VARIATION AND THE RECONDITIONING
OF PHONOLOGICAL RULES

Cases from Germanic and Romance *

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In genetically related dialects or languages a phonological rule may have the same in- and output with a difference of conditioning. This is a type of rule with variable conditioning, as has been discussed in sociolinguistic research on variation. A variable conditioning in synchronic perspective may produce in diachronic development a *reconditioning*, as we call it in the present study. However, the reconditioning phenomenon has not been recognized in historical linguistics. Early umlaut in Germanic, affecting the short nonlow vowels, offers a paradigm case of reconditioning. While the in- and output of the rule (X → Y) is identical in both North-West Germanic and Gothic (East Germanic), the conditioning is different, North-West Germanic exhibiting vocalic and some consonantal conditioning (X → Y/Z), Gothic showing only consonantal conditioning (X → Y/Z'). As a result, the Gothic phenomenon is often regarded as having developed independently of the North-West Germanic one. We find an essentially parallel, though more complex, problem in early Romance. Here again, a series of vocalic developments, generally viewed as unrelated phenomena, show a clear pattern of reconditioning involving syllable structure conditioning as well as vocalic and consonantal conditioning.

1. Introduction

1.1. Broadening the scope of historical linguistics

The last two decades have seen in language research a growing interest in the notion of *variation*, a notion which was recognized but not really exploited by European prestructuralist dialectologists, who reacted to an all too rigid neogrammarian paradigm. Structuralism operated with the notion as well, but mainly to account for structural oppositions (Fischer-Jørgensen (1975: index)). The concept is also fundamentally implied in what has been called *dynamic synchrony*, entailing a necessary and crucial re-evaluation of Saussure's famous *synchrony–diachrony* distinction (e.g., Jakobson and Waugh (1987: index)). Although language variation has thus been acknowledged for a long time, when sociolinguists started viewing it from their own vantage point, the social context, it became a new and very promising subject of research and discussion, especially with reference to lexical diffusion and language change in progress.[1] Yet, variation in language is now still too much an exclusive interest of sociolinguists, although this is rapidly changing (e.g., Goossens (1987)). Other subfields of linguistics and particularly historical linguistics, which even to this day remains strongly committed to the neo-grammarian view of language change, can greatly benefit from the systematic application of the notion of *variation*. Variation is then to be seen not as randomly occurring, but as the reflex of 'subsystems in competition' and 'structured heterogeneity', as noted by Toon (1983: e.g., 61, 162), who has aptly considered the question in a historical perspective by applying it to Old English sound changes.[2]

1.2. An old problem in Germanic

We will operate here with the notions of the traditional tripartite division of the Germanic languages, namely *North Germanic*, *West Germanic* and *East Germanic* (the latter primarily represented by Gothic), although such a division does not reflect the original split in the development from the Germanic parent language to the separate Germanic dialects.[3]

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[1] For a theoretical approach, see Bailey (1973).

[2] In connection with language reconstruction (especially of the Germanic parent language), variation has been occasionally assumed in past research, and its consideration is now consistently advocated by Penzl (1985, 1988).

[3] For a survey, see Nielsen (1989: 67–107), and compare also Penzl (1988).

All the Old Germanic dialects indicate the earlier operation of complementary raising and lowering changes that affected the nonlow short vowels ($e \rightarrow i$, $i \rightarrow e$, $u \rightarrow o$). These raising and lowering changes appear, however, with different conditionings (or environments) depending on the dialectal area: in North-West Germanic the conditioning was mainly umlaut and partly consonantal, while it was virtually only consonantal in Gothic (East Germanic).[4] This partial identity and partial difference suggests a relationship between the North-West Germanic raising and lowering changes and their Gothic counterparts. Since traditional historical linguistics does not offer a model for such a relationship, historical Germanicists often deny that relationship or simply ignore the problem. As a result, some analysts assume the early umlaut to have been realized in Proto-Germanic, while others consider it an exclusively dialectal, i.e. North-West Germanic, phenomenon; in the latter case, the Gothic raising and lowering changes are dissociated from the North-West Germanic ones (e.g., Cercignani (1986)).

In 1968 and more recently in 1988, Van Coetsem discussed the North-West Germanic and Gothic raising and lowering changes. He located them in the period after the accent modification, in late Proto-Germanic (around the beginning of the Christian era). This accent modification comprised two changes, one paradigmatic and one syntagmatic. The paradigmatic change is traditionally but improperly described as one from a 'musical' or 'pitch' accent to an 'intensity' or 'stress' accent; we characterize this change as one from a *nondominant* to a *dominant* accent prominence.[5] The syntagmatic change represented a shift to the initial syllable of the word. The raising and lowering changes, which were related to the accent modification, occurred at a time when the Germanic parent language started to split up in different dialects. Van Coetsem stressed the fact that both North-West Germanic and Gothic (East Germanic) presuppose these changes, *as they affected exactly the same phonemes in exactly the same way*, except that in North-West Germanic the *conditioning* of the changes was mainly umlaut but also partly consonantal, while in Gothic it was virtually only consonantal. In other words, the raising and lowering changes had in both North-West Germanic and Gothic the same in- and output $(X \rightarrow Y)$, but differed in their conditionings. He furthermore made the claim that the consonantal conditioning can be seen as interacting with the umlaut conditioning, and thus that the North-West

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[4] Next to these major conditionings there are other factors, such as frequency, which may produce raising (cf. Mańczak (1987: 9, passim)).

[5] For a discussion of the notion of *dominance* in relation with lexical accent, see Van Coetsem, Hendricks and McCormick (1981 with further references).

Germanic raising and lowering changes should not be separated from their Gothic counterparts. L_1 and L_2 being two genetically related languages or 'lects', the type of change involved can be formulated as follows:

(1) $X \to Y$ / condit. Z in L_1 and condit. Z' in L_2

Restricting ourselves to the front vowels, the rules of the raising and lowering changes $(e \to i, \; i \to e)$ in North-West Germanic and Gothic $(e = \langle \text{ai} \rangle)$ are roughly as follows:

(2) NWGmc: $i \to e$ / a-umlaut
    Gothic: $i \to e$ / – h, ƕ, r

    NWGmc: $e \to i$ / i-umlaut and before checked nasal
    Gothic: $e \to i$ / – other cons. than h, ƕ, r[6]

These rules can be combined in each of the languages, as, for example, in North-West Germanic:

(3) $i, e \to \left\{ \begin{matrix} i \\ e \end{matrix} \right\} \; / \; \left\{ \begin{matrix} \text{i-umlaut and before checked nasal} \\ \text{a-umlaut} \end{matrix} \right\}$

1.3. An analogous problem in Romance

Romance presents a comparable problem, but one that is more complicated, not only in terms of the phonological operations involved, but also in the number and diversity of the specific dialect treatments. Several aspects remain very much under debate. For these reasons, our treatment of the Romance case will have a more general and hypothetical character, and we will largely limit our discussion to the dialects traditionally included under the grouping Italo-Western Romance. In this paper, we will operate with the macrodialectal divisions employed by Hall (1950). The Italo-Western group is comprised of the dialects of Iberia, Gaul and most of the Italian peninsula. The other two macrodialects are Southern Romance in Sardinia, Sicily and parts of southernmost Italy, and Eastern Romance in the Balkans and a very small region in southern Italy.

Though less well-known than its Germanic counterpart, umlaut also oc-

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[6]   As can be clearly observed in Gothic, the rule(s) resulted synchronically in complementarity, Gothic e ($\langle$ai$\rangle$) occurring before h, ƕ and r and Gothic i before other consonants.

curred in Romance, and is then usually called *metaphony*; we will use this term in connection with the Romance examples.[7] Metaphony is an environmentally conditioned, assimilative process that has left evidence of its operation throughout most of the Romance territory. The dating of this process to the period prior to the dialect fragmentation of Romance has been championed by some and refuted by many others. Those who prefer to see metaphony as a later phenomenon, belonging to the individual dialects, point to the diversity of conditioning factors in the dialects and, indeed, the lack of any clear umlaut-like correlation in some.

The vowels most generally affected by metaphony were the front and back mid-vowels. In almost all of the Italo-Western Romance dialects, we find clear evidence of a general raising of the Romance accented, high mid-vowels *ẹ, ọ* to *i, u* when there appeared an *i* in the final nonaccented syllable. In some dialects this raising was also induced by the presence of a following nonaccented *u* as well as by certain consonantal environments. For the low mid-vowels, we find in the vast majority of the Italo-Western Romance dialects a twofold treatment; that is, Romance *ẹ, ọ* are preserved or appear under various conditions as the diphthongs *ie, uo*. The appearance of the diphthongs in a large area of central and southern Italy was conditioned by the presence of a following metaphonic factor, just as was the raising of the high mid-vowels. Elsewhere in Italo-Western Romance, however, the diphthongization of the low mid-vowels occurred under a variety of rather different conditions. Thus, we find that while in central and southern Italy the diphthongs occurred only in metaphonic environments, in Provençal they occurred mainly in a palatal consonantal environment, and in the Gallo-Italian dialects of northern italy and in French they occurred not only in the environment of palatal consonants but also generally in open syllable, while in Tuscan they are found only in open syllable; finally, in Spanish we find the diphthongs occurring generally. The following rules will serve to exemplify the situation:

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[7] Usage within the field of Romance linguistics is divided between the two terms (as well as a third term *inflection*), though the choice seems to be largely a function of the language an author employs: e.g., Schürr uses *umlaut* in German (1936) but *metaphonie* and *inflexion* in French (1970). Leonard (1980:201) explicitly rejects the term *metaphony* as well as the term *inflection* in favor of *umlaut* on the grounds that the first two have both been used in reference to phenomena other than the 'Fernharmonisierung' that he is discussing. In the present paper, we opt to use the term *metaphony* in order to conform to the more general usage in Romance linguistics. We do so, however, in accordance with Leonard's specific use of umlaut; that is, with the term *metaphony* we refer specifically to a distance assimilation of accented vowel to nonaccented vowel.

(4) CSItalian: ę → ie / metaphony
    Provençal: ę → ie / – palatal cons., hiatus, etc.
    Gallo-Italian: ę → ie / – palatal cons. and in open syllable
    French: ę → ie / – palatal cons. and in open syllable
    Tuscan: ę → ie / in open syllable
    Spanish: ę → ie / generally

1.4. Comparing the Germanic and Romance examples

1.4.1

For both the Germanic and Romance examples, analysts disagree as to what developmental stages the changes have to be assigned, an earlier stage (i.e. a proto-stage) or a later stage (i.e. the stage of separate dialects or languages). This difference of opinion results from the fact that in both cases the changes have something in common and something different, that is, they exhibit the same in- and output but differ in their conditioning. Depending on whether the focus is on the similarity or difference, the changes are considered to be part of an earlier or later stage. We should, however, evaluate the possibility that the type of change involved is one in which the in- and output are the constants, while the conditioning is the variable. The variable conditioning is the point on which we will have to focus.

1.4.2

Our Germanic and Romance examples represent a type of assimilative change, in particular umlaut or metaphony.[8] Umlaut corresponds to a specific type of lexical accent, characterized by a dominant prominence in the accented position correlating with a weakening of the nonaccented position. In the latter position, segmental and syllable reduction (modification, abbreviation, deletion, apocope, syncope) occurs. The correlation of suprasegmental dominance and segmental reduction constitutes the metacondition that produces such assimilative changes as umlaut or metaphony between accented and nonaccented syllables. It is important to keep in mind that the umlaut factor, that is, the umlaut or metaphonic conditioning, occurs precisely in the nonaccented position and is consequently subject to such a reduction.

As is clearly attested in Germanic and may be assumed for Romance, a metaconditioned change like umlaut or metaphony may be realized on the

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[8]   In a broader investigation, one might want to include other languages or language groups that exhibit umlaut, such as Celtic, in particular Old Irish.

temporal axis in successive forms which may differ not only in the conditioning but in the in- and output as well. Also, on the basis of the common metacondition, similar forms of umlaut or metaphony often occur in parallel ways in separate dialects;[9] in such cases, only the metacondition occurs in a proto-stage, not the forms themselves.

While our Germanic examples concern complementary raising and lowering changes, the Romance case shows raising and diphthongization.

1.4.3

Like other linguistic phenomena, forms of umlaut or metaphony not only spread within the language community, but they may also be transferred on the spatial axis in dialect or language contact, that is, from one language community (dialect or language) to another. Such a transfer may exclude the positing of the form of umlaut or metaphony under consideration in a proto-stage. It is also often difficult to recognize or prove such a transfer, given the early period in which the Germanic and Romance examples under discussion occurred.

1.5. Variation, variable rule, variable conditioning, change in conditioning

1.5.1

In examining variable conditioning, we should first note that different conditioning in the rules under consideration can be seen as a more or less stabilized temporal (diachronic) and spatial (geographical, dialectal) reflex of synchronic *variation*,[10] essentially of the same kind as the one that is now described in sociolinguistics as a *variable rule* (e.g., Labov (1972: 218–237), and for a survey, see Guy (1980: 2 4)). In the type of variable rule in question, the in- and output remain the same from one language realization or 'lect' to another, while the conditioning factors vary (*variable constraint*), exactly as in our Germanic and Romance examples.

Variation and change in the conditioning occur along linguistic and extralinguistic parameters of different natures, which interact, intersect and overlap. As general conditioning parameters in which variation and change can develop, but which serve primarily as 'conduits' for variation and change, we have the *temporal dimension* (diachronic) and the *spatial dimension* (geo-

[9] Compare also Penzl (1972: 79; 1988: 494–495, 504), and earlier Höfler (1955–56).
[10] While variation may go on in time, that is, in the diachronic development of a language, it is synchronic at each stage of this development. Change without previous variation can be characterized as a case of *zero variation*.

graphical, dialectal). As conditioning parameters in which variation and change
can develop, we have the *system* parameter (e.g., phonological vs. grammat-
ical vs. lexical), the *style* parameter (e.g., rate of speech) and the *social*
parameter (sociolectal).

Since each conditioning correlates with a specific output, variation or
difference in the conditioning produces a corresponding variation or differ-
ence in the lexical representation of the output.

Let us examine, for example, final stop deletion in English, which concerns
final consonant clusters 'that end in stops' and 'undergo a *variable*, condi-
tioned process of simplification' described 'as a final stop deletion rule. In
running speech a speaker can leave out many such stops without producing
incomprehension or evoking social opprobrium' (Guy (1980:4)). This final
stop deletion, especially final *t, d* deletion, is found, for example, in *nes* vs.
nest. This *t, d* deletion rule can be be informally represented as follows:

(5) t, d → ∅ / after s and before word boundary and in running speech

The rule implies the preservation of *t, d* in 'more articulated or more
solemn style', as opposed to 'running speech', this referring to a variation '*t, d*
vs. ∅' in the output. Thus, the input of the rule is the 'final *t/d*'. The output is
the 'presence vs. the absence of the stop'. The phonological conditioning is
'after *s* and before word boundary' (system parameter). The variation '*t, d* vs.
∅' in the output is conditioned by the style (style parameter). When consid-
ering the system parameter in final stop deletion in English, the influence of
grammatical conditioning can be demonstrated with bimorphemic final clus-
ters, such as [kt] in *worked*, where -*ed* [-t] signals the past tense category.
'Such bimorphemic clusters are much more resistant to the /t,d/ deletion rule
than are monomorphemic clusters (as in *expect, mist, mind*), possibly because
the result of the rule would be to produce forms that were indistinguishable
from present tense forms (except in the third person singular). This may be
expressed as a *variable conditioning* on the rule according to the presence or
absence of a morpheme boundary in the cluster' (Guy (1980:5)).[11]

An example of variation and change in conditioning is the tensing of short
a in American English as described, for example, by Payne (1980:156–157).
In the dialects of the eastern United States, we find four major dialectal
treatments of short *a*: (1) dialects in which short *a* remains lax in all
environments, (2) dialects in which short *a* is tensed in all environments,
(3) dialects in which short *a* is tensed before nasals and remains lax in all

[11]   For further discussion, see Labov (1987: in particular 219–222).

other environments, (4) dialects in which the distribution of tense and lax reflexes of short *a* show highly complex and variable conditionings.

Of this latter group, the dialect of Philadelphia shows invariable treatment in certain environments and variable treatment in others (Payne (1980: 158–159)). Short *a* is invariably tensed: (1) before front nasals followed by another consonant or an inflectional boundary (e.g., *man, ham, hand*), (2) before voiceless fricatives followed by another consonant or an inflectional boundary (e.g., *glass, laugh, path*). The treatment of short *a* is variable both before front nasals and before voiceless fricatives when there follows an optional derivational boundary (e.g., *plan–planning, graph–graphic*) or a vowel (e.g., *hammer, manage*). The tensing is also variable before *l* (e.g., *pal*). In other environments the Philadelphia treatment of short *a* is invariably lax. Two exceptional treatments of short *a* must, however, be noted. First, the three adjectives *mad, bad, glad* invariably show tensing, although in an environment which otherwise invariably shows the lax allophone. Second, in the verbal forms *began, ran, swam, wan, am, can*, the short *a* is invariably lax, although in a tensing environment. In both of these exceptional cases, the affected items form recognizable lexical groups: on the one hand, high frequency adjectives, and on the other high frequency strong or irregular verbal forms.

The geographical aspect of the variable conditioning, that is, of the change in conditioning, of lax and tense *a*'s, can be clearly seen when we compare their distribution in the Philadelphia dialect with that of the New York dialect. In New York, the tensing has affected all the same environments as in Philadelphia. However, while in Philadelphia tensing has occurred only before *f, s, th*, in New York it has also occurred before *sh*. In the case of tensing before voiced stops, moreover, the Philadelphia dialect shows only the three isolated lexical items *mad, bad, glad*, whereas in New York tensing is general in this environment.

One cannot but notice the similarity between the tensing of short *a* and our historical examples from Germanic and Romance. In all cases the in- and output of the rules remain the same while the conditionings differ, this in turn affecting the lexical representation of the output.

1.5.2

Variation or difference in the lexical representation of the output can be seen as a change in progress and as a form of lexical diffusion (e.g., Labov (1972)). In his discussion of the change of *a* to *o* before nasals in Old English, Toon (1983: 72–80, 98–107) also uses glossaries of the Mercian hegemony: *Epinal Glossary* (beginning 8th c.), *Erfurt Glossary* (language c. 750), *Corpus*

Christi Glossary (c. 800) and *Vespasian Psalter* (c. 825). Toon (1983: 106–107) comments: 'What emerges is the picture of a sound change proceeding regularly, although variably, according to phonetic environment. The logical consequence of this direction of change is the state of the language to be seen in the *Vespasian Psalter* – where WGmc. *a before nasals appears only as *o*. It is important to students of the language that variable data need not preclude ... meaningful analysis. That is, one may look at the following summaries of form and conclude that the texts from which they are drawn could not possibly represent the same dialect:

	Epinal	*Erfurt*	*Corpus*	*Vesp. Psalter*
a	58	32	38	none
o	1	33	95	all

Or, aided by a detailed analysis of the pattern of variation, one may conclude ... that the differences between the texts can be explained chronologically. Further, this analysis of the data argues strongly against attempts to attribute variation to dialect mixture or to the disparate dialects of the sources, as both of these would have resulted in a random distribution of *a* and *o*. The distribution is hardly random'.

When further discussing the 'transition' problem of Old English sound change in progress, Toon (1980: 207) also makes the following interesting remark: 'It is obvious from the discussions of synchronic variation within the body of this study that phonetic regularity is a factor in the development of sound changes. That is, we find classes of sounds undergoing changes for which a conditioning factor is often a phonetic criterion. Phonetic classes, however, are not the only criterion'. Based on his data he also insists that 'changes do not proceed uniformly by phonetic entity but diffuse through subsets of the lexicon. The changes can be seen as complete in some words while not yet having begun in others. These and the numerous other such examples ... suggest that lexical diffusion is a factor in many Old English sound changes'.

As both the Old English change from *a* to *o* and the tensing of short *a* in the eastern Unites Stated show, variation occurs between poles of invariance. Variation may then show differences of degree, depending on the nature of conditioning factors. Variation can also reach comparatively stable stages in the individual as well as in the group.

1.6. Reconditioning

1.6.1

As stated above, variation, in particular variable conditioning, may develop on the temporal and spatial axes as change, in particular change in conditioning, that is, *reconditioning*. The case of reconditioning in a spatial perspective is illustrated by the above discussion of the tensing of *a* in the dialects of the eastern United States. The general case of change developed from variation in both a spatial and temporal perspective is exemplified by the development of *a* to *o* before nasals in the history of English.

We will now consider some other examples of reconditioning, which will also show that reconditioning has not been well recognized, mainly because of a failure to really focus on the conditioning of the changes in question. In connection with the Romance examples, the concept has been touched on but obscured through reliance on unclear terms, as in Schuchardt's use of *analogy*.[12]

(*i*) We first have the well-known case of *morphologization* of alternants (normally referring to inflectional morphology). This is an example of non-automatic phonological conditioning which becomes functionless as a result of opacity and is replaced by a morphological conditioning through which transparency is achieved; the development probably occurs with a period of overlap of the two kinds of conditioning. This is a change within the system parameter, a change that is realized through intervention of the hearer-decoder. 'Whether morphologization will actually occur depends on how well the members of the alternation (the alternants) are identified with a morphological distinction' (Van Coetsem and McCormick (forthcoming)). This is what has been called *optimal patterning*: 'An alternation shows optimal patterning if, with the breakdown of its phonological conditioning, it consistently and exhaustively corresponds or develops a correspondence, with a

[12] Schuchardt (1885: 7–8): 'Ich habe vor langen Jahren den Gedanken geäussert daß im Italienischen (und im Romanischen überhaupt) *ie, uo* = vulgärlat. *e, o* ursprünglich wie noch jetzt in manchen Dialekten, an ein folgendes *i* oder *u* gebunden war: *vieni, buonu, buoni*. Zunächst würde es durch begriffliche Analogie ausgedehnt worden sein: *viene, buona*, dann aber auch eine solche: *pietra, ruota*, und Formen wie *bene, bove* (Plur. *buoi*), *nove* (genenüber *nuovo*) würden eben die letzten uneroberten Plätze bedeuten. Ich weiß nicht, ob meine Annahme von einer *rein lautlichen Analogie* etwas ganz neues ist …'. Cf. also Schürr (1965: 339): 'Eben dies aber zeigt die Geschichte der 'romanischen' Diphthonge *ié, uó* wie sie, lautmechanischen Ursprungs (darin aber doch auch von psychologischen Faktoren mitbestimmt), sich in dem Maße durchsetzten und konsolidierten, als sie eine Funktion in Systemen innerer Flexion übernahmen, oder andere, wo letztere nicht zur Ausbildung kamen oder der Auflösung verfielen, ihrerseits zurückwichen oder andere phonologische Funktionen erhielten'.

morphological distinction without crossing the boundaries, so to speak, of that particular distinction into other morphological patterns' (Van Coetsem and McCormick (1982:24)). Developing a correspondence with a morphological distinction occurs within the morphological component itself, specifically through a levelling process (cf. Leys (1986)). Again, in all such cases both the in- and output of the rule are maintained, but the conditioning is modified:

(6)   X → Y / phonol. condit. ⇒ X → Y / morphol. condit.
        e.g., man- → men / umlaut ⇒ man → men / plural
            foot- → feet / umlaut ⇒ foot → feet / plural

Synchronically, X and Y are members (alternants) of a morphologically conditioned alternation:

(7) X (morphological category A) ∼ Y (morphological category B)
        e.g., man (singular) ∼ men (plural)
            foot (singular) ∼ feet (plural)

The rule X → Y has indeed undergone a reconditioning. While the phonological conditioning, umlaut, has become opaque, the language user has assigned to X → Y a more transparent, morphological conditioning. The alternants X and Y are identified with a morphological distinction (singular vs. plural) and have become morphological markers. In the case of *man* ∼ *men* and *foot* ∼ *feet* we have alternations that represent unproductive, closed classes; there are also alternations that occur as productive processes. The reconditioning of a rule from phonological to morphological is well documented and needs no further argument.

   (*ii*) With a nonautomatic conditioning, there seem to be forms of reconditioning that range from purely phonological to purely morphological with a variety of intermediary cases, which may also represent intermediary stages in the diachronic development. For example, with the development to a nonautomatic conditioning, the original phonological conditioning may remain operative in part of the language as a (co-)marker (redundancy) of, say, a morphological category or a lexical subgroup. The paradigm of the indicative present of the Old High German verb *geban* illustrates this:

(8) Singular 1. gibu
             2. gibis
             3. gibit

Plural   1. gebamēs, -emēs
           2. gebat, -et
           3. gebant

Here the *-i-* and *-e-* alternants function as morphological markers (singular ~ plural). Although in Old High German *i*-umlaut of *e* is nonautomatic, it is still operative in this paradigm. The *-i-* in *gib-* marks the singular, the *-e-* marks the plural. The *-u* marks the first person singular, *-is* and *-it* mark the second and third persons singular, respectively. The *-e-* in *geb-* of the plural continues a Proto-Germanic *-e-* as a reflex of the preserving effect of *a*-umlaut. We can compare the Old High German paradigm with the corresponding Middle High German and modern German ones:

		MHG	*Mod. German*
(9)			
Singular	1.	gibe	gebe
	2.	gibest	gibst
	3.	gibet	gibt
Plural	1.	geben	geben
	2.	gebet	gebet
	3.	gebent	geben

In the Middle High German and modern German paradigms the *-i-* alternant in the second and third persons singular as a reflex of an earlier umlaut is preserved, but there is no longer any umlaut conditioning involved. In modern German *-st* and *-t* have become the primary markers of the second and third persons singular, while *-i-* is a redundant co-marker.[13] This represents a change in conditioning or a reconditioning that results from a regular language development, i.e. a regularly developing reduction, and not from an intervention of the hearer-decoder. The *-e-* in the first person singular is analogical after the plural.[14]

(*iii*) There are still other examples of reconditioning occurring with a nonautomatic conditioning. While this conditioning is still to a certain extent retrievable, reconditioning may occur because of the hearer-decoder's lack of

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[13]   It seems that the vowel is again the primary marker in the case of roots ending in a dental, e.g., *er gilt* of *gelten*; however, the disappearance of the flectional ending *t* is only a surface-level phenomenon.

[14]   Behaghel (1953: 184): 'Das Neuhochdeutsche ... hat die erste Person Singular mittelhochdeutsch *ich gibe* dem Plural *geben* angeglichen: der Wechsel von *trage – trägst – trägt* ist das Vorbild geworden für den von *gebe – gibst – gibt*'.

exact recognition and reproduction of the existing conditioning. This form of reconditioning seems to underlie at least part of the variation and change in the conditioning of the *a* tensing in the eastern United States, as discussed above. Yet it appears that grammatical and lexical factors as well as frequency can also play a role in such a case. The conditioning can also be ambiguous and so give rise to reinterpretation or reanalysis. It seems plausible to assume that this kind of mechanism of reinterpretation or reanalysis underlies the shift of a vocalic to a consonantal conditioning in at least some of our Germanic and Romance examples. When reconditioning is based on reinterpretation or reanalysis, it exemplifies the type of (phonological) change that has been characterized by Andersen (1973) as a covert abductive change followed by overt deductive change. Such a type of change has been often illustrated with Sturtevant's example of *irrigation*, reinterpreted as *ear-igation* and producing *nose-igation*, the difference being that in our examples the reinterpretation applies to the conditioning.

(*iv*) Reconditioning is also found in what has been called *rule generalization, rule simplification* or *rule modification* in the generative approach (e.g., King (1969: 58–63), Schane (1973: 92), Van Coetsem (1975b: 273–275). The following is an interesting example. $\check{V} + n$ before the fricative X produced nasalization of the vowel in Proto-Germanic (**branxt-* → **brã͂χt*). In Ingvaeonic (English, Frisian, Saxon), $\tilde{a}$ was changed to $\tilde{o}$. Subsequently $\tilde{a}$, $\tilde{o}$ became $\bar{a}$, $\bar{o}$, **brāχt-*, **brōht-* (Gothic *brahta*, German *brachte*, English *brought*). In the Ingvaeonic area the original conditioning of the rule ('before X') was generalized or expanded to include all voiceless fricatives, *f, þ, s, χ*. The example represents a feature-sharing automatic reconditioning. Schane also mentions an example of rule generalization in French, where 'word final schwas were at first deleted only when the next word began with a vowel. Today, in colloquial speech, nearly all word final schwas are dropped'.

1.6.2
What are the prerequisites of reconditioning?

(*i*) Variable conditioning occurs with internally induced change (e.g., the above *nes* vs. *nest*), especially in first language acquisition, and with externally induced change in second language acquisition and in language or dialect contact. During these transmission processes, the conditioning of a change may itself be modified or changed, that is, reconditioning may take place.

(*ii*) We should remember that we can only speak of reconditioning if the in- and output of the change remain the same. Reconditioning is inapplicable if changes differ in their in- and/or output, although they may be related by a

metacondition as in the case of umlaut or metaphony. Of course, in a broader diachronic perspective, specific cases of reconditioning may be partially or wholly obscured through secondary changes to the in- and output in a given dialect. Also, different changes may have the same conditioning.

(*iii*) In the case of umlaut or metaphonic conditioning, which is our particular focus, reduction affects the conditioning factor itself, and thus constitutes a suitable ground for the development of reconditioning.

1.6.3

Our examples show that there are different, intersecting and partly overlapping forms of reconditioning, which we now enumerate. As our investigation is mainly based on umlaut or metaphonic change, there may be other forms of reconditioning than those listed here.

(*i*) There is first a difference of reconditioning depending on whether it results from an intervention of the *hearer-decoder* in the process of perception and reproduction, or from a *regular language development*. The two may also co-occur.

(*ii*) We have to consider a change from an *automatic* to a *nonautomatic* phonological conditioning (Van Coetsem (1968)). A distinction between the two kinds of conditioning is often difficult to make for changes that occurred in the past. In the case of umlaut or metaphony a nonautomatic conditioning develops as a result of the reduction of the umlaut or metaphonic factor or as a result of the merger of the output with a phoneme different from the input.

We should also keep in mind that in the allophonic or subphonemic range of variation there are *positional* or *contextual* variants, which are automatic, and *free* variants, which are nonautomatic. If a free variant has a social connotation, it will be susceptible to the rules of social behavior. The change from an automatic to a nonautomatic conditioning is in itself a reconditioning, but we may also have reconditioning from an automatic conditioning to another automatic conditioning, and certainly from a nonautomatic conditioning to another nonautomatic conditioning.

(*iii*) There are furthermore two forms of phonological conditioning, one *assimilative* and the other *nonassimilative*. The assimilative form of reconditioning is an organically operating process involving a phonological feature-sharing action while the nonassimilative form of phonological reconditioning is based on other factors, such as frequency. The change from an assimilative to a nonassimilative conditioning is a form of reconditioning, but we may also have reconditioning from an assimilative conditioning to another assimilative conditioning, or from a nonassimilative conditioning to another non-

assimilative conditioning. The lack of distinction between assimilative and nonassimilative conditioning has often prevented research from fully accounting for cases of what is usually called *consonantal influence*, i.e. cases of consonantal conditioning where no clear feature-sharing action can be seen.

(*iv*)   Finally, there is the distinction between *phonological* and *morphological* conditioning. The change from a phonological to a morphological conditioning, called *morphologization*, is a form of reconditioning, of which we have given several examples. Another form of reconditioning is the change from one phonological conditioning to another phonological conditioning, which we will call *phonological reconditioning*. Our examples of *a* tensing in American English and rule simplification illustrate some aspects of phonological reconditioning. Other aspects of such a reconditioning (change from a vocalic to a consonantal conditioning or syllable structure conditioning) will be proposed with our Germanic and Romance examples.

Another possible form of reconditioning could be a change from one morphological conditioning to another morphological conditioning (*morphological reconditioning*), of which we have no examples in our material.

Before examining our Germanic and Romance examples of reconditioning, we will briefly consider the notion of *deconditioning*.

1.7. Deconditioning

1.7.1

In the case of extreme rule generalization, there is no conditioning any more and we can speak of *deconditioning*. Examples of this are found in the northern city dialects of American English where tense short *a* has been generalized (see section 1.5.1), and in Spanish $e \rightarrow ie$ (chart (4) above).

1.7.2

If a phonological conditioning does not systematically fulfil a function, the rule is lost and lexicalization or merger of the alternants follows. In such cases, we have also deconditioning. In general, we speak of *lexicalization* if the alternants do not fulfil any morphological function, and are elements of lexically different forms. Lexicalization will occur, for example, with lack of optimal patterning. Also, lexicalized and morphologically functional alternants of the same alternation may co-occur; compare English *foot* ~ *feet* and the verb *feed*, the noun *feed* and the noun *food* (Van Coetsem and McCormick (forthcoming)). Lexicalization, merger and deconditioning are common and well-known phenomena, which do not need any special attention here.

Lexicalization appears to also occur in the case of phonologically conditioned alternation, that is, in the case of phonological reconditioning (cf. Van Coetsem and McCormick (forthcoming)).

2. Variation and reconditioning in Germanic

2.1. The types of conditionings; North-West Germanic vs. East Germanic (Gothic)

With the accent modification that occurred before the beginning of the Christian era, the Germanic parent language entered its last developmental stage (Proto-Germanic), which ended with the gradual development of the language into different dialects. The new Germanic accent had acquired a strongly dominant prominence, which occurred on the initial syllable of the word, mainly on the root syllable. Together with this, reduction occurred in nonaccented position on the segmental level, producing a compensatory movement and assimilative processes (umlaut and consonantal conditioning) between the accented and nonaccented syllables. At the time of this incipient dialectal diversification, only complementary raising and lowering changes operate in the short vowel system, which consists of four vowels, *i, e, u, a*.[15] The raising and lowering changes affect only the nonlow vowels, namely *e → i, i → e* and *u → o* (thus producing a new *o*):

(10)   i   u
       ↘   ↖   ↗ ↙
          e   o
             a
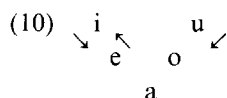
As stated, the occurrence of these raising and lowering changes in Proto-Germanic is unambiguously postulated by all of the oldest stages of the Germanic descendant languages, East Germanic (Gothic) as well as North and West Germanic. Indeed, these languages do not differ at all as far as the raising and lowering changes themselves are concerned, but they differ in the conditionings of these changes. The developments in the Germanic languages, however, cannot be dissociated from one another because of the differences in conditionings, since the conditionings can be shown to be interacting, as we will discuss now. Our treatment of the Germanic case is based on previous studies of Van Coetsem (1968, 1988). We will first analyze the relevant

[15]   In an earlier developmental stage, the Germanic parent language had a system of five vowels *i, e, a, o, u,* in which *o* and *a* merged; compare Latin *ager, hostis* and Gothic *akrs, gasts.*

developments in North-West Germanic, as these will allow us to gain some important insights, and then, we will consider the corresponding Gothic development.

2.2. Mainly umlaut conditioning in North-West Germanic

2.2.1

In order to better understand the mechanism of the raising and lowering changes in question, we use the sequential pattern VCV, which ranges over two syllables, the first being accented and the second nonaccented. The first V represents the *affected* vowels, *i, e, u, (o)*, in accented position. C and the second V function as the *affecting* (conditioning) elements; C is the intervening consonantism (which can also be a consonant cluster) following the accented vowel, while the second V stands for the vocalism in nonaccented position. For example, in **bendan-* → **bindan-* of the Germanic parent language, *e/i* is the first (accented) V, *nd* is C and *a* is the second (nonaccented) V.

In North-West Germanic the raising and lowering changes are mainly vocalically conditioned, the conditioning element being the second V, that is, a vowel in nonaccented position; this is *umlaut conditioning*:[16]

(11) V̅C̅V̅

An example of raising under *i*-umlaut condition is *e* → *i* before *i* in **esti* (Greek ἐστί) → Proto-Germanic **isti* (Old High German *ist*), and an example of lowering under *a*-umlaut condition is *i* → *e* before *a* in **nista-* (Latin *nīdus, *nizdo-*) → Proto-Germanic **nesta-* (Old High German *nest*).[17]

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[16]   In this study we view umlaut exclusively as a heterosyllabic phenomenon. As O. Leys notes (personal communication), and as has also been done in previous research, one can evaluate the possibility of a tautosyllabic umlautconditioning, as perhaps in the case of diphonematic diphthongs. For example, it might be that the general raising of a vowel before a (contiguous) vowel in the 'Old High German vowel shift' (e.g., *ai* → *ei*, *ē* [ee] → *ie*), as described by Van Coetsem (1975a), was in its original form triggered by umlaut (*a* → *e*). The consideration of a tautosyllabic umlautconditioning is not relevant to our present treatment of reconditioning.

[17]   It is not always easy to determine exactly the PGmc *i*-umlaut conditioning factors and *a*-umlaut conditioning factors, as they were subject to modification and disturbances as the result of the ongoing reduction phenomenon in nonaccented position; counteraction as a form of competition was also active, as we will see. In general one can say that the *i*-umlaut factors were the high vowels and yod, that is, *i* (inherited *i* and *i* from *e* in nonaccented position), yod and (possibly) *u*; the *a*-umlaut factors were the low and mid vowels, that is, *a, o* (long and short) and *ē* [æ]. There is consequently complementarity between the *i*- and *a*-umlaut factors.

In addition to the vocalic conditioning, North-West Germanic exhibits a consonantal conditioning. The conditioning element is then the intervening C (a nasal cluster) following the accented V; this is *consonantal conditioning*:

(12) VC(V)

An example of consonantal conditioning is *e → i* before *nd* in **bendan-* (Latin *offendimentum*) → Proto-Germanic **bindan-* (Old English *bindan*).

VCV and VC(V) are also called *sequential relations*, the former, one of *vowel* to *vowel*, that is, the V-V relation, and the latter, one of *vowel to consonant*, that is, the VC relation. Such sequential relations may have either a *changing* or a *preserving* effect. An example of V-V relation with preserving effect is Proto-Germanic **neman-*, Old High German *neman*; *e* is preserved before *a* of the nonaccented syllable. An example with changing effect is **nemis-* → Proto-Germanic **nimis-*, Old High German *nimis*; *e* is then changed to *i* before *i* of the nonaccented syllable.

As the example of **bindan-* shows, the two types of sequential relations interact, specifically one type of sequential relation restricts or neutralizes the action of the other type of sequential relation; indeed, **bindan-* reflects the action of the VC relation, which neutralizes the action of the V-V relation that would require the preservation of *e* before *a* of the nonaccented syllable. The interaction of the two types of sequential relation can be represented as follows:

(13) VCV

In this interaction, if the two types of sequential relations have different effects, they are in *competition*, the effects being either change or preservation; they are then mutually restrictive. If the two types of sequential relations have the same effects, they are in *co-operation*, the effects being again either change or preservation.[18] Although umlaut refers traditionally to a change, with the notion of V-V relation we can speak of 'umlaut-conditioned change' and 'umlaut-conditioned preservation'. This is also because the raising and lower-

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[18] As O. Leys notes, in the Old High German second plural indicative present *nemet* of *neman* (PGmc **nemeþ-* of **neman-*), one might wonder whether we have an example of *absence* of umlaut instead of umlaut-conditioned *preservation* of *e*. It would seem that there is umlaut-conditioned preservation in this case, given the fact that *ē*, the long counterpart of *e*, activates *a*-umlaut in Old High German (old *e* had normally become *i* in nonaccented position). Yet, there are indeed also cases of absence of umlaut (cf. section 2.2.4 (ii)).

ing changes operate in complementarity. We reproduce here a slightly modified diagram from Van Coetsem (1988), schematizing the interactions of the two types of sequential relations:

(14) $\overset{\frown}{\text{VCV}}$
- umlaut-condit. change: *esti   → *isti
- umlaut-condit. preservation: *neman-   → *neman-

$\text{V}\underset{\smile}{\text{C}}(\text{V})$
- consonantally condit. change: *bendan-   → *bindan-
- consonantally condit. preserv.:   *bundan-   → *bundan-

$\overset{\frown}{\underset{\smile}{\text{VCV}}}$
- competition
  - change: *bendan-   → *bindan-
  - preservation: *bundan-   → *bundan-
- co-operation
  - change: *bendis-   → *bindis-
  - preservation: *bundi-   → *bundi-

2.2.3

The V-V relation itself is subject to two forms of modification. First, an automatic conditioning may develop to a nonautomatic one, and this development has several consequences, as we have noted (section 1.6.1). Second, we should keep in mind that such a sequential relation and specifically the changes that result from it occur as segmental reflexes or correlates of a specific type of lexical accent, namely the one involving a dominant accent prominence. As we have also remarked, hand in hand with such a type of lexical accent goes reduction in nonaccented position, which results in the loss of functional distinctions and in assimilative processes between the accented and nonaccented positions. Within the context of the VCV sequential pattern, the V-V and VC relations create new distinctions in accented position, which to a certain extent provide the possibility for compensating for the loss of distinctions in nonaccented position. Yet, there is also a difference between the V-V and VC relations, which we have already stated and on which we have to insist. In the V-V relation the second V occurs in nonaccented position and is subject to ongoing reduction, this entailing deterioration of the V-V relation. On the other hand, the C in the VC relation is part of the root and is in principle not affected by reduction, making this relation more resistant to modification. From this perspective, the V-V relation seems to be the first determinant of the nature of the changes, here a raising or lowering of nonlow vowels, while the VC relation interacts with the V-V relation. This does not imply, however, that the interaction of the VC relation is necessarily secondary in time; such an interaction may occur as soon as the V-V relation becomes operative. Also, we cannot exclude the possibility that the VC

relation performs its operation independently, that is, without any action from the V-V relation.

Since C in the VC relation is more stable than the second V in the V-V relation, it is not surprising that C can take over the action of the V-V relation. As noted in our earlier discussion of reconditioning, such an action may be based on phonological feature-sharing of the second V and of C on the first V in VCV, or it may be based on other factors, such as the frequency of the concrete realization of C.

While the V-V relation becomes very restricted and even inactive in one part of the system, it may remain active in another part. It furthermore seems that a restricted or inactive V-V relation may be reactivated, as we will discuss below in the case of *a*-umlaut of *i*. The raising and lowering changes are illustrative of this, in particular in the (diphonematic) diphthongs, which also show an extended use of the VC relation.

2.2.4

We will now discuss some examples.

(*i*) First, we examine the development of the diphthong *eu* in a given area of North-West Germanic, following the step-by-step analysis of that development in Van Coetsem (1988). Raising and lowering of *eu* in North-West Germanic regularly produces *iu* (raising of *e* to *i*) and *eo* (lowering of *u* to *o*). In Old Franconian, Germanic *eu* appears as *iu* with *i*-umlaut, and as *eo*, subsequently as *io*, with *a*-umlaut,[19] that is, as a split that is exclusively umlaut-conditioned (V-V), which is clearly recognizable in the verbal inflection. To demonstrate this, we use three verb types, whose roots end in a dental, labial and velar, respectively namely *biotan* 'to offer', *klioban* 'to cleave' and *liogan* 'to lie'. The paradigms of these verbs in the present are as follows (Braune (1987: 48 ff.)):

(15) Singular	1. biutu	kliubu	liugu
	2. biutis	kliubis	liugis
	3. biutit	kliubit	liugit
Plural	1. biotamēs/-emēs	kliobamēs	liogamēs[20]
	2. biotet/-at	kliobet	lioget
	3. biotant	kliobant	liogant

[19] More clearly than in PGmc, the conditioning umlaut factors in Old High German appear to be high vowels in *i*-umlaut, and low and mid vowels in *a*-umlaut (Braune (1987: 30ff., 48ff.)), although here again disturbances have quite naturally occurred.

[20] Next to *-amēs* and *-emēs* the minority form *-umēs* occurs, which is regularly regarded as the original one (Braune (1987: 258). The *u* in *-umēs* does not raise the root vocalism *e*. Has umlaut in this case been obliterated by the other more frequently occurring forms?

Upper German (Old Alemannic and Old Bavarian) and Old Norse in their respective developments of *eu* show a fairly parallel interaction of umlaut conditioning and consonantal conditioning (V-V + VC). In Upper German, before labials and velars only *iu* occurs, while umlaut (*iu* vs. *io*) is found before dentals and *h*. In the above paradigms the corresponding Upper German verbs (*biotan, chliuban* and *liugan*) have the following vocalisms:

(16) iu   iu   iu
      iu   iu   iu
      iu   iu   iu
     ⎤
      io ⎤   iu   iu
      io │   iu   iu
      io │   iu   iu

As one can see, in the Upper German relation V-V + VC, the consonantal conditioning (VC) is clearly the predominant one.

In Old Norse, we find $\bar{y}$ (from *iu* ← *eu*) with *i*-umlaut and before *r* (from ʀ [z]), and a split between *jū* before labials and velars, and *jō* before dentals (with some exceptions). In the above paradigms, the corresponding Old Norse verbs (*bjōða, kljūfa, ljūga*) have the following vocalisms:

(17) $\bar{y}$ $\bar{y}$ $\bar{y}$
      $\bar{y}$ $\bar{y}$ $\bar{y}$
      $\bar{y}$ $\bar{y}$ $\bar{y}$
     ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯
      jō │   jū   jū
      jō │   jū   jū
      jō │   jū   jū

In the Old Norse relation V-V + VC, the umlaut conditioning (V-V) is the predominant one. However, $\bar{y}$ is also an umlaut reflex of $\bar{u}$ (cf. *lȳtr*, third person singular present of *lūta* 'to bend'), which means that $\bar{y}$ is no longer uniquely in morphophonological interrelationship with *jō* and *jū*. The *jō–jū* distinction, which is exclusively based on a VC relation, can therefore also be considered separately.

The Upper German and Old Norse situations go back to a common denominator, which is as follows:

(18) iu   iu   iu
      iu   iu   iu
      iu   iu   iu
      ----
      eo | eu   eu
      eo | eu   eu
      eo | eu   eu

In Upper German and Old Norse, *u* of *eu* is lowered, yielding *eo*, when an *a*-umlaut factor follows, but only before dental consonants. The *u* of the diphthong is preserved before labial and velar consonants even though *a*-umlaut of *u* to *o* otherwise regularly occurs in Upper German and Old Norse. What we have here in *eu* is indeed an allophonic, consonantally conditioned *u* preservation before labial and velar consonants for what would have been *o* if *a*-umlaut had prevailed. The basic development for both Upper German and Old Norse is: *iu* with *i*-umlaut (V-V relation, change), *eo* with *a*-umlaut before dentals (V-V relation, change) and *eu* before labial and velar consonants (VC relation, preservation). With a subsequent raising of the first element in diphthongs (Van Coetsem (1975a)), this regularly develops in Upper German to *iu* (*i*-umlaut) and *io* (*a*-umlaut) before dentals, and to a generalized *iu* before labials and velars. This represents a change in conditioning, that is a reconditioning, as there is a development from a predominantly umlaut conditioning to a predominantly consonantal conditioning. In Old Norse *iu* (with *i*-umlaut), having developed to *ȳ*, the reflex of Germanic *eu* in that language is one of purely consonantal conditioning, namely *jō* before dentals and *jū* before labials and velars, with some exceptions. However, as noted, *jō* is here the reflex of an earlier umlaut; as Heusler states, in his *Altisländisches Elementarbuch* (1932: 18): 'Der Diphthong *eu* verrät *a*-Umlaut zu *eo* (> *iö*)', that is, *jō*, in our transliteration.

In the Older Runic inscriptions (Old Futhark) of the Scandinavian area, Germanic *eu* occurs as *iu* with *i*-umlaut (*niujila*; *y* in East Nordic), but as *eu* in other cases (*hleuno, leubaz, leubu, leugaz*) (Antonsen (1975: 15)). In this *eu*, *e* appears to be the result of an *a*-umlaut preservation (V-V relation), and *u* is also preserved, although here again *a*-umlaut of *u* to *o* occurs in other cases than in the diphthong *eu*.[21] Old Norse *jō-jū* would thus appear to be a subsequent, consonantally conditioned split, without a previous stage of umlaut conditioning or at least without such a stage being documented.

[21]   E. g., in *holtijaz* (levelling); in cases like *horna, worhto*, one may wonder whether consonantal conditioning is involved.

However, an original umlaut conditioning, co-determining the *jō–jū* split, could in its nonautomatic stage very well have weakened, resulting in a variation whose parameters may also have been stylistic or social. Such variation is not necessarily reflected in the spelling.

There is a group of Old Futhark inscriptions, often referred to as *South Germanic* inscriptions (e.g., Opitz (1977, 1986)), that are found in the Franconian, Bavarian and Alemannic areas (with the strongest concentration in Alemannic) and that date from late in the Merovingian period (500–700). In this 'South Germanic' corpus, Germanic *eu* is reflected as *iu*, *eu* and *eo* before labial (*leub*, Engers, Norderdorf I, *leuba, leubo*, Schretzheim, *liub*, Niederstotzingen, *liubi*, Weimar, *leob*, Weimar). This may indicate some *eu–eo* variation with no strong umlaut conditioning, which may also have been the situation in the Scandinavian area. Such variation may have led to the more transparent conditioning or the reconditioning that we find in Upper German (Old Alemannic and Old Bavarian) and Old Norse.

A reconditioning as in Upper German represents then the outcome of regular phonological development, with the interaction of V-V and VC relations. However, insofar as variation also occurred, intervention of the hearer-decoder will have been involved as well.

(*ii*)   While the raising of *e* to *i* and the lowering of *u* to *o* under umlaut conditions are well documented, the umlaut-conditioned lowering of *i* to *e* is, as is well-known, more sporadic and seems to have been strongly subject to different kinds of restrictions and counteractions (as Streitberg (1900: 56) already noted). In particular, the two changes *e → i* and *i → e* appear to have been in competition, with the former prevailing and the latter occurring more in residual cases (cf. Wang (1969)). We should note that *i*-umlaut of *e* to *i* is well documented in the Runic inscriptions of the Old Futhark (ranging from approximately 200 to 700 A.D.), while *a*-umlaut of *i* to *e* is at best rare (see Antonsen (1975: 14)); the *a*-umlaut of *i* to *e* seems to have been reactivated towards the end of the Old Futhark period (cf. *hederA*, Stentoften [600–650] vs. Gothic *hidre*, Latin *citra* 'on this side', Krause (1966: 210), Antonsen (1975: 85)). Given that there is only a lowering change and no raising change in the back vowels (*u → o*), the competition between the raising and lowering changes in the front vowels can explain the old crux of the difference between *i/e* and *u/o* in Old High German *gigriffan* of *grīfan* (instead of what we would expect, **gigreffan*) and *gibotan* of *biotan* (with *o* in *-bot-* regularly developed from *u* with *a*-umlaut). In the same perspective, it is quite understandable that the development of the diphthong *ei* (*e + i*) to *ii*(*ī*) is most common, while the one to *ee* (*ē²*) is far more sporadic (for the original exposition, see Van

Coetsem (1956:22ff.)). In both cases, we see the prevalence of raising ($e \rightarrow i$) over lowering ($i \rightarrow e$). Also, $\bar{\imath}$ and $\bar{e}^2$, as long vowels, no longer responded to umlaut conditioning, which made $\bar{e}^2$ subject to levelling (Van Coetsem (1962)).[22]

(*iii*) Certain developments of Germanic *ai* and *au* in the Dutch-German area are also of interest. Here again, we find splits with reflexes of consonantal conditioning and umlaut conditioning. It has been assumed that in these Germanic diphthongs *i* and *u* were subject to the lowering changes under umlaut conditioning, thus producing early splits of *ai–ae* and *au–ao*, for which, however, we do not have any direct evidence (Antonsen (1964:182ff.), (1965:33ff.), Van Coetsem (1968:523ff., 1975a:14)). The *ae* in *wraet* 'wrote' of the Runic inscription *boso wraet runa* on the fibula of Freilaubersheim of about 575 (Krause (1966:284), and cf. Opitz (1977)) does not reveal any kind of conditioning; in this Rhenish Franconian inscription, *ae* is considered diphthongal. In some old deeds (Weißenburg), *ai* is found in some examples before *r*, e.g., in *gairelaigo* (696), but in other texts it appears as *ae*, and later as *ē*, before *r*, *w* and Germanic *h* (χ), so that in Old High German, Germanic *ai* is in general represented as *ē* before *r*, *w* and Germanic *h*(χ), and as *ei* before other consonants, with some exceptions (Braune (1987:43)). This fairly regular situation of consonantal conditioning is reflected in modern German. The early Old High German *ae* has been viewed as a monophthong, but is better considered a diphthong; starting from *ai–ae* and *au–ao*, the application of a raising to the first element of the diphthong produces then exactly the Old High German situation *ei–ee* ($\bar{e}$) and *ou–oo* ($\bar{o}$) (for details, see Van Coetsem (1975a)).

Standard Dutch occupies here an intermediate position between German, which shows a conditioned occurrence of diphthongs and monopthongs, and the continental Ingvaeonic languages (Frisian and Saxon), which generally exhibit monophthongization as a form of deconditioning. For Germanic *au* Dutch has generally *ō*. For Germanic *ai* Dutch has *ē* before *r*, *w*, *h* and in final position, but *ē* and *ei* in other cases, without any clear rule governing their respective occurrences. One should note, however, that *ei* is clearly linked to the earlier occurrence of *i* or *j* as umlaut factors, e.g., in *dreigen*,

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[22] Cf. also Krahe and Meid (1969:58–59): 'Im übrigen ist die Brechung *u* > *o* weitgehend regelmäßig eingetreten. Demgegenüber unterlag die Brechung *i* > *e* mannigfachen Störungen. Sie unterblieb z.B. stets in den Participia Praet. der 1. starken Klasse ..., wohl unter dem Einfluß des langen *i* der zugehörigen Praesentia: an. *gripenn* (zu *grīpa* 'greifen') = ags. *gripen* (zu *grīpan*) = ahd. *gi-griffan* (zu *grīfan*)'. While such analogical influence from the present to the past participle may indeed occur, the real cause of the lack of *i* → *e*, also in the past participle, is evidently broader, and resides in the competition between the changes *i* → *e* and *e* → *i*.

reiken, spreiden (*jan*-verbs), *heilig, rein* (*i*-stems), *eigen* (Gothic *aigin*) (Schön-
feld and Van Loey (1964: 75–76)).

This development of the Germanic diphthongs *ai* and *au* in German and
Dutch, with the latter pointing to early umlaut conditioning, can be best
interpreted as follows. Assuming that there was indeed originally an umlaut-
conditioned split *ai–ae* and *au–ao* (V-V relation), possibly interfering with
some consonantal conditioning (VC relation), the umlaut rule may have
become opaque (cf. the above-mentioned Runic *wraet*), as in so many other
cases of umlaut, and this could have triggered a reconditioning, in the sense
of a reinterpretation, on the basis of the following consonantism (VC
relation), especially in the development of German.

(*iv*)   The above examples also show that consonantal conditioning more
frequently affects the dipthongs than the inherited monophthongal vowels. It
is also clear that there is more consonantal conditioning in one dialect area
than in another. In particular, it appears that Upper German is more prone
to consonantal conditioning than Old Franconian, also with later umlaut
phenomena. For instance, umlaut of *a* to *e* is generally restricted before *ht, hs*
(VC relation, preservation) over the whole of the Old High German (Upper
German and Old Franconian) area (cf. *maht*, plur. *mahti*, although Otfrid has
mehti); before *l* + C, however, the same umlaut is unrestricted in Old Franco-
nian (e.g., *heltis*, second pers. sing. of *haltan* 'to hold'), but is consonantally
restricted in Upper German (*haltis*). Before *r* + C, umlaut of *a* to *e* occurs
regularly in Old Franconian, while in Upper German both umlauted and
consonantally restricted forms are found (e.g., *warmen, wermen* 'to warm'),
although Old Bavarian seems to have a preference for the consonantally
restricted ones (cf., e.g., *kistarkan* and *arwartit* in the Old Bavarian poem
Muspili) (Braune (1987: 28)). What is striking here, is the variability of the
conditioning from one dialect (group) to another. Such a variability is again
very suggestive of the presence of a variable rule in the synchronic
perspective.

2.3. Consonantal conditioning in East Germanic (Gothic)

2.3.1

As noted, in East Germanic and particularly Gothic, we find exactly the
same raising and lowering changes as in North-West Germanic. The same
vowels *i, e, u* (*o*) are affected in exactly the same way; the difference between
these changes in North-West Germanic and Gothic resides only in their
conditionings.

2.3.2

Since Grimm the Gothic raising and lowering changes have also been called *breaking*, and they have been dissociated from the identical raising and lowering changes in North-West Germanic. While in North-West Germanic the conditioning is primarily vocalic (umlaut), in Gothic it appears to be overwhelmingly consonantal, e.g., *e* ⟨ai⟩ before *h*, *hv*, *r*, and *i* before other consonants. This basic difference in conditioning between North-West Germanic (mainly umlaut conditioning) and Gothic (consonantal conditioning), as it affects the VCV sequential pattern, can also be presented as follows:

(19) North-West Germanic: V → V' / – (C)V
        Gothic: V → V' / – C(V)

2.3.3

It seems that such different conditionings can be viewed within the VCV sequential pattern as variants on a gradient, with a changing middle term $\overbrace{VC}V$ between the two extremes $\overbrace{VC}V$ and $V\underbrace{CV}$. Such different conditionings can occur as variations in a variable rule or in a series of variable rules, that is, as resulting from a reconditioning or several reconditionings. There are a number of facts which suggest that the East Germanic consonantal conditioning, as it appears in Gothic, is a derived phenomenon, and is the result of reconditioning, specifically phonological reconditioning, or a series of such reconditionings. The sequential relation that we find in North-West Germanic may be the original one, or it may itself be the result of reconditioning, such as, first $\overbrace{VC}V$, and second $V\underbrace{CV}$. As late Proto-Germanic is a period of incipient dialectal diversification, it is also quite possible, and even probable, that dialects or languages which are considered East Germanic, such as Gothic, already showed in their original conditioning of the raising and lowering changes a more extended use of consonantal conditioning than North-West Germanic.

2.3.4

While we have no direct proof for reconditioning in biblical Gothic, there is certainly some strong indirect and circumstantial evidence for it.

(*i*) The prevailing consonantal conditioning of the raising and lowering changes may well represent a dialectal characteristic of early East Germanic in general, as is evidenced by other Old East Germanic dialects or languages, such as Old Gutnish, which also reveals a strong prevalence of VC relation

and thus of consonantal conditioning. It is important to note that the VC relation may be differently realized from one East Germanic language to another; there is variability in the conditioning, which is exactly what we expect in the case of a variable rule in the synchronic perspective. For example, while Proto-Germanic *u* is consistently represented as *au* before *r* in Gothic (*waurþun, -baurd, haurn, baurg, daur*), it is reflected in Old Gutnish as either *o* or *u* depending on what follows the *r* (*orþu, borþ, horn*, but *burg, dur*) (Krause (1953:79), based on research by Axel Kock). This also suggests that specific realizations of the VC relation within the East Germanic area, such as the Gothic one, constitute younger dialectal differences.[23]

(*ii*)   Here we should not neglect to mention some evidence from Crimean Gothic (16th c.), although the extant Crimean Gothic corpus is very restricted and often of a problematic nature. The analysis of this corpus has also yielded divergent opinions concerning the position of Crimean Gothic within the traditional tripartite division in North Germanic, East Germanic and West Germanic (see Stearns (1978:27ff.)). While it strikingly shares a number of interesting features with biblical Gothic (Stearns (1978:118–119)), Crimean Gothic also shows umlaut (e.g., *boga* '(arcus) bow'), and this has been a reason for some to regard Crimean Gothic as West Germanic. Stearns (loc. cit.), however, comes to an interesting conclusion in his exhaustive investigation of the Crimean Gothic corpus. While he sees Crimean Gothic as a member of the East Germanic language family and as closely related to biblical Gothic, he does not consider it a direct descendant of Biblical Gothic, but rather 'a separate dialect of Germanic from an early date (perhaps c. 200 A.D., after the migration of the Goths from the Vistula ...)'. This would again confirm our opinion that the strong consonantal conditioning found in biblical Gothic (c. 400 A.D.) must be a secondary development resulting from reconditioning.

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[23]   Krause (1953:77–78) notes that 'innerhalb des – ebenfalls ostgermanischen – Burgundischen erscheint die gleiche Brechung erst in späterer Zeit ..., so daß hier Parallelentwicklung vorzulie-gen scheint'. The case of Langobardic is also interesting in this respect. The Langobardians probably came originally (B.C.) from an area in the South of Sweden (close to where the Goths are assumed to have been). They later moved through Denmark, settled near the lower Elbe, and in the 5th and 6th c. moved on through Europe to settle down in 'Lombardy', named after them (cf. Schwarz (1956:191–198), Nielsen (1989:50–53)). Langobardic, of which we have only scarce and inaccurate information, must in such a case have originally belonged to what is later considered East Germanic. It may have shared the early tendency to consonantal conditioning with other East-Germanic languages or dialects. For example, *u* before *r*+C is in Langobardic virtually always represented as *o*, independent of what the vowel of the following syllable is, e.g., **worf* 'the act of throwing', in *grapuuorf, grapuuorfin, marahuuorf, marahuuorfin* (Van der Rhee (1970:76–79, 96–98)), to be compared with Gothic *uswaurpa* (substantive), *uswaurpi* (pret. opt. 3. sing.) of *uswairpan*, but Old High German *wurf* and *wintworfa*.

(*iii*) Another point to be considered is that the Gothic rule shows conspic-
uous exceptions, not only in loan words, but more intriguingly in cases like
waila and *hiri*, which correspond to umlaut relations and which Sverdrup
(1928:202) has, in fact, viewed as residual examples of an earlier umlaut
conditioning. From our perspective, such an explanation is quite possible and
makes more sense than the various etymological explanations that have been
proposed for such words, etymologies which were based on the neogrammar-
ian-inspired assumption that the Gothic consonantal conditioning *could* not
have exceptions. In this connection, it is noteworthy that the parallel split (as
far as the conditioning is concerned) of Germanic *ai* to Old High German *ē*
(before *r*, *w* and Germanic *h* (*χ*)) and *ei* (before other consonants) shows
also some remarkable exceptions, e.g., *wenag* 'miserable' (compare Gothic
wainahs, modern German *wenig*).[24]

(*iv*) Still another possible reason for assuming that the East Germanic, in
particular the Gothic, consonantal conditioning, is younger can be found in
loan words. Old Church Slavonic *šlěmŭ* 'helmet' is borrowed from East
Germanic (Gothic) **helm-* (intermediate form **šelmŭ*), while in biblical
Gothic, the corresponding form is *hilms*, the latter with *i* in accordance
with the prevailing consonantal conditioning. If Old Church Slavonic had
borrowed *hilm-*, the resulting Old Church Slavonic form would have
been **šlĭmŭ* (intermediate form **šĭlmŭ*). Of course, the Old Church Slavonic
word could not only have been borrowed before Gothic raised *e* to *i* in **helm-*,
but it could also have been borrowed from an East Germanic language or
dialect which did not raise or had not yet raised *e* to *i* in the specific
environment.

(*v*) In conclusion, since umlaut conditioning was subject to reduction and
loss, the rule(s) governing the umlaut- and consonantally conditioned raising
and lowering changes may have become opaque to different degrees. In
Gothic, rule transparency could then be achieved through reconditioning
based on the intervening, stable consonantism (C). This produced in Gothic
the well-known complementarity between *i* and *e* and between *u* and *o*.

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[24] In the *wenag* case the *ē* (from Germanic *ai*) is represented throughout the development of
German (Old High German *wenag*, Middle High German *wenec, wenic*, modern German *wenig*).
In other exceptions the representation is not so consistent, and it may also reflect a dialectal
feature; cf. Old High German *bede* (besides *beide*) and *zwene* (Braune (1987:44)). That these
ē exceptions appeared before dentals may be coincidental, although one may wonder whether
such exceptions could be reflexes of a competing VC relation, which occurred in the OHG
development of Germanic *au* (*ō* before dentals and Germanic *h* (*χ*)). Not surprisingly the same *ē*
is found more often in Old Franconian, although the OHG rule was also operative in that
language (Franck (1909:39–41)).

2.4 Summary

We have tried to trace the North-West and East Germanic raising and lowering changes of nonlow vowels back to a common denominator. Our reasoning is based on the following premises: (1) The in- and output of these changes are the same in both language groups, while the conditionings of the changes differ in North-West and East Germanic. (2) The conditionings are of different kinds, one being mainly vocalic (umlaut), the other consonantal, vocalic conditioning being subject to reduction and loss (with reconditioning and deconditioning) and thus less stable than consonantal conditioning; within the sequence VCV the umlaut conditioning (V-V) and the consonantal conditioning (VC) interrelate in several ways. (3) The changes reflect precisely a situation or situations of synchronic variation which can be described by a variable rule or a series of variable rules with change in progress. The above does not imply, however, that both conditionings must necessarily co-occur and interact with one another. Either of them can occur independently of the other; in particular, consonantal conditioning can occur without a previous umlaut conditioning.

3. Variation and reconditioning in Romance

3.1. The types of conditionings

As suggested earlier, Romance, like Germanic, offers possible examples of a variable rule, specifically examples of a change in which the in- and output are the constants, while the conditioning is the variable. The Romance case, however, is far more complex and diversified than the Germanic one. Romance exhibits at least three kinds of conditioning, instead of the two found in Germanic: (1) metaphonic conditioning or V-V relation, (2) consonantal conditioning or VC relation, and (3) syllable structure conditioning. The following discussion of these three kinds of conditioning is based on recent unpublished research by Buccini.

3.2. Metaphonic conditioning

3.2.1
Though individual cases of metaphony had earlier been recognized by other scholars, it was Foerster (1879) who first tried to put metaphony in a

broader Romance perspective. The apparent inconsistencies of its operation, led him, however, to see it not as a sound law but rather as a tendency or inclination.[25] Indeed, since Foerster's time the dominant view in Romance linguistics has been that metaphony did not fully operate in the common ancestral proto-language but was only a tendency, which eventually came to independent and varying expression in a number of the daughter languages.[26] This view is reflected in all the major handbooks, where metaphony is usually treated as a secondary phenomenon, which, by and large, belongs to the separate dialects.[27]

While the metaphonic raising $e \rightarrow i$, $o \rightarrow u$ has, to varying degrees, been accepted as belonging to the Romance parent language, if even only as a tendency or inclination, the metaphonic mutation of the vowels e, o has generally been seen as a strictly local development in a number of Italian and Iberian Romance dialects (e.g., Mancarella (1978: 20–24)).

The relative importance of the major dialectal divisions in the Romania has been much discussed, and there is no single system for grouping the Romance dialects that can be said to be universally preferred. While ranking the importance of the various isophones and isomorphs is essential to the genealogical mapping of Romance, such analysis has often led Romanicists to focus on the divisions, while downplaying or ignoring essential similarities that cross the major dialect boundaries. The tendency in describing phonological developments has then often been to compartmentalize the development of each major dialect; that is, once a major dialect boundary has been fixed in the relative chronology of change, then to see subsequent developments as unrelated to those beyond that boundary. This compartmentalization has been largely due to the old habit of concentrating on the relationships

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[25] 'Es muss eigens bemerkt werden, daß der 'Umlaut' im Romanischen nicht so allgemein und unbedingt wirkt, wie ein sonstiges Lautgesetz, daß mithin nicht alle analog gebauten Wörter dieselbe Entwicklung haben. Es ist mehr ein Hang, eine Vorliebe, als ein allgemeines Gesetz' (Foerster (1879: 491)).

[26] E.g., von Wartburg's (1936: 29) statement (cited also by Schürr (1936: 277)): 'Der Umlaut kann mehr oder weniger sporadisch überall auftreten; er kann zu einer mächtigen Tendenz werden, die dem ganzen Idiom den Stempel aufdrückt, wie etwa in Süditalien eingetreten ist ... Daß die Tendenz im Vulgärlatein schon vorhanden war, zeigt die Geschichte von *bestia* und *ostium*. Die verschiedenen romanischen Länder haben sie in ihrem Latein mitbekommen und in verschiedener Stärke weiterentwickelt'.

[27] See, for example, Bourciez (1967a: 145–150). In Hall's *Proto-Romance Phonology* (1976: 189–190), a brief discussion of metaphony appears in a chapter on major developments in early Romance, though here too it seems to be viewed as a primarily dialectal phenomenon. Mancarella (1978: 20–24) gives slightly more attention to the topic but clearly sees it as an essentially dialectal development.

between the standard Romance languages and Classical Latin. Moreover, the traditional, prestructuralist sound-by-sound approach to historical phonology has further fostered a particularist view in Romance linguistics, especially in the treatment of such phenomena as metaphony.

Standing out from the majority view in this regard has been Schürr, who proposed in 1936 that metaphony was a general and common Romance phenomenon and, more specifically, that the metaphonically induced diphthongization of the low-mid vowels $e \rightarrow ie$, $\varrho \rightarrow uo$ was itself common to all the Romance languages.[28] To the question of the relationship between metaphony and Romance diphthongization we will return below. Another proponent of a specifically Proto-Romance origin of metaphony is Leonard (1978). In a number of important respects, however, Leonard's reasoning differs from that of Schürr, most notably in the former's categorical rejection of 'the equation of diphthongization with umlaut advocated by Schürr' (Leonard (1978:201)).

3.2.2

While the view of a mother/daughter relationship of Classical Latin to Proto-Romance and the equation of Proto-Romance with 'Vulgar Latin' is to be rejected, their close genetic relation and the substantial attestation and familiarity of Latin make their comparison useful.[29] The major structural

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[28] 'Umlaut und bedingte Diphthongierung dürfen als gemeinsamer Zug aller romanischen Sprachen auf ihrer ältesten Entwicklungsstufe angesehen werden, der ihnen durch das phonologische System des Volkslateins mitgegeben wurde ...' (Schürr (1936:305)). As Purczinsky has pointed out, Schuchardt proposed a direct link between metaphony and the Romance diphthongization of e and ϱ already in the late 1870's and 1880's, as in, for example, Schuchardt (1885) (see footnote 12 above). He did not, however, work out the precise nature of that link in any great detail. For a discussion of Schuchardt's views on metaphony and diphthongization, as well as Purczinsky's own views, see Purczinsky (1970).

[29] The exact relationship between Latin, i.e. the Italic dialect spoken in and immediately around Rome, and Proto-Romance cannot be stated with great precision or certainty. This difficulty is to a large degree due to our fragmentary knowledge of the other Italic dialects spoken in Latium and neighboring regions, dialects which were clearly in close contact with Latin. Consequently, we remain unable to assess accurately their influence on the development of Latin.

In viewing certain developments in Romance reminiscent of features found in Pre-Classical or Old Latin but not in Classical Latin, many have postulated an early sociolinguistic split within the dialect spoken in Rome during the Old Latin period (e.g., Pulgram (1975), Franceschi (1976)). Hall (1950:25) rejected the unilinear view of Old Latin > Classical Latin > Vulgar Latin > Romance dialects. Leonard (1978), building on Hall's reasoning, goes one step further and places the formation of Proto-Romance in the time of the Latin league's expansion (4th c.B.C.). He argues (p. 198) that 'we should equate Proto-Romance as revised with South Latian, *not* with Roman Latin, with the Alban mount rather than the Palatine; and this equation means that the

difference between the Classical Latin and the Proto-Romance phonological systems is the absence of a vocalic length correlation in the latter. In all the Romance areas, the inherited Indo-European vocalic length correlation, as attested in Classical Latin, was lost, with a clearly very old and basic division in the Romance dialects arising as a result of subsequent differing patterns of merger of the former long and short vowels. In essence, it is a three-way division: Southern Romance (five-vowel system), Eastern Romance (six-vowel system) and Italo-Western Romance (seven-vowel system).[30] These systems may be schematically represented as follows:

(20) Latin   ī   ĭ   ē   ĕ   ā   ă   ŏ   ō   ŭ   ū
      SRom.   i   e   a   o   u

      Latin   ī   ĭ   ē   ĕ   ā   ă   ŏ   ō   ŭ   ū
      ERom.   i   ẹ   ę   a   o   u

      Latin   ī   ĭ   ē   ĕ   ā   ă   ŏ   ō   ŭ   ū
      IWRom.   i   ẹ   ę   a   ǫ   ọ   u

Both Schürr's and Leonard's primary motivation in positing a single common origin of Romance metaphony was its widespread geographical occurrence in the Romania, for in the majority of the dialects of each of these three areas, we find, to varying degrees and with varying results, the tendency for the mid-vowels to partially or wholly assimilate to a high vowel in a following unaccented syllable. The question is, then, what is meant by a single common origin of Romance metaphony. Also, if we assume metaphony to be Proto-Romance, how can we explain that it operated on vowels that resulted from differing patterns of merger, which by definition presuppose dialect fragmentation?

There was already in Proto-Romance a type of lexical accent characterized as dominant compared to the nondominant lexical accent of Classical Latin.

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relationship between Roman Latin and Proto-Romance was not social or vertical, as is almost universally believed, but geographical, or horizontal. By implication, Proto-Romance is a separate Italic dialect'.

[30] As Leonard (1978: 10) indicates, the Southern Romance vocalism may well have originally been a seven-vowel system comparable in form to that of Italo-Western Romance, though differing in its pattern of merger, namely in its treatment of inherited short *i, u*. This system may be represented as follows:

Latin ī   ĭ   ē   ĕ   ā   ă   ŏ   ō   ŭ   ū
SRom.   i   ẹ   ę   a   ǫ   ọ   u

We have noted that a dominant accent correlates on the segmental level with reduction in unaccented position, which is evidenced to varying degrees in all of the Romance languages. This dominant prominence may have been a continuation, in certain sociolects, of the dominant prominence in Pre-Classical or Old Latin. It may also have been a secondary, autochthonous development in popular Roman speech, the result of substratal influence from the other Italic languages of central (and southern) Italy, or (as Leonard believes) their continuation. A prevailing dominant accent in the speech of the Roman popular classes may have corresponded to and found support in a similar accentuation in other Italic dialects. Thus, a sociolect feature of Latin would then have corresponded to a dialect feature elsewhere in central and southern Italy. In any event, the correlation of suprasegmental dominance and segmental reduction was the Proto-Romance metacondition that produced assimilative processes like metaphony between accented and unaccented syllables. The metacondition is precisely what is meant here as the single common origin of Romance metaphony. We have already mentioned that the same metacondition occurred in Germanic, with the important difference, however, that there was no wholesale shift of the place of the accent in Romance.[31] Yet, just as in Proto-Germanic and the Germanic descendant dialects or languages, such a metacondition seems to have been active already in Proto-Romance and to have continued its operation not only in parallel ways but also in more or less particular forms during the dialect fragmentation of Romance and the early development of the Romance dialects or languages. In other words, while the metacondition may be considered Proto-Romance, its specific realizations may belong to different periods, although such realizations may exhibit or suggest a wide and even pan-Romance geographical distribution. It is also in this perspective that we have to view the breakdown of the metaphonic conditioning and its replacement by other forms of conditioning, that is, the reconditioning.

The dialects of a large area of central and southern Italy, in a number of respects the most conservative area of Italo-Western Romance, provide important evidence for positing metaphonic mutations in an early Romance stage. The dialects show the clear results of an earlier period in which accented mid-vowels were mutated in the presence of a final unaccented high vowel (V-V relation). While there are sundry minor local variations in conditioning, phonetic realization, and lexical distribution in the modern

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[31] Of course, the syncopes, accent shifts in hiatus vowels, sporadic shifts in proparoxytone words (e.g., *integrum, cathedra*) and the tendency to fix the accent on verbal roots indicate a trend toward regularization of the place of the accent on the penultimate syllable.

dialects, comparative study of these dialects points to a basic, early metaphonic pattern:

(21)   ẹ → i   ọ → u
       ę → ie   ǫ → uo

Throughout almost all of the Central and Southern Italian dialects, both final *-i* (from *-ī*) and *-u* (from *-ŭm*) are the metaphonic conditioning factors. As a consequence of the morphological distribution of these suffixes, phonological alternations between metaphonized and nonmetaphonized root vowels have come to be consistently associated with certain morphological categories, illustrating morphologizations (reconditionings) as we find in Germanic (e.g., English *man ~ men, foot ~ feet*). For example, such distinctions are attested in nominal and adjectival paradigms with the category feminine/masculine and singular/plural; in verbal paradigms, metaphony is associated with the second person singular forms. These basic metaphonic morphological patterns can be seen in the following examples from the Neapolitan dialect: [32]

(22) ę/ie: pede/piede   foot/feet
             vecchia/viecchio   'old' fem./masc.
             penzo/pienze   'I think/you think'
     ǫ/uo: bona/buono   'good' fem./masc.
             omme/uommene   'man/men'
             porto/puorte   'I bring/you bring'
     ẹ/i: secca/sicco   'dry' fem./masc.
             pesce/pisce   'fish' sing./plur.
             venno/vinne   'I sell/you sell'
     ọ/u: sorda/surdo   'deaf' fem./masc.
             culore/culure   'color/colors'
             corro/curre   'I run/you run'

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[32] It should be noted that the forms are shown in the common orthography of Neapolitan, an orthography which maintains a partially etymological (and Tuscanized) spelling of final syllables. In spoken Neapolitan, however, all vowels in final syllables are generally rendered as schwa or zero.

A similar metaphonic pattern is also found in a number of dialects of the Asturias region of northwestern Spain. In these dialects, however, the diphthongization of low mid-vowels has been generalized, as in Castilian, and a secondary metaphonic effect has further affected the diphthongs, e.g., *muirtu/muertos, muerta* 'dead'.

The metaphonic changes in Neapolitan appear to have been of two different sorts: In the case of the high mid-vowels ẹ and ọ, the change was a raising resulting directly in a merger with i and u, while in the case of the low mid-vowels, the change resulted not in a merger but in a diphthongization producing ie and uo. This apparent difference in metaphonic effect may possibly be the reflex of a chronological difference in the operation of metaphony on the high and low mid-vowels. And indeed, that the metaphonic raising of ẹ and ọ to i and u can be clearly shown to have operated not only in the central and southern Italian dialects, but in the Gallo-Italian, Provençal and French dialects as well (all dialects which lack any obvious evidence for metaphonically induced diphthongization of the low mid-vowels), has inclined some to regard the raising of the high mid-vowels as having occurred earlier than the diphthongization of the low mid-vowels. Nevertheless, such a chronological ordering, although possible, is by no means demonstrable or necessary. Metaphony could have affected both heights of mid-vowels simultaneously, with both the raising effect and the diphthongization then to be seen as different phonetic outcomes of a general metaphonic tensing.[33] Whatever the case, the important question here is why the high mid-vowels ẹ and ọ show reflexes of metaphonic change not only in Neapolitan, but also in the Gallo-Italian, Provençal and French dialects, even though these latter dialects lack any obvious evidence for metaphonically induced diphthongization of the low mid-vowels ę and ǫ.

In the case of the high mid-vowels ẹ and ọ, the change resulted in a merger with i and u, respectively. Phonemicization of such a change can come about directly by means of this merger, and thus is not dependent upon the actual loss of conditioning factors and subsequent phonemic split. In lexical items which did not have paradigmatic, morphophonological alternations, the metaphonic change, resulting directly in a merger, was unrecoverable, that is, the metaphonized vowel could not be recognized as a variant or alternant of its nonmetaphonized counterpart. Thus, even before any perturbation of the metaphonic conditioning, the metaphonic change could be lexicalized and hence immune from any subsequent analogical or phonological trend that might have favored the nonmetaphonized form. On the other hand, forms which had paradigmatic, morphophonological alternations were probably subject to levelling and loss of alternations. The relatively sporadic reflexes of metaphonic changes represent forms which were not altered through analogical and phonological processes. Indeed, if we look at the metaphonized forms

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[33] While general opinion seems to favor the view that the high mid-vowels were first affected, Lüdtke (1956: 114) suggests that the metaphonic change of ę to ie and ǫ to uo is older.

in, for example, Old Provençal and Old French, it becomes clear that the metaphonic raising of the high mid-vowels, especially before final -*i*, was general, as in central and southern Italy. The surviving metaphonized forms were, however, by and large only those which had not been subject to extreme paradigmatic analogical pressures, typically pronominal and irregular verbal forms.[34] In Old French, we find the following examples cited by Pope (1952: 164–165) and Bourciez (1967b: 74–75):[35]

(23) *illi (ę)   → il   *tōtti (ǫ) → tüit
     *fēcī (ę)   → fiz
     *orēsī (ę)   → pris
     *viginti (ę) → vint
     *vēnī (ę)   → vin

In Old Provençal, we find a similar distribution of forms, showing the effect of metaphonic raising (Anglade (1921: 53–54), Grandgent (1905: 17)):

(24) *ecce illī (e) → cil
     *ecce isti (ę) → cist
     *fēcī (ę)   → fis
     *prēsī (ę)   → pris
     *viginti (ę)   → vint

For both Old French and Old Provençal, it is assumed that this metaphonic raising originally also occurred regularly in the nominative plural of both nouns and adjectives but was ultimately obliterated through analogy (Pope (1952: 165), Grandgent (1905: 17)). The occurrence in Old Provençal of a relic form such as the nominative plural *cabil* 'hair' (**capilli*) alongside the analogical form *cabel* supports this assumption.[36] Finally, it should be noted that similar relics of the metaphonic raising of *ę* and *ǫ* are also found in the Iberian Romance dialects as well as in the Gallo-Italian dialects.

While the developments of the low mid-vowels *ę* and *ǫ* to *ie* and *uo*, are clearly the reflexes of metaphonic conditioning in Neapolitan, there is, as

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[34] In Germanic we find a similar greater resistance to analogical levelling in verbal paradigms than in nominal ones; cf. Van Coetsem (1980: 331), Van Coetsem and McCormick (1982: 26–27).

[35] The following reconstructions are presented in Latinized forms with asterisks, reflecting the original Indo-European and Latin quantity correlation. The corresponding Romance vocalisms are indicated between brackets; for these vocalic correspondences, see chart (20).

[36] For more examples of such relic forms in Old Provençal morphology, see Pfister (1970).

noted above, no direct evidence of such a conditioning in the Gallo-Italian, Provençal and French dialects. Given the identity of input ($ę$ and $ǫ$) and output (*ie* and *uo*), we cannot regard the developments as mutually unrelated in all these dialects, in spite of the differences in conditioning. Rather, the differences in conditioning can be explained as changes from one conditioning to another, that is, as reconditionings, which were triggered by the reduction phenomenon affecting the metaphonic conditioning factors. Contrary to what happened in the case of the high mid-vowels $ę$ and $ǫ$, with the low mid-vowels $ę$ and $ǫ$ the metaphonic variants *ie* and *uo* did not directly merge with any existing phonemic entities, and the metaphonized and nonmetaphonized variants remained in allophonic, complementary distribution as long as the metaphonic conditioning factors were in place and operative. More importantly, even after the loss of the metaphonic conditioning factors and the phonemicization of the metaphonic variants, the alternants could remain linked together and be subject to new conditioning changes, that is, to reconditionings. In such cases, subsequent reconditionings may have completely obscured an earlier metaphonically conditioned split.

The general analogical obliteration of metaphony (V-V relation) in Old Provençal and Old French was probably largely facilitated by the potential for replacing the function of the metaphonic conditioning factor *-i* with another, more stable element, namely final *-s*. In central and southern Italy, where final *-s* was lost generally, probably at an early time, purely vocalic desinences remained the primary morphological markers, as they still are in standard Italian. As shown in the Neapolitan examples above, loss of qualitative distinctions in final nonaccented vowels and hence loss of morphological marking was compensated through the use of stem allomorphy arisen through metaphony. Thus, while the metaphonic products were reconditioned according to morphological criteria in this area, elsewhere in the Romania, such as in northern Italy and in France, no such morphological reconditioning took place. Rather, the metaphonic alternations were either obliterated through analogy,[37] leaving scattered lexicalized traces, or else they were subjected to phonological reinterpretation, that is, reconditioning.

3.3. Consonantal conditioning

As shown above, there is considerable evidence for the widespread meta-

[37] As Lüdtke (1956: 111–112) notes, the survival of the accusative plural in the western Romania was a major contributing factor in the loss of metaphonic alternation in the western Romance dialects.

phonic raising of ẹ and ọ to *i* and *u* (V-V relation) in Italo-Western Romance, not only where it is clearly reflected in the morphophonology of a dialect, as in Neapolitan and the other Central-Southern Italian dialects, but also where it has been generally obscured through later analogy, as in Old French and Old Provençal. The raising of ẹ and ọ, however, though generally limited to metaphonic conditioning in Central-Southern Italian, also occurred in a number of consonantal environments in most of the other Italo-Western dialects (VC relation). These consonantally conditioned raising changes have often been treated as phenomena essentially independent from the operation of metaphony, though phonetic similarities in the various environments have long been recognized. Here, it is important to note that it is in the Central-Southern Italian region, where reduction of nonaccented syllables has proceeded at a relatively slower rate, that we generally find no consonantally conditioned raising. On the other hand, in the dialects of Iberia, France, and northern Italy, where reduction has been more pronounced, albeit to varying degrees, there has been a tendency to recondition the raising change, namely from a vocalically conditioned, distance assimilation (V-V relation) to a consonantally conditioned, contact assimilation (VC relation). In this regard, we should point out that assimilative changes conditioned by yod have inconsistently been treated in Romance linguistics as metaphonic by some and as unrelated consonantal influence by others. This inconsistency has been due to a failure to distinguish between the influence of tautosyllabic yod (contact assimilation, VC relation) and heterosyllabic yod (distance assimilation, V-V relation). In addition, heterosyllabic yod palatalizing the intervening consonantism, and thus affecting the nature of its own influence, is ambiguous. Therefore, contrary to what we have done in our treatment of Germanic (section 2), we will treat here heterosyllabic yod, as an intermediary case, together with consonantal conditioning.

We find, for example, in Spanish and Portuguese some cases of raising under the influence of a heterosyllabic yod without any clear evidence of palatalization of the intervening consonantism, just as in our above Germanic examples (examples from Mancarella (1978: 31)):

(25)	*Span.*	*Port.*
*sēpia (ẹ)	jibia	siba
*līmpidu (ẹ)	limpio	limpo
*vindēmia (ẹ)	vendimia	vindima

In many Italo-Western dialects, it is in the environment of a following

palatal consonantism that the raising is found, though there are some dialectal differences in the specific conditioning factors. The palatal consonants themselves have generally come about through the action of an adjacent nonaccented yod, as in the following cases (examples from Mancarella (1978:31)):

(26)		*Span.*	*Port.*	*Cat.*	
	*lŭcta (ǫ)	lucha	luta	lluyta	(cf. OFr. luite)
	*pŭgnu (ǫ)	puño	punho	puny	

In Old Provençal we find the raising of ę and ǫ generally in conditionings similar to the ones illustrated in (25) and (26) (examples from Grangent (1905:16), Anglade (1921:81)):

(27)	*cēreu (ẹ)	→ ceri, ciri, cire	*cōgitat (ọ)	→ cuia, cuida
	*cīliu (ẹ)	→ celh, cilh	*fŭgit (ọ)	→ fug
	*dĭgitu (ẹ)	→ det, dit	*pŭgnu (ọ)	→ punh
	*lĭgnu (ẹ)	→ lenh, linh	*stŭdiat (ọ)	→ estuia

Turning now to the treatment of the low mid-vowels in Old Provençal, we find that, in most dialects, the same conditionings associated with a raising in the high mid-vowels were also associated with a diphthongization of ę and ǫ to *ie* and *uo(ue)*. This consonantally conditioned diphthongization was essentially identical to the outcome of metaphony in Central-Southern Italian (examples from Grandgent (1905:18–19, 22)):

(28)	*fēria (ę)	→ fieira	*fŏlia (ǫ)	→ fuolha, fuelha
	*lēctu (ę)	→ lieit	*nŏcte (ǫ)	→ nuoit, noit
	*mĕdiu (ę)	→ mieg	*ŏcto (ǫ)	→ ueit, oit
	*mĕlius (ę)	→ mielz	*sŏmniu (ǫ)	→ suenh, sonh
	*vĕtulu (ę)	→ vet'lu, vec'lu > vielh		

Diphthongization of ǫ to *uo* also occurred in many Old Provençal dialects in the environments of labial and velar consonants, this representing a clear case of VC relation (examples from Grandgent (1905:22)):

(29)	*bŏve (ǫ)	→ bou, buou, bueu	*fŏcu (ǫ)	→ foc, fuoc, fuec
	*ŏpus (ǫ)	→ ops, uops	*lŏcus (ǫ)	→ locs, luocs, luecs

The diphthongization of *ę* in Old Provençal also occurred in hiatus. These cases, in which the accented vowel stands before *-i* and *-u*, may be seen as intermediary between the two types of sequential relations V-V and VC (examples from Grandgent (1905: 18)):

(30) *dĕu (ę)   →   dieu
      *ĕgo (ę)   →   ieu
      *mĕi (ę)   →   miei
      *mĕu (ę)   →   micu

Given the strong evidence for the preliterary operation of a V-V relation (metaphonic conditioning) on the high mid-vowels *ẹ* and *ọ* in Provençal and hence the apparent secondary nature of the VC relation (consonantal conditioning) for their raising, we are justified in viewing the developments of the low mid-vowels in this same perspective. While for the low mid-vowels, we have no direct evidence for V-V conditioning of the diphthongization (with the exception of *hier* from **heri* 'yesterday'), all of the consonantal environments in which the diphthongization took place can be seen as closely related to the metaphonic conditioning factors *-i* and *-u* as in, for example, Neapolitan. The early and complete reduction of all final nonaccented vowels (except *-a*) in Provençal would seem then to have led to a reconditioning of the diphthongal variants to especially palatal and labial consonantal environments, with the hiatus environments (before *-i* and *-u*) and the environment of yod in the following syllable representing a bridge, as it were, between the two kinds of sequential relations.

3.4. Syllable structure conditioning

Conditions largely similar to those described above for Provençal also prevailed in French and the Gallo-Italian dialects.[38] In these dialects, however, the diphthongal treatment of the low mid-vowels *ę* and *ǫ* is conditioned not only by specific (most often palatal) consonantal environments, but also by syllable structure; this is a conditioning that is neither V-V nor VC. As is well-known, the low mid-vowels appeared as the diphthongs *ie* and *uo* (ue) in

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[38] Examples of the diphthongization of low mid-vowels in French occurring before a following yod and in hiatus are: **dĕu (ę) → dieu*, **lĕctu (ę) → *lieit → lit*, **tĕrtiu (ę) → tiers*, **Compĕndia (ę) → Compiègne*, **fŏlia (ǫ) → Old French fueille*, **nŏcte (ǫ) → *nuoit → nuit*, **pŏdiu (ǫ) → Old French pui* (Bourciez (1967b: 69–70, 85–86)). For examples and a discussion of the distribution of the diphthongs in the various Gallo-Italian dialects, see Rohlfs (1949: 172–176, 201–205).

open syllable and as ę and ǫ elsewhere (except, of course, in the aforementioned, specific consonantal environments) (examples from French, Bourciez (1967b: 65–67, 83–85)):

(31) V[(open syllable)   V] (closed syllable)

*brĕve (ę)   → brief   *fĕrru (ę)   → fer
*mĕl (ę)   → miel   *pĕrdere (ę)   → perdre
*pĕtra (ę)   → pierre   *sĕlla (ę)   → selle

*cŏr (ǫ)   → cœur (OFr. cuer)   *cŏccu (ǫ)   → coq
*nŏvu (ǫ)   → neuf (OFr. nuef)   *cŏllu (ǫ)   → col
*prŏba (ǫ)   → preuve   *pŏrta (ǫ)   → porte

A correlation between open syllables and diphthongization existed in French (and most of the Gallo-Italian dialects) not only for the low mid-vowels but also for the high mid-vowels and for *a* (examples from Bourciez (1967b: 71, 88, 55)):

(32) ẹ[→ ei → oi: *tēla → toile
     ọ[→ ou → œ: *flōre → fleur
     a[→ ae → e: *măre → mer

This open syllable conditioning of the diphthongal treatment of all five vowels ẹ, ọ, ę, ǫ, a has led many Romanicists to conclude that *ie* and *uo* arose in open syllable as a direct consequence of a general lengthening in that position. Thus, the diphthongs would in general represent the effects of an independent sound law, unrelated to the operation of metaphony.[39] However, while there is no trace of a metaphonic origin of the diphthongal realizations of the high mid-vowels ẹ and ọ, and hence no evidence of reconditioning in their development in open syllable, this does not preclude the possibility of a reconditioning for the low mid-vowels ę and ǫ, a possibility that we have already discussed above. All this is to suggest that, in the French and Gallo-Italian dialects under discussion, the open syllable condition to the diphthongization may well be the result of reconditioning in the case of the low mid-vowels ę and ǫ, but the product of an independent change in the case of the high mid-vowels ẹ and ọ. Thus, the 'diphthongizations' of high and low mid-vowels in open syllable actually represent changes

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[39]   For a brief, general account of the main theories on diphthongization from this point of view, see Alonso (1962: 23–45). See also Purczinsky's (1970) reformulation of the open syllable lengthening theory.

sharing only the phonetic conditioning but differing in both the in- and output.

That the diphthongization of *ę* to *ei* (*oi*) and of *ǫ* to *ou* (*œ*) represents a sound law in no way related to metaphony has been understandably the dominant view, and proponents of this view have repeatedly criticized Schürr's attempt to relate the metaphonically induced diphthongization of the low mid-vowels *ę* and *ǫ* to their diphthongization under other conditions. This criticism has focused on two main points: First, on Schürr's claim that a diphthongization caused by lengthening would necessarily result in a falling diphthong, as in the case of the diphthongs arising from *ę, ǫ,* and *a*; and, second, on Schürr's reliance on the mechanism of a vaguely defined analogical process in explaining the spread of metaphonic variants from one conditioning to the other. As regards the accentuation of diphthongs, we cannot address that question in detail here; let it suffice to say that the original accentuation in the diphthongs *ie* and *uo* is not recoverable and thus cannot be used as *the* decisive factor in any theory on the diphthongization. As regards Schürr's use of 'analogy' as the means by which metaphonic diphthongization was linked to open syllable diphthongization, we must agree with his critics' objections to the means but not to the link itself; what Schürr (and Schuchardt) recognized but could not explain clearly through 'analogy' can, in fact, be accounted for in terms of the notions of *variable rule* and *reconditioning*. Even Alonso (1962:42–45), while himself proposing a theory of multiple causes of the diphthongization of *ę* and *ǫ* in the various Romance languages, and therefore opposing Schürr's theory of a common metaphonic origin, nevertheless felt compelled to acknowledge the unitary aspect of the phenomenon.

To return to the developments in French and the Gallo-Italian dialects, we can furthermore state that, given that these dialects all show relics of metaphonic raising of the high mid-vowels *ẹ* to *i* and *ọ* to *u*, as well as a strong reduction in final position and a reconditioning of the diphthongization of *ę* and *ǫ* to consonantal environments (as in Provençal), the syllable structure conditioning itself could be a reconditioning of metaphonic variants. Moreover, this development must also be seen as a consequence of the metaconditioning of a strongly dominant accent: thus, the idea of a lengthening in open syllable and a subsequent tendency to diphthongize and the notion of the reconditioning of originally metaphonically induced variants are by no means opposed, but rather naturally related through the common factor of the metacondition.[40]

[40] It should be noted too that evidence from the Rhaeto-Romance dialects, as presented by

3.5. Schematic summary of mid-vowel reconditionings

The following tables are intended to illustrate the general trends in reconditioning of mid-vowel developments in the Italo-Western dialects of Romance. For clarity's sake specific details in the developments of the actual attested dialects have necessarily been left out of the tables. The three areas indicated below are:

A.   The conservative area of central and southern Italy where metaphonic conditioning is clearly attested (e.g., Neapolitan).

B.   The area where traces of metaphonic conditioning of the raising of high mid-vowels is found but where the mid-vowel diphthongization occurs according to consonantal conditioning (and in hiatus with -*i* and -*u*) (e.g., Provençal).

C.   The area showing developments essentially similar to those in Area B, with, however, the addition of syllable structure conditioning of the mid-vowel diphthongization (e.g., French).

(33) *Development of the low mid-vowels*

	input	*conditioning*	*output*
Area A:	ẹ, ọ	__ Ci	ie, uo
		__ Cu	

Gamillscheg (1948:280), appears to support this contention. He states that 'im Alpenromanischen die offenen Vokale *ŏ* und *ĕ* unter den gleichen Voraussetzungen diphthongieren wie zum Teil noch im Provenzalischen, d.h. als Umlauterscheinung vor nachfolgenden *j*; 2. als ganz alte Umlauterscheinung vor -*u* und *i* 3. daß sonstiges lat. *ĕ* in freier Stellung allgemein, in gedeckter Stellung, wo Längung eintrat, zu -*ẹi*- wurde, das sich sowohl im Bündnerromanischen wie im Friaulischen zum Teil noch findet. Erst später ist auf einem Teil des alten -*ẹi*- Gebietes dieses *ẹi*-zu *ie* geworden und dann mit dem alten *ie* zusammengefallen'. A strictly phonetic development from -*ẹi*- to *ie*, however, seems rather unlikely. Their 'merger' might actually have represented the extension of the metaphonic variant into a newly arisen phonetically long environment. The general development of *ẹ* to -*ẹi*- in lengthening environments in these dialects, as in various Italian dialects of Romagna, the Abruzzi and Apuglia, supports Schürr's contention that the lengthening process would favor falling rather than rising diphthongs, as happens with the other vowels (*ẹ, ọ, a*) which are subject to differentiation through lengthening. That in all these dialects a wholesale reconditioning of the metaphonic variants into lengthening environments did not take place may well have been because metaphonic alternations had already been or were in the process of being morphologized in these dialects. Any further phonological reconditioning could only have occurred along with significant morphological adjustments.

Area B: ẹ, ǫ   __ i, u   ie, uo
                          __ (C)i̯
                          __ pal. C
Area C: ẹ, ǫ   __ i, u   ie, uo
                          __ (C)i̯
                          __ pal. C
                          __ [

Development of the high mid-vowels:

	input	conditioning	output
Area A:	ẹ, ọ	__ Ci	i,u
		__ Cu	
Area B:	ẹ, ọ	__ Ci	i, u
		(__ Cu)	
		__ (C)i̯	
		__ pal. C	
Area C:	ẹ, ọ (1)	__ Ci	i, u
		(__ Cu)	
		__ (C)i̯	
		__ pal. C	
	(2)	__ [	ei, ou

By definition, the diphthongization of the high mid-vowels in open syllables represents no reconditioning or earlier high mid-vowel developments, for the simple and obvious reason that there is no identity of output between the metaphonic and consonantal conditioning on the one hand and syllable structure conditioning on the other. A reconditioning, however, does seem to have been involved in the development of the low mid-vowels to diphthongs in those dialects in which syllable structure conditioning arose.

3.6. Some remarks on Tuscan and Sicilian

3.6.1
Among the Romance dialects which show a consistent correspondence between open syllable structure and a diphthongal treatment of the low mid-vowels are the dialects of Tuscany and the Italian standard language, which itself is based on Tuscan; thus in standard Italian we find the following forms: *miele, piede, fuoco, ruota* vs. *perde, terra, collo, porto.* The Tuscan

treatment of ẹ and ǫ clearly parallels their treatment in French, Gallo-Italian and Rhaeto-Romance, and therefore has often been seen as having a common origin with the treatment in these latter areas.[41]

If we take a broader look at the developments in Tuscan, we see, however, that there are a number of fundamental ways in which the overall development of Tuscan differs sharply from that of the other Romance dialects in which syllable structure and diphthongization are linked. First, unlike the French, Gallo-Italian and Rhaeto-Romance dialects, Tuscan shows a correspondence between open syllables and diphthongal treatment only in the case of the low mid-vowels; the high mid-vowels and *a* remain monophthongal in all positions with no qualitative differentiation.[42] Second, Tuscan shows no clear trace of an old, general V-V relation (metaphony) for either the high or low mid-vowels. Third, while there are in Tuscan some cases of VC relation in which ẹ and ǫ are raised to *i* and *u* and which may be related to those in the other dialects,[43] there are no consonantally conditioned diphthongizations of the low mid-vowels. Finally, Tuscan stands out generally among all the Italo-Western Romance dialects, and in particular in contrast to the other dialects with a syllable structure relation, as being the dialect in which reduction has been carried out to the least extent. Thus, Tuscan not only preserves old proparoxytones but also maintains a clear four-way distinction in final nonaccented position.

There have been two main views of the development of the low mid-vowels in Tuscan. On the one hand, there is the view that the development was an autochthonous, phonological change, directly brought about by a general vocalic lengthening in open syllables (e.g., Castellani (1962a, b, 1970). On the other hand, there is the view that the diphthongal forms were borrowed into

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[41]   The most widely known such theory is that of von Wartburg, as represented in his study of 1936 on 'Die Ausgliederung der romanischen Sprachen'. In von Wartburg's view, the diphthongizations in open syllable are to be attributed to the linguistic contact in these areas with the invading Germanic populations. In particular, it was the transfer of their strong 'expiratory', that is, dominant, accent into their Romance speech which brought about the diphthongizations and other phonological changes.

[42]   Franco-Provençal also shows a correspondence between open syllables and diphthongs for both the high and the low mid-vowels but not for *a*. There are also a number of Gallo-Italian dialects in which ẹ was diphthongized but ǫ was not (Schürr (1965)). For details, see Rohlfs (1943 2: 142–143).

[43]   In Tuscan ẹ and ǫ are raised to *i* and *u* not only before palatal nasals and laterals but also before velar nasals, e.g., **família → famiglia, *tínea → tigna*, but also **língua → lingua* (cf., e.g., Neapolitan *lengua*, Spanish *lengua*). There are also some other cases where a palatal environment has caused a raising, e.g., **bẽstia → biscia, *dígitu → dito, *õstium → uscio* (Mancarella (1978: 31)).

Tuscan from the northern, Gallo-Italian dialects (e.g., Schürr (1970: 36–39), Rohlfs (1949: 152–158, 185–188)). While this question has yet to receive a definitive answer, for the purpose of this paper we need only make the following points. First, given the relatively very limited reduction in nonaccented syllables in Tuscan, as well as the lack of even relic traces of an earlier V-V relation, it is clear that a strongly dominant accent never fully developed in Tuscan. Such a divergence from the general Italo-Western Romance pattern could plausibly be due to substratal influence of Etruscan during the period of Romanization. In any event, since metaphony did not operate in Tuscan, there could have been no subsequent reconditioning of metaphonic products. Furthermore, while one cannot rule out the possibility of an autochthonous phonological development of *ę* and *ǫ* to *ie* and *uo*, as argued by Castellani, nor can one exclude the possibility of a phonological loan, which by and large came to be conditioned by a specific environment (i.e. open syllable), albeit with some variation and exceptions (e.g., Old Tuscan *bene/biene, era/iera, lei/liei, nove/nuove*). In addition, the Tuscan limitation of syllable structure conditioning to the treatment of the low mid-vowels, as well as its overall conservatism with respect to reduction (both in contrast to the situation obtaining in the vast majority of Romance dialects in which syllable structure condition occurs), would further strengthen the argument for a contact induced change, though obviously such arguments cannot, in and of themselves, be decisive.

3.6.2

Another group of dialects which have not undergone the operation of metaphony are those in the extreme south of the Italian peninsula, that is, in southern Calabria and on the Salentine peninsula, and the majority of the dialects in Sicily. These dialects all share a common basic vocalic system which deviates from the general Italo-Western system (though is perhaps a secondary development from that system).[44] It has often been pointed out that these three areas were not only originally part of Magna Graecia but later, after being Romanized, were under Byzantine rule and hence politically and culturally isolated from the rest of southern Italy. The shared vocalic

[44] The Salentine, South Calabrian and Sicilian dialects share the following vocalic system (cf. diagram 20 and footnote 30) (Parlangèli (1960: 25)):

Latin	ī	ǐ	ē	è	ā	ǎ	ŏ	ō	ǔ	ū
		i		e		a		o		u

Scholars disagree as to whether the Sicilian vocalism represents a secondary development of the Italo-Western or Southern Romance vocalism (see Hall (1950: 25) and Leonard (1978: 10-3)).

system and the lack of metaphony[45] in these areas thus may well be attributable to the influence of a Greek speaking substrate, with common linguistic features being maintained and/or further developed (as well as northern innovations being kept out) during the period of isolation under Byzantine rule. Such a substratal interference with the development of metaphony would seem to be paralleled in the development of the Tuscan dialects.[46] These two areas were the only ones where the process of Romanization came into contact with large and fairly homogeneous populations of a high level of civilization and urbanization.

4. General conclusion

The concept of *reconditioning*, in relation to both synchronic variation and diachronic change, appears especially applicable when dealing with phenomena such as umlaut or metaphony in Germanic and Romance. We have seen, however, that reconditioning is also reflected in unrelated types of change such as the tensing of *a* in the dialects of the eastern United States. Reconditioning is further implied in standard terminology commonly used in the description of language change, as our discussion of morphologization and rule simplification has shown. Indeed, reconditioning may well have a broader application than our discussion includes and it may also be found in various language groups, as perhaps in the case of the vocalic lowering and raising changes (Philippi's Law and attenuation) in Semitic, as mentioned in Malone (1972:422): "It seems that both changes remained independently effective in Northwestern Semitic for many centuries, but that the conditions and scope of either one varied markedly from dialect to dialect and from period to period."

The conceptual basis of historical linguistics is still very much neogrammarian and in need of revision. Our study is a contribution to this, as it appears necessary to give the notions of *variation, variable conditioning* and *reconditioning* their proper place in historical linguistics; these notions allow us to gain deeper insights into certain diachronic phenomena and to view these

[45] The actual dialectal situation is quite complicated and has been the subject of considerable controversy. Of particular importance with regards to the present discussion is the historical significance of the central area of Sicily, where metaphony has operated and its relationship to the eastern coastal area, where metaphony has not operated. For a detailed discussion of metaphony in the Sicilian dialects, see Piccitto (1951).

[46] For a discussion of a case of substratal disruption of the operation of umlaut within a Germanic context, see Buccini (1990).

phenomena from the same perspective. Our study also illustrates once more the intimate interrelationship between synchrony and diachrony, an interrelationship, which was, as is well-known, insufficiently recognized by Saussure.

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