]
upon which the final devoicing rule could act.[5] Traditionally
this change has been regarded as the levelling out of the medial
forms with the velar nasal to the final forms with the velar
nasal plus [k].[6] Generative phonologists are, in fact, revising
many of their theories, and in particular they are making use of
the concept of analogy in precisely those cases where traditional
treatments also used it. Apart from North German, which has
been already mentioned, MHG /ng/ has become [ŋ] even in words
which are morphologically isolated like Finger. This has happen-
ed in all dialects and in fact, with slight differences, in all
Germanic languages.[7]

How old are these assimilations? There seems to be some evidence
from the spelling n for ng in an eleventh century manuscript that
it could have happened in Bavarian by that time: gevanen, NHG
gevangen, sprinet, NHG springt.[8] These are all examples of
medial ng, but they remain isolated. In MHG there are examples
of the merger of mm and mb in mm, and when new words were
introduced in to the language in the seventeenth century, e.g.

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5) Vennemann 1970, 79; Anttilla 1972, 120.

6) Wright 1907, 128. For the full quotation see p. 30 of this
   present work.

7) Adamus 1965, 271-278.

8) Penzl 1968, 343.

Bombe 1616,[9] they were accepted with the medial cluster mb.

Important evidence for the dating of the emergence of /ŋ/ is

provided by Ickelsamer who states: "in den wörtern Engel/angel,

franck/ da hört man weder das n noch das g volkomlich/ sonder

man hört auß jrer zusammen schmeltzung".[10] This is generally

taken to show that ng is pronounced [ŋ].[11]

Although the clusters [ŋg] and [mb] were theoretically ousted out

of the German language, they have been re introduced through

various means: names and loan words: Kongo, Ganges, Evangelium,

Bombe, and by assimilation of [n] to [m] before [b], MHG inbiz, NHG

ImbiB,[12] which has often been facilitated by the syncope of

medial e, which brought a nasal and a stop together, MHG aneböz,

NHG AmboB. The medial cluster mp has apparently been unaffected

by any assimilation, as is shown by the word Lampe which was

borrowed into German in the ninth century.[13] This cluster has

been supplemented by loan words and dialect borrowings like

pumpen, Pumpe, and also by several words where an assimilation

has taken place, MHG enbor, wintbrā, hindber, NHG empor, Wimper,

Himbeere. In all these cases loss of morphological motivation

in the compound form has enabled the pronunciation to be exactly

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9) Kluge/Mitzka 90. The word Plombe was borrowed in the eighteen-
   th century, DE 517.

10) Müller 1882, 139, Penzl 1968b, 344.

11) Penzl 1968b, 344.

12) Dt. Wb. 4, 1, 2064.

13) Kluge/Mitzka 420.

reflected in the spelling. The prefix in the verbs empfehlen, empfinden, empfangen was ent- in MHG, and the changes here are due to an assimilation of the alveolar cluster /nt/ to the labial /v/ MHG ent-vangen, NHG emp-fangen. In these verbs the morphological motivation of the ent- prefix has been lost.[14] Even historically they did not fit into the main groups of verbs with prefix ent-. In MHG this assimilation affected more verbs: emprechen, emfarn, (enbrechen, entvarn).[15] Schottel rejects these verbs with emp-, saying that there is no such prefix; instead he prescribes entvangen.[16] Of these verbs Luther uses empfangen and never empfehlen, but always befehlen, and fühlen instead of empfinden, the latter form becoming widely used in the eighteenth century.[17]

These changes are seen to be basically an assimilation of an oral stop to a preceding nasal, and in many dialects of German the cluster nd or nt is assimilated in the same way to nn, cf. Luxemburgisch, kanner, fannen, (NHG Kinder, finden).[18] This assimilation is not so widespread nor has it found its way into the standard, not even in isolated words. This may possibly be due to the fact that it was not so widespread as the other assimilations, and also because in many cases a morpheme boundary

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14) Wilmanns Vol. II, 1899, para. 111.

15) Paul/Mitzka 1960, para. 67.

16) Schottel 215.

17) empfangen, Dt. Wb. 3, 422; empfehlen, 3, 421; empfinden 3, 426.

18) Mitzka 1943, 122.

lay between the nasal and the following stop, i.e. in the past

tense rann/te. It is perhaps significant that the weak verbs,

which in NHG have still retained a different vowel in their

past tenses and past participle from the infinitive and present,

are the very verbs which show the cluster stem final n + te in

the past tense: rennen, rannte; nennen, nannte; kennen, kannte;

brennen, brannte; senden, sandte; wenden, wandte.[19] These last

two verbs also have the past tense forms sendete, always used

of radio transmissions, and wendete, which is always used when

the verb is transitive, e.g. Der Schneider hat den Rock gewendet.[20]

Gottsched has already labelled these as exceptions.[21] Perhaps

the retention of the forms with 'Rückumlaut', i.e. with unmutated

stem vowel in the past tense, is due to the fact that in some

dialects and colloquial speech nt was assimilated even though

there was a morpheme boundary intervening. These forms are a

reaction to this assimilation. Another influencing factor

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19) The model verb können, past tense konnte, probably also fits
in here. In MHG they had the past tense ending -de, kunde.
The only sign that these verbs were susceptible to assimilat-
ion is found in the wrong use of nd for nn in a Bavarian
text of the seventeenth century. For können the form
khinden is used, and the past tense is kindte or kindtte,
Piirainen 1968, 209.

20) Duden Grammatik 1966, 1130. There are exceptions where both
forms are used: "Er sandte oder sendete einen Boten. Ein
Bote wurde gesandt oder gesendet. Das Glück wandte oder
wendete sich, hat sich gewandt oder gewendet".

21) Gottsched 347.

against the acceptance of this assimilation was the wish to

keep -te as the weak verb past tense marker.

In many CG dialects the sequence nd or nt has become [ŋ] and

this development is reflected in the word verschlingen 'to

devour' which Luther uses in the form   verschlinden. It has

merged with schlingen 'to wind'. Schottel has both a form with

nd and a form with ng.[22]

Another case of nasal assimilation concerns the nasal before

f as in NHG fünf, Senf, Ankunft which, despite the prescription

by Siebs that it should be pronounced as an alveolar nasal,

[zenf], is assimilated to the following labio-dental fricative

and pronounced labio-dental [ɱ].[23] This pronunciation must

be quite old, as in OHG n before f is sometimes written m.[24]

This is a clear illustration of how the spelling can mask

changes. It is simply a mechanical assimilation and has had no

effect on the phonemic system as a whole. If n was originally

alveolar then the development to [ɱ] is a phonetic change which

has produced a new allophone of OHG /n/.

In many cases nasals in MHG seemed to occur before stops or

fricatives of the same point of articulation but through the

syncope of unstressed e, m came to occur before t: NHG Amt,

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22) Schottel 1401.

23) Siebs 1958, 63; Duden Grammatik 1966, 59, brands it as
     Nicht hochlautung; WDA, 66, says it is not to be allowed
     in Hochlautung.

24) Braune/Mitzka 1961, para. 123, Anm. 1.

kommt, Samt, and in Early NHG these words are sometimes spelt Ampt, kompt, Sampt, but this spelling has not been accepted by the standard, although the pronunciation was prevalent in colloquial speech.[25] It is only in really careful speech that one can avoid producing a voiceless bilabial stop in the transition from a bilabial nasal to an alveolar stop. This is also a mechanical assimilation which is non-distinctive and need not be recorded in the spelling. This also happens after [ŋ], where the transitional sound is a [k], and for many speakers singt and sinkt are pronounced the same. This insertion of an epenthetic voiceless stop occurs only after a nasal which is followed by a t. It does not affect many words: Amt, Hemd, Imker,[26] fremd and the verb forms, komm t, singt, drängt. It happens only before t, thus links and rings are pronounced [liŋks], [riŋs]. The NHG cluster /nx/, [nç] as in Mönch, has resulted from MHG /nəx/ through the loss of unstressed [ə], (see 5.5.1.).

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25) It is recorded sporadically in OHG and according to Moser, 1951, para. 129, 7: "erfolgte seit dem 14 Jh. schriftsprachlich in ausgedehntem Maße und blieb weiterhin auch in den Drucken und Hss. des 16, u. 17. Jh. s – vor allem vor den Geräuschdentalen (d, t, s) – ganz gewöhnlich, ja bildet in einem gewissen Umfang sogar die Regel während des frühneuhochdeutschen Zeitraums". See also 5.1.3. of this present work.

26) Dt. Wb. 4, 2, 2065.

5.6.2. The change of MHG -em to -en and other minor changes

In word-final position unstressed MHG -em has become -en, except in grammatical categories, e.g. MHG besem, NHG Besen. This has affected the following NHG words: Boden, Busen, Faden, Schwaden. Dutch and English retain the final -m in these forms, e.g. NHG Busen, Dutch boezem, English bosom. The only real exception to this is the word Atem which sometimes has the alternative form Odem. The reason why this word has not been affected may be that it is morphologically related to the verb atmen in NHG which retains the -m. The final -m in Atem did not change to -n, since its relationship with atmen would have been obscured. The other words appear to have no morphologically related verbs. This change appears sporadically in the UG and CG manuscripts of the twelfth century,[27] and is a second cycle of the general change of unstressed final -m to -n, which started in the ninth century, tagum becoming tagun.[28] This change is a prime example of a sound change which is grammatically conditioned; it applies to all unstressed -em, providing they are not inflectional endings.[29] This is true of the standard language but not of the spoken language. In Berlin in the eighteenth century the substitution of final -n for -m in the spoken medium is mentioned, and from the quotations,

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27) Weinhold 1883, paras. 487 and 505.
28) Braune/Mitzka 1961, para. 124.
29) Paul 1916, II, para. 239 interprets this slightly differently. He argues from fluctuating forms ending in -m and -n that this was a sporadic change which affected only a few forms. However the results of the change show that this change affected all the possible forms ending in -em, except Atem.

it seems to go back as far as 1538. Through this change a

confusion between the dative and accusative forms of the

articles and adjectives has resulted, which is reflected in

the letters of the Prussian Electors: "einen abgesetzten

Procurator gebe ich keine Pension" instead of einem ...[30]

At one level of the language the change is very general, but

since it became realized that the change led to a confusion

between the accusative and the dative the educated classes

strove, with success for the most part, to keep the distinction

where it mattered in inflection: den:dem, einen:einem, guten:

gutem. This morphological distinction has also been kept in

the standard where the confusion of accusative and dative is

regarded as uneducated. The DSA map (unser)em[31] shows the

ending -m chiefly in Pomerania, East Prussia and in the Alemannic dialect,

continuing up and covering West Mosell Franconian. Other areas,

e.g. ECG, Bavarian, have -ern or -en. This lack of morphological

distinction between dative and accusative endings is thus quite

widespread.

NHG Turm is recorded in MHG as turn, cf. Dutch toren, and the

substitution of m for n remains unexplained. One suggestion,

which seems rather improbable, is that it may be due to the analogy

of the Latin accusative turrem.[32]

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30) Lasch 1928, 269.

31) DSA map 40.

32) Dt. Wb. 11, 1, 1, 466f.

In the NHG words <u>sonst</u>, <u>sintemal</u> and <u>nun</u>, an -<u>n</u> has been inserted which was not present in MHG, <u>sus</u>, <u>sĭt deme male</u>, <u>nū</u>. In the case of <u>sonst</u> and <u>sintemal</u> no explanation has been offered but <u>nun</u> may possibly result from false analogy, an <u>n</u> may have been inserted between it and a following word beginning with a vowel, and by a wrong analysis <u>nū</u> was perceived as <u>nun</u>.[33] MHG <u>nū</u> survives in, <u>imNu</u> 'in a trice', and the exclamation (na)<u>nu</u>! This insertion is common in many UG dialects where <u>n</u> has been lost before consonants and has become mobile: <u>wo-n-er</u> 'when he', <u>wie-n-er</u> 'as he'.[34] This is the same phenomenon as we have with intrusive <u>r</u> in English, the <u>idea-r-of it</u>. The acceptance of the form <u>sonst</u> is due to its use by Luther but its origin and that of the now archaic <u>sintemal</u> must remain unsolved as yet. These words reflect a change in the incidence of MHG /n/.

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33) Clark 1950, 56-59.

34) Keller 1961, 54.

5.7. THE LIQUIDS

5.7.1. <u>The development of uvular [R][1] in initial position</u>

The description of the phonetic realizations of NHG /r/ is

difficult, because there are so many different kinds of r-

sounds, which vary in their articulation according to where

they occur in a word. It is generally recognized that there

are two types of r-sounds in NHG a dental-r, <u>Zungenspitzen-r</u>,

and a uvular-r, <u>Zäpfchen-r</u>.[2] Most speakers are unaware of

which kind they use.[3] The two types of r are usually considered

to be trills, or rolled sounds[4] except word finally. They are

voiced, except in combination with voiceless consonants when they

tend to be devoiced. Although <u>Siebs</u> says that the use of uvular

[R] is widespread and that it has equal status with the dental

[r], he goes on: "Doch ist die Zungenspitzenform des r

vorzuziehen".[5] For both types he prescribes a trill pronuncia-

tion. Most statements about /r/ are prescriptive and are not

based on empirical data of how /r/ is actually pronounced by

speakers. A recent study of the pronunciation of some news-

readers and actors in East Germany has shown that of all the many

variants of the /r/ phoneme the most widely used one is the

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1) For typographic reasons [R] will be used for any uvular r,
    trill or fricative, when it is being opposed to a dental (a
    cover term for dental and alveolar) [r], trill or fricative.
    The symbol [ʁ] will be written for the uvular fricative.

2) Paul 1916, II, para. 225; Vietor paras. 76, 92, 93.

3) Vietor ibid., para. 76, Anm. 2.

4) Abercrombie 1967, 49. O'Connor 1973, 47, uses the term 'rolls'.

5) Siebs 1958, 61.

uvular fricative [ʁ]. This is mostly used in prevocalic

initial position, rot. The newsreaders only used a uvular r,

and in over 80% of the words which they pronounced they used the

uvular fricative [ʁ]. Among the actors only a very small

proportion of the words they pronounced contained dental r

allophones. They too used [ʁ] overwhelmingly.[6] Initially

after obstruents, trinken, Strecke, the percentage of uvular

fricatives, [ʁ], was higher for both groups.[7] The uvular

fricative was also used in other positions, postvocalically

after short vowels, except in the unstressed prefixes er-, ver-,

zer-,   e.g. in wird, wirr, Burg. In this position

the uvular fricative [ʁ] is still the dominant realization of

the /r/ phoneme but the percentage is not so high as in

prevocalic position.[8] Also finally after [aː] the uvular

fricative [ʁ] occurs, but the percentage is much lower, only

28.4% of the words spoken by the newsreaders had uvular [ʁ] and

only 30.7% of the words spoken by the actors had uvular [ʁ]; in over

50% of the words the /r/ was elided and the [aː] had become

overlong.[9] (For the vocalization of /r/ see 5.7.2.) In this

section we are only concerned with the occurrence of uvular [R]

in initial prevocalic position.

It is generally assumed that of the two /r/ sounds in NHG the

dental [r] and the uvular [R] the dental [r] is the older.

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6) Ulbrich 1972, 68f.

7) Ulbrich ibid., 88f.

8) Ulbrich ibid., 91f.

9) Ulbrich ibid., 123f.

Ickelsamer describes it as "ain hundts buchstab/ wann er

zornig die zene blickt und nerret/, so die zung kraus zittert",[10]

which clearly points to a dental articulation. In other

Germanic languages, such as English, Swedish, Norwegian and

Icelandic, r is still dental, either a trill or a flap. Although

it seems clear that the dental [r] is the older, it is not clear

when the uvular [R] arose in the Germanic languages and why it

did so. It has been argued that even in some dialects of OHG

there was a uvular [R], since r seems to form a natural class

together with h and w in preventing umlaut, and also in forming

the environment which monophthongizes Germanic ai. However this

may only be because OHG r was velarized and not necessarily a

uvular [R].[11] Spelling gives us no clue since r has been used

from OHG to the present day. More compelling evidence has been

adduced that at least in some parts of Germany in late MHG and

early NHG a uvular [R] was in use, if only to a limited extent.[12]

If this is so, and the evidence for it seems strong, then it

may not be a borrowing from French, as many scholars[13] thought, but

an autonomous development in Germany. However, this will not

explain everything. It seems reasonable to suppose that uvular

[R] could have arisen in parts of Germany as an autonomous

development. In the north of England there is a small area in

Northumberland and Durham which also has a uvular [R] and no-one

10) Müller 1882, 128.

11) Penzl 1961, 495.

12) Moulton 1952, 83-89.

13) Trautmann 1880, 204-222, 376-378.

would say that that was a borrowing from French. Indeed it,too,
is quite old.[14] Uvular [R] is also universal in Danish dialects
and the standard language and even in the dialects of Skåne in
Sweden,[15] and this too can hardly be a French borrowing. There is
thus sufficient evidence to say that an autonomous development
of uvular [R] in Germany is plausible,but it does not account
for its wide-spread use today. There seems,as yet,no accurate
study on the distribution of uvular and dental /r/ in German
dialects, which hinders us from seeking an answer as yet from
dialect geography.[16] The dental [r] has always been regarded
as the prestige pronunciation,which for a long time was modelled
on the stage usage,and only recently has the standard taken steps
to allow the use of the uvular [R] to enjoy equal status with
the dental [r],although the two types have been used equally
much for a long time.[17] The autonomous development of uvular [R]
was probably supported by the use of a similar sound by the
aristocracy in the eighteenth century,when in most parts of
Germany there was,to a certain extent, a diglossic situation:[18]

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14) Kolb 1966, Maps 366, 367. This uvular pronunciation of r
   was noticed as early as the eighteenth century, Wakelin 1972,
   42.

15) Bergman 1947, 83f.

16) On the dental [r] and uvular [R] in German,Paul, 1916, II,
   para. 225, maintains: "Die erstere herrscht im Süden, die
   letztere im Norden". But LG dialects also have a dental
   [r], Keller 1961, 314, 365.

17) Siebs 19th ed. 1969, 85f.

18) For the term 'diglossia', see Ferguson 1959. In this case
   any diglossia was limited to a certain social class and
   was temporary.

the high-level language being French, which was spoken and written by

the aristocracy, and the low level language being German in

its various regional forms. The situation has been well

described by Herder: "Wenn sich nun, wie offenbar ist, durch

diese törichte Gallicomanie in Deutschland seit einem

Jahrhunderte her ganze Stände und Volksklassen von einander

getrennt haben, mit wem man Deutsch sprach, der war Domestique,

(nur mit denen von gleichem Stande sprach man französisch, und

foderte von ihnen diesen jargon als ein Zeichen des Eintritts

in die Gessellschaft von guter Erziehung, als ein Standes-,

Ranges- und Ehrenzeichen,) zur Dienerschaft sprach man wie zu

Knechten und Mägden sprechen muß, ein Knecht- und Mägdedeutsch,

weil man ein edleres, ein besseres Deutsch nicht verstand und

über sie in dieser Denkart dachte".[19] Herder stands at the end

of this period of diglossia, and it is probably due to him and

the other men of letters in the eighteenth century that German

became a national language, instead of an inferior low-level

language. These men were themselves not aristocrats, although

they lived at court and were in some cases great friends of the

nobility. German, as a standard written language, owes much to

its use as a literary language both in novels and in poems and

in spoken form on the stage. Since the aristocracy, who

probably introduced the uvular [R] with any frequency into

Germany, were not concerned with the care of the German language,

it is not surprising that the uvular [R] was not imitated by

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19) Herder 18, 161.

many speakers. Only as time has gone by, has the uvular

pronunciation advanced from being a socio-linguistic marker of

a social class who did not care about German,

and

possibly also of a certain region, and has become free to be

imitated without impunity by all and sundry. If the aristocracy

had been held in esteem, it might have become the prestige

pronunciation. The occurrence of uvular [R] is due to two

things, to autonomous development in certain parts of Germany,

and to its introduction by one social class from French. Ulbrich

regards the fricative [ʁ] as being the main allophone of NHG /r/,

but he does admit that the friction may be strong or weak.[20] In

fact initial /r/ may well be a frictionless continuant, certainly

in colloquial speech. The International Phonetic Alphabet has

no separate symbols for a uvular frictionless continuant, and

a uvular fricative. They are both symbolized [ʁ].[21] In NHG

both the fricative and the fricationless continuant exist as

variants of the uvular [R]. While the change from dental to

uvular has no obvious phonetic motivation, the change from a

trill to a fricative or frictionless continuant is due to ease

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20) Ulbrich 1972, 50.

21) A diacritic has been suggested, e.g. [ʁ̞] would be the symbol
for the uvular frictionless continuant, and [ʁ] for the
uvular fricative. They are both voiced. This diacritic, has
not been officially accepted by the International Phonetic
Association, Abercrombie 1967, 126.

of articulation. Similarly there seem no structural reasons
for a shift from dental to uvular. No phonemic change has
resulted; it is a change in the distinctive features of the /r/
phoneme. One possible reason that could be advanced is that the
development of dental [r] to uvular [R] is to provide a voiced
partner for NHG /x/. This seems unlikely, since, according to
one suggestion, [x] is moving towards [ç] to provide a voiceless
partner for /j/.[22] Before voiceless consonants NHG /r/ and /x/
are merged by some speakers, but this is not allowed in the
standard.[23] The development of a uvular [R], whether a trill,
fricative or frictionless continuant is something which has an
extra-linguistic source. It seems to have arisen in some areas
of Germany autonomously and has been spread through the adoption
of the French r by the aristocracy. It has been spread within
Germany from cities and towns.[24]

5.7.2. The vocalization of postvocalic MHG /r/

The other important development of MHG /r/ is in postvocalic
position before consonants, or in word-final position, where it
has become vocalized. This change is again due to ease of
articulation. The friction used becomes less and less until it
is non-existent, and the sound becomes a vowel.[25] The age of
this vocalization cannot be ascertained, as the spelling has not

22) Lüdtke 1959, see 5.5.1.

23) Ulbrich 1972, 92; Siebs 1958, 61.

24) Martin 1959, 47.

25) Ulbrich 1972, 55ff.

changed and there are no grammarian's comments on it. It is,
however, probably of recent origin, since it is even now not recogniz-
ed fully by the standard language. The latest Siebs finally
acknowledges its existence, but only in the style dubbed
'gemäßigte Hochlautung" and transcribes only a few words with a
final vowel instead of /r/.[26] It seems best to treat this phen-
omenon in two parts, according to the position of /r/. Post-
vocalically after long vowels, except [aː], NHG /r/ is almost
exclusively realized as an unstressed short central vowel [ɐ],
which can vary in quality according to the vowel it follows.
This also happens after short vowels and [aː], but to a much
lesser degree.[27] However in colloquial speech NHG /r/ is almost
certainly vocalized to the same extent after all vowels. The
vocalization of /r/ can either produce a diphthong: [hɛɐts]
Herz, or a long vowel [hɛːts]. The only case where there is
always a long vowel in all styles of German with vocalization is
in the case of the sequence /ar/: for many speakers this produces
a merger of Karte and Kate in [kaːtə]. It is reported that this
merger of short vowel plus /r/ with the corresponding long vowel
takes place in North West Germany, but it is not clear how far
this extends.[28] At present this vocalization is not considered

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26) Siebs 19th. ed. 1969, 86. The vocalization of -r is only
    allowed "bei den Einsilbern in pro- und enklitischer Stellung
    (der, mir, für, vor) ... gestattet ist".

27) Ulbrich ibid., 113ff. and 91ff.

28) Pilch 1966, 258.

part of the standard language. The change has, of course, taken

place in English and the East Coast dialects of the United States.

The resultant sounds have been long vowels, among which the long

central vowel [ɜ:] is a new phoneme.[29] No structural pressure

seems to exist in German why this change should, or should not,

have taken place. In English this change produced two new

phonemes /a:/ and /ɜ:/. The spelling conventions and the threat

of a large number of homonyms are probably the two factors which

stand in the way of this being fully implemented and accepted

by the standard in NHG.

In final position after schwa the vocalization of /r/ has result-

ed in the sequence /er/ being represented by the one central

vowel [ɐ], which is lower than [ə] and contrasts with it: [bitɐ]

bitter : [bitə] bitte, so no morphemic mergers between the

inflectional endings -er and -e have resulted.[30] From the

evidence of some dialects, where there is a similar vocalization

of -er, it seems that schwa is often dropped and -er eventually

becomes schwa. According to the DSA this happens in large

stretches of Low German and Bavarian, but it is not universal.[31]

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29) Kurath 1964, 27-29.

30) Ulbrich 1972, 105ff. In Rhine Hessian, where vocalization of
     final -r has taken place, MHG -e and -er are still kept apart
     by the opposition [ə]:[ɛ], Keller 1961, 170.

31) DSA map 13, -er Endung. This map is difficult to interpret
     for it is not easy to determine the exact areas where -er is
     vocalized: "... scharfe Linien sind nirgends möglich, denn
     -er wird massenhaft nach der Schriftgewohnheit geschrieben",
     Introduction to DSA, 6. For vocalization of /r/ in general
     see DSA maps: 47 Dorf, 57 vier, 112-115 Wort.

This is what has presumably happened in English, where we have
[beik] <u>bake</u> and [beikə] <u>baker</u>, which were probably at one time
[beikə] and [beikər].

This whole section on the vocalisation of /r/ must be regarded
as rather tentative, simply sketching out possible developments,
since this change, which although widespread, is still regarded
as belonging to colloquial speech. The retention of the spell-
ing with <u>r</u> hinders its recognition. The vocalization of -<u>er</u> to
[ɐ] has resulted in a morphophonemic variation of [ɐ] with [əʀ][32]:
[mauɐ] <u>Mauer</u>, [mauʀɐ] <u>Maurer</u>, [oiɐ] <u>euer</u>, [oiʀə] <u>eure</u>. The
vocalization is still, to a large extent, predictable in its
occurrence and, as such, causes no threat to any part of the phono-
logical or grammatical system. There is no intrusive linking <u>r</u>,
which is used by some speakers of English: <u>a propaganda -r-
exercise.</u>

The vocalization of the morpheme -<u>er</u> to [ɐ] has perhaps been
one of the causes of the spread of the suffix -<u>ler</u> in NHG which
is chiefly used to form denominal nouns, <u>Zeltler</u>, <u>Dörfler</u>,
<u>Wissenschaftler</u>, which would be acoustically clearer than simply
-<u>er</u>, as well as being semantically clearer than the polysemantic
suffix -<u>er</u>. The function of -<u>er</u> has also been taken over, but to
a lesser extent, by the suffix -<u>ner</u>, <u>Pförtner</u>, <u>Redner</u>.[33] There
is apparently no sign of confusion between the inflectional
endings -<u>e</u> and -<u>er</u>, but these are conditioned by the presence

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32) Wurzel 1970, 188.

33) Fleischer 1969, 133-136.

or absence of certain determiners, e.g. <u>der gute Wein</u>, but
<u>ein guter Wein</u>.

5.7.3. The loss of /r/

In MHG there was a distinction between <u>dā</u> 'there'(rest) and
<u>dar</u> 'thither'_∧(motion) but in NHG this distinction is carried by the

particle <u>hin</u>; <u>da</u> : <u>dahin</u>. MHG <u>dā</u>, when forming a compound

particle, added an <u>-r</u> when the particle began with a vowel:

<u>dārane</u>, <u>dārūfe</u>, as against <u>dābī</u>. The adverb <u>dar</u> also elided

the final vowel when it formed compounds, <u>darane</u>,and in the

course of time the compounds with <u>dar</u> were taken as belonging to

<u>dā</u> and not <u>dar</u>, which eventually went out of use.[34] The morpho-

phonemic alternation between <u>dā</u> and <u>dar</u> in MHG increased in NHG

by absorbing the forms with <u>dar</u> plus prepositions beginning

with a vowel.

This meant that MHG <u>dar</u> eventually lost its separate morphemic

status and meaning and became merely a variant, an allomorph, of

the NHG reflex of MHG <u>dā</u>. There are, however, still the compet-

ing spellings <u>darneben</u>, <u>darnach</u>. Exactly the same thing happened

with MHG <u>wā</u> with its allomorph <u>wār</u>, and MHG <u>war</u> 'whither', which

was replaced by <u>wohin</u>,and in so doing lost its independent

meaning and became an allomorph. In the case of NHG <u>hier</u>, this

too originally had two forms <u>hie</u> and <u>hier</u> which were in complement-

ary distribution. In NHG the form <u>hier</u>,which originally only

occurred before vowels, has been generalized: <u>hierin</u>, <u>hiervon</u>,

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34) Paul II, para. 228.

hierfür. Hie, which in the sixteenth century existed as a competing form,[35] only exists now in the formula hie und da and the derived adjective hiesig. These changes are peripheral changes which show the generalization of an allomorph with r in the case of hier, and the retention of an allomorphic variation da - dar, which has led to the loss of dar 'thither', and of wā - war, which has lead to the loss of war 'whither'.

The words Polier, Köder 'bait', are always cited as originally having an r before the consonant, MHG körder, Luther kerder, MHG parlier. NHG fordern had the opposite, a form without r, fodern, well into the eighteenth century. These cases are often regarded as loss due to ~~dissimilation of a~~ *haplology before* final r.[36] This may be the cause of the loss of r, but does not explain their selection by the standard language, for there are other forms where no dissimilation has taken place, e.g. Marter, Wärter. The form with r in fordern is due to Adelung, whereas Gottsched only has the form fodern, as has Luther. The word itself was originally only a legal term and the form fodern spread from ECG in the fourteenth century.[37] The form Köder need not be due to dissimilation, but to a popular etymological remoulding with reference to Kot. Hunters could easily refer to their bait jokingly as Kot. The form Köder itself first appears in the seventeenth century.[38]

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35) Paul ibid.

36) Paul ibid., para. 229.

37) Dt. Wb. 3, 1890.

38) Dt. Wb. 5, 1571.

The NHG word <u>Polier</u>, MHG <u>parlier</u>, is a reformation by analogy
with the etymologically unrelated verb <u>polieren</u> with no <u>r</u>
before the <u>l</u>,and   can be satisfactorily explained in this
way.[39] The most difficult case is <u>fordern</u>,but it would seem
that there were competing forms <u>fodern</u>, <u>fordern</u>, the latter being
finally selected for the standard. Another possible reason for
the loss of <u>r</u> might be vocalization, but there is no real
evidence to prove early vocalization. For English it has been
assumed that <u>r</u> was lost early,before dentals.[40] Since in these
words <u>r</u> appears before dentals, they could be a very early
example of vocalization of <u>r</u>. All three words have <u>r</u> etymologic-
ally.

In MHG some strong verbs had an alternation between /s/ and /r/:
<u>friesen</u>, <u>gefroren</u>, <u>verliesen</u>, <u>verlurn</u>, but this has been levelled
out in NHG, <u>frieren</u>, <u>gefroren</u>, <u>verlieren</u>, <u>verloren</u>. The verbs
concerned are not numerous,and the <u>s</u> - <u>r</u> alternation was removed
in several ways: it was levelled out in favour or /r/ e.g.
<u>verlieren</u>, <u>verloren</u>, the verb became weak but retained the <u>s</u>,[z] of
the infinitive, e.g. <u>niesen</u>, the verb was replaced by another
one, <u>kiesen</u> was replaced by <u>wählen</u>,(only <u>erkoren</u> the past
participle remains). The alternation remains,however, in word-
formation <u>frieren</u>, <u>Frost</u>. The verb 'to be' in MHG had the past
tense sing. <u>was</u>, pl. <u>waren</u>, and past participle <u>gewesen</u>. Only
in the past tense is the alternation /s/-/r/ levelled out, <u>war</u>,

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39) DE 519.
40) Hill 1944.

waren, the past participle gewesen remains. This is due to the fact that the form gewesen appeared after the /s/ - /r/ alternation had been levelled out.[41] The replacement of was by war does not represent a levelling of the /s/ - /r/ alternation but an ad hoc reaction to the homonymic clash, which would have resulted from the merger of MHG /s/ and /z/ in final position (see 5.4.1.).

5.7.4. The development of MHG /l/

Unlike English /l/ with its two main allophones, dark or velarized [ɫ] finally, e.g. feel, and light or palatal [l] initially and before front vowels, e.g. leap, feeling, German has no such variation. NHG /l/ is a voiced alveolar lateral with the back of the tongue slightly lowered.[42] There seems to have been no obvious change in its articulation in the history of German. Ickelsamer describes its articulation in the following terms: "Das l ist ain zungen buchstab/so sich der mund gleich zum lachen und fröligkeit schickt".[43] In MHG there was a contrast between short and long /l/, stele : stelle, but this distinction has been replaced by one of vowel length, stehle : stelle. Is there any evidence in MHG or OHG for any other pronunciation of l? The answer appears to be negative. In OHG, l is sporadically replaced by r, kirihha, kilihha, in Alemannic but this is usually interpreted as evidence for a dental

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41) Dt. Wb. 4, 1, 3, 5687: keine neuschöpfung der mhd. zeit und dort nur spärlich belegt.

42) Siebs 1958, 62; WDA 48; Viëtor 1904, para. 97.

43) Müller 1882, 128. This is taken by Viëtor ibid., Anm. 3 to imply no change in articulation.

pronunciation of OHG r.[44] The Italian word <u>viola</u> is to be
compared with MHG <u>videl</u>, but the former is not a borrowing from
German but both are rather borrowings from Provençal in the
shape of Middle Latin <u>vidula</u>.[45] It does not seem possible to
interpret Italian <u>viola</u> as showing that there may have been a
velarized [ł] in MHG.

In German dialects, however, MHG /l/ has undergone changes. In
Westphalia it is pronounced as "a middle-tongue lateral"[46], as is
evidenced from the spelling <u>soult</u> by the lay informants for the
DSA map <u>Salz</u>.[47] One characteristic of the Middle Bavarian
dialect area is that /l/ has become vocalized.[48] This is shown on
the DSA by the spelling <u>soiz</u>. Kranzmayer would like to assume
that this back articulation, *after [a] and back vowels* which he finds in Bavarian, is true
of the whole of German in the Middle Ages and he cites as
evidence that /l/ vocalization appears in other Germanic languages,
in Dutch, and, although he omits it, in English and Scots. A
second reason he advances is that a velar [ł] would hinder the
This velar articulation of /l/ became palatal in the fourteenth century,
effect of <u>i</u>-mutation.[49] *hence the vocalisation of /l/ as [i] and not [u].* These reasons are certainly not strong
enough proof that velar [ł] was quite widespread in earlier
times. The evidence from the dialects points only to Middle
Bavarian and Westphalian as strongholds of dark /l/ or vocalized /l/.

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44) Penzl 1971, 102.

45) Kluge/Mitzka 197,

46) Keller 1961, 314.

47) DSA maps 83-86.

48) Kranzmayer 1956, map 7.

49) Kranzmayer ibid., para. 49.

The majority of scholars certainly do not assume that, although it cannot be disproved, since no change in spelling has occurred. A more plausible description is that velar [ʒ] may have been more widespread earlier but that it never achieved the status of offering a prestige pronunciation. It presumably arose mechanically by assimilation after back vowels, but never became widely used, whereas in English, on the other hand, it has become a prestige pronunciation and accepted by the standard.

If no major change seems to be involved with /l/ it has been subject to a number of minor dissimilations with both /n/ and /r/ for which reasons are hard to find. At one time all these consonants shared the same point of articulation, only /r/ has since become uvular and changed its point of articulation. In the words Knoblauch 'garlic' and Knäuel 'ball (of wool)' the n in the initial cluster is an l in OHG. NHG sammeln goes back to MHG samenen. The word Tölpel goes back to MHG dörpære and here both the /r/'s have been dissimilated to /l/[50] In German dialects there is no trace of a wholesale confusion of either /l/ and /r/ or /l/ and /n/. The development of sammeln with early dissimilation of /n/ to /l/ is paralleled in Dutch, where zamelen goes back to Middle Dutch samenen[51], and here the easing of the pronunciation is probably the reason for the change. In Knäuel and Knoblauch the loss of the morphological motivation of the first part, connected

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50) Knoblauch Kluge/Mitzka 382; Knäuel Kluge/Mitzka 623; Tölpel Kluge/Mitzka 732.

51) Loey 1959, 242.

with Klaue and klieben respectively, may have led to a substitution of /n/ for /l/.[52] The form klobelauch is still found at the beginning of the eighteenth century, whereas Knäuel seems to be the main form from the fifteenth century onwards.[53] Schottel uses both knäuel and kleuel.[54] Tölpel may be the result of the confusion with Tölpel 'a piece of wood', in the expression "über den Tölpel werfen", particularly since the form is exactly the same.[55] The form with /l/ has been almost exclusively used since the sixteenth century, but Schottel has four variant forms: tölp, tölpel, törpel and dölpel.[56] Two other words should be mentioned here, Elend and Forelle. NHG Elend goes back to MHG ellenti, and the spelling with ll is retained sporadically till the early nineteenth century. Luther always has the form Elend.[57] Forelle was forhene in MHG, and the former variant is recorded in the late sixteenth century.[58]

It is a well known phenomenon that these sounds have the tendency to undergo dissimilation, and the wonder is that there are so few examples in the history of German. In all these cases several forms produced by dissimilation were in competition and only one has finally been selected to the standard.

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52) Kluge/Mitzka ibid.

53) Dt. Wb. 1449, 5, 1362.

54) Schottel 1346.

55) Paul Dt. Wb. 619.

56) Schottel 1432; Dt. Wb., 11, 1, 1, 653.

57) Dt. Wb. 3, 406f.

58) Dt. 3, 1896.

6.0. THE DEVELOPMENT FROM MIDDLE HIGH GERMAN TO NEW HIGH GERMAN: THE VOWELS

6.1. VOWEL LENGTHENING AND SHORTENING

6.1.1. Vowel and consonant length in Middle High German

In MHG, short and long vowels were in contrast in stressed

syllables. Of the three parts of the syllable,[1] we are

concerned only with the syllabic element, i.e. the long or

short vowel, and the arresting consonant. The releasing

consonant or consonants are not our concern here and will be

omitted. According to whether the arresting consonant is

followed by a pause, or unstressed [ə] followed by /l, r, n/, we

will distinguish between monosyllabic words, e.g. of the

structure VC,[2] hof, or VVC, ūf, and disyllabic words which had

the structures VCə, rede, VVCə, rāten and VCCə schaffen.

Another type of disyllabic structure existed in OHG, VVCə, e.g.

lūtten,[3] but in MHG the long consonant has been simplified to

t, lūten. Long and short vowels contrasted only before single

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1) For this concept of the syllable see Abercrombie 1967, 73f.

2) V = any short vowel, VV = any long vowel or diphthong, C = a single consonant, CC = any long or geminate consonant.

3) Braune/Mitzka 1961, para. 96, Anm.1.

consonants in MHG, whereas before long consonants only short
vowels occurred. The only exception to this is MHG rūpe, NHG
Raupe, which also had the variant ruppe.[4] Vowels are not only
always short before long consonants in MHG but also before the
affricates /pf/ and /ts/, apfel, sitzen. Before /ts/ ,however,
there are some apparent exceptions: spriuzen occurred with an
affricate but it also had a variant with a fricative, spriuʒen.[5]
The words dūzen and brēzel occurred with long vowels in MHG,
(see 5.1.2.) but a long vowel before MHG /ts/ was infrequent.
Diphthongs also occurred before MHG /ts/, unlike MHG /pf/, reizen,
heizen. In the word tiutsche a long vowel occurred before the
affricate [tʃ], which is sometimes simplified to [ʃ] tiusche. In
the disyllabic words long obstruents which occurred were always
fortis or voiceless: knappe, bette, brücke, hazzen, messen,
schaffen, machen.[6] Long nasals and liquids also occurred in
this structure: swimmen, manne, dürre, stelle. In the syllabic
type VCə, the obstruents were always voiced, with the exception

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4) Kluge/Mitzka 587.

5) In the normalized spelling of MHG the affricate /ts/ is
   written z or tz and the fricative /z/ is written ʒ. In this
   present work z is always used after long vowels and diphthongs,
   except when it is absolutely necessary to show the difference
   between the affricate and the fricative.

6) Foreign loan words such as abbet, rubbin are disregarded. In
   UG the reflex of West Germanic gg is written gg, mugge, brugge.
   This is assumed to be a long fortis velar stop, possibly
   unaspirated. In Alemannic sometimes a distinction is made
   between gg, representing W Germanic gg and kk (or cch)
   representing West Germanic kk. In standard NHG there is no
   such distinction, Mücke, Brücke, wecken, the latter representing
   W Germanic kk.

of MHG /t/: <u>haben</u>, <u>reden</u>, <u>legen</u>, <u>beten</u>, <u>hove</u>, <u>lesen</u>, <u>sehen</u>.[7]

Nasals and liquids occurred in this structure as well: <u>nemen</u>,

<u>manec</u>, <u>türe</u>, <u>stele</u>. In the syllable type VVCə the stops were

voiced or lenis with the exception of /t/: <u>ābent</u>, <u>gnāden</u>, <u>frāgen</u>,

<u>bāten</u>, but both fortis and lenis fricatives occurred: <u>zwīvel</u>,

<u>grīfen</u>, <u>lāsen</u>, <u>sāzen</u>, <u>sāhen</u>, <u>sprāchen</u>. Nasals and liquids also

occurred after long vowels as well: <u>nāmen</u>, <u>māne</u>, <u>stālen</u>, <u>bāren</u>.

Vowel length was thus free,[8] i.e. short and long vowels contrast-

ed phonemically, before the stop /t/, all the fricatives and the

liquids and nasals. Length was predictable, on the other hand,

before the stops, apart from /t/: a long vowel occurred before

a short lenis stop and a short vowel occurred before a long

fortis stop. MHG medial /ʃ/ is also an exception to these

rules. It is assumed to be fortis and long, since in NHG only

short vowels occur before it (apart from the past tense form

<u>wusch</u>) and the loan words <u>Nische</u>, <u>Dusche</u> which have variants

with both a short and a long vowel. In MHG short and long vowels

contrast before it: e.g. <u>busche</u> : <u>rūschen</u>, <u>büsche</u> : <u>kiusche</u>, <u>waschen</u> : <u>läschen</u>.

However the contrast of vowel length only applies to these ~~two~~ three

vowels.

Consonant length was also phonemically relevant in some cases

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7) The only exceptions are provided by foreign loans, e.g.
   <u>apostel</u>, <u>kapel</u>, <u>pappele</u>, <u>papier</u>, <u>sōpel</u>, <u>topeln</u>.

8) For this use of 'free', see Lass 1974, 19ff.

in MHG. The stop /t/ contrasted with /tt/[9] after short vowels: bete 'request': bette 'bed'. Furthermore the liquids and nasals had contrasting long and short phonemes after short vowels: /m/ : /mm/, nemen : swimmen; /n/ manec : manne; /l/ : /ll/, stele 'I steal' : stelle 'I place'; /r/ : /rr/, türe : dürre. The phonetic interpretation of MHG /rr/ is not clear. It is usually assumed that MHG /r/ was a dental trill or vibrant[10], but there does not seem to be any language in the world where there is phonemic contrast between a long and short trill. If there is such a ~~orthographic~~ phonemic distinction. e.g. in Spanish para 'for' : parra 'vine', the opposition /r/ : /rr/ is realized by /r/ as a flap and /rr/ is rolled.[11] Possibly this was the realization of the MHG opposition /r/ : /rr/. Whatever its phonetic realization, it was an opposition of extremely low functional yield in MHG. There is also an orthographic opposition between s and ss: e.g. miselsuht 'leprosy' : missewende. This is the only contrast between what were probably a short and a long consonant among the fricatives. The phonetic nature of this opposition /s/ : /ss/ is uncertain. Probably /s/ was not only a short fricative but was also lenis (see 5.4.1.), wheras /ss/ was long and fortis. This is not an opposition which is realized solely as a difference of consonant length. In the case of MHG /p, k, f, z/ consonant length was allophonic. MHG /p, k, f, z/ all had long consonant allophones medially after short vowels,

9) Long consonants, which are phonemically distinct from short ones, are written phonemically by doubling the sign for the single consonant, e.g. /tt/, Jones, 1962, 119.

10) Paul/Moser/Schröbler 1969, para. 81.

11) Stirling 1935, 41f.

and short allophones elsewhere. This can be seen from alter-
nations in spelling such as knap, gen. knappes, smac, gen.
smackes. This is probably the case with MHG /x/, e.g. such
alternations as sprah, sprächen. This alternation in spelling
has usually been levelled out in favour of ch, sprach, sprächen,
but probably here, as well, a final short consonant allophone
alternated with a medial long allophone. In normalized MHG, /f/
and /z/ are written f, z medially after long vowels and diphthongs,
släfen, gröze, and ff after short vowels, schaffen, bizzen. They
are also involved in such alternations as biz, gen. bizzes, grif,
gen. griffes.

In monosyllabic words there were phonemic contrasts of vowel
length before all possible word-final consonants. Before some
consonants, however, these oppositions had a low functional yield,
e.g. tac:wäc. The word wäc would seem to be the only case where a
long vowel occurs before final /k/, c.

Length in monosyllable words was completely free in MHG, but in
disyllabic words there were more restrictions on the occurrence
of length: before long fortis consonants, except /t/ and /ʃ/, only
short vowels occurred. Long and short vowels contrasted chiefly
before /t/ and short voiced consonants.

It is assumed that the changes from MHG to NHG came about in two
stages: firstly by the lengthening of short vowels before a
single voiced consonant (in open syllables), and secondly by the
elimination of consonant length both phonemically and phonetically.

6. 1. 2. <u>The lengthening of short vowels in open syllables</u>

MHG short vowels in open syllables, i.e. before single consonants

followed by [ə], were lengthened and merged with already exist-

ing long vowels: MHG <u>haben</u> : <u>ābent</u>, NHG [ha:bən], [a:bənt],

MHG <u>lesen</u> : <u>lēren</u>, NHG [le:zən], [le:rən], MHG <u>erzeln</u> : <u>mære</u>,

NHG [ɛrtsɛ:lən], [mɛ:rə], MHG <u>loben</u> : <u>tōren</u>, NHG [lo:bən],

[to:rən], MHG <u>höve</u> : <u>hœren</u>, NHG [hø:fə], [hø:rən]. MHG short

/i, ü, u/ did not merge with MHG long /ī, iu, ū/, since these

were diphthongized ,(see 6.3.3.), but with the reflexes of the

diphthongs /ie, üe, uo/ : MHG <u>lieben</u> : <u>siben</u>, NHG [li:bən],

[zi:bən], MHG <u>trüebe</u> : <u>über</u>, NHG [try:bə], [y:bər], MHG <u>buobe</u> :

<u>stube</u>, NHG [bu:bə], [ʃtu:bə].

Phonemically this is an example of a conditioned merger, or

shift with merger. MHG short vowels developed long allophones

in open syllables and eventually these merged with the correspond-

ing long vowels. Probably the heavy stress on the root syllable

was the main factor which caused this lengthening. Although

this change is usually simply known as the lengthening of short

vowels in open syllables, it should more accurately be called

the lengthening of short vowels before single voiced consonants.[12]

The lengthening of MHG short vowels before /t/ and the resonants

/l, r, m, n/ is due to secondary causes such as analogy or

spelling pronunciation (see 6.1.3.). This change started in the

North West of Germany at the beginning of the thirteenth century

12) Wright 1907, para. 105; Paul 1916, II, para. 35.

and spread towards the south and east.[13] The southern most

Alemannic dialects still retain short vowels before voiced conson-

ants and have not undergone this lengthening in open syllables.[14]

All the other dialects,as well as the other Germanic languages,

have undergone this short vowel lengthening.[15] The West CG dialects

show some difference from the standard. In these dialects, as in

English, Dutch and the LG dialects, the short high vowels, MHG

/i, ü, u/ have merged with the long mid-vowels [e:], [ø:] later

unrounded to [e:], (see 6.4.) and [o:] respectively.[16] Some words

reflecting this development have been accepted by the standard, NHG

König, Sohn, MHG künec, sune. There are no examples in the standard

of MHG /i/ being lowered and lengthened to [e:],but these did occur

in ECG sources and elsewhere, mede, getreben, MHG mite, getriben.

In most dialects the short vowels in open syllables which were

lengthened merged with already existing long vowels, although with

different results from NHG, or in some cases with diphthongs.[17]

In NHG the merger of all the MHG short vowels with their correspond-

ing long vowels is due,in large measure,to the fact that we are

dealing with a written standard.

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13) Paul/Moser/Schröbler 1969, para. 23, For a recent treatment of
    lengthening, see Reis 1974.

14) Jutz 1931, para. 31, SDS II maps 1 -44 show a great variety in the
    extent of lengthening, varying from word to word.

15) For English,see Wright 1924, para. 72f. For Dutch,see Loey
    1959, para. 32. For Swedish, see Wessén 1965, I, para. 78f.

16) DSA map 41 Wies(e) shows the lowering of MHG /i/ in parts of
    WCG and LG.

17) Hall 1973, 172f.; Philipp 1965, 221f.

During late MHG and Early NHG orthographic signs to show vowel

length were only in sporadic use. However there were three main

ways of showing that vowels were long in Early NHG, which are still

used in NHG. These methods were:

1. the doubling of the vowel sign, e.g. Early NHG <u>seer</u>, <u>weeg</u>, <u>waar</u>,

   <u>voor</u>. This does not happen in the case of <u>u</u> and <u>i</u>.[18]

2. the addition of <u>i</u> or <u>e</u>. This happened chiefly to <u>i</u>, which

   added <u>e</u>, <u>friede</u>, <u>mier</u>. The sign <u>i</u> was also added to <u>a</u>, <u>o</u>, <u>u</u>, e.g.

   <u>jair</u>, <u>groiss</u>, <u>huis</u>. The sign <u>e</u> was also used after <u>a</u> and <u>o</u>

   e.g. <u>jaer</u>, <u>broeder</u>.[19]

3. the use of the sign <u>h</u>. This was chiefly used after <u>e</u>, but also

   after <u>a</u>, e.g. <u>ehre</u>, <u>nahme</u>. In the seventeenth century it was

   also used after <u>o</u> and <u>u</u>: <u>hohch</u>, <u>gruhB</u>, cf NHG <u>Ohr</u>, <u>Uhr</u>.[20] ~~but this usage is~~

   ~~exceptional.~~[20]

The doubling of vowel signs was used sporadically in OHG, but not

in MHG. In Early NHG it came to be used again in the fourteenth

century and its use reached a peak in the first half of the six-

teenth century. It was mostly used in UG but in the seventeenth

century the use of double vowel signs to show long vowels spread to

CG. The most frequent vowel to be doubled was <u>e</u>, NHG <u>See</u>, <u>leer</u>,

<u>Meer</u>, <u>Heer</u>. Long [aː] was also written <u>aa</u>, but not so frequently, <u>baach</u>,

<u>haar</u>, <u>staat</u>. Long [oː] was written <u>oo</u> more frequently in Early

NHG <u>froo</u>, <u>blooB</u>, <u>hooch</u>. The use of the sign <u>ie</u> for [iː] was

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18) Moser 1929, para. 7.

19) V. Moser 1919, paras. 8 and 9.

20) V. Moser 1929, para. 10.

originally Middle Franconian. UG sources did not use it until the late sixteenth century. In the first half of the seventeenth century it spread rapidly throughout CG. The use of e or i after a vowel, to show that it was long, was also a CG characteristic. ECG, however, did not show this method of signifying that a vowel was long, and only the digraphs ue, for MHG /uo/ and üe, for MHG /üe/, were used to any great extent in that area. These signs may in some cases, particularly in UG, have designated diphthongs and this was the probable reason why they were not selected by the standard. The use of h as a length sign only came into being after it had been lost medially between vowels in pronunciation (see 5.5.4.). It became widespread in CG in the first half of the sixteenth century. It is chiefly used after e and in pronominal forms such as jhm, jhn, jhr. It only came to be used after a and o in the first half of the seventeenth century, when it was also widely used in UG.[21] Now in NHG the long vowel phonemes are written in the following way: NHG /i:/ is written i, mir, Biber, ie, lieben, Tier and ieh, but only in such words as Vieh and verb forms, ziehen, siehst where the stem of the verb ends in writing with h. The sequence ih for /i:/ appears in the pronouns ihm ihn, ihr. NHG /y:/ is written ü, über, Güte, and üh, Bühne, fühlen. NHG /u:/ is written u, Stube, gut, and uh, fuhr, Ruhm. NHG /o:/ is written o, Bote, loben, oh, froh, bohren, Lohn and oo, Boot, Moor, Moos. NHG /ø:/ is written ö, stößt, schön, and öh, versöhnen. MHG /e:/ is written e, treten, legen, Weg, ee, See, Meer, and eh, sehr, dehnen, hehlen. NHG /ɛ:/ is

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21) V. Moser 1929, paras. 6-11.

written ä, spät, jäten and äh, zählen. NHG /a:/ is written a,

Vater, Name, Pfad, aa, Haar, Aas, Saal, Staat, and ah, Bahn,

lahm, Bahre, nah.

In NHG all three of these ways of designating long vowels are

used, but the method varies from vowel to vowel and is not

predictable.[22] The single vowel signs have been used, and still

are in NHG, to designate long vowels particularly before r, mir,

and before single consonants in open/ *non-final* syllables. The lengthening

of short vowels in this position has not been reflected in the

spelling; most of the attempts to designate long vowels *with special sign* have been

which were long in MHG.

made for MHG long vowels. Length signs are used to distinguish

homonyms, e.g. malen, mahlen; mehr, Meer.

6. 1. 3. The exceptions to the lengthening of short vowels in
open syllables

The first step, the so-called lengthening of vowels in open

syllables, shows a great many exceptions before /t/: MHG site,

NHG Sitte. These exceptions, i.e. where we have a short vowel

instead of the expected long vowel before MHG /t/, *have been* are explained

as follows:

1. Through the influence of the following -er, -el, -en,

2. Through levelling among the inflected forms.

If followed by a syllabic -er, el, en, then the lengthening did

not occur. The vowel was syncopated and the syllable became

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22) Grosse 1967, 126, wants *to* introduce aa, ee, oo, uu, ie, uu,
    ä(ä), ee, as signs for long vowels before obstruents
    belonging to the same syllable.

closed, with the result that the lengthening did not take place:
i.e. [himəl] became [himl].[23] Von Kienle is more careful and
maintains that the influence of -er, -el and -en on the follow-
ing syllables of words which retain their MHG short vowel must
be examined in more detail.[24] In fact there are both forms with
and without lengthening before -er, -el and -en. Before -er
the following forms have undergone lengthening: MHG vater, NHG
Vater, before -el: MHG schemele, NHG Schemel, and before -en,
MHG beten, NHG beten, MHG ne men, NHG nehmen. There are however,
no examples of lenghthening before MHG /m/ + -er or before MHG
/t/ + -el. There are examples of short vowels being retained
before all three endings: MHG hamer, NHG Hammer, MHG veter, NHG
Vetter; MHG himel, NHG Himmel, MHG satel, NHG Sattel; MHG komen,
NHG kommen, MHG schaten, NHG Schatten. Thus the occurrence of
short or long vowels cannot be predicted by a regular rule of
sound change.

It is also said that in noun inflection there is a levelling out
within the noun paradigm, sometimes of the long vowel and some-
times of the short vowel. It is especially in the weak
declension that forms like NHG Bote with a long vowel and Gatte
with a short vowel are to be found. In the past participles

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23) Paul 1916, II, para. 35; Paul/Mitzka 1959, para. 46;
    Karstien 1939, 87.

24) Von Kienle 1960, para. 35, 2b.

there is a short vowel in the strong verbs of first and fourth
MHG vowel-gradation classes, NHG geritten, genommen, but long
vowels in the second and fifth vowel-gradation classes, NHG
geboten, (but gesotten), and gebeten.[25] Numerically, however,
there are more cases where the MHG short vowel has been retained:
forty-four before MHG /t/, and eighteen before MHG /m/, as against
twenty cases before MHG /t/, and six before MHG /m/, where the
vowel has been lengthened.[26]

It has been pointed out that the situation in standard NHG, which
has some words with lengthened reflexes of MHG short vowels and
some words in which the short vowels have not been lengthened,
is based on the ECG dialects.[27] This certainly accounts for
their provenance, but does not explain how they arose.

Why are these exceptions? Are we forced to regard the cases
where there is no lengthening as exceptions? It is our belief
that we are able to prove that those cases where we have length-
ened vowels before MHG /t/ and /m/ are to be considered as
exceptions, rather than regarding the cases where short vowels
are retained as exceptions.

The fact that consonant length was phonemically relevant for
MHG /t/ and /m/ after short vowels is the reason why we have

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25) Paul 1916, II, para. 36.

26) The figures are from Von Bahder 1890, 87.

27) Ritzert 1898, 514.

exceptions to the lengthening. Our proof will be carried out chiefly with reference to MHG /t/. The MHG opposition /t/ : /tt/ was an anomaly in the MHG consonant system. It was the only example of consonant length being phonemically relevant among the obstruents and also it did not have a very high functional load. It was quite conceivable that it would be eliminated, and this, in fact, was what happened. MHG /t/ and /tt/, which only contrasted after short vowels, merged, and the resultant sound [tt] was no longer a phoneme, but rather an allophone of MHG /t/, the short variant [t] occurring after long vowels,[28] exactly like the allophonic variation between [f] and [ff], [s̄] and [s̄s̄] spelt z and zz, [p] and [pp], and [k] and [kk], written ck. This has happened in the South Western dialects of German. In these dialects we have lengthening before voiced or lenis consonants, and before /t/ we only have lengthening in the reflexes of MHG bote, vater, waten, kröte, and even some of these words occur with a short vowel in certain areas. MHG gebet, gebot, mete, kneten, beten occur only with a short vowel in these dialects, whereas in standard NHG they have a lengthened vowel.[29] The merger of MHG /t/ and /tt/ is recorded early.[30]

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28) Fourquet 1963, 86f.

29) Fischer Schwäbisches Wörterbuch (SchwWb) 1904f.: bote 1, 1323, vater 2, 977, kneten 4, 523, beten 1, 948, waten 6/1, 502, kröte 4, 783, gebet 3, 127, gebot 3, 131, mete 4, 1639; Martin and Lienhart, Wörterbuch der elsässischen Mundarten (WbEM) 1899f.: vater 1, 155, beten 2, 112, treten 2, 767, bote 2, 117, waten 2, 878, kneten 1, 509, kröte 1, 527.

30) Fourquet 1963, 87.

Von Bahder has also drawn our attention to this, but he tried to consider the words with retained short vowel as imports.[31]

The other dialects do not present such a clear picture. There are forms with retained short vowels and forms with lengthened vowels, but in most cases the forms with a shortened vowel seem to be more numerous.[32]

It is quite plausible to assume a merger after short vowels of MHG /t/ and /tt/ in [tt]. The next stage is to show whether, in the cases of a lengthened vowel before MHG /t/, it is due to other factors, e.g. analogy, or spelling which may have influenced the pronunciation.

The main words with a lengthened vowel before MHG /t/ are: Vater, Bote, geboten, Zote, beten, kneten, treten, jäten, waten, Spaten, Knoten, Kater and Kröte[33], and these will be dealt with individually.

The word Vater has a short vowel in many dialects.[34] Schottel spells it with only one t[35], and Gottsched regards the spelling 'Vater nicht Vatter' as the better one.[36] The occurrence of Latin pater with one t may have contributed to the spelling with

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31) Von Bahder 1890, 87f.

32) Ritzert 1898, Schirmunski 1962, 184.

33) see Russ 1969, For a criticism of the view put forward here, see Reis 1974, 246ff.

34) Müller, Rheinisches Wörterbuch (RhWb) 1928f. 9, 88, Schmeller, Bayerisches Wörterbuch (BayWb) 1872, 1, 849.

35) Schottel 1437.

36) Gottsched 115.

one <u>t</u>. Vowels before a single consonant followed by [ə] are

pronounced long in NHG and so the spelling, which has been

accepted as standard, seems to be the main reason why this word

has a lengthened vowel in NHG.

<u>Bote</u>, <u>geboten</u>: the long vowel in these words can probably be

explained by analogy with the singular of the past tense, MHG

<u>bōt</u>. All the forms of this verb have long vowels in NHG and

the forms of the verb were probably instrumental in producing

a lengthened vowel in the noun. This analogy is primarily one

of form and it is not clear whether many native speakers would

recognize any connection between <u>der Bote</u> the noun, and

<u>entbieten</u> the verb.

For a long time the word <u>Zote</u> 'obscenity' was written <u>Zotte</u>, and

it was probably connected with <u>Zotte</u> 'hair'.[37] As with <u>Vater</u>

the spelling with a single <u>t</u> seems to have led to the vowel

being pronounced long in NHG.

The words <u>beten</u>, <u>kneten</u>, <u>treten</u>, <u>jäten</u>, and <u>waten</u> can be consider-

ed together since they are all verbs. <u>Waten</u> belongs to the MHG

sixth vowel-gradation strong verb class, but in NHG it has become

weak, ~~and~~ all the others belong to the fifth class. They all

show long vowels in every form, the infinitive, present, past

tense and past participle. In MHG only the past tense plural had

an original long vowel, cf. MHG <u>treten</u>, <u>trete</u>, <u>trat</u>, <u>trāten</u>,

<u>getreten</u>. Since there were verbs with stems in voiced consonants,

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37) Kluge/Mitzka 891.

in this class, e.g. geben, where lengthening would occur regularly, their pattern has forced itself on verbs like treten, and beten. The other verbs have become weak in NHG.

The word Spaten is first recorded in UG in 1469 and occurs infrequently. Even as late as the eighteenth century it frequently had the form spade[38], which perhaps points to a loan from Low German, cf. English spade. The spelling with t is recent. If the word originally had d, then it must have undergone regular lengthening and eventually it came to be spelt with t. The word Knoten was also written with a t or d, but it is not clear which is the more recent spelling.[39] Here again the pronunciation with a long vowel is connected with the spelling.

The word Kröte 'toad' is an ECG blend of MHG krete and krote, which, according to the Deutscher Wortatlas, is recorded from Thuringia to Silesia, from Brandenburg via Posen to East Prussia and towards Stettin. The Luther Bible has three occurrences of Kröte and from there it found its way into the standard NHG.[40]

The word Kater 'tom cat' has many synonyms in its word-geography. The form Kater with a long [a:] occurs chiefly in Central and Upper Bavarian. In the Palatinate it becomes Karer. In Alemannic there are the synonyms Rolle, Rolling and Bohle.

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38) Kluge/Mitzka 721.

39) Kluge/Mitzka 384.

40) Deutscher Wortatlas (DWA), 1951ff., Bd. 4, Map 'Kröte'; Kluge/Mitzka 407.

ECG also has many other forms, and it seems that Kater with a
long [a:] must be a borrowing from another dialect, although
it is not certain which one.[41]

Nearly all the examples of the words with a lenghthened vowel
before MHG /t/ can be explained by analogy, spelling pronunciat-
ion or dialect borrowing. Only Kater and Kröte are less certain.

On the basis of this we can now suggest that those words which
have retained a short vowel before MHG /t/ be regarded as
regular, and that the words where the vowel has been lengthened
should be regarded as exceptions. This is the exact opposite
of what has been said hitherto.

The same is true of lengthened vowels before MHG /m/. Again we
assume a merger of MHG /m/ and /mm/ in [mm] after short vowels
but there is no clear reflection of this in the dialects, as was
the case with MHG /t/ and /tt/. There are only ~~five~~ six words which
have a lengthened vowel as the reflex of a short vowel before
MHG /m/: Schemel, Name, nehmen, schämen, ziemen, lähmen, whereas
Kümmel, sammeln, Schimmel, Semmel, tummeln, genommen, kommen,
zusammen, Ammer, dämmern, Hammer, Kammer, Nummer, Schimmer,
Schlummer, Sommer, Trümmer have retained their short vowel. The cases with lengthened vowels did
not come about by sound change but by analogy or some other way,
although the reasons for each word are not clear. In MHG there
is also an opposition after short vowels between /n/ and /nn/,
manec : manne, and perhaps /l/ and /ll/, sulen : alle, but

41) DWA Bd. 2, map 'die männliche Katze'.

examples are hard to find. There may also be an opposition

/r/ : /rr/, but there are really only two examples of MHG /rr/,

hĕrre and dürre, the latter contrasting with türe. Before MHG

/r/, however, we always have lengthened vowels, which may be due

to the phonetic quality of /r/, since before /r/, even in mono-

syllabic words, lengthening has taken place in NHG. This is not

the case, however, before MHG /l/ and /n/, where there are both

lengthened vowels and short vowels. Before MHG /n/, Donner and

Banner seem to be the only examples with a retained short vowel.

Before MHG /l/ there are more examples: Füllen, Eller, Koller

and Söller, whereas in stehlen, zählen, befehlen, spielen the

vowels have been lengthened. In view of previous arguments we

should again like to regard the cases with lengthening as except-

ions and assume a merger of short and long consonant in a long

consonant after short vowels. Through analogy, and for some

other reasons, lengthening has occurred in the other words.

6. 1. 4. The subsequent development of vowel length in

New High German

After the lengthening of short vowels before voiced consonants

there were therefore two types of syllables in late MHG: 1. VCCə

brücke, and 2. VVCə rede. These two types probably never existed

completely on their own, as there are a few examples of different

syllable types, but nevertheless after the lengthening of MHG short

vowels in open syllables there must have been two main types.

In type 1 all the consonants were voiceless and in type 2 all

the consonants were voiced, except for the exceptions before /t/,

which have been dealt with in 6.1.3. If a phonological analysis

were to be made at this stage in the development of the vowels, it

would have to be decided which feature was to be regarded as
phonemically relevant and which allophonic, or in generative
terms, which features would go in the underlying phonological
representation and which would be predicted by rules.
Theoretically there are three possibilities:

1. Vowel length could be treated as phonemically relevant,

2. Consonant length could be treated as phonemically relevant,
    or

3. Since voiced consonants occur after long vowels, apart from
/t/, and voiceless consonants after short vowels, voice could be
taken as phonemically relevant, and vowel and consonant length
predicted from it. In fact the last possibility is what is
assumed to have happened in Bavarian, where vowel length is
predictable from consonant length: long vowels occur before
short lenis obstruents and short vowels occur before fortis
obstruents.[42] In Upper Bavarian dialects the fortis consonants
are always long and the lenis consonants are always short. Keller
assumes two developments from MHG to this state: 1. The
lengthening of short vowels in open syllables before single lenis
consonants and also the lengthening of all short vowels in mono-
syllables before both fortis and lenis consonants, 2. A short-
ening of long vowels before fortis consonants in disyllabic
words.[43] This would mainly affect those vowels before MHG /t/.
In the Central Bavarian consonant lenition the fortis and lenis
sounds merged in lenis consonants medially and finally (see 5.2.2.).

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42) Keller 1961, 207f., and the reference cited there.

43) Keller 1961, 214.

This, however, still does not bring us to the present situation in Bavarian. For this, a further split of the lenis obstruents created by the merging of fortis and lenis in medial and final position into new lenis and fortis sounds is needed. However, exactly how this came about seems uncertain: "More data and considerable further study is needed to fully comprehend the mechanics of this transition".[44] The tentative answer would seem to be that after the consonant lenition, the vowel length had become all-important and new allophones could arise, fortis consonants after short vowels and lenis consonants after long vowels. Another possibility might have been that although the obstruents merged phonemically, phonetically the difference between lenis and fortis was still retained but became allophonic. Too little is known about the phonological process of consonant lenition for a conclusive answer to be given. But it shows the carrying through of one of the theoretical developments, vowel length becoming predictable. The second possibility, that consonant length became phonemically relevant, seems to have occurred only in Upper Bavarian.[45] The first possibility, that vowel length becomes phonemically relevant, is the solution chosen by standard NHG, and by those dialects (apart from Cental Bavarian) which underwent consonant lenition, e.g. Alsatian, Rhine Hessian. In these dialects both the fortis:lenis opposition and, to a large extent, consonant length have been lost, both

44) Kufner 1960, 27.

45) Kurath 1965.

phonetically and phonemically. They present two syllable types: VCə and VVCə.[46] Although it is said that there is a merger of fortis and lenis stops, this is really only true of the dental series, MHG /tt/, and /t/ and /d/ have become /d/. In the labial and velar series, the medial fortis stops have become lenis stops, but the lenis stops have become fricatives, [b]>[w], [g]>[j,ɣ] (see 5.2.2.).[47] The standard language has avoided the consonant lenition and spirantization of the lenis stops. Spelling and the speech habits of Low German speakers were probably influential here. In NHG, however, vowel length, as mentioned above, has become the main feature separating _Betten_ from _Beeten_. There is no trace of any consonant length in NHG and the only pointer as to when it began to lose its phonemic importance is when long consonants are used wrongly in the fourteenth century.[48] We do not know when long consonants were lost phonetically. Some UG dialects still retain them phonetically[49] and possibly their allophonic use may have still been present in South Germany as late as the eighteenth century.

Siebs prescribes a close pronunciation for all long vowels except [ɛ:], and open pronunciation for all short vowels in NHG[50] but this is only valid for North Germany, because in South

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46) Hall 1973, 16-49.

47) Philipp 1965, 26ff.

48) Kräuter 1876, 573.

49) SDS II, maps 182ff., Kranzmayer 1956, para. 34g says that the geminates are being replaced by single consonants.

50) Siebs 1958, 28.

Germany there still seems to be only a difference in length, the vowel quality remaining the same.[51] This difference in quality, that _Siebs_ prescribes, has led many phonemicists to discuss whether vowel length or vowel quality is phonemically relevant in German phonology.[52]

Similar quantitative changes have taken place in other Germanic languages, and it is worthwhile looking to see if there is any general pattern of development, and how German fits in with this. It is generally assumed that the oldest Germanic languages present a quantitative distinction between long and short vowels, but how far this may have been accompanied by a difference in vowel quality is difficult to ascertain. One recent description attempts to avoid this question by labelling the Proto-Germanic vowels short/lax and the long vowels long/tense.[53] For Old Icelandic we are fortunate in having the evidence of the so-called First Grammarian who clearly distinguishes between short and long vowels. Length, rather than quality, seems to be the decisive perceived feature, whereby the two sets of vowels are distinguished.[54] His evidence can probably be taken for the rest of the Germanic languages at this time. From the evidence of the First Grammarian it can be seen that, apart from word-final position,

51) Keller 1961, 36 and 209.

52) Moulton 1962, 61ff.; Reed 1965, 41-47; Werner 1972, 24-30 gives a survey of the secondary literature.

53) Antonsen 1972, 118ff.

54) Benediktsson (ed.) 1972, 137f.; Haugen (ed.) 1950, 34.

where the contrast in neutralized, short and long vowels

contrast. In modern Swedish and Norwegian this is no longer

the case, length has become fixed: "every stressed syllable

must contain either a long vowel or a long consonant".[55] The

opposition of quantity is no longer free but fixed.

Generative descriptions of these languages suggest that under-

lying vowels not marked for length be posited and that vowel

quantity can be predicted by two rules:

1. "A stressed vowel becomes long if it is not followed by

   at least one consonant", and

2. "a consonant becomes long if it is preceded by a stressed

   short vowel".[56]

This fixing of quantity has also taken place in modern Icelandic

and Faroese, in Bavarian, as we have seen, and in some Scottish

dialects.[57] German did not reach the stage where vowel length

was predictable, but in late MHG it might have done. There were

only two syllable types, VCCə and VVCə, but there was a short:

long contrast before /t/. Through the merger of MHG /t/ and

/tt/, length would have become predictable. However this did not

come about. For various reasons, the influence of spelling,

analogy, and sociolinguistic factors, such as learning of High

German by Low German speakers, the opposition of length in vowels

has increased its scope, and vowel length has become freer and is

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55) Haugen 1965, 38.

56) Linell 1973, 28.

57) Lass 1974, 9-16.

no longer so predictable as it must have been at one time.

Many words of Low German origin of the syllable structure VVCə,

where the consonant is voiceless, were introduced into the

language: hapern, Kaper, Kiepe, Köper, piepen, schrapen, Stapel,

Küken, Laken, Luke, mäkeln, Schnake, spuken. Sometimes the

words with this structure containing voiceless stops are

onomatapoeic words: blöken, quaken, quieken, and these have

older variants with short vowels.[58] Loan words from other

languages belong here as well, Lupe, Tüte.

Words with the structure VCCə, where the consonants are voiced,

were also borrowed into the standard, but not in such great

numbers: Ebbe, Krabbe, Robbe, schrubben, Kladde, Modder,

Roggen, Flagge, baggern, schmuggeln, Dogge, Egge.[59] Many words

with bb and dd came from colloquial expressive language:

buddeln, pladdern, schnoddern, grabbeln, krabbeln, kribbeln,

sabbern, schlabbern.[60] The noun Widder, with the MHG short vowel

retained, seems to be a case of a spelling pronunciation[61] and

also the wish to avoid a clash with the preposition wider.

In monosyllabic words in MHG there was a phonemic contrast of

vowel length before all consonants. Before MHG final /r/ all

short vowels lengthened in late MHG. This has chiefly affected

the pronouns and articles, e.g. MHG er, ir, mir, dir, der, wer.

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58) Paul 1916, II, paras. 144, 171. 2.

59) Paul ibid., paras. 147, 208, 178.

60) Kluge/Mitzka krabbeln, 397; kribbeln 404; sabbern 617; schlabbern
651.

61) Dt. Wb. 14, 1, 2, 861f.

the vowels of

In NHG /all pronouns are lengthened before /r/. This has also
occurred in other words : bar, Bär. Theoretically this should
have meant a neutralization of vowel length before /r/, but this
is not the case, since short vowels also occur in this position
in NHG: irr, wirr, dürr, Narr, Herr. In all these cases,
however, the MHG forms had a final -e: irre, wirre, dürre, narre.
In MHG herre the vowel was long and it has been shortened in NHG.
The lengthening of short vowels before /r/ would not have affect-
ed these words, since they would have still retained their final
-e and probably their long consonant as well at that time.
However when the final -e was lost and the long consonant short-
ened, they would then be in contrast with long vowels, since they
would have become monosyllabic words. The loss of final -e
after /r/ is regular in the development of German. The archaic
form Herre and the South German Türe would seem to be the only
exceptions. The colloquial forms of the second person sing.
imperatives of starren and sperren, e.g. starr' and sperr' also
provided the modern language with another source of short vowels
before /r/ in monosyllables.

Lengthening before final /n/ and /m/ also occurred in the pro-
nominal system: MHG in, den, wen. Here no theoretical merger
was   possible, since the lengthening took place only in the
pronoun system. Other short monosyllables in -n remained short,
the preposition in, the noun Sinn, MHG sin, the past tense form,
rann, the verb form kann, MHG kan. Monosyllabic words with
short vowels before final /n/ were increased by the loss of
final -e and the shortening of long consonants: dunn, MHG dunne,

denn, MHG denne, wenn, MHG wenne, Kinn, MHG kinne. The NHG
words Hahn, Schwan, Sohn; MHG hane, swane, sune, underwent
regular lengthening before the loss of the final -e.

Before MHG final /m/ the situation appears to be different:
there is a regular lengthening among the pronouns: NHG ihm,
dem, wem, and also in the adjective   lahm and among the
preterite singular of the verbs of class four, NHG nahm. Again
this did not result in a merger, since in verbs of class three,
klimmen, the past tense sing., klomm, retained its short vowel.
Also there are examples of MHG short monosyllables ending in
/m/ whose vowel did not lengthen in NHG: Damm, Stamm, fromm,
Schlamm, MHG tam, stam, vrum, slam. These forms were increased
by analogical changes. The medial MHG cluster [-mb-] became
assimilated to [-mm-] which was shortened in MHG to [-m-], MHG
lambes, NHG Lammes (see 5.6.1.). This left a morphological
alternation between medial mm and final mp, which was levelled
out in favour of mm, and this has produced many NHG monosyllabic
words with a short vowel before final m, Kamm, dumm, Lamm,
schlimm, um, MHG kamp, tump, lamp, slimp, úmbe.

In the pronoun system these changes are all regular: all short
vowels before /r, n/ or /m/ in monosyllables are lengthened. In
his generative account of German phonology, Wurzel formulates this
in the following sub-part of a rule:[62]

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62) Wurzel 1970, 62.

$$[+\text{syll}] \longrightarrow [+\text{tense}] \ / \ +(\text{cl}) \underline{\quad} \begin{bmatrix} +\text{cons} \\ -\text{obstr} \end{bmatrix} \text{Det}]$$
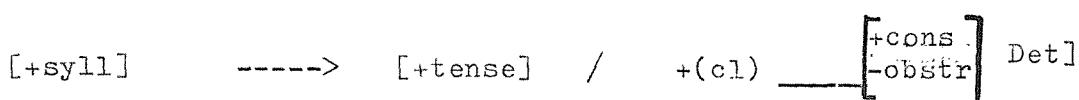
The specification [-obstr] specifies not only /r/, uvular or dental, /n/ and /m/, but also /ŋ/ and /l/. However since no determiners end in either of these last two consonants, the general specification does not matter.

Siebs always prescribes long vowels for NHG: ihr, ihm, ihn, wem, wen, mir, dir, but for der, dem, den he also 'allows' a short close vowel: "Das lange geschlossene e(e:) der Pronomina er, der, dem, den ... kann in unbetonter Stellung bei schnellem Sprechen gekürzt werden, bleibt aber stets geschlossen".[63] These pronouns have two forms, a lengthened one used in formal speech and a short one in colloquial speech. Although Siebs does not mention it, these shorter forms are more widespread than he realises, but they have long been neglected in phonetic study. In recent years, however, attention has begun to be focussed on them, and these 'weak' forms have been recorded for wir, and must also be assumed for the other pronouns, as well as conjunctions and other particles.[64] The pronoun lengthening is really only valid for one particular style of speech.

The lengthening of short vowels before single voiced consonants led to an alternation in noun inflection between long vowels, cf. pl. [ta:ge] gen. [ta:ges], dat. [ta:ge] and a short vowel,

63) Siebs 1958, 42.

64) Meinhold 1967, 609-612.

nom./acc. sing. [tak]. In North German speech this alternation
has remained to a large extent, as must also have been the case
in later MHG after the lengthening in open syllables.[65] In
standard NHG, however, this alternation has been levelled out
in favour of the long vowel of the oblique and plural forms,
[taːk], [taːges], although there has been no change in the
spelling. Only in the cases of NHG Ritt, Schnitt, Tritt, and
Zinn has there been a levelling out of the short vowel. This
has traditionally been explained as analogy, the exceptional
nom/acc. sg. forms being reformed on the analogy of the other
forms.[66]

Generative linguists, such as King, have sought to explain this
levelling in terms of rule reordering. MHG had a devoicing rule,
assumed to be still present in NHG, which from underlying /tag/
produced [tak], tac. The vowel lengthening rule was then added
to the grammar, which produced [taːges] from underlying /tagəs/.
However in NHG, [tak] has been replaced by [taːk] (with a long
vowel), and King suggests that this can be explained by a reorder-
ing of these two rules. Thus, given the underlying forms /tag/
and /tagəs/, the application of the vowel lengthening rule first
will give [taːg], [taːges], and then the application of the
devoicing rule will give [taːk], [taːges]. This is the exact

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65) We will keep the nom. form [tak] for North Germany, since it
is near the standard form [taːk]. Most North German speakers
would use the form [tax], however.

66) Paul 1916, II, para. 34, Karstien 1939, 86, Priebsch and
Collinson 1958, 154f., Wright 1907, para. 89.

reversal of the original order. The final devoicing rule was
added at the end of the OHG period, and the rule which lengthened
vowels in open syllables, about 1300. Rules   which lead
to levelling can be reconstructed from relic forms, in this case
the NHG adverb weg, which, unlike the noun Weg, retains its
original short vowel.[67]

However it has been pointed out that in North German colloquial
speech not all nouns have remained with short vowels in the nom/
acc. sing., but some have levelled out the long vowel of the
oblique cases.[68] In fact the reflex of the example which King
quotes, MHG lob, never seems to be pronounced with a short vowel
at all! Paul recognizes that the alternation between short and
long vowels only occurs in a certain number of words: Schlag,
Tag, Betrag, Bad, Rad, Grab, Gas, Glas, Gras, Trog, Hof, Zug.[69]
Furthermore some words like Steg, Lob, Hof never have a short
vowel in North German colloquial speech. Standard German has a
regular analogical lengthening of short vowels in monosyllables
before final voiceless consonants, which alternate with medial
voiced consonants. This is probably supported by the fact that
in the Alemannic dialects, even those which did not undergo the
lengthening of short vowels in open syllables, short vowels
before MHG lenis consonants in monosyllables are lengthened. This also happens

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67) King 1969, 51-54.

68) Winter 1971, 152f.

69) Paul ibid., para. 34.

in some ECG dialects.[70] The best solution is to say that in

the standard language the long vowels of <u>Tag</u>, <u>Bad</u> are due to

analogy. North German, which is often adduced to show that

this analogical lengthening does not always take place, is a

mixture of standard German on a Low German basis, where the

analogical levelling has not spread right across the lexicon,

but it is gradually spreading word by word.

Another example of analogical lengthening, which is traditionally

given, concerns the past tense sing. of the strong verbs of MHG

vowel-gradation classes four and five, MHG <u>ich nam</u>, <u>wir nāmen</u>,

<u>ich gap</u>, <u>wir gāben</u>. In NHG the long vowel of the plural has

been levelled out into the sing. as well, <u>ich gab</u>, <u>ich nahm</u>.

This is part of a general process of levelling the difference

between the vowel of the sing. and the pl. in every class.[71]

This is a sub-change, which happens to involve the levelling out

of a long vowel of the pl., and is not part of the general

phonological process of vowel lengthening. The only cases where

the past tense sing. and pl.   differ in length is in classes

four and five.

In classes one and two we have a case where vowel length is

predictable in NHG: In MHG in the past tense *plural* ~~sing.~~ of verbs of

these classes, short vowels occurred before both voiced and

voiceless consonants, <u>wir riten</u>, <u>wir griffen</u>, <u>wir bizzen</u>,

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70) SDS II, maps 45; Jutz 1931, 156; Becker/Bergmann 1967, 138;
      Kranzmayer 1956, map 22.

71) Wright 1907, para. 484.

wir schriben. The lengthening of short vowels before single

voiced consonants has meant that MHG schriben has become NHG

schrieben with a long vowel, whereas MHG wir bizzen, has remained

with a short vowel. However, vowel length in these two vowel

gradation classes has become predictable: short vowels occur

before voiceless consonants, and long vowels before voiced

consonants: er ritt, wir, ritten, er wich, wir wichen with short

vowels,but er mied, wir mieden, er schrieb, wir schrieben with

long vowels and from class two: er schoß, wir schossen, er

kroch, wir krochen with short vowels but er zog, wir zogen with

a long vowels.[72] This predictability of vowel length was also

brought about in class two by the shortening of MHG long $/\bar{o}/$

before /z/, MHG schōz, NHG schoß. Wurzel formulates this

predictability of vowel length by the following sub-part of a

larger rule:[73]

$$[+syll] \longrightarrow [\alpha tense] \Big/ \begin{bmatrix} +PP = Pret \\ \begin{Bmatrix} +Pret \\ +PP \end{Bmatrix} \\ -(C)]_V \ (C)]_N \end{bmatrix} [\alpha voice]$$
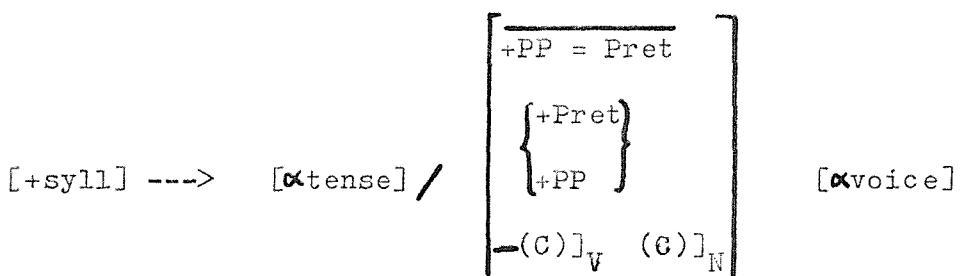
In the verbs of class four and five, vowel length is not predict-

able, long vowels are found both before underlying voiceless

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72) In class two the verb NHG bieten, bot, boten, geboten, is an
exception to this rule and must be marked as such in the
lexicon in a generative approach.

73) Wurzel 1970, 75. Vennemann 1968 b, 396, assumes a general
vowel lengthening rule for NHG, which lengthens short vowels
before underlying single consonants, but from the examples
cited here it can be seen that there is no real evidence for
such a rule. Vowel length in NHG is limited to the contexts
proposed by Wurzel in his rule.

and voiced consonants e.g. saßen, lasen. Vowel length is really
only predictable in the case of verbs of classes one and two in
NHG. Once again vowel length in modern German is largely free.
There are only some cases where length is predictable: for exam-
ple before /ŋ/ and /pf/ only short vowels occur. Before /ʃ/
mostly short vowels occur. The only exceptions are wusch, where
the long vowel is retained by analogy with other verbs of the
same class, e.g. grub, and the loan words Nische and Dusche,
which have variants with both short and long vowels. Before the
affricte /ts/ and the cluster /tʃ/ long vowels do occur, but
not frequently, only in words like siezen, duzen, and loan
words Bratsche (see 5.1.2.) Vowels are always long in pronouns
ending in -r, -n or -m and, as has been mentioned above, the
occurrence of a short or long vowel is automatic among strong
verbs from MHG classes one and two. In all other cases, even
before some clusters, vowels length is free in NHG. Betten :
Beeten; machen : brachen; Kost : Trost; Herz : Erz. A variety
of factors, for example, loan words, spelling pronunciation, loss
of final -e, have all contributed to making vowel length more
free in NHG. The historical development in German passes from
totally free vowel length in OHG through a period of largely
predictable vowel length, after vowels in open syllables were
lengthened, to modern German, where vowel length is largely free
again. It would appear that this development is unique in the
Germanic languages.[74]

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74) This development is different from that suggested by Lass
    1974, 16f., i.e. the 'West Germanic' type of vowel length
    conspiracy, which he assumes for German.

6. 1. 5. The shortening of long vowels

The shortening of long vowels before certain consonant clusters
is complementary to the lengthening of vowels under certain
conditions. Traditionally no real systematic change has been
admitted here, but only a tendency to shortening before clusters
and MHG /f, s, x/.[75] A closer examination of the cases where
this occurs shows a greater regularity and fewer exceptions:
shortening is regularily carried through before an underlying
consonant cluster containing a velar, i.e. /xt/, /ŋg/. This
covers the usual examples such as MHG brāchte, dāchte, gienc,
fienc, NHG brachte, dachte, ging, fing, and also affects the
long close monophthongs from MHG /ie, üe, uo/ MHG liecht, gienc,
NHG Licht, ging. Long vowels were also shortened before con-
sonant clusters containing an n, MHG stuont, Early NHG stund,
MHG pfrüende, NHG Pfründe. Where a long vowel occurs before the
cluster /nd/ in NHG this is a secondary development: Mond, MHG
māne, fahnden, ahnden.[76] Shortening has also taken place before
MHG /rch/, MHG lērche, NHG Lerche and before /rr/ in MHG hērre
and all its derivatives in NHG, herrlich, Herrscher. In NHG only
short vowels appear before rch. Again the presence of a velar
in the cluster is typical. The shortening before /rr/ only
occurs in the word Herr and may have occurred to avoid a homo-
nymic clash with NHG Heer, MHG her. In NHG there are no long

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75) Wright 1907, 64; Paul 1916, II, para. 38; Bithel 1952,
    163.

76) Paul ibid., para. 39.

vowels before a cluster containing a velar or a palatal fricative;

in fact one can generally say that no long vowels in NHG appear

before any cluster containing a velar obstruents. The only

exceptions to this are Jagd, Magd, Vogt, and there the cluster

[kt] has come about by the syncope of unstressed e, cf. MHG jaget,

maget, voget. In the case of NHG dicht the shortening took

place before the diphthongization of MHG /ī/, MHG dichte. This

shortening before velars also accounts for the shortening of the

long unstressed /ī/ of the MHG suffix līche in NHG, MHG

vriuntlīche, NHG freundlich, whereas the MHG diminutive -līn

has been diphthongized in standard NHG to -lein, and was not

shortened. A generative approach would maintain that a rule

such as the following was added to the grammar.[77]

$$[+ \text{syll}] \longrightarrow [-\text{long}] / \underline{\hspace{1cm}} CC \qquad \text{Condition } C = [+ \text{back}]$$

Evidence for this can be seen in the derivatives of sehen, Sicht,

or of geschehen, Geschichte. In Early NHG the third person sing.

of these verbs was sicht, geschicht.[78] In the case of the

derivatives in -t, the rule shortened vowels before /f/ as well,

geben, Gift. Among those verbs of MHG vowel gradation class four

and five, which had an alternation of /e/ with /i/ in their

present tense sing., the [i:] of the present was shortened before

the velar fricative, i.e. sicht, geschicht. This did not happen

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77) Vennemann 1968 b, 398, has a shortening rule with similar
   environments for NHG. He adds the shortening environment
   of Ft, "where F is a spirant but not /s/," i.e. graben but
   Gruft.

78) Paul 1916, II, para. 248, (see 5.5.3.).

to verbs whose stems ended in other consonants: lesen, liest,
geben, giebt.[79] The shortening also occurred if the verb stem
ended in -m or -t: nimmt, tritt.

Furthermore vowel shortening seems to apply before clusters
with a velar fricative either as first or second consonant.
The other examples of vowel shortenings seem to be real except-
ions. The examples usually cited are: NHG Rache, Schach, Amboß,
ansäss(ig), Rüssel, müssen, Jammer, Waffen, Mutter, lassen, MHG
rāche, schāch, anebōz, ansœze, rüezel, müezen, jāmer, wāfen,
muoter, lāzen. For each of these words individual reasons for the
shortening must be sought.[80] The shortening is traditionally
assumed to have started in the first half of the thirteenth
century in CG.[81] Orthographically there are few signs of when
it took place. It was carried through most regularly in ECG
and East Franconian.[82]

The modern German dialects show a regular shortening of MHG
/ie, üe, uo/ before /x/ in ECG and of /ā/ in a smaller area in

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79) NHG gibst, gibt, although prescribed by Siebs 1958, 133 and
    WDA 265, as [gi:pst], [gi:pt], are most often pronounced
    [gipst], [gipt]. [i] is used for IPA [I].

80) Paul 1916, III, para. 168. Lassen had a form with a short
    vowel as early as the fifteenth century, but as late as the
    seventeenth century it could rhyme with words with a long
    [a:], Dt. Wb. 6, 1213.

81) Wright 1907, para. 139.

82) V. Moser 1929, para. 50.

ECG, although the exact delimitation of the area is not explicitly given. The area with the most shortening is   Northern and Central Bavarian and Silesian — here vowels are shortened before all voiceless ~~consonants~~ obstruents. In the southern part of Upper Saxon, vowels are shortened before MHG fortis fricatives and in Hessian and Rhine Franconian before all velars, in Middle Franconian before voiceless velar fricatives.[83]

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83) Wiesinger 1970, 2, Hessian, para. 117, Middle Franconian para. 120 (1), Thuringian para. 122 (f), Upper Saxon para. 126 (e).

6.2. THE DEVELOPMENT OF THE SHORT VOWELS

6. 2. 1. <u>The merger of MHG /e/, /ë/ and /ä/</u>

In normalized MHG the following short vowel signs are used:

i, a, o, u, ü, ö, and to a lesser extent ä. All these signs,

since there is no contrary evidence, with the exception of ä,

can be reasonably interpreted as having been pronounced in MHG in

the same way as they are pronounced in NHG. In many MHG grammars

and dictionaries the sign ë is used for Germanic e, whereas e

is restricted to the umlaut of Germanic short a.[1] The sign

ä is used for the secondary umlaut of Germanic short a, that is,

before certain consonant clusters and when the umlaut causing i

occurred in the third syllable, OHG zahari, MHG zähere.[2] One

of the problems in MHG is to determine the phonetic value of

the signs e, ë, ä. Only UG sources use all three signs, CG

sources never, at least in MHG, use the sign ä. In UG the signs

e, ë, and ä generally correspond to their historical origins, but

there is other evidence for keeping them apart. MHG poets never

rhymed words containing e with words containing ë. In Bavarian,

however, e and ë are rhymed if they occur before obstruents.[3]

Many present day dialects in both UG and CG still keep the

reflexes of the two signs apart in pronunciation. For instance,

words in Swiss German containing MHG e are pronounced with a

close [e], while words with MHG ë are pronounced with a very open

[æ].[4] Words in Thuringian with MHG e are pronounced with an

1) Paul/Moser/Schröbler 1969, para. 6.
2) Braune/Mitzka 1960, para. 27, Anm. 2.
3) Zwierzina 1900.
4) Keller 1961, 37f.

open [ɛ], while words with MHG $\ddot{e}$ are pronounced with [a].[5] On

the basis of this evidence, linguists have established two

short e phonemes for MHG, /e/, probably realized as a close

vowel [e], and /$\ddot{e}$/, probably realized as a more open [ɛ]. For

UG it is probable that we have to postulate a third phoneme

/$\ddot{a}$/ which had a low functional yield. It is not certain how

long it is   assumed to have existed in UG.

Phonetically it was probably realized as a very open [æ]. CG

in MHG had only a twofold phonemic distinction, between /e/ and

/$\ddot{e}$/.[6] The sign $\ddot{a}$, and presumably therefore the phoneme /$\ddot{a}$/,

does not appear in CG sources in MHG. There are some UG dialects

which still show a threefold phonemic distinction of tongue

height among the front unrounded vowels, (excluding the most

close and the most open) but only rarely does this reflect the

MHG distinction /e/ : /$\ddot{e}$/ : /$\ddot{a}$/. In most cases the MHG /e/ is

represented by a close vowel [e], and MHG /$\ddot{e}$/ and /$\ddot{a}$/ have merged

in a very open [æ]. The third vowel phoneme between these two,

a half-open [ɛ], is of recent origin and has only a restricted

distribution.[7] A threefold distinction is found only in the

East of Switzerland. The general tendency has been for MHG /$\ddot{a}$/

to merge with MHG /$\ddot{e}$/, not only in CG where this happened early,

but also later in UG. In those dialects in the East of Switzerland,

which have maintained the MHG threefold distinction among the

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5) Von Polenz 1954, 25f.

6) Moulton 1961, 30ff.

7) Keller 1961, 38.

front mid unrounded vowels, this has been 'balanced' by the
split of MHG /o/ into /o/ and /ɔ/ (see 3.1) This has also
happened in the Northern Swiss German dialects which have merged
/ë/ and /ä/.[8] Since the result of the merger of MHG /ë/ and
/ä/ in modern dialects is usually a very open [æ], if not [a], the
value of MHG /ë/ may have been quite open, [æ], rather than [ɛ].
The value of MHG /e/ was probably close, as in present day Swiss
German, but, depending on the value of MHG /ë/, it could have vari-
ed in articulation from [e] to [ɛ]. The fact that the distribut-
ion of MHG /ä/ was limited, led to its merger with MHG /ë/. In
standard, the MHG threefold contrast /e/, /ë/, /ä/ has been reduced
to the single phoneme /e/, which is usually a half-open [ɛ], spelt
both e and ä. Some pedantic teachers have tried to distinguish
between the pronunciation of the two signs[9] but their relation-
ship is a morphological one. NHG /e/ is only written ä if the
word concerned is derived morphologically from a word with /a/ as
its stem vowel.[10] This happens in NHG in certain grammatical
categories: e.g. the plural of nouns, Gäste, since a exists in
Gast, the comparative of adjectives, schwächer, schwach, the
second and third person sing. present of strong verbs, bäckst,
bäckt because of backen, in word formation, schwächlich, schwach.

Originally the written distinction between e and ä did not exist,
but the sign ä was introduced into WCG in the second decade of

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8) Moulton 1960, 157ff.

9) Vietor 1904, para. 52, Anm.2.

10) Grosse 1967, 127, rejects this orthographic distinction.

the sixteenth century. It **was** not used to any great extent in
ECG until the beginning of the seventeenth century.[11] Since
the opposition in writing between the two signs _e_ and _ä_ did
not represent a difference in pronunciation, the use of _ä_ was
rationalized and restricted to its present day use, in deri-
vatives of words with _a_.[12]

In UG, however, _ä_ was used to express a phoneme which was
pronounced differently from /ë/. This seems to be reflected
in the comment by KolroB: "So ein silb oder wort ein stimm
erfordert/ welche nit gantz uff das a. ouch nit gantz uff das
e. uBgesprochen würt/ sonder halb und halb/ da solt du ein a
unden/ und ein klein e drob (also å) schryben. Exemplum. ål/
hål/fål/gål/strål/håring/måder/såger/hålt/fånlin/hänlin".[13]
Almost all these examples, except _hålt_, are of long vowels, so
this can only be used with caution as an example of an instruct-
ion to distinguish phonetically between _e_ and _ä_. On the next
page KolroB goes on to show that the signs _a_, _o_, _u_ are mostly
used in derivatives of words with _a_, _o_, _u_: "Der merentheyl wort/
so mit nachvolgenden diphthongis/nämlich a. o. u. und ü
geschriben werden/haben jren ursprung von ander en worten/
welche im anfang a o ou unnd u haben/....knab/knäblin/ rad
radlin/aff äfflin/magt mägtlin/han hänlin/man männlin/kap
käplin".[14] Here his examples include both short and long vowels.

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11) V. Moser 1929, para. 17; Fleischer 1970, para. 34.

12) Hotzenköcherle 1962, 321f.

13) Müller 1882, 67.

14) Müller ibid., 68.

The CG grammarian Fabian Frangk states very clearly the use

of ä in morphologically related forms: "Das a/ mit dem

kleinen e/ odder zweien pünctlin (wie obenunvermeldt) bezeichnet/

wird gebraucht/ jnn derivativis/ das ist/ jnn worten/ so ir

ankunfft von andern nehmen/ als die namen/ so jnn die gemehrte

zal/ oder auch adverbia treten und absteigen/ darinne das a

braucht wird/ als vom vater kompt väterlich/ gnad/ gnädiglich/

undertan/ undertäniglich/ schad/ schäden/ schädlich u".[15]

However he also writes about ä, ö, ü, that they are called:

"halp duplirte auff eine sondere art jr aussprache haben".[16] In

this question it is very difficult to distinguish whether the

authors are talking about letters or sounds. Gottsched defends

the use of ä in words which have related words with a: "Man

schreibt also dieser Regel zufolge, von, alt, die Ältern, von

Arm die Ärmel".[17] Since he only mentions the pronunciation of

ä as being different from e when they are both long, presumably

for him there is no difference in pronunciation between e and ä

when they designate a short vowel. This use of ä in derivative

forms has been called the etymological use of ä, as against the

phonetic use of ä for a separate sound from that written e. The

former usage started in UG at the end of the fifteenth century.

At the beginning of the seventeenth century it spread to CG and

from there into the standard language. It occurred first of

all in the plural of nouns and the comparison of adjectives.

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15) Müller ibid., 98.

16) Muller ibid., 96.

17) Gottsched 72.

The second and third person sing. present verb forms were the
last categories to take over the etymological principle of
using the spelling ä.[18] Some words, which are now spelt with
e, were spelt with ä in the eighteenth century, e.g. Bekänntnis,
Erkänntnis, because of bekannt, erkannt.[19] The fact that the
use of ä is purely morphological is shown in that it was used
in rächen MHG rechen, since there is the related noun Rache.
This spelling principle was adopted by the standard. Where the
etymological and morphological connection between e and a was
no longer felt, words pronounced with [ɛ] were written with e,
e.g. behende, but Hände, Eltern but älteren. It was in word
formation where there was the most fluctuation in the use of e
and ä. Sometimes the orthographic distinction e : ä was used
to distinguish homonyms: Lerche 'lark', Lärche 'larch'.

The fluctuation and eventually restriction of ä to derivative
forms is a sign that any difference in pronunciation between
them had ceased to exist. There is also no sign that the ä was
used to distinguish MHG /e/ from MHG /ē/. This fluctuation in
the use of e and ä was in evidence by the sixteenth century and
therefore, at that time, the merger between MHG /e/, /ē/, and /ä/
had taken place. There was undoubtedly a great deal of
fluctuation in speech between these three sounds. Even in the
present day there is a fluctuation in Austrian colloquial speech

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18) Moser 1929, para. 70, 1, 2.

19) Paul 1916, II, para. 47.

between open [ɛ] and close [e].[20] When Low German speakers
learnt High German, which only used ä̈ in morphologically derived
forms, they pronounced all the words spelt with e in the same
way since they had no distinction between [ɛ] and [e]. This
variety, which was supported by the lack of distinction in
spelling between the reflexes of MHG /e/ and /ë̈/, has become the
standard prescribed model. The merger of MHG /e/, /ë̈/ and /ä̈/
in /e/, [ɛ], is due to the lack of orthographic distinction
between MHG /e/ and /ë̈/ and the spelling pronunciation of Low
German speakers, whose variety of pronunciation became the accept-
ed model.

6. 2. 2. <u>The realizations of the reflexes of MHG /a/</u>

The reflex of MHG /ë̈/ is very open and low in some dialects.
This has apparently forced low MHG /a/ to become more back and
rounded. The pronunciation of MHG /a/ as [ɒ] occurs in most CG
and UG dialects, but this has not been reflected in the standard.[21]
The force of spelling the reflex of MHG /a/ in the standard has
obviously influenced the retention of the pronunciation [a].
In North German, where the LG dialects do not have such a low
front unrounded vowel from Germanic e, MHG /ë̈/, but a half-open
[ɛ], MHG /a/ has not been rounded to [ɒ], but has been palatalized
to [æ],[22] similar to the English [æ] in <u>man</u>. Since both English

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20) Luick 1923, para. 139.
21) Von Polenz 1954, para. 2a, Philipp 1965, 160f.
22) This is my own observation of the colloquial North German of some
    speakers in Hamburg and Schleswig-Holstein. Keller does not
    mention this in great detail: 1961, 307, "[a] is an advanced
    low-tongue vowel", and, 345, "[a] is a low-tongue vowel".
    Before /lt/, MHG /a/ is rounded in North German, <u>olle</u> for <u>alte</u>.

and Danish have this palatalization of Germanic short a, it is

quite possible that the North German pronunciation [æ] is

old. Neither [æ] nor [ɒ] has been accepted by the standard,

which prescribes the low central [a] for the reflex of MHG /a/.

The rounding of MHG /a/ to [ɒ] was noticed by the CG Fabian

Frangk: "Als/die Francken jnn jrer angebornen sprach/ nemen

das o für das a/ .../ als/ wenn sie sprechen/ ko sog mer/ wos

est dos".[23] Probably he means East Franconian and South Rhine

Franconian speakers, but it was possibly more widespread than

that. Kranzmayer shows that [ɒ] for MHG /a/ occurs in the whole

of Bavarian but he says nothing about how old this pronunciation

is.[24] In Low Alemannic, rounded [ɒ] does not seem to have exist-

ed in Murner's time, but it has developed later.[25] The DSA maps are difficult

to interpret, since the influence of the spelling is great and

many informants who probably use [ɒ] have written it a.[26] The

words Frack, and the old form of boxen, baxen, reflect the

unrounding of ME /o/ rather than the rounding of MHG /a/. NHG

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23) Müller 1882, 106.

24) Kranzmayer symbolizes the rounded sound as å and ǫ, 1956,
    para. 1: "å klingt bereits ein wenig dumpfer, ǫ ist nur um
    eine kleine Nuance heller als das bühnendeutsche -o-in
    'Rock' und dgl".

25) Philipp 1968, 90.

26) Martin 1959, 27 comments on the DSA maps 10 machen, 65 alte,
    83-86 Salz: "Die einzelnen Karten bieten immer wieder
    andere Bilder, so daß es unmöglich ist, etwa eine typische
    Zeichnung zu entwerfen".

fachen was recorded in Early NHG as fochen.[27] Again the change

from o to a does not reflect the rounding of MHG /a/, but it

may have been intended to provide a derivative containing the

letter a for the noun Fächer.

6. 2. 3. The lowering of MHG /u/ and /ü/

In CG dialects there is a general lowering of the reflexes of

MHG /i, ü, u/ but only in the case of the lowering of MHG /u, ü/

have words, which have undergone this change, been selected by

the standard language. There has been no change in the phonemic

system but only in the incidence of these phonemes.

MHG	NHG	MHG	NHG	MHG	NHG
brunne	Brunnen	nunne	Nonne	münech	Mönch
sunne	Sonne	wünne	Wonne	künec	König
gennen	gönnen	künnen	können	mügen	mögen
trummel	Trommel	sumer	Sommer	sunder	sonder
vrum	fromm	rōrtumel	Rohrdommel 'bittern'	sus	sonst
sune	Sohn	tunne	Tonne	gerunnen	geronnen

MHG /u, ü/ have been lowered to [ɔ, œ] before /nn/ with the

sole exceptions of Brunnen, which also has the variant Bronnen,

and Brünne 'chain-mail'. This change can best be seen among the

verbs from MHG vowel-gradation class three, geronnen, gewonnen,

as against gesprungen, gebunden. Before /mm/ this lowering is

also regular in the past participles of vowel gradation class

three, e.g. geschwommen. Before /mm/ in other forms, however,

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27) Paul 1916, II, para. 44, 1.

both /u/ and /o/ occur in NHG, dumm but fromm. However in most of the examples where /u/ occurs before NHG /mm/ this was /mb/ or /mp/ in MHG, tump. NHG Hummel had both forms with and without mb in MHG.[28] MHG /u/ has been lowered before MHG /m/, but not before MHG /mb/. The subsequent merger of MHG /mb/ and /m/ has given NHG this occurrence of both /u/ and /o/ before /m/. The only exceptions to the general lowering of MHG /u/ to /o/ before MHG /m(m)/ are onomatapoeic words such as summen, brummen[29] and the loan word Summe.[30] The word bummeln was first used in the eighteenth century.[31] Before the other MHG clusters of a nasal followed by an oral stop /ŋg, ŋk, nd, nt/ no lowering has taken place in the standard, except for sondern which is an ECG form,[32] although this has happened in CG dialects. Some CG dialects only show a lowering of short vowels before a nasal plus a stop.[33] It is a general characteristic of nasals that they tend to lower the vowels that occur before them. This is especially true when the vowels preceding them are also nasalized.[34] Standard NHG, however, has lowered reflexes of MHG /u, ü/ before MHG /mb/, /nn/ and /n/, but not before MHG /ŋg, ŋk, nd, nt/. This does not seem to reflect the

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28) Kluge/Mitzka 319.

29) Kluge/Mitzka 104 records it as late OHG.

30) Kluge/Mitzka 764.

31) Kluge/Mitzka 111.

32) Kluge/Mitzka 716.

33) Von Polenz 1954, paras. 13b, 9b.

34) Ohala 1971, Chen 1973 a, b.

situation in any CG or UG dialect and is a compromise selection by the standard. It could be phonetically motivated since the high vowels are retained before the high consonants, /ŋg, ŋk/, and before the coronal consonants, both of which have high tongue positions in the mouth and would tend to prevent the high vowels from being lowered. MHG /o/ never occurred before /ŋg/ but this has been changed by the introduction of loan words such as Gong,[35] and names such as Kongo. Also in North German the sequence [ɔŋ] has been introduced into colloquial speech to render the French back rounded nasal vowel [õ], e.g. Bonbon, Ballon, Balkon, Fonds.[36] Siebs always prescribes a nasalized vowel [õ] for them,[37] but this is not used in North German colloquial speech. There has also been a lowering of MHG /u/ to /o/ in NHG Trotz which retains its high vowel in the phrase Schutz und Trutz. It could also be the case that MHG had both forms as variants and that Trutz has become restricted to this one context. The two forms sonst and sunst were in competition until the sixteenth century when sonst became the main form. Some apparent examples of lowering, e.g. MHG antwürten, NHG antworten, MHG gülden, NHG golden, are due to these words being reformed on the basis of the words Wort and Gold. The replacement of MHG kunde by NHG konnte may be due to the presence of the variant konde even in MHG in some dialects. It may also be

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35) Kluge/Mitzka 264 records it only in the nineteenth century.

36) WDA Bonbon 184; Ballon 184; Balkon 168; Fonds 251.

37) Siebs 1958, 50f.

due to analogy with the infinitive MHG künnen, which was regular-
ly lowered to können.[38]

The lowerings that we have mentioned have been reflected in
changes in spelling, but in North German speech there is a more
general lowering of short vowels before nasals and other con-
sonants, which is not reflected in the spelling of NHG. This
general lowering of the reflexes of MHG /i, ü, u/ does not
involve any mergers and most speakers are not aware of it.[39]
Some people however, have noticed it. Thomas Mann was aware of
it —one of his characters in his novel Buddenbrooks says the
following: "Sei glöcklich, mein gutes Kend". This lowering
seems to have started in Middle Franconian, but did not spread
into ECG to any great extent. The only cases of lowering in the
Chancery language are those which were later accepted by the
standard.[40] Even in those dialects which have undergone
extensive lowering of MHG /i, ü, u/ no merges have come about
since the mid vowels have also been lowered. Thus the spelling
could remain the same but the realization of the phonemes would
be different. This would also have no effect on the spelling

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38) Paul 1916, II, para. 76.

39) The lowering is only sporadically recorded in the DSA,
    Martin 1959, 28, "Die Senkung des i zu geschlossenem e
    kommt auf der Karte nicht klar heraus, weil die Schreiber
    der Fragebogen alle i als e zu sprechen und sie als i zu
    schreiben gewohnt sind". The relevant maps are: DSA 4
    ich, 5 dir, 17 Kind, 18 iBt, 20 ist, 25 dich, 36 sich, 53
    trinken, 60 hinten, 99-102 bin, 108-111 sind.

40) V. Moser 1929, paras. 72 and 74.

of the phonemes. In Upper Hessian there was a merger of MHG /u, ü/ and /o, ö/.[41] It is not clear how widespread this is, but if it is widespread, it may be the reason why forms have been adopted by the standard with o̲ and ö̲ for MHG /u, ü/. A merger of phonemes is usually reflected in changes in spelling, even if it only affects a few words. A shift without merger, as in the case of MHG /i/ being lowered to [e], MHG /e/ being lowered to [ɛ] and MHG /ü/ to [a] need have no orthographic expression. A similar change has happened in Dutch. Middle Dutch /u/ before nasals has been lowered and merged with Middle Dutch /o/, jong, hond, but although Middle Dutch /i/ has been lowered to [e], it has not merged with Middle Dutch /e/.[42] The merger of MHG /u, ü/ and /o, ö/ in some dialects has been reflected by the adoption of some forms showing this merger into the standard language.

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41) Ross 1973, 129

42) Loey 1959, para. 78f.

6.3. THE DEVELOPMENT OF THE MHG LONG VOWELS AND DIPHTHONGS

6. 3. 1. The history of the NHG opposition /e:/ : /ɛ:/

The traditional MHG reconstructed long vowel system has one

tongue height more among the front unrounded vowels than the

front rounded or back rounded vowels.[1]

$$\bar{\imath} \qquad iu \qquad \bar{u}$$
$$\bar{e} \qquad \text{œ} \qquad \bar{o}$$
$$æ$$
$$\bar{a}$$

The difference lies in the presence of both a half-close long

vowel phoneme /e/ spelt ē, lēren, and a half-open long vowel /æ/

spelt æ, swære. This same type of phonemic distinction is

prescribed by Siebs for standard NHG.[2] Many speakers, particular-

ly in North Germany, do not have this phonemic distinction and

only use half-close /e:/. An examination of the words in the

standard with /ɛ:/ reveals that historically they come from five

main sources:

1. MHG /æ/, fähig, Käse, wähnen,

2. MHG /ă/ when lengthened, Ähre, Träne, Mädchen,

3. MHG /ĕ/ when lengthened, Bär, Käfer, erwägen,

4. MHG /e/ when lengthened, ähnlich, nähren, zählen, and

5. analogical formations, e.g. noun plurals such as Fäden,
   Hähne, Läden.[3]

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1) These orthographic signs will also be uaed as phonemic signs,
   e.g. /ā/, /ī/. MHG /iu/, /œ/, /æ/ represent the phonetic
   values [y:], [ø:] [ɛ:] respectively.
2) Siebs 1958, 41.
3) Moulton 1961, 34f.

NHG /e:/ comes from the same four MHG sources and also from

MHG /e:/, but it does not occur in analogical formations.

1. MHG /ē/, Seele, mehr, gehen, See,

2. MHG /æ/, angenehm, selig, schwer,

3. MHG /ë/ when lengthened, treten, geben, sehen,

4. MHG /e/ when lengthened, legen, Heer,

5. MHG /ä/ when lengthened, Frevel, Pferd.

There is no sure way of saying exactly what the historical source

of a word with NHG /e:/ or /ɛ:/ is. Both these phonemes come

from substantially the same sources. This state of affairs could

due to either of two possibilities: firstly a complete merger of

MHG /ē/ and /æ/ and the lengthened reflexes of MHG short /e, ë, ä/,

followed by a subsequent phonemic split, which seems unlikely, as

there are no obvious conditioning factors of such a split. Or

secondly, to the fact that there was a large-scale

fluctuation between MHG /ē/ and /æ/ and MHG /e, ë, ä/, which almost

resulted in a complete merger. This again seems unlikely, since

one would expect the spelling e and ä to have become rationalized

in the same way that happened among the short vowels (see 6. 2. 1.).

Although ä, pronounced [ɛ:], does appear in derivative forms, e.g.

Schläge, Schlag, schlägst, schlägt, schlagen, there are many

examples of long ä in isolated forms in NHG, ähnlich, Träne,

Zähre, jäten, hätscheln, Käfer, träge, prägen.

Nearly all the High German dialects have kept a phonemic distinct-

ion between the reflexes of MHG /ē/ and /æ/, although the phonetic

realization of the opposition varies a great deal from dialect to

dialect. Some CG dialects, the Palatinate dialect, part of South

Hessian, the west part of Thuringian and the southern part of
Upper Saxon have merged the reflexes of MHG /ē/ and /æ/, as
have most LG dialects.[4] Also in the colloquial speech of North
Germany there is no distinction between the reflexes of MHG
/ē/ and /æ/, only [e:] occurs.[5] _Duden Grammatik_ characterizes
this replacement of NHG /ɛ:/ by /e:/ as '_Nichthochlautung_', one
of the reasons given being that by replacing /ɛ:/ by /e:/ many
words are not kept distinct.[6] What does keep the two phonemes
distinct in the standard is their spelling.[7] _Siebs_ prescribes
/ɛ:/ as the pronunciation of ä in open syllables and äh, and /e:/
for e in open syllables, ee, and eh.[8] It is difficult to know
how closely speakers adhere to this principle in practice. The
descriptions merely state that North German speakers generally
do not have this distinction. However, in the general or past
subjunctive forms[9] of strong verbs, e.g. wären, kämen, many
North German speakers will use /ɛ:/ in order to distinguish
these forms clearly from the corresponding indicative forms,
waren, kamen. On the other hand, some South West German speakers
use /ɛ:/ for /e:/ in words like treten, heben, legen, where MHG
/e, ë/ has been lengthened before a single consonant.[10] It is

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4) Schirmunski 1962, 213.

5) Pilch 1966, 256.

6) Duden Grammatik 1966, 55.

7) Wright 1907, para. 120.

8) Siebs 1958, 41.

9) For the term 'general subjunctive' see Kufner 1962, 83f.

10) Siebs 1958, 40f.

highly probably that there is considerable variation in present

day colloquial speech between /ɛ:/ and /e:/, which has not yet

been investigated. In individual words like spät, some speakers

use both /e:/ and /ɛ:/ in a seemingly random way. Paul lists

quite a few words which have /ɛ:/, which Siebs lists as having

/e:/ : Hehl 'secrecy', bequem, angenehm, Hering, selig, stets,

fehlen. He states that the pronunciation fluctuates and that it

is the spelling with e which has   caused the pronunciation

with /e:/ to spread to these words.[11] The words Frevel, Pferd

also have open /ɛ:/ for Paul but Siebs lists them with /e:/.[12]

Such fluctuations are also to be found in earlier periods of

German. Gottsched says that ä should be pronounced different-

ly from e, even though some speakers do not make the distinction.[13]

He does not, however, give any rules as to how these letters

should be pronounced. Adelung identifies two e-sounds: "das

scharfe, oder helle e wird am häufigsten gebraucht, ob sich

gleich alle die Fälle, in welchen es vorkommt, nicht leicht

unter gewisse Regeln bringen lassen".[14] He relies heavily on

spelling in coming to this conclusion. The sequence eh, as in

gehen, or ee, are pronounced 'scharf', i.e. [e:], but there are

exceptions, fehlen, hehlen, nehmen, where eh is pronounced like

ä, and some cases where there is fluctuation between the two

pronunciations: "In zehren, wehen, drehn, und andern mehr, wird

es selbst im Hochdeutschen bald scharf, bald aber auch offen

11) Paul 1916, II, para. 51, 2.

12) Siebs 1958, 131, 182.

13) Gottsched 46.

14) Adelung I, 1489.

gesprochen".[14] He describes the other e, which sounds like ä [for him],

as: "Das offene oder dunkle e, das e ouvert der

Franzosen, leben, ledig, reden, Segel, lesen".[14] All these

cases, which Adelung cites with an open [ɛ:] written e(h),

represent MHG short /e, ë/ which has been lengthened in open

syllables. This pronunciation was quite widespread in the latter

half of the eighteenth century and even until the twentieth

century. In Berlin the close /e:/ is used exclusively, but this

is a more recent development. Lasch thinks that the spread of

close /e:/ and consequent loss of /ɛ:/, which was used for MHG

/ë/ when lengthened, took place during the nineteenth century and

perhaps it goes back to the second half of the eighteenth century.[15]

However, in colloquial speech, if not dialect, there was probably

considerable fluctuation between /e:/ and /ɛ:/ in many words

throughout the nineteenth century and Siebs' rule: "langes

geschlossenes e(e:) ... wo die Schreibung ee oder eh zeigt",

and "Langes offenes ä (ɛ:) ... wo die Schreibung äh zeigt, wo ä

in offener Silbe steht ... und wo in derselben Silbe nur ein

einfacher Konsonant folgt"[16] influenced the development, which

has been that of the spread of /e:/ to all words spelt e, in open

syllables ee, and eh. The decision of the original discussion

of the long e-sounds in 1898 was that those spelt with ä in open

syllables and äh should be pronounced with the open /ɛ:/, but

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14) Adelung I, 1489.

15) Lasch 1928, 229f.

16) Siebs 1958, 41.

about other words it was said: " betreffs der übrigen langen

e-Laute kann einstweilen ... keine Entscheidung getroffen

werden".[17] This is borne out by Paul's observation that selig,

Hehl, fehlen, bequem, Hering have an open /ɛ:/. For those

speakers who have the /e:/ and /ɛ:/ distinction, the fluctuat-

ion between the two phonemes seems to have been chiefly among

the words spelt e in open syllables, ee, or eh. The Siebs rule

firmly established the link between the phonemic distinction

/e:/ : /ɛ:/ and the orthographic distinction e(h) : ä(h).   Its

effect can be clearly seen nowadays when the linking of the

phonemic distinction /e:/ : /ɛ:/ to the spelling distinction

e (h) : ä (h) has now by and large been completed. This type of

pronunciation is now used by most speakers. It is interesting

to note that what is nowadays criticized is not the use of /ɛ:/

in such words as leben, treten, but the lack of use of /ɛ:/

for ä(h).[18] This is classified as 'Nicht hochlautung' by

Duden Grammatik.[19] During the years since the Siebs standard

was first set up, one can trace the effect of the spelling rule on the

phonemic system and see how the phonemic opposition /e:/ : /ɛ:/

has been rationalized to coincide with the spelling distinction

e(h) : ä(h).

The phonemic distinction /e:/ : /ɛ:/ was present in many dialects

and the spelling rule has regulated the incidence of the individual

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17) Cited by Viëtor 1904, para. 52, Anm. 1.

18) Duden Hauptschwierigkeiten 95.

19) Duden Grammatik 1966, 55.

phonemes. It has proved more useful to examine the opposition NHG /e:/ : /ɛ:/, rather than simply the one phoneme /ɛ:/ as Moulton does,[20] since the incidence of both phonemes has been subject to radical interchange.

6. 3. 2. Changes in the incidence of MHG /ā/

NHG has only one long half-close back rounded vowel phoneme /o:/, but some dialects also have a half-open long vowel phoneme /ɔ:/, resulting from the rounding of MHG /ā/ or MHG /a/ which has been lengthened. The actual phonetic reflexes of MHG /ā/ vary from open [ɔ:] through a close [o:] to diphthongs.[21] This change is reflected in the colloquial speech of South Germany and Austria, where MHG /ā/ tends to be rounded. This also occurs in some LG dialects, but it is not reflected in North German colloquial speech. The prescribed pronunciation by <u>Siebs</u> as as a central [a:] is obviously an instruction to keep the pronunciation close to the spelling. Since NHG /a:/ has quite a large amount of phonological space, being the lowest long vowel, it can vary from palatal to velar in its articulation,[22] but the movement towards the back seems the more usual in the dialects, since MHG /æ/ in some dialects is often lowered to a very front [æ] and even to [a:] in Bavarian.[23] This lowering

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20) Moulton 1961, 34f. Fleischer, 1966, 73, also treats just the individual phoneme.

21) Schirmunski 1962, 212f.

22) Siebs 1958, 36; Viëtor 1904, para. 48f.

23) Kranzmayer 1956, para. 2c.

of [æ:] to [a:]ₐthe development of NHG /a:/ to the front.

[handwritten above: blocks]

Phonemically this has not affected the number or distribution
of the phonemes in the standard. It has, however, affected
the incidence of several words with MHG /ā/ which in NHG are
pronounced with /o:/. The following are the main examples:

MHG	NHG	MHG	NHG	MHG	NHG
āne	ohne	bradem	Brodem 'steam'	ātem	Odem
māne	Mond	trādel	Troddel 'tassel'	slat	Schlot
māhe	Mohn 'poppy'	qūat	Kot	tahele	Dohle 'jackdaw'
āme	Ohm	wāc	Woge 'wave'	tāht	Docht
		tāhe	Ton 'clay'	brāmber	Brombeere

mānōt Monat

Since the rounding of MHG /ā/ occurs in many dialects the prove-
nance of these words is not certain. ₐthey all came to be spelt

[handwritten above: Since]

with o, they were pronounced with the same phoneme as that in

Lohn, representing MHG /ō/. The rounded pronunciation was

noticed in the sixteenth century[24] but it has only been accept-

ed by the standard in the case of these words. The selection

of ohne, (Luther only has the variant on), could have been to

avoid a homonymic clash with the widespread pronunciation

[a:n] for the preposition and verbal prefix an.[25]

In many cases the change of MHG /ā/ to NHG /o:/ has occurred

before a nasal. This reflects the situation which developed in

24) Viëtor 1904, para. 48, Anm. 6.

25) Viëtor ibid., para. 48, Anm. 2.

Early NHG in Straßburg, where MHG /ā/ was written o mainly

before a nasal, but to a larger extent than in the standard,

e.g. gethon, gohn MHG getān, gān.[26] The Saxon Chancery

language of the late fifteenth and early sixteenth century shows

o for MHG /ā/ in those cases where they have been accepted by

the standard. The variant noch for MHG nāch, which also occurs

in ECG sources,[27] has not been accepted by the standard,

presumably since it would have been homonymic with noch. Even

in those cases where o for MHG /ā/ has been accepted by the

standard, there was fluctuation in spelling between a and o. The

selection of the forms is almost random and a detailed investigat-

ion of each word would be necessary to establish how and why it

was selected by the standard.

A special case of the replacement of MHG /ā/ by /oː/ in NHG is

provided by MHG dā and dō. In classical MHG dā was spatial,

'there', and dō temporal, 'then', 'when'.[28] During the MHG period

both forms merged and became do, due to the rounding of MHG /ā/

to [oː], and there was great uncertainty in the written language

as to when to use da and when to use do. The resultant use of

da for both the temporal and spatial meaning is regarded as a

hypercorrect usage and as a reaction against the dialectal o

for a.[29] NHG wo 'where', appears in MHG as both wō and wā and

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26) V. Moser 1929, para. 75, 2.

27) Kettmann 1967, para. 66; Fleischer 1970, 93.

28) Weinhold 1883, para. 328; Paul/Moser/Schröbler 1969, para.
     150, 2.

29) Behagel 1928, III, 91.

these forms were in competition even in NHG although there is

no semantic differentiation, as in the case MHG dā and dō.[30]

The change of wa to wo may have been due to the presence of

the initial labial /w/. The a is still retained in etwa and

warum.[31]

Another source of NHG /o:/ and /e:/ is provided by some words,

which in MHG have /ou/ or /ei/ respectively. This reflects the

situation in many CG dialects where MHG /ei/ and /ou/ are always

represented by the long monophthongs [e:] and [o:].[32] This

pronunciation of the reflexes of MHG /ei/ and /ou/ has always

been regarded as sub-standard and not be imitated.[33] There

are, however, a few words which had orthographic variants with

ei and e(e) into the eighteenth century, beide, beede; Leim,

Lehm; Feldwebel, Feldweibel; and in the sixteenth century,

wegern, weigern.[34] Although some CG manuscripts show e for MHG

/ei/, the Chancery of Saxony and the Archbishopric of Mainz reject-

ed its use from the beginning.[35] The sign ei itself could

equally well represent a long vowel [e:] as well as a diphthong,

[ei] or [ai], since i after a vowel often signified that the vowel

was long, cf. NHG Voigt (see 6.1.2.). Even today [e:] is sub-

stituted for NHG /ai/ and [o:] for NHG /au/ in some words in

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30) Lexer 1961, 304.

31) Paul 1916, II, para. 80; Kluge/Mitzka 841.

32) DSA maps 16 heiB, and, unpublished, groB, Martin 1959, 37f.

33) Gottsched 46f.

34) Paul ibid., para. 55.

35) V. Moser 1929, para. 79, II, 1.

North German colloquial speech, e.g. keen, Been, for NHG kein,

Bein, ooch for NHG auch, and, of course, the widespread form nee

for NHG nein. The word doof 'stupid' is the etymologically

the LG form of taub. It probably spread from Berlin into the

North German colloquial speech.[36] The substitution of [e:] for

NHG /ai/, and [o:] for /au/ has taken place only in a few

examples.

6. 3. 3. <u>The merger of MHG /ī, iu, ū/ and MHG /ei, öu, ou/</u>

NHG has three main falling diphthongs written ei, (sometimes ai),

eu (or äu) and au. The sign äu is used only when the word

containing it has a morphologically related word with au, e.g.

Häuser, Haus, läuft, laufen, gläubig, Claube. The use of ai is

chiefly in order to distinguish homonyms, which would otherwise

be written with ei, e.g. Saite, Seite, Weise, Waise. Most

phoneticians transcribe them [ae], [ɔø], [ao] respectively,[37] where-

as Moulton transcribes them as [ai], [ǫi], [au].[38] Whether the

second component of [ai, au] should be mid [e, ø, o] or high

[i, u] is of no real importance, unless one intends to regard

the diphthongs as biphonematic, comprising /a/ plus the glide

/j/, and /a/ plus the glide /w/,[39] where the phonetic similarity

between a high short vowel to a glide is greater than that of a

36) Lasch 1928, 156.

37) Siebs 1958, 57ff.; Martens 1961, 79ff.; WDA 41f.

38) Moulton 1962, 62.

39) This is the position taken by generative phonologists,
   Vennemann 1968 b, 91f. Wurzel 1970, 152f. There is a dis-
   cussion of the secondary literature in Werner 1972, 32-35.

mid vowel to a high glide. Moulton regards the diphthongs as unit phonemes and this will also be assumed here. We will transcribe the diphthongs in ein and auch phonemically as /ai/ and /au/ respectively. Of more importance is the transcription of the diphthong in euch. Should it be transcribed [ɔ̸] or [ɔi]? Most phoneticians assume that the second component is rounded, but we must agree with Moulton when he maintains: "We indicate an unrounded glide because it is our experience that most German speakers unround their lips during the glide".[40] Viëtor also says that [ɔi] is used by many speakers.[41] The quality of the first component of the other two diphthongs /ai, au/, varies from [ae] through [ei] to [ɛi]. It also occurs with a lengthened first component [a:i]. The diphthong /au/ varies from [au] to [ɒu], and it also has a lengthened first component [a:u].[42] Historically these NHG diphthongs represent a merger in spelling and pronunciation of the MHG long close vowels and the diphthongs /ei/, /öu/ and /ou/.

MHG	NHG	MHG	NHG
mīn	mein	vriunt	Freund
ein	ein	vreude	Freude
vrī	frei	niuwe	neue
snīwen	schneien	diuten	deuten
ei	Ei	iuch	euch

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40) Moulton 1962, 65, Paul also regards eu as representing
   [oi], 1916, II, para. 95. We will use /oi/ to transcribe this diphthong.

41) Viëtor 1904, para. 44, Anm. 4.

42) Viëtor ibid., para. 48, Anm. 5.

MHG	NHG
būch	Bauch
ouch	auch
sū	Sau
vrouwe	Frau
trūwen	trauen
tūbe	Taube

The long vowels probably became overlong, [i̅i̯], [ẏ̅ẏ̯], [u̅u̯], and then the first element was lowered, [i̅i̯] > [əi], [ẏ̅ẏ̯] > [øy], [u̅u̯] > [ɔu]. Some of these stages can be deduced from the different reflexes in present day dialects.[43] The reflexes in standard German are the result of a further lowering of the first element in the case of [ai] and [au] and of derounding of the second element in the case of [ɔi].

Although the reflexes of MHG /ī/, /iu/ and /ū/ have merged with those of MHG /ei, öu, ou/ in the standard NHG, this has not taken place in the dialects.[44] The only exception to this is Northern and Central Bavarian where the reflexes of MHG /ū/ and /ou/ have merged, in [a:] before [f] and [m], and in [au] elsewhere.[45] Otherwise the reflexes of the two rows are kept apart, but with different phonetic realizations: MHG /ī/ : /ei/ is represented as [ai] : [e:] in CG, [baisə] : [he:s],[46] as [ai] : [ɔa] in

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43) Wiesinger 1962, 235.

44) Paul 1916, II, para. 86 and 90; Trost 1958.

45) Kranzmayer 1956, para. 21a.

46) Von Polenz 1954, paras. 19 and 26.

Bavarian, [baisən] : [gɔas], as [ai]:[a:] in Rhine Hessian,

[bais] : [wa:s], as [i:] : [ɛ:], in Low Alemannic, [bli:t] :

[gemɛ:nt].[47] Diphthongal reflexes for MHG /ī/, /iu/ and /ū/ are

widespread in the dialects, but by no means universal. Bavarian,

Swabian, East Franconian, Rhine Hessian, the eastern part of

Thuringian, Upper Saxon, Silesian, High Prussian and Middle

Franconian show diphthongal reflexes like NHG,[48] but High and Low

Alemannic, Ripuarian, West Thuringian and Upper Hessian show

only diphthongal reflexes finally or in hiatus.[49]

The graphic expression of the diphthongs reflecting MHG /ī/, /iu/

and /ū/ is found first of all in Carinthian documents of the

twelfth century in place names like Eitwiggi, Reicchersperg-

ensi.[50] The diphthongal spellings seem to have started in the

southeast corner of the German speaking area and spread north-

west and northeast. According to the documents, the diphthongal

spellings reached all Bavaria in the thirteenth century, East

Franconia, Bohemia and Silesia in the fourteenth century, Swabia,

Upper Saxony and Thuringia in the fifteenth century, and Lower

Hesse and Middle Franconia in the sixteenth century.[51] It used

to be thought that this was how the diphthongs spread and that

the use of digraphs mirrors the development of diphthongs in the

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47) Keller 1961, 210, 169, 126f.

48) DSA maps: 6 beiß(en), 74 Eis, 24 Haus(e), 2 euch.

49) Schirmunski 1962, 215.

50) Lessiak 1908, 252.

51) Wagner 1927, 36f.

areas concerned, but this is not strictly true. The diphthongs
only found written expression after they had firmly established
themselves in the dialects. High Prussian, colonized after 1300
and the speech island of Siebenbürgen, colonized about 1200,
show diphthongs, but they were colonized from CG dialect areas
which, accordingly must have had diphthongs of some kind at least
by the fourteenth century, if not by the thirteenth century.[52]
In the standard language this graphic merger has become a complete
merger in pronunciation and again this may be the result of spell-
ing pronunciation by LG or other speakers, who always pronounced
the same diagraph in the same way whenever they came across it.
Although diagraphs were introduced for the reflexes of MHG /ī,
iu, ū/, they were not written with the same signs as MHG /ei, öu,
ou/. In Bavarian and Lower Alemannic, MHG /ī, iu, ū/ were written
ei, eu, ou, but MHG /ei/ was written ai.[53] During the sixteenth
century in some Low Alemannic and Rhine Franconian sources the
reflexes of MHG /ī/ and /ei/ were kept apart by writing them ei
and ey respectively. In Bavarian, on the other hand, ey was mere-
ly a variant of ei, which was used in hiatus position and word
finally.[54] This distinction in writing between MHG /ī/ and MHG
/ei/ is still maintained to a some extent in colloquial Bavarian
speech. MHG /ī/ is represented by /ai/ [ɛi] MHG wīz, B. [weis]
and MHG /ei/ by [oa] MHG weiz B. [woas].[55] However the ECG

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52) Von Polenz 1954, 153.

53) V. Moser 1929, para. 77. The sign au for MHG /ū/ was used
    in late MHG but was ousted by ou.

54) V. Moser ibid., para. 9.

55) Keller 1966, 96f.

Chancery language at the end of the fifteenth century did not
distinguish between the reflexes of MHG /ī/ and /ei/[56] even
though the modern ECG dialects have a diphthong as the reflex of
MHG /ī/ but a monophthong [e:] as the reflex of MHG /ei/.

Since the NHG merger of the reflexes of MHG /ī/ and /ei/ does
not reflect any dialectal development, its origin must be sought
elsewhere. Its most likely source is in the ECG written language,
where the reflexes of MHG /ī/ and /ei/ were both written with the
same signs. When NHG was introduced into LG areas as a written
language, the speakers would always pronounce the same sign in the
same way, turning an orthographic merger into a phonemic merger.

The UG sign ai was occasionally used in CG sources but it was
never accepted completely. It came to be used in some cases to
distinguish homonyms: Saite, Seite, Waise, Weise. Gottsched
recognized that ai should only be used for this purpose since
normally it signifies an UG pronunciation.[57] Gottsched also
tried to rationalize the use of ei and ey to distinguish homo-
nyms: "meine mea, ich meyne arbitror",[58] but this usage was
never accepted. The grammarians seem implicitly to regard the
use of ey, ay, ai as reflecting different pronunciations and to
be aware that they represent different sounds according to a
different part of the country.[59] Kolroß also recognizes that the signs

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56) Kettmann 1967, 97 and 107.

57) Gottsched 47.

58) Gottsched 78.

59) Ickelsamer, in: Müller 1882, 142.

ay and ey are used in different areas. His own pronunciation
uses the long y for ey, and, from his own observation, it is still MHG/ī/
a monophthong.[60] The UG grammarian Fulda tried to prescribe the
use of ei for MHG /ī/ and ai for MHG /ei/, but to no avail.[61]
Adelung was against the use of ai, which he called 'ein
alemannischer Doppellaut', but he allowed it in Kaiser and some
foreign words.[62] He does not use, as the modern standard does to
distinguish homonyms, for instance NHG Leib and Laib are both
listed under the one heading Leib in his dictionary.[63] In his
description of the pronunciation of ei as "ein Doppellaut, welcher
so ausgeprochen werden muß, daß man in dessen ersten Hälfte ein
deutliches scharfes e höret!" i.e. as [ei],[64] he is relying on
the spelling, rather than on what he has heard.

The exceptions to the merger of MHG /ī, iu, ū/ and MHG /ei, öu,
ou/ are few and are due to various reasons. MHG dū and nū cont-
ained MHG /ū/ and yet they were not diphthongized, probably
because they had unstressed variants with a short vowel, which
would not be subject to diphthongization.[65] This is probably
why MHG ūf has an undiphthongized reflex in many dialects,[66]

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60) Müller ibid., 69f.

61) Cited by Paul 1916, II, para. 86.

62) Adelung I, 166.

63) Adelung III, 139.

64) Adelung I, 1523.

65) Paul/Moser /Schröbler 1969, para. 10.

66) DSA map 128.

which reflect an unstressed variant with a short vowel in MHG.

The standard has selected the stressed variant with the long

vowel which has been diphthongized. NHG _Friedhof_ represents

MHG _vrīthof_, 'eingefriedeter Raum um eine Kirche'. The morpheme

vrīt became identified with _Friede_ 'peace' by popular etymology,

and thus escaped diphthongization.[67] The MHG suffix -_īe_

normally undergoes diphthongization apart from the examples of:

NHG _Phantasie_, _Melodie_,which are loan words and were re-introduced

with [i:] alongside the older forms with the diphthong, _Melodei_,

Phantasei, these two now being archaic.[68] In the case of NHG

Partei 'political party' and _Partie_ 'game', the re-introduction

of the latter with [i:],and not a diphthong, led to a semantic

differentiation of two NHG words which were etymologically one

word.[69]

The history of MHG /iu/ is different from the other close vowels,

It shows a variety of reflexes in the modern dialects. In Low

Alemannic, Bavarian and parts of CG, notably Silesia, Thuringia

and the western area of Upper Saxony up to the Mulde,MHG /iu/

became derounded and merged with MHG /ī/ and it shows [ai] as its

reflex, ECG [glaiç], MHG _gelīch_, ECG [aiç], MHG _iuch_. The rest

of ECG shows [ɔi] as the reflex of MHG /iu/, as in NHG.[70] In

these ECG dialects [ɔi] is the only diphthong with a rounded

first element,and its presence is due to East Franconian settlers,

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67) Kluge/Mitzka 298; Paul 1916, II, para. 62.

68) Paul ibid., para. 88.

69) Kluge/Mitzka 532.

70) DSA map 21 _euch_.

who brought with them an already diphthongized reflex of MHG

/iu/, which differed from the Thuringian and West Upper Saxon

reflex in two features, rounded versus unrounded, and diphthong

versus monophthong. Although the ECG dialects did have diphthongs

at a fairly early date, probably in the fourteenth century, East

Thuringia did not have diphthongs until much later.[71] From the

compromise 'koloniale Ausgleichssprache', which arose in the ECG

basin from the many dialects of the settlers, this diphthong with

the rounded first element [ɔi] found its way into standard NHG.

In WCG the reflex of MHG /iu/ is [au] in words where MHG /w/

immediately followed, MHG. briuwen, brauen. The place name

Naumburg goes back to MHG zur niuwen burc, and this is also the

case in a small list of relic words, Hessian faur, naut, haut

(NHG Feuer, nichts, heute).[72] The distinction goes back to

pre-OHG. Normally OHG iu, which was a diphthong, merged in MHG

with the umlaut of OHG ū : OHG liuti, hūsir became in MHG liute,

hiuser. In WCG and UG this merger occurred only when OHG iu

There was only a

was followed by a j or an i in the next syllable. / a small number

in the following syllable or w

of words where OHG iu was. followed by u, and these merged with

MHG /ū/, and were consequently diphthongized to [au]. Thus these

relic forms, which have been mentioned above, arose.[73] On the

maps of the DSA these forms. cover small scattered areas but at

one time they probably covered a larger   area. In WCG,

71) Von Polenz 1954, 152f.

72) Martin 1959, 42f.

73) Mertes 1929-30 and 1930-31. Also Hatto 1937.

OHG iu ,followed by u ,and OHG iu ,immediately followed by w ,both merged with MHG /ū/.[74] In standard NHG there are words showing both developments, kauen, showing the merger of OHG iu with ūw and its diphthongization to [au], and Wiederkäuer showing the merger of OHG iu with the umlaut of OHG ū.[75] In UG, in Swabian and the adjoining parts of Bavaria there is no merger of OHG iuw and ūw ,but there is a different reflex for OHG iu when it is followed by a u. In this case the result is a rising diphthong [ui], fuir, huit.[76]

The only serious linguistic reason for the diphthongization that has been put forward is that the diphthongization was caused by the apocope of unstressed MHG e (see 6.5.). When the e in MHG īse and hūse was lost, the long vowel became overlong and diphthongized.[77] The difficulties with this view are that the CG dialects show diphthongs but not apocope, (the diphthongs may be borrowed from UG), and that Alemannic shows apocope but not diphthongization.

There are parallel diphthongizations in other Gmc. languages, in Dutch and English: Dutch mijn huis [mɛin høys], English my house and, as in German, the diphthongs, though characteristic of the standard languages, are not to be found in all dialects.

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74) Weise 1907, 206.

75) Lexer 1961, 108, also has a variant kouwen. Cf. also brauen, the surname Bräuer and Hofbräuhaus.

76) Schirmunski 1962, 227f.

77) Wrede 1895.

The Netherlands, the western strip of Flanders in Belgium, the provinces east of Arnhem, including all of Friesland, show monophthongs.[78] In Britain, the northern dialects show monophthongs for Middle English /ū/ the boundary being the Humber. ME /ī/ would appear to be diphthongized in all areas.[79] In the Netherlands the process seems to have started in the fourteenth century,[80] and in Britain in the latter half of the fifteenth century.[81] These diphthongizations appear to be parallel and autonomous.

6. 3. 4. <u>The monophthongization of MHG /ie/, /üe/ and /uo/</u>

<u>and their merger with MHG /i, ü, u/ before voiced</u>

<u>consonants.</u>

The MHG diphthongs /ie/ [iə], /üe/ [yə], /uo/ [uə][82] are represented in NHG by the long close vowels [i:], [y:], [u:], which are spelt <u>ie</u>, <u>lieben</u>; <u>ü</u> and <u>üh</u>, <u>trübe</u>, <u>Kühe</u>; <u>u</u> and <u>uh</u>, <u>Buch</u>, <u>Kuh</u>. Only in the case of MHG /ie/ has the spelling remained the same. The resultant monophthongs, which phonetically are the result of the weakening and disappearing of the second element and the lengthening of the first element, have merged with the MHG short vowels /i, ü, u/ when they were lengthened before single voiced consonants, MHG <u>lieben</u> : <u>siben</u>; <u>truebe</u> : <u>über</u>; <u>buobe</u> : <u>stube</u>; NHG <u>lieben</u>, <u>sieben</u>; <u>trübe</u>, <u>über</u> ; <u>Bube</u>, <u>Stube</u>.
The monophthongization first appears in documents in the twelfth

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78) Wejnen 1966, 153f.

79) Kolb 1966, maps 224f.

80) Loey 1959, para. 77.

81) Wright 1924, para. 73.

82) For a discussion of the reconstructed value of MHG /ie, üe, uo/, (see 4.7.).

century.[83] It is limited to CG dialects — Alemannic and Bavarian

still retain diphthongs.[84] In Bavarian and ECG, MHG /ie/ and /üe/

have merged and show only one reflex, [iɒ] in Bavarian, and [i:]

in ECG. In ECG, Upper Hesse, the southern half of Moselle Franc-

onian, Palatine, South Rhine Franconian and a large part of

East Franconian the reflexes of MHG /ie/, /üe/ and /uo/ are

are [i:] and [u:], whereas in Lower Hessian, North Moselle Franconian

and Ripuarian the reflexes are [e:] and [o:].[85] The monophthongiz-

ation took place before the diphthongization reached CG, but the

new monophthongs from MHG /ie, üe, uo/ did not merge with MHG

/ī, iu, ū/, which were probably closed, whereas the new mono-

phthongs were more open.[86] Since no dialect has two series of

high vowels which only differ in that one is close and the other

open, we can merely speculate as to how they were articulated.

In the fourteenth and fifteenth century there was fluctuation

between the signs i and ie for MHG /ie/ in CG sources, but the

sign u for MHG /uo/ was used from the fourteenth century. Some-

times ue is found for MHG /uo/ where e is a length sign. It

could also be ascribed to an UG scribe.[87] Frangk, as a CG,

describes the pronunciation of ie as a long monophthong [i:]:

"Denn das e hat jnn solchen vorgeenden wörtlin nicht sein krafft/

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83) V. Moser 1929, para. 81, Anm. 10.

84) SDS I, MHG ie 140-1. MHG uo 142, MHG üe 144-5; Kranzmayer
    map 15, paras. 17-19.

85) Schirmunski 1962, 230.

86) Moulton 1961, 32.

87) Kettmann 1967, 113ff.

sondern erlengert nur das i/",[88] whereas it is not clear from

KolroB whether he regards the sign u̲ as a diphthong or not.[89]

Helber, who came from Freiburg, gives an explicit description

of the diphthongal pronunciation of the reflexes of MHG /ie, ü̈e,

uo/.[90] Some UG sources continued to use the sign u̲e̲ in the

sixteenth and seventeenth century, but during the seventeenth

the use of u̲ had become prevalent everywhere.[91] Schottel tried

to introduce i̲ alone for MHG /i:/, but failed.[92] The sign i̲e̲ was,

and still is, an example of how the spelling could, and can, mask

pronunciation. The UG speaker can pronounce it as a diphthong,

and the CG and North German as a monophthong, but they use the

same sign in writing, whatever their pronunciation. The history

of MHG /ü̈e/ is slightly different. Only rarely was any real

attempt made to distinguish between ü̈e̲ and ü̈ and the later sign

has been adopted as the main sign for MHG /y:/.[93]

It seems plausible that there is a causal connection between the

monophthongization of MHG /ie, ü̈e, uo/ and the diphthongization

of MHG /ī, iu, ū/, but these two changes took place at different

times and in different places. The monophthongization started

in CG in the twelfth century, whereas the diphthongization start-

ed in the thirteenth century in Carinthia. Only CG has both the

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88) Müller 1882, 105.

89) Müller ibid., 67.

90) Cited by V. Moser 1929, para. 81, Anm. 8.

91) V. Moser ibid., para. 81, 1.

92) Cited by Paul 1916, II, para. 61, Anm.

93) Moser ibid.

diphthongization and the monophthongization. Why was the UG

diphthongization accepted by CG? The answer could lie in the

fact that the high close vowels in CG were becoming overloaded

since in ECG MHG /ē, œ, ō/ were raised to [i:] [y:], [u:] merging

with the new monophthongs from MHG /ie, üe, uo/.[94] In addition

in ECG   short MHG /i, ü, u/ also merged with the new mono-

phthongs in open syllables when they were lengthened, and, of

course, with the reflexes of MHG /ē, œ, ō/, which had been raised.

The acceptance of the diphthongs lightened the   incidence

of the high vowels. In this way one could perhaps say that the

monophthongization, together with the raising of MHG /ē, œ, ō/

in ECG, and the lengthening of short MHG /i, ü, u/ were

part of a push-chain which resulted in MHG /ī, iu, ū/ being

diphthongized.

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94) DSA maps 33 Weh, 49 schön(e), 87-90 hoch.

6.4. DEROUNDING AND ROUNDING

The NHG standard language has a series of front rounded as well
as front unrounded vowels phonemes, which occur both short and
long:

/i/ : /y/ bitten : Hütte   /i:/ : /y:/ Biene : Bühne

/e/ : /ö/ Pfeffer : Löffel   /e:/ : /ö:/ sehnen : Söhne

These oppositions have a large functional yield and are of
great importance in the vowel system. The standard also has a
phonemic distinction between the rounded diphthong /oy/ (or
/oi/ see 6.3.3.) and /ai/ : Leuchter : leichter. These phonemic
differences are reflected in spelling and prescribed by Siebs.[1]
However in most CG and UG dialects, excluding High Alemannic,[2]
and also in the colloquial speech of the same areas, these two
series of front unrounded and rounded vowels have become de-
rounded and merged in the unrounded vowels: Altenburgisch [ręgə],
[blēdə], [sində], [iwər], [fraend], NHG Rücke, blöde, Sünde, über,
Freund.[3] In those dialects, except High Alemannic, where MHG /ie, üe, uo/ are still
retained as diphthongs MHG /ie/ and /üe/ have merged: Bavarian
miad, NHG müde, MHG müede.[4] Although many CG and UG dialects
have merged these two series of front vowels, they have develop-
ed other phonemes to compensate for this loss, so that they do
not have appreciably fewer vowels than standard NHG. Counting
the diphthongs as unit phonemes, Moulton sets up eighteen vowel

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1) Siebs 1958, 51, 55, 58f. [i, e, y, ö] are used for IPA [ɪ, ɛ, ʏ, œ].

2) Schirmunski 1962, 205. DSA maps 49 schöne, 21 euch.

3) Von Polenz 1954, paras. 11a, 21a, 14a, 23a.

4) Keller 1961, 210.

phonemes for NHG.[5] For Upper Hessian a pupil of Moulton's sets
up a phoneme inventory of twenty stressed vowels, excluding
ingliding diphthongs and nasal vowels.[6] Derounding does not
seem to have led to small vowel systems in the dialects in
which it has taken place. The ECG_dialect described by Von Polenz has
fifteen vowel phonemes including diphthongs.[7] Derounding also
occurred quite early in the history of English, cf. English
bridge, NHG Brücke, hear, NHG hören,[8] and is a natural develop-
ment for front rounded vowels. NHG has not been radically affect-
ed by the derounding at all. Only the incidence of several MHG
words with front rounded vowels has changed, and in NHG they have
unrounded front vowels. The main examples are:

	MHG	NHG	MHG	NHG	
	fündling	Findling	slüngel	Schlingel	'rascal'
	bülez	Pilz	gümpel	Gimpel	'bullfinch'
	sprütze	Spritze	kürre	kirre	'tame'
late MHG	güpfel	Gipfel	nörz	Nerz	'mink'
	küssen	Kissen	zülle	Zille	'barge'
	slöufe	Schleife	bümez	Bimstein	'pumice (stone)'
	spriuzen	spreizen			

Since the derounding of NHG /ü, ö, iu/ resulted in a merger in
the case of these words, it was expressed from its inception by

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5) Moulton 1962, 61.

6) Hall 1973.

7) Von Polenz 41f. The description is not itself couched in
   terms of phonemes.

8) Luick 1914ff., I, i, para. 182ff.

the use of i and e for ü and ö and of ei for iu and öu. There

is documentary evidence for derounding in all High German

dialects, except High Alemannic, East Franconian and Ripuarian.

It is recorded as early as the middle of the twelfth century and

spread widely by the fourteenth and fifteenth century.[9] By the

time of Thomas Murner it had already taken place in Low Alemann-

ic.[10] In Bavarian the derounding had taken place by the

thirteenth century.[11] Despite all this evidence, the grammarians

clearly recognize that the signs ü and ö represent different

sounds from i and e. Ickelsamer maintains that they should have

their own separate signs: "Das/ ö/ ist auch vast der mittel

laut zwischen o/ und e/ als in disen wörtern öl/ götlich u.

Das /ü/ lautet mit zusammen gezognern und engeren lebtzen/ dan

das schlecht Lateinisch/ u/ darumb auch diser laut bey den

Hebreern haißt Kibutz von zusamen legen der lebtzen als es lautet

in disen wörtern/ fünff/ gütlich hübsch".[12] Frangk also recognizes

that ä, ö, ü "auff eine sondere art jr aussprache haben".[13]

However the Bavarian Fuchsperger seems to recognize derounding

when he comments: "aber e unnd e/ bedetun nit mer dann ein

schlecht e/ als in den worten. ... Moerfisch ... Foeder für

Merfisch ... Feder".[14]

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9) V. Moser 1929, para. 65.

10) Philipp 1968, 188f.

11) Kranzmayer 1956, para. 6a.

12) Müller 1882, 126f.

13) Müller ibid., 96.

14) Müller ibid., 175.

ECG sources did not normally confuse the signs for front

rounded and unrounded vowels at the beginning of their written

records. However it has been seen that in the second half of

the sixteenth century there are examples of i, and e used for

ü and ö respectively. This is more prevalent among scribes and

officials who were not officially 'Stadtschreiber'. Many of

these unrounded forms occur in workers' bills.[15] Gottsched

criticizes the pronunciation of ö as e: "ö, als: hören, König,

halb o, nicht wie hären, Känig, auch nicht wie ein schlecht e.

Mögen, nicht wie mägen, Vögel, mit einem spitzrunden Munde,

nicht wie vegel, oder Vägel"., and of ü as i: "Ui, oder ü, ...

hat den mittleren Ton zwischen dem u und i, wie das französische

u, oder das wahre griechische vZ, E. blühen, nicht blihen,

bliehen".[16]

In Early NHG and NHG rhyme technique it is quite permissible

to rhyme front rounded vowels with front unrounded vowels:

Flügel, Siegel; keimt, säumt. This has been an accepted technique

since the seventeenth century, and the reason why it is possible

is because the Thuringian, Upper Saxon and Silesian poets made

no distinction between these vowels in their speech, and transferred

this to their rhymes. The Silesians, however, did not rhyme the

reflexes of MHG /iu, öu/ and /ei/, since they distinguished them

in speech. The North German poets adopted the former tradition in

their rhymes, although it was against their speech habits, and

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15) Fleischer 1970, paras. 48 and 303.

16) Gottsched 48.

thus it has become accepted in NHG (see 4.6.).[17]

Although the derounding was prevalent in many parts of Germany, the difference in spelling between ü, ö and i, e has always been maintained, particularly in ECG, upon which NHG is very largely based. The derounding has been masked by the spelling. LG speakers, who had both front rounded and unrounded vowels, pronounced the symbols ü and ö as front rounded vowels. The derounding is only reflected in the selection of several words with i and e by NHG. The form Hülfe which could be found at the turn of the century still had a variant Hilfe. Both these forms are old, Luther has hülfe, and this is a case of selection from two old doublets rather than a rounded and unrounded variant of one word.[18]

There is also evidence for exactly the opposite of derounding, i.e. rounding, viz. words in MHG containing i, e being changed to NHG ü, ö . There are more examples of rounding than of derounding in NHG. Again this change has neither affected the number of phonemes nor their distribution in the word but only their incidence. Normally both derounding and rounding are treated as irregular sound changes. The chief examples of rounding are:

MHG	NHG		MHG	NHG
swern	schwören		welben	Gewölbe
scheffen	Schöffen 'juror'		leffel	Löffel
vletze	Flöz '(geol.) stratum'		derren	dörren

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17) Neumann 1920, 113f.

18) Kluge/Mitzka 307.

MHG	NHG	MHG	NHG
zwelf	zwölf	schrepfen	schröpfen 'to bleed'
helle	Hölle	stenen	stöhnen
lewe	Löwe	schepfen	schöpfen
gewenen	gewöhnen	wirz	Gewürz
wirde	Würde	flistern	flüstern
riffel	Rüffel 'reprimand'		

The rounding can be seen in Alemannic as early as the thirteenth century. It tends to occur before or after certain consonants, notably, w, sch, l,   labials, and r. All the examples selected by NHG, except stöhnen, fit into this category. In Swabian and Alemannic written sources of the fourteenth and fifteenth centuries there were many more rounded forms: wolch, schwöster, öpfel.[19] Many speakers today use a rounded vowel in ölf, NHG elf, probably by analogy with zwölf. Until the middle of the sixteenth century there is great deal of fluctuation in both the rounded and unrounded signs, only High Alemannic and, to a lesser extent, ECG showing consistency in their use.[20] In ECG the signs o̤ and ṳ, when they are used for e and i, are only an importation of written signs and do not reflect the pronunciation of the dialect speakers of that area. Their acceptance in ECG sources was supported by their use as hypercorrect spellings for derounded vowels, which were, and still are, the norm in ECG dialects.[21] The forms with ö̤ are foreign to ECG texts and even Luther does not have them. Sometimes ö̤ is used indiscriminately for e,

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19) V. Moser 1929, para. 66.
20) V. Moser ibid., para. 65.
21) Fleischer 1970, paras. 36, 48.

which shows that no difference was made between front rounded
and unrounded vowels. Probably most of the cases with o̎, u̎ in
NHG are ~~probably~~ due to a hypercorrect use of o̎ and u̎. Indeed
in the seventeenth century there are forms with both o̎ and e
in all cases of the list above except zwo̎lf, Scho̎ffe, scho̎pfen,
and Lo̎we. In the case of NHG /u̎/ for MHG /i/, only Wu̎rde has
rounded forms in the dialects to support it — all the other
examples are due to the hypercorrect use of u̎ for i.[22]

Although derounding had taken place in Bavarian and Low Alemannic,
these dialects later developed front rounded vowels, which they
still retain. These new vowel phonemes are the result of a split
of front unrounded vowels, which developed rounded allophones
before certain consonants, in Bavarian before /l/ which is vocal-
ized,[23] and in Low Alemannic before MHG /g/ which has become
[j].[24] In sources from these dialect areas the rounding did
reflect a phonological process. In Bavarian there is a phonetic
rounding before more consonants than just /l/: "Es ziehen im
Bair. außer w auch m, pf, pp, ach und gelegentlich st, sp,
vereinzelt auch andere Mitlaute, Rundung nach sich".[25] Even in

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22) Von Bahder 1890, 180f.

23) Keller 1961, 207. The same data is interpreted according
     to a generative approach by Mansell 1973, 198ff.

24) Keller ibid., 123, Philipp 1965, 262f., 1968, 198f. The
     high vowel [y:] is the result of the unconditioned palatal-
     ization of MHG /ū/ under the influence of French, 1968,
     42ff.

25) Kranzmayer 1956, para. 26.

the standard, many speakers have a merger of NHG /i, y/ in /y/

before /r/.[26]

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26) Siebs 1958, 45: "Besonders hüte man sich vor der Aussprache
des i mit Lippenrundung, wie es namentlich vor r in manchen
Mundarten üblich ist, so daß Hirsch, Kirche, Wirtschaft wie
Hürsch, Kürche, Würtschaft klingen".

6.5. THE LOSS OF UNSTRESSED MHG e

6. 5. 1. Introductory

The most frequent unstressed vowel in NHG is [ə] spelt e.

Other vowels do occur, but mostly in foreign words, Rheuma, Pony,

Auto, Zulu. Other vowels also occur in derivational suffixes,

-lich, -ung. The central half-open [ə] never occurs in stressed

position, and, in fact, its phonemic status is controversial.

Some linguists regard it as an allophone of stressed /e/, only

occurring in unstressed position, whereas others point to such

contrasts as: Omen : Namen, Totem : Atem, to show that /e/

and /ə/ do contrast even in unstressed position.[1] Generative

phonologists derive [ə] from underlying /e/ by a vowel reduction

rule.[2] For them it only exists in surface forms. The contrast

/e/ : /ə/, which anyway does not have a large functional yield,

only exists in the standard as prescribed by Siebs.[3] In the

modified standard the /e/ in words such Totem, Omen and in the

prefixes ver- zer- is replaced by [ə].[4] For the majority of

German speakers, [ə] is not a separate phoneme but is rather an

allophone of /e/, occurring in unstressed position. We will

adopt this view here. This was certainly the status of [ə] in

MHG, but there was an added complication in that both /e/ and /ë/

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1) See the account of the secondary literature in Werner 1972,
   35-39. Also Jones 1962, Philipp 1970, 47, only recognizes
   [ə] as the only unstressed vowel.

2) Vennemann 1968 b, 372; Wurzel 1970, 182f.

3) Siebs 19th. ed. 1969, 27-42.

4) Duden Grammatik 1966, 53.

existed. Was [ə] an allophone of /e/ or /ĕ/? Since these two sounds merged in NHG, this question is not important for the historical development, but it is one which would have to be answered in a synchronic description of MHG. We will leave this question open. In derivational suffixes in MHG, both i and e occur, e.g. -ec, -ic, -esch, -isch. This has been interpreted to mean that the vowel in suffixes such as NHG -ig, -isch, was [ə] in MHG.[5] In Early NHG and, to a certain extent, in MHG there is even a fluctuation between i and e in inflexional endings, particularly in the gen. sing. e.g. goldes, goldis. This orthographic fluctuation, which is a sign that there was no difference in pronunciation between i and e in unstressed syllables, has been rationalized in NHG:[6] i occurs in derivational suffixes, except -chen,[7] and e appears in inflexional suffixes. This distribution of i and e had largely been reached in ECG by the second half of the sixteenth century.[8] In MHG the long vowel /iu/ also occurred in unstressed position, blindiu, but in NHG it has been replaced by [ə] in every case. This is really a morphological change, the ending -e having spread and led to the loss of -iu. Phonemically it means a change in the

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5) Paul/Moser/Schröbler 1969, para. 27, 3; Weinhold 1883, paras. 275, 278.

6) Fleischer 1966, 78f.

7) Other exceptions are -er, -el. Since unstressed [i] in NHG appears before palatal or velar consonants generative phonologists derive it from underlying /e/ by a raising rule, Vennemann 1968 b, 372; Wurzel 1970, 182.

8) Fleischer 1970, para. 116.

distribution of MHG /iu/, which now no longer occurs in unstressed position. In CG only -e occurred instead of -iu in the declension of adjectives.[9]

Changes in the allophone [ə] have affected only its distribution. It now no longer occurs in the same places as it did in MHG. The number of vowel phonemes has not been affected, only their distribution and incidence. The loss of [ə] has itself caused . phonemic changes, e.g. the change of the MHG affricate /ts/ to the cluster /t/ + /s/ (see 5.1.1.). MHG [ə] has been lost in three positions:

1. When it is in absolute word final position and is not followed by any consonant, e.g. MHG hane, NHG Hahn.

2. When the vowel is followed by one or more consonants, e.g. MHG hilfet, NHG hilft.

3. When in the prefix ge- or be-, MHG gelücke, NHG Glück. The first type of vowel loss is called apocope, and the other two syncope.[10] The apocope of unstressed final -e in NHG is said by Paul to be very irregular,[11] but its regularity or irregularity depends not only on phonetic but also on grammatical factors.[12] Paul, however, does set up a 'sound law': "e ist in der schwächstbetonten Silben des drei- oder mehrsilbigen

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9) Paul/Moser/Schröbler 1969, para. 136, 1.

10) Bloomfield 1935, 382.

11) Paul 1916, II, para. 104.

12) Wilmanns 1911, I, para. 280 (see 2.4.)

Sprechaktes geschwunden".[13] This accounts for the loss of

MHG -e after derivational suffixes in nouns, MHG küniginne,

verdamnisse, zoubære, bezeichnunge, NHG Königin, Verdamnis,

Zauberer, Bezeichnung. However, the capriciousness of apocope

is not as great as Paul would have us believe, but depends on

the grammatical categories of the words concerned. Kiparsky

has set up a hierarchy for the relationship between sound change

and grammatical categories. Case endings tend to be more

subject to loss than number endings. In languages which have

compulsory personal pronouns, verb endings tend to be weak and

subject to loss, whereas in languages which do not have compulsory

personal pronouns, verbal endings tend to be strong.[14] Tense and

gender endings also tend to be strong. Lindgren's study of

apocope in German[15] is cited by Kiparsky as an example of how the

loss of e varies from category to category. The attempt will be

made here to review the effect of apocope in the different word

classes and their grammatical categories.

6. 5. 2. Apocope among adjectives

Many adjective/adverbs in MHG showed a form with a final -e,

lære, træge, milte, spæte, whereas many had no final -e, guot,

lanc, and some had two forms, rīche, rīch. A final -e, was added

to adjectives ending in a consonant in order to form adverbs,

adjectives lanc, hōch, adverbs lange, hōhe. Those adjectives

which already ended in -e and had a mutated vowel, e.g. e, ö, ü,

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13) Paul ibid., para. 105.
14) Kiparsky 1972, 206.
15) Lindgren 1953.

æ Œ, _iu_, had an unmutated vowel in their adverb form, _MHG_ _träge_
adv., _træge_ adj. If no vowel difference existed, then the
adjective and adverb had the same form in predicative position,
e.g. _kleine_.[16] In NHG there is no overt difference between
adjectives and adverbs. The MHG adjective forms with umlaut have
become used as both adjectives and adverbs _in NHG_ e.g. _Er ist träge_,
Er arbeitet träge. Only in the cases of _hart_ and _sanft_ have the
unmutated adverb forms become the sole form of the adjective/
adverbs.[17] Also in NHG there is no distinction between adjectives
ending in -_e_ and those not ending in -_e_. One of the factors
involved in merging the two word classes of adjective and adverb
is the apocope of final -_e_ which has been lost in _leer_, _spät_,
MHG _lære_, _spæte_, whereas it has been retained in _böse_, _müde_,
MHG _bœse_, _müede_. The loss of -_e_ is phonetically conditioned by
the preceding consonant. The apocope of -_e_ in adjectives has
taken place after voiceless obstruents, nasals and liquids: MHG
(the adjectival form æ also existed in MHG)[17a]
spæte, _kiusche_, _dicke_, _küene_, _küele_, _dürre_, NHG _spät_, _keusch_, _dick_,
kühn, _kühl_, _dürr_. Paul lists the following as exceptions which
have lost the final -_e_ in NHG, _herb_, _schräg_, _gering_, _fremd_, _lind_,
mild, _wild_, _geschwind_, _elend_, _gescheit_, (MHG _geschīde_).[18] However,
the words with _nd_ could also have had variants with _nt_ in MHG[19]

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16) Paul/Moser/Schröbler 1969, para. 141. Adverbs were also
   formed by adding the suffix -_līch(e)_ particularly to adject-
   ives which ended in -_ec_ or -_isch_.

17) Paul 1916, III, para. 120.
17a Paul/Moser/Schröbler 1969, para. 137, Anm. 1.
18) Paul ibid.

19) Paul/Moser/Schröbler 1969, para. 104. In MHG _nt_ became _nd_
   medially but there were probably also variants with both _t_
   and _d_.

and -e could have been lost regularly after the voiceless sound.
Of the others, gescheit also had the form gescheut in MHG which
was assumed to have been formed from scheuen.[20] Presumably it **was**
considered a past participle, and thus would end in -t and not -e.
The adjective schräg is not recorded until the sixteenth century.[21]
Both it and herb have variants with -e in NHG.[22] This leaves
merely the forms with a cluster containing a MHG nasal as except-
ions and, as has been said, these may have had variants with medial
nt, after which the -e could have been lost regularly. There is
one MHG consonant cluster which has forms with apocope and with-
out, MHG ng. The adjectives gering, eng, streng have lost their
final -e, MHG geringe, enge, strenge, but NHG bange retains its
final -e. NHG lang and lange are a special case since they are
distinguished, lange being only used for time, e.g. es ist lange
her, as against der Weg war lang.[23] Even in NHG some adjectives
have variants with and without final -e, ferne, stille, strenge.
Duden Grammatik describes balde, kalte, stille as archaic and
poetic and helle, dicke, feste, sachte, späte, alleine as
'umgangssprachlich'.[24] Duden Hauptschwierigkeiten gives more
details and states that in the case of adjectives such as blöde,
irre, trübe, feige, milde the basic forms end in final -e, and
that the variants without final -e, blod, irr, trüb, feig, mild

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20) Kluge/Mitzka 251.

21) DE 621.

22) Trübners Dt. Wb. 3, 410.

23) Eggeling 1961, 21; Wilmanns 1899, I, para. 287.

24) Duden Grammatik 1966, 4445.

are rarer "und dann oft ein leichte stilistische Nuance
enthält". On the other hand, the adjectives dünn and dick have
the variants dicke, dünne, and the comment is made: "Die Form
mit 'e' wird oft derber oder emotional gefärbt angesehen".
Other variants mentioned are, allein, alleine, where alleine is
considered colloquial, whereas there is no such difference between
gern and gerne, although gerne is described as "vertrautfamiliar".[25]
These variants with final -e are more frequent in the north,
since in the south the apocope has been carried through more
radically. In the written language the apocope of final -e
among adjectives is a regular conditioned change in that -e only
remains after voiced obstruents. The recognition that final -e
should be retained after voiced consonants goes back at least as
far as Adelung.[26]

In attributive position, in either the strong pl. nom./acc. ending,
e.g. einige grüne Flaschen, or the fem. sing. eine gute Stelle,
the final -e has not been lost, even in the South German dialects.[27]
This is an example of a grammatical category hindering a sound
change. Where final -e has the function either of showing the
strong pl. adjective ending, or the strong fem. sing. ending, it has
been retained.

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25) DHS 25f.

26) Adelung 1, 1490.

27) DSA 50 (schöne) e; (alt)e shows the -e being lost in a more
   widespread area.

6. 5. 3. Apocope in verbs

In standard NHG, the apocope of final -e has not affected the verb system to any great extent. The final -e of the past tense of weak verbs has been retained, MHG vrāgete, NHG fragte. In UG dialects, however, the final -e in such forms has been lost and the past tense has been replaced entirely by the perfect.[28] The standard has also retained the final -e in the subjunctive, wäre, käme, as also have the UG dialects. But Bavarian has lost this -e and has developed new periphrastic forms, es tad mi gefrai(n) (NHG es würde mich freuen), but the majority of strong verbs form their subjunctive in the same way as the weak verbs.[29] This also seems to be the trend in Rhine Hessian.[30] All the UG dialects agree, however, in having lost the -e of the first person sing. present of both strong and weak verbs. This agrees with Kiparsky's prediction that when personal pronouns are obligatory, as they are in NHG and German dialects, then the personal -e endings of the verb are subject to loss.[31] Even although the -e is retained in written NHG ich habe, ich sage, it is often elided in speech, especially in South Germany.[32]

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28) DSA 78-80 kam, shows that the imperfect has been replaced by the perfect in UG.

29) Keller 1961, 227.

30) Keller ibid., 186.

31) Kiparsky 1972, 206.

32) Paul 1916, II, para. 153; DHS 309; Duden Grammatik 1966, 1065.

In standard NHG the second person sing. imperative form of
weak verbs, and those strong verbs which have any stem vowel other
than e, end in -e: warte, fahre, laufe, stoße. In the strong
verbs, whose stem vowel is e, and which change this to i in the
imperative second person sing., no -e is present, e.g. gib,
nimm.[33] The imperative forms komm, laß are the only exceptions
to this rule. On the other hand siehe has become used in
religious language because of its occurrence in the Luther Bible.
This state of affairs reflects MHG, where the second person
imperative forms of weak verbs end in -e, whereas all the strong
verbs had no ending. Even in MHG, however, some strong verbs
added an -e in the imperative[34] and this has spread in NHG to
those strong verbs which do not change their stem vowel to form
the imperative. It would seem that this NHG stage had been reach-
ed by Gottsched's time, although he himself rejects it and would have
preferred to dispense with forms such as gehe, stehe, falle,
schreibe, and to restrict -e to weak Verbs only.[35] NHG does not
follow Gottsched, but has selected the form with -e for those
verbs, whether weak or strong, which do not show the imperative
by changing their stem vowel. In this case, as well, the final
-e has been retained because it has an important function, show-
ing the mood, the imperative. Even here, however, in colloquial
German the -e is often elided.

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33) Duden Grammatik 1966, 102?.

34) Paul/Moser/Schröbler 1969, para. 155, Anm.

35) Gottsched 334.

6. 5. 4.   Apocope among particles

The MHG prepositions and conjunctions which have remained in
NHG show a regular loss of final MHG -e. In MHG ab, an, vor,
mit, ob, um and und all had variants with -e, abe, ane, vore,
mite, obe, umbe, unde[36], but in NHG only the forms without -e
remain. The forms which are historically older are the forms
with -e which reflect OHG -a or -i, OHG.

These words were often unstressed, and the variants without -e
probably first occurred in unstressed position and furthermore
before words beginning with a vowel.[37] The variants without -e
have been generalized in NHG. There was no reason to retain
the -e since it did not signal any grammatical function. The pre-
position ohne, MHG āne, is the only notable exception to the
regular apocope of final -e in particles. In Early NHG the
regular form is on. Ohne is the regular East Franconian form.[38]
Possibly the wish to differentiate it from 'an' may have been the
reason for the retention of the -e as well as the rounding of MHG
/ā/ to /o:/ (see 6.3.2.). More probably the retention of the
final -e is due to the wish to distinguish it from the prefix un-,
which in Early NHG and until the eighteenth century, was spelt
ohn-. Most compounds which in NHG have un- had ohn- in Early NHG

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36) Weinhold 1883, para. 333.

37) Elision of final -e before a word beginning with a vowel
     occurs frequently in MHG, Paul/Moser/Schröbler 1969, para.
     24, Anm. 5. General principles for the elision of final -e
     in poetry were laid down by Opitz 32f.

38) Moser-Stopp 1970, para. 30.

and later.[39] The only one to survive is Ohnmacht, where the MHG ōmaht, which did not have the prefix un- but

meaning 'without' is still plausible for the prefix ohn-.[39a] All

the other forms with ohn- as prefix have either died out or else

have been replaced by forms with un-.

6. 5. 5.   Apocope in nouns

In NHG the plural ending -e, with or without accompanying

mutation of the stem vowel, has never been lost. As a sign of

the plural, the -e is very strong in NHG. In UG dialects, however,

this plural -e has been lost,[40] but since in most cases mutation

of the stem vowel has spread, or other endings such as -er, -en have

been used,

the marking of the plural is never lost.[41] The dat. sing. end-

ing in MHG was expressed by -e, tac, tage, in the masculine and

neuter nouns. In NHG the dative -e has become optional and is

not often used in colloquial speech. Gottsched cites no loss of

dative -e. However he is aware of the loss of -e in other

grammatical categories, and it is difficult to imagine that it was

not already optionally elided by his time. Adelung, on the other

hand, only lists the elision of dat. -e "wenn sie ohne Artikel

stehen".[42] In UG dialects the dat. -e is completely lost. On

the use of the dat. -e in NHG, Duden Hauptschwierigkeiten comments:

"Das Dative -e ist stark im Rückgang begriffen. In festen

Redewendungen und formelhaften Verbindungen hat es sich noch

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39) Henzen, 1957, para. 58; Dt. Wb. 7, 1202f.
39a) Kluge/Mitzka 521.
40) DSA map 46 (Gäns)e.

41) Keller 1961, 218, 55f.

42) Adelung 1, 1491.

ziemlich fest gehalten ..."[43] This includes phrases such as

nach Hause, zu Hause, bei Leibe. After diphthongs and vowels in

polysyllabic and disyllabic words ending in -en, -em, -el, -er

there is never a dat. -e, either in speech or writing, e.g.

im Rätsel, im Kreuzworträtsel. A dat. -e also does not occur in

loan words, e.g. im Evangelium, im Vokalismus, or when a noun is

directly governed by a preposition and there is no article, e.g.

aus Holz, in Öl. In other cases the occurrence of dat. -e

"hängt vom Satzrhythmus, vom rhythmischen Gefühl des Schreibers

oder Sprechers ab".[44] No clear distinction is made as to whether

the elision of dat. -e is more prevalent in speech or in writing,

or whether it is equally prevalent in both. Presumably dat. -e

is elided more in colloquial speech than in writing. There are

no studies available to enable us to make any detailed comments

on this. The presence or absence of dat. -e, or any other -e,

could be studied as a linguistic variable and would probably be

found to be stylistically stratified and possibly socially

stratified as well (see 2.6.).

A final -e also occurs in the nom. sing. of many nouns. It is

not a case ending in NHG, but rather part of the stem. This is the

area where there is most irregularity in the development from MHG

to NHG. In MHG the nom. of the masc. and neuter u and ja stems,

the fem. ō and jō stems, together with the weak nouns of all genders,

ended in -e. Examples of masc. and neuter u stems are: site, sige,

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43) DHS 158.

44) Duden Grammatik 1966, 180.

of masc. and neuter _ja_ stems: <u>hirte</u>, <u>netze</u>.

The masc. and neuter strong nouns all lost their final -<u>e</u> if
they stayed strong, <u>Sieg</u>, <u>Netz</u>, except MHG <u>kæse</u> which has
retained its -<u>e</u> in NHG, <u>Käse</u>. A few nouns, like <u>Held</u>, MHG <u>helde</u>,
have become weak in NHG, although they have lost their final -<u>e</u>.
In some cases the -<u>e</u> has been retained, but the nouns have become
fem., e.g. MHG <u>site</u>, <u>hirse</u>, NHG <u>die Sitte</u>, <u>die Hirse</u>. Another
possible development was for masc. and neuter nouns not to lose
the final -<u>e</u> but to add -<u>n</u> and develop new gen. forms, e.g. MHG
<u>rücke</u>, NHG <u>Rücken</u>, <u>Rückens</u>. Some weak masc. and neuter nouns
lost their final -<u>e</u>, and became strong, MHG <u>hane</u>, NHG <u>Hahn</u>, MHG
<u>blitze</u>, NHG <u>Blitz</u>.[45] The fem. strong nouns usually retained
their final -<u>e</u>, which was regarded not merely as a part of the
noun stem, but the sign that they were feminine. When the -<u>e</u>
serves the function of showing the category of gender then it is
not normally lost. Nevertheless in a few cases it has been lost,
MHG <u>ahte</u>, NHG _'attention'_ <u>Acht</u>, but there were fem. nouns even in MHG
which ended in a consonant,[46] Final -<u>e</u> is not the exclusive
sign of fem. grammatical gender for nouns. After a diphthong the
-<u>e</u> has always been lost, MHG <u>vrouwe</u>, NHG <u>Frau</u>, (the medial /w/
was also lost, see 5.3.3.). The MHG weak fem. nouns have also
retained their -<u>e</u>, but they are no longer weak in NHG, but mixed,
i.e. they inflect like strong fem. nouns, which did not change

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45) Paul 1916, III, paras. 31-35.

46) Paul ibid., para. 52.

their form in the sing., but like weak nouns in the pl. e.g.

Zunge, Zungen.[47] Again, since the -e is a sign of fem. grammatic-

al gender, it has been retained in NHG.

There were only four weak neuter nouns in MHG: herze, ōre, ouge,

wange.[48] The last noun has become fem. in NHG, MHG ouge has

become mixed, ōre has become mixed and lost its final -e. Only

MHG herze has remained weak and it has lost the -e, although there

still is an archaic variant form NHG Herze. From so few examples

no real 'rule' can be deduced. It is among the numerous masc.

weak MHG nouns that there is considerable irregularity in the

loss of -e in NHG. A few nouns lost the final -e and became

strong, e.g. MHG hane, blitze, NHG Hahn, Blitz, but the majority

has remained weak. The loss or retention of -e is not entirely

random and seems to correlate to a certain extent, but not

exclusively, with the consonant or consonant cluster preceding it.

After MHG /r/ the -e has invariably been lost, NHG Herr still has

the archaic variant Herre. After a cluster containing /r/ plus a stop

the -e has been retained, NHG Bürge, Erbe, Ferge, Gefährte,

Scherge, Schurke. The only exception here is the archaic form Hirte, but ~~this has~~

the regular form is ~~variant~~ Hirt.~~which is gaining ground.~~[49] After MHG /ts/ the

-e is lost in Spatz but retained in Götze, Schütze. Here we do

not know which is the regular development and which the irregular.

After nasals the -e is usually dropped but Nachkomme, Name, Same

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47) Paul ibid., paras. 44-51.

48) Paul/Moser/Schröbler 1969, para. 131.

49) DHS 301, Duden Grammatik 1966, para. 2015.

are exceptions.[50] After a cluster containing a nasal, on the
other hand, -e was usually retained, Halunke, Kunde. NHG Fink,
MHG vinke, is declined strong in NHG. Where final -e is retained
in weak nouns it is usually after voiced consonants, e.g. NHG
Bube, Knabe. The -e is mostly used for animate beings among
weak nouns, Bube, Affe, but there are exceptions, e.g. Herr,
Mensch. Since all adjectival nouns designating persons end in
-e, der Bekannte, der Verwandte, der Angeklagte, the occurrence
of -e may have supported the retention of final -e in nouns such
as Bube, Knabe. The only exception to this is Buchstabe. The
direction of the change involving the loss of final -e is clear:
all weak nouns ending in -e which do not designate animate beings
have lost their -e. Although the stage where all weak nouns
which end in -e designate animate beings has not yet been
reached, the direction of the change can be clearly seen. This
is in fact a change in progress. There have indeed been other
attempts to systematize the use of final -e among weak masc.
nouns. Gottsched set up the principle: "All Wörter, die sich
auf ein kurzes e enden sind weibliches Geschlechts", thus renounc-
ing the use of -e for weak masc. nouns.[51] However he did allow
the exceptions Bube, Glaube, Knabe, Name, Rabe, Same. He accepts
the renunciation of final -e for all but fem. nouns and rejects
it even for nationalities. He has der Ruß, der Dän, for der
Russe, der Däne. Nevertheless exceptions are to be found in his

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50) Some weak nouns have nom. sing. forms with -n or without -e
    · in colloquial speech, Duden Grammatik 1966, para. 1715.

51) Gottsched 211.

grammar, _Gatte_, _Ende_, _Erbe_, _der Heyde_, _der Jude_.[52]

6. 5. 6.   The syncope of posttonic unstressed MHG e

The syncope of unstressed MHG _e_ in posttonic position, i.e.
after the main stress, is not subject to so much variation as
the apocope of final -_e_.   Before /t/ and /st/ it has
been lost quite regularly. Only in the case of the subjunctive
forms is there any special development. It is a conditioned
sound change which does not take place if the consonant preceding
the unstressed vowel was /t/ or /d/. In the adjectives a
preceding sibilant also hinders the syncope.

This change is most regular among the indicative past and present
tenses of both the strong and weak verbs. The past tense of weak
verbs was affected: MHG _lebete_, NHG _lebte_. In MHG there were
some verbs which had no unstressed _e_ before the ending -_te_ and
thus this change had a model. The _e_ ~~has been retained~~ occurs in verbs
such as NHG _reden_, _retten_ past tense _redete_, _rettete_. In the second
person sing. and pl. past tense of strong verbs the _e_ has also
been lost, except after stem final /t/ and /d/. Gottsched
prescribes forms without _e_ for the second person sing.[53] In NHG
it has usually also been retained after sibilants. In the second
and third person sing. of both weak and strong verbs the un-
stressed e has been lost, MHG _lobest_, _hilfest_, _lobet_, _hilfet_, NHG _lobst_,
hilfst, lobt, hilft.
This did not happen when the stem of a weak verb ended in /d/ or
/t/: NHG _redest_, _redet_, _rettest_, _rettet_. In strong verbs,

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52) · Gottsched 121, 119, 124, 125, respectively.

53) Gottsched 335.

however, which also changed their stem vowel from _e_ to _i_ to

form the second and third person sing. present, the syncope still

occurred, NHG _treten_, _trittst_, _tritt_, _halten_, _hältst_, _hält_,

braten, _brätst_, _brät._ These verbs have been taken as an example

of the fact that   a generative phonological grammar must

also include paradigmatic information, in this case, that the

stem vowel of the infinitive is different from that of the

second and third person sing. present. Vennemann labels such

information a 'paradigmatic constraint' and formulates it thus:

"The suffixal /ə/ of the 2nd and 3rd Person Singular Present

Indicative forms of strong verbs with root-final /t/ or /d/ is

syncopated if, and only if, a contrast exists between the radical

vowel of these two forms and that of the remaining forms of the

Present Indicative paradigm of the same verb".[54]

We have assumed that the conditioning factor stem final /t/ or /d/

prevented the syncope of unstressed _e_ from MHG onwards. However

this is not true. In Early NHG there are many cases such as

redt, NHG _redet_, which show that the syncope of _e_ was more widespread

    earlier, and was not subject to any of the phonological conditioning

that we have been assuming.[55] Vennemann shows that in Gottsched's

grammar it was precisely   those cases with stem final /t/,

where the vowel was the same as the infinitive, that show the

reintroduction of _e_, e.g. _windest_, _windet._ The syncope of un-

stressed posttonic _e_ was very general at first, but then _e_ was

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54) Vennemann 1968 c, 7.

55) Paul 1916, II, para. 105.

re-introduced in those cases where the vowel of the second and third sing. present was the same as the infinitive.[56] This reintroduction of e spread till in NHG it has occurred after every stem final /d/ and /t/ except for verbs like treten and braten. The reintroduction of e is motivated by the desire to show the verbal endings more clearly, the opposite of what should happen according to Kiparsky's hierarchy.

Adjectives are also subject to syncope in the superlative grade in NHG. This occurs after all consonants except /t/, /d/, /ts/, /ʃ/ and /s/, e.g. sanftest, kürzest, frischest, heißest. A notable exception is groß, which has the superlative größt. There are cases where e is dropped, but these are not regarded as acceptable in the standard. After a long vowel or diphthong the e may be retained "bei besonderer Betonung des Superlativs", frohste or froheste, freiste or freieste. Polysyllabic adjectives with unstressed final syllables drop the e, e.g. passend, fleißig, gebildet.[57] Gottsched allows elision of the e in the superlative, when he says: "Diese geschieht, nachdem der Wohlklang es erfodert. Denn wo gelinde Mitlauter vor dem ste zu stehen kommen, da läßt man es aus: wie in länger, der längste, lieber, der liebste, schöner, der schönste, u.d.gl. Wo aber harte Buchstaben damit zusammen treffen, da behält man das e, als der beliebteste, schärfeste, lauteste, wildeste, schlechteste: dahin man auch größeste rechnen muß, wenn man es regelmäßig

56) Vennemann 1968 c, 11.

57) Duden Grammatik 1966, para. 2375.

schreiben will, ob man es gleich meistentheils verkürzet, und
der größte zu schreiben pflegt. Eben so geht es mit andern,
die auf beyderley Art, zumal von Dichtern, gebrauchet werden,
nachdem sie eine Syllbe mehr oder weniger nöthig haben: z.E.
der treueste, freyeste, und treuste, freyste, u.s.w.".[58] This
passage is worth quoting at length because it shows how little
the situation has changed with regard to the omission of _e_ in
the superlative since Gottsched's day, in the written language at
least. The occurrence of a stem final sibilant does not hinder
the syncope of _e_ in the second person sing. present of verbs,
e.g. du liest, du reißt, which are the same as the third person
sing. The forms with _e_ are felt to be archaic, poetic or decorat-
ive.[59]

In the second person sing. and pl. present and past subjunctive
of strong verbs the _e_ is only lost "when the modification of the
vowel already distinguishes the subjunctive".[60] Thus the weak
verbs retain the _e_ in the present subjunctive: ob du lobest,
ob ihr lobet, ob du lobtest, ob ihr lobtet. Those strong verbs
which do not have a different vowel in past subjunctive from the
past indicative also retain the _e_ :ob du fielest, ob ihr fielet.
However one has the feeling that such forms as du fielest,
du lobest only occur in the paradigms of grammar books and not in
everyday speech or writing. Most of the subjunctive forms in

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58) Gottsched 261.

59) Duden Grammatik 1966, para. 1100.

60) Curme 1922, 255f.

indirect speech are third person forms. Even in conditional

sentences, where such forms could theoretically occur , they

are not frequent and could be avoided by using the periphrasis

with the subjunctive of _werden_ plus the infinitive. Unstressed

_e_ occurred before _s_ in the gen. sing. of strong masc. and neuter

nouns in MHG, _tages_, _wortes_. For the occurrence of -_es_ or -_s_ in

NHG there are no hard and fast rules, but there are at least

certain tendencies. The full ending -_es_ always occurs after /s/,

Glases, _Reflexes_, _Sitzes_, and mostly after /ʃ/ and /st/, _Busches_,

Zwistes. The full -_es_ form is preferred with nouns whose last

syllable is stressed, including monosyllabic nouns, _Tages_,

Gemütes. In most other cases the _e_ is dropped. In genitives

which have become adverbs, e.g. _mittags_, _tagsüber_, _unterwegs_,

nachts, the _e_ has been lost, whereas in the forms of the related

nouns it is retained, _des Tages_, _des Weges_.[61] This would support

the contention that the syncope was originally much more general,

and that it has been re-introduced in the gen. forms of mono-

syllabic nouns. Words such as _mittags_, _tagsüber_ are relics and

have lost their gen. function, and consequently did not have _e_ re-

introduced. Another pointer to the fact that the syncope was

originally more general is that in colloquial speech _e_ is lost in

the endings -_en_, -_el_, -_em_ which become syllabic [l̩, n̩, m̩].[62]

The NHG spelling upholds the fiction that _e_ is still pronounced

in these sequences, but this happens only in very formal speech.

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61) Duden Grammatik 1966, para. 1720.

62) Viëtor 1904, para. 67, Anm. 3; Siebs 1958, 42f.; WDA 32f.

There has been a general syncope in speech in NHG but e has
been re-introduced into the gen. sing. of masc. and neuter
monosyllabic nouns, and in verbs and adjectives after stem final
/t/ and /d/.

The syncope of MHG e before the main stress has not been as far
reaching in its effects. It has affected only a few words
which in MHG began with gel- or gen- and which in NHG begin with
/gl/, /gn/. The main examples are: gleich, MHG gelīch, glaublich,
MHG geloublīch, Glück, MHG gelücke, Gleis, MHG geleise, (Geleise
also still exists in NHG), Gnade, MHG genāde, gnädig, MHG genædec.
There is one example of be- being elided, bleiben, MHG belīben.
Most of these words had variants without unstressed e in the
first syllable even in MHG.[63] The e was regularly elided before
a following vowel in MHG, ezzen, past participle gezzen. Since
the ge- had lost its function *in this verb*, in NHG ge- has been added to make
a new participle, gegessen. This syncope occurred much more
frequently in UG and it continues to be a mark of the UG dialects
of the present day.[64] In NHG there is still a contrast between
the initial sequence /gel/, where e is unstressed, and /gl/,
geleiten : gleiten. This carries on a similar opposition in
MHG: geleiten : glīten, In MHG the initial cluster /gn/ was
quite rare. The main examples were: gnarren 'to growl', gnaben
'to limp', gnaz 'scurf', gnippe 'dagger', gnepfen 'to bow',
gnist 'mange', gniten 'to rub'.[65] It is not frequent even in

63) Paul/Moser/Schröbler 1969, para. 24, 8.

64) Kranzmayer 1956, para. 29e, map 20; Keller 1961, 33.

65) Lexer 1961, (reprinted) 74.

NHG, the main examples being Gnade and gnädig. In the case of
the development of initial /gen/, where e is unstressed, to
/gn/, a rare cluster has really been kept alive. We cannot say
that a new cluster has been created since /gn/ existed in MHG,
nor can we say with certainty that /gen/ merged with /gn/, since
most of the words containing /gn/ would seem to have died out.

7. CONCLUSION

Having stated at the outset that this work is an attempt to apply the phoneme theory to the phonological development from MHG to NHG, we must now take stock of what has been achieved.

It was found that changes in the number of phonemes played a relatively minor part overall. Most phonemic changes of this kind were mergers, whereby a phonemic opposition was lost, e.g. the merger of medial MHG /v/ and /f/, (see 5.3.4.) and the merger of MHG /s/ and /z/. The change of the MHG affricates /pf/, /ts/ from unit phonemes to the clusters /p/ + /f/ and /t/ + /s/ in NHG could also be regarded as a reduction in the number of phonemes, but this is a somewhat questionable phonemic change, (see 5.11.). Only two new phonemes have emerged in NHG, /ŋ/ and /ʒ/, the former, by an assimilation of MHG /ng/, and the latter from French loan words.

Changes which have produced new allophones in certain positions were found to be even rarer. The only really convincing example is the development of the allophone [ç] from MHG /x/, (see 5.5.1.). It was noted that the development of the allophone [ŋ] probably occurred as early as OHG and therefore does not come into the scope of our work, (see 5.6.1.). One of the main reasons why allophonic changes are rarely to be seen is that they are never reflected in spelling. It is indeed possible that many allophones

arose, which, for various reasons may have remained regional or social variants, but which never achieved a widespread usage. An example of this would be the velar [ɫ] of some dialects, (see 5.7.4.)

By far the greatest number of changes was seen to be in the distribution of phonemes, and this may involve the introduction of possible combinations of consonants. For instance, the cluster /nx/ in NHG has arisen from MHG /nəx/, MHG venihel, NHG Fenchel. In NHG /ʃ/ has much more freedom of occurrence. Initially it appears before any consonant, whereas in MHG it appeared only initially before vowels and /r/. MHG /s/, on the other hand, has become more restricted in its distribution and appears only before consonants in loan words, (see 5.4.3.). The MHG phonemes /w, h, j/ appeared medially between vowels as well as initially, but in NHG they appear only initially with a few exceptions, (see 5.3.3., 5.5.4., 5.5.5.). The loss of these phonemes intervocalically has radically changed their distribution. The distribution of vowels has also been affected. In MHG long vowels occurred freely before /ʃ/, but in NHG (apart from wuschen) and in some pronunciations of the loan words, Nische, Dusche, only short vowels occur. Long vowels before medial MHG /ts/ were rare in MHG, but in NHG they have become more frequent, (see 5.1.2.). Through the lengthening of short vowels before single voiced consonants the sequence of a short vowel before a medial voiced consonant was lost from the language. In NHG it has been re-introduced by means of Low German words such as Ebbe, Flagge, Kladde. These changes in the distribution of phonemes

account for the largest portion of phonological changes between
MHG and NHG. Admittedly they are not radical changes, but they
were certainly noticed by native speakers, since they have been
reflected in spelling. The changes in distribution have not
hindered the re-introduction of the very sequences which had
previously been eliminated! We have mentioned the case of the
re-introduction of the sequence of a short vowel before a single
voiced stop, but other changes in the distribution of sounds have
been reversed. In NHG /j/ occurs medially once again in the
words Koje, Boje. The sequence /mb/ has been re-introduced by
loan words such as Bombe, Plombe, (see 5.6.1.). These examples
show that changes in distribution do not take place primarily for
functional reasons. Otherwise why should the very sequences
that the language eliminates be re-introduced again? A language
and its speakers have the potential ability to produce all sorts
of phonetic sequences (except, of course, those which are
articulatorily impossible). We are dealing here with a universal
phonetic competence, rather than a language specific phonological
one. Through a change in phonological competence, the sequence
/mb/, /ng/, may be assimilated to [mm], [ŋŋ], and then shortened
to [m] and [ŋ] but, even so, the speakers do not lose the ability,
the phonetic competence, to produce the sound sequence /mb/, /ng/.
If such phonetic ability is inherent, then obviously it may be
used repeatedly. Even if a sequence is lost from a language it
may be re-introduced at a later date. What has been said above
applies only to the re-introduction of sequences of already
existing phonemes and not to new phonemes which have been subsequent-
ly introduced into the language.

Furthermore the re introduction of sound sequences applies to
the MHG medial opposition /v/ : /f/, grāven : slāfen. In NHG
the reflexes of words with medial MHG /v/ have merged with /f/,
Grafen, schlafen. However NHG does have a medial opposition
/v/ : /f/ Möwe : Höfe. The /v/ has a limited distribution and
comes mostly from LG words, (see 5.3.4.). It was probably the
existence of the opposition /v/ : /f/ initially, Wein, fein,
that supported the re introduction of the opposition /v/ : /f/
medially. The loss of [v] medially, however, did not mean its
permanent loss. To sum up then, German, or rather the speakers
of German, show a remarkable ability to eliminate sounds and
sequences of sounds, and then in later generations to re-
introduce the same.

It was further noted that there was a considerable amount of
change in the incidence of MHG phonemes. Hitherto these changes
have mostly been handled traditionally, as irregular changes.
They comprise two kinds:
1) exceptions to sound changes, e.g. MHG medial /-z-/ is
represented by [s] in NHG, wīze, weiβe, but in some words the
medial reflex of /-z-/ now belongs to the /z/ phoneme, Loses, MHG lōzes,
(see 5.4.4.)
2) minor sound changes which have affected only a small number
of words, e.g. some words, which in MHG contained /ā/ have /o:/
in NHG, āne, ohne, (see 6.3.2.). These types of change have
long been recognised as such, but it is nevertheless helpful to
show how they affect the phonemic system by labelling them
changes in incidence. These types of change do not affect the

number of phonemes or their distribution but merely the ^lexical class to
which phonemes belonged historically. Since they have no radical
effect on the phonemic system, they were accepted easily and
almost unnoticed. The reasons for their acceptance are largely
ad hoc and are different in each case.

Some changes were particularly difficult to fit into a phonemic
classification, for example, the development of uvular [R], the
pronunciation of the initial stops, the shift of MHG /w/ to a
labio-dental [v], the shift of MHG initial /s/ to a voiced
[z]. They changed neither the number of units, nor their combinat-
ion with other units, nor their lexical incidence. Some linguists
would class these changes phonemically as shifts (see 2.2.).
Moulton considers them to be changes of distinctive features,
dental [r] becoming a uvular [R]. Traditionally these changes
would simply be discussed in phonetic terms. However none of
these changes is directly connected with other changes in the system, such as
the English vowel shift and the Germanic Consonant shift. Never-
theless they do have some features in common. The phonetic values
in NHG for the resultant sound from these changes show a marked
regional variation. Inital w is pronounced as a labio-dental
fricative in the standard and in North German, whereas in Central
and South German it is pronounced as a bilabial fricative. NHG
initial s is pronounced as voiced alveolar fricative [z], in the
standard and North German, whereas in Central and South German it is
pronounced voiceless or semifortis, but not voiced. NHG initial
pre-vocalic p, t, k are pronounced as voiceless aspirated stops in
the standard and North German, and initial pre-vocalic b, d, g are

pronounced as voiced stops in the same position in the standard
and North German. In Central and South German initial p, t, k
and b, d, g, are all voiceless but p, t, k are fortis and b, d,
g are lenis. Sometimes there is considerable fluctuation
between p, b and t, d, which have merged in some dialects, (see
5.2.2.). Initial NHG r is either pronounced as a dental or
uvular sound, but there is no regional difference involved,
(see 5.7.1.). These variations in pronunciation are not to be
interpreted as an historical change from, for instance, initial
voiceless fortis stops to initial voiceless aspirated stops.
Instead, this variation represents a change in the selection of
the model of pronunciation of German. The pronunciation of
initial MHG p, t, k, has probably not changed at all in CG and
UG, except for those dialects with consonant lenition. Similar-
ly in North German the pronunciation of LG p, t, k, has not
changed, and was then used for the pronunciation of HG p, t, k.
The present model is North German, which pronounces the reflexes
of the MHG letters, p, t, k, b, d, g, w, s,   as has been
described. Even in the case of NHG r, the change from a dental
[r] to a uvular [R] is a change in the selection of one pro-
nunciation as a model, which is now becoming accepted as standard.
Whatever the linguistic theory adopted for historical phonology,
whether phonemic or generative, it must deal with changes in the
model of pronunciation. In this work the grammatical condition-
ing of sound changes was allowed, and this has clearly been
advantageous. By so doing, sound changes which have hitherto
seemed to be irregular, could now be formulated as regular, by a
general statement. For instance, an epenthetic [t] was added to

final MHG -n preceded by an unstressed vowel, except where -n, or
-en was a grammatical ending. The change from MHG final -em to
MHG -en took place, except when the -em was a grammatical ending,
(see 5.6.2.). Similarly the loss of final -e did not take place
in certain morphological categories, e.g. in the strong adjective
inflection in the fem. sing., and nom/acc. of pl. all genders,
(see 6.5.2.). These changes show the role that can be played by
the grammatical system in 'blocking' and limiting sound change.
The role of the grammatical system would seem to be mainly a
negative one. No examples were found of a sound changing to
another in one particular grammatical category. Acceptance of
grammatical conditioning in sound change clears historical
phonemics of the charge that it allows only phonetically
conditioned sound change, (see 2.4.).

One factor, which has been of major importance in the historical
phonology of German, and indeed of other languages, has been the
influence of the written word, the spelling. The merger of MHG
/ī, iu, ū/ and MHG /ei, öu, ou/ is almost entirely due to the
spelling. Since the resultant phonemes in the merger were written
the same, they came to be pronounced the same, (see 6.3.3.). The
retention of the opposition between /p/ and /b/, /t/ and
/d/, and between the front rounded vowels, (see 6.4.), is due
to the fact that these oppositions were maintained in writing.
The influence of spelling can be seen especially clearly in the
adaptation of the NHG opposition /e:/ : /ɛ:/ to the spelling dis-
tinction e, ee, eh and ä, äh, (see 6.3.1.). The development of
individual words was affected by how they were spelt. Variant

spellings, however, which run counter to the regular development
of a phoneme may be accepted, e.g. Neffe, with ff, before which
the vowel was pronounced short. The MHG form was neve and the
regular development would have led to NHG *Nefe. Whatever
theoretical framework is used for historical phonology, the
influence of spelling on phonological development must be given
due consideration. The traditional 'successes' of historical
phonemics were sound changes which were deemed to have been
caused by the linguistic system itself, and the reaction of the
sound system to sound changes, (see 3.1.). In the development
from MHG to NHG, however, these types of change played no real
part. This is not to say, of course, that they may not do so
in other languages or at other stages in the history of German.
In this work the dynamic of historical phonology has been
provided by the 'variation' of sounds and spellings and their
subsequent 'selection' by the standard as it emerged from the
sixteenth century onwards. The 'switch' in pronunciation-model
during the history of German from UG to North German, (see
Introduction), has also provided a dynamic to some changes. The
explanation of the sound changes has had to content itself with
the limited task of explaining individual changes, sometimes of
one word.

The phonemic approach alone would not have provided a dynamic for
historical phonology. It is found to be at its most useful in
making clear how sound changes have affected the phonemic system
of the language. The grading of changes into those which affect
the number of phonemic units, their allophones, distribution and

incidence has provided a suitable classification. One of the chief bases for this study of the historical phonology of German has been the study of present day speech, including the standard, colloquial speech and the regional dialects. These are the linguist's laboratory. This was recognized long ago by Luther, but in the context of translation: "man mus die mutter jhm hause/ die kinder auff der gassen/ den gemeinen mā auff dem marckt drumb fragen/ uñ den selbigē auff das maul schauen".[1] This can equally well be applied to historical linguistic study.

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1) Luther, Werke 4, 184.

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ABSTRACT

FACULTY OF ARTS

GERMAN

Doctor of Philosophy

STUDIES IN THE HISTORICAL PHONOLOGY OF GERMAN

by Charles Victor Jolyon Russ

Studies of historical German phonology have changed little since
Neogrammarian times. Hitherto, the sole application of modern
linguistic theories, e.g. the phoneme theory, generative phon-
ology, has been to sub-sections of the phonological system. The
present thesis is an attempt to apply the phoneme theory to the
whole of the development from MHG to NHG. To this end the phon-
emic theory of sound change had to be modified in two ways: to
allow the grammatical conditioning of sound change and to suggest
a more finely graded scale of sound changes than the phonetic/
phonemic sound change dichotomy allowed. Generative phonology
was examined, but did not offer any appreciable advantages over
the phoneme theory. The role of explanation in sound change was
examined and found to be most useful in interpreting individual
changes. The two concepts of the 'variation' of items in the
spoken chain, and their 'selection' by the linguistic system form
the main mechanism of linguistic change. Since there is no direct
evidence of how MHG was pronounced, the methods of reconstructing
the pronunciation of MHG were outlined and discussed. The phonol-
ogical development from MHG to NHG was dealt with according to the
phonetic classes of the phonemes, e.g. the affricates, the short
vowels. Some processes, such as rounding and apocope, were also
used. Within these sections the changes were set out according

to the effect on the phonemic system, e.g. merger, change in the
distribution or incidence of a phoneme. The majority of changes
were changes in the distribution, rather than in the number of phonemes.
Many sound sequences, which were eliminated through sound change,
have been reintroduced through loan words from Low German or
other languages. In general, it was found that spelling pronun-
ciation and the shift of the model for standard German from Saxony
to North Germany had played an important role in the development
from MHG to NHG. In addition, many changes, which had been classed
as irregular, were in fact more regular than had been supposed.
The development from MHG to NHG not only involved phonological
but also grammatical, lexical and sociolinguistic factors.
Historical phonemics itself did not supply the dynamic to the study.
This was provided by the concepts 'variation' and 'selection',
together with the change in pronunciation models.