ABSTRACT

A STUDY IN PHYLOGENETIC CHANGE:
OLD ENGLISH /d/ >> MODERN ENGLISH /ð/ REEXAMINED

by Hans Frederick Fetting

The sound change from OE /d/ to ModE /ð/ before /Vr/ as, for example, fæder >> father is a point that has concerned many writers of the handbooks of English phonological history. The established traditional doctrine recognizes two major stages in the development of /d/ > /ð/ after stressed vowels and resonants and before /(V)r/: (1) OE /θ/ > /d/ in the environment /V́--rV/; (2) during the Middle English period, this /d/ along with all others in the environment /V́--(V)r/ became /ð/. This explanation fails to account for the development of such forms as fodder << OE fōdor, ladder << OE hlæd(d)er, and the like.

In an attempt to discover the mechanism of this sound change, as well as the reason for the lack of change, the present study undertakes several different approaches to the problem. First a structural study, utilizing diachronic form-sound charts in order to determine the distinctive phonetic features, reveals

that a front vowel conditioning factor determines whether or not an OE /V́d(V)r/ form undergoes change to ModE /V́ðVr/. The same analysis, however, also reveals the possibility of OE /d/ >> ModE /ð/ after long vowels. Neither analysis, however, is without exception.

The next approach, a historical survey of the phone-graph characteristics of d and th, suggests a possible phonetic reinterpretation of the graph d as the fricative [ð] or the aspirated dental stop [d̪^{h}] when it is in medial position before /r/ in the next syllable. This conclusion is based on orthographic, orthoepic, and language contact evidence.

Finally, the study turns to modern theories of sound change (those particularly of Chomsky, Halle, and Postal), which propose that nonphonetic conditioning factors determine sound change in many instances. Some possible nonphonetic and/or extra-phonemic answers to the question of the mechanism of the sound change stem from such considerations as: homophonic aversion (e.g., /fɔdər/ 'food' :: /fɔðer/ 'load'); functional shift (e.g., substantive > verb as fader (n.) > to father, but not *to adder or *to ather < adder (n.));

or the stress readjustment factor concomitant with functional shift (e.g., fáder (n.) > to fàther) under sentence stress.

Apparently no single methodological or theoretical system can cleanly cut through the complexities of this sound change. However, new insights into these complexities can be found and some satisfaction gained even in partial answers and interesting possibilities.

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Hans Frederick Fetting

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LIST OF SYMBOLS AND ABBREVIATIONS

Symbols are used conventionally as, for example:

OE Old English

ME Middle English

EModE Early Modern English

Sc Scottish

N Northern

WM West Midland

EM East Midland

S Southern

ā ă ǣ A macron or a breve over an Old English vowel is a quantity mark.

[--] Brackets indicate a phonetic transcription.

/--/ Virgules indicate a phonemic transcription.

V̲·C· Any vowel, any consonant.
Underscore indicates graph or grapheme.
Raised dot indicates phonic length.

/V́/ Acute accent indicates the suprasegmental phoneme of primary stress.

> Becomes.

< Comes from.

>> or << As above but with intervening stages of development.

(--) Parentheses indicate an option or a variant.

~ Alternates with.

Erratic underscoring has been normalized for consistency.

I INTRODUCTION AND PROBLEM

I shall be concerned here with what is noted by some linguists as a fifteenth century sound change in Middle English, which in its simplest form says: Old English postvocalic /d/ becomes Modern English /ð/ before /Vr/. The problem first came to my attention when it was presented as a student's exercise in phylogenetic change at the end of Chapter Forty-four of Charles Hockett's A Course in Modern Linguistics. In this problem, Hockett lists thirty Old English words, transcribed phonemically, with /d/ or /θ/ after a stressed vowel, along with their Modern English reflexes with either /d/ or /ð/ in the corresponding position. Hockett states the problem as follows: "Describe what has happened to OE /d/ and /θ/ in this position by NE [Modern English] times, in such a way that if we were presented with an OE word not on the list, we would be able to assert definitely what would happen to any properly located /d/ or /θ/ in it."[1] The list reads:

/ɔ́dela/ addle
/ǽ°ĝθer/ either
/bodiĝ/ body

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[1]Charles A. Hockett, A Course in Modern Linguistics (New York, 1958), pp. 385-386.

/brí˙del/ bridle
/brð˙θor/ brother[2]
/fǽder/ father
/fǽθm/ fathom
/féθer/ feather
/fǽrθung/ farthing
/fúrθor/ further
/gǽderian/ gather
/hǽ˙θen/ heathen
/híder/ hither
/hrǽθor/ rather
/hwéθer/ whether
/léθer-/ leather
/mǽ˙dwe, -wa/ meadow
/mó˙dor/ mother
/nǽ˙del/ needle
/néθera/ nether
/nórθerne/ northern
/ó˙θer/ other
/rǽ˙diĝ/ ready
/rúdiĝ/ ruddy
/skǽdwe, -wa/ shadow
/sú˙θerne/ southern
/trédel/ treadle
/θíder/ thither
/wéder/ weather
/wíduwe/ widow

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[2]Note that in Old English there is one (inter) dental fricative phoneme /θ/, having two allophones: (1) [ð] which occurs singly between voiced sounds, and (2) [θ] which occurs otherwise (i.e., initially, finally, doubled, and next to a voiceless sound). The phoneme /ð/ is a Late Middle English development.

These words illustrate two different phonetic processes, the phonemic shift and the phonemic split. A phonemic shift is the bifurcation of two phonemes out of the allophones of one original phoneme. Formulaically:

$$/A/ > \begin{cases} /A'/ \\ /\underline{x}/ \end{cases}$$

With /A/ as the original and /A'/ the corresponding identical phoneme in the terminal pattern, /$\underline{x}$/ is the new terminal phoneme not identical with the original. A phonemic shift, on the other hand, is formulaically: /A/ > /$\underline{x}$/, a process in which the phoneme in the terminal pattern is of a different type from the original and is not identical with any phoneme already in the language.

On the basis of these words, the solution to Hockett's problem seems to be that OE /d/ after a stressed vowel and preceding OE /er/ or /or/ becomes ModE /ð/ (a phonemic shift) but remains /d/ when followed by any other combination of phonemes; and that OE /θ/ after a stressed vowel and before any vocoid becomes ModE /ð/ (a phonemic split). This latter process, the phonemic split, is an important type of change which

results in a new phoneme. On the phonetic level, there is no observable change. In Hockett's corpus, each of the intervocalic /θ/'s = [ð], which is phonetically identical with its Modern English reflex, intervocalic /ð/. The same process is at work when OE /f/ and /s/ become ME /v/ and /z/, respectively; as, for example, /raven/ < /hræfn/ and /mazen/ < /masian/.

Unfortunately for the student who puts his trust in this simple formulation of the conditioned phonemic shift, that the OE /d/ > ModE /ð/, a little search into the native stock of the Modern English lexicon will turn up words that have not behaved as he would have predicted, such as fódder << OE fód(d)or; ládder << OE hlǽd(d)er; mádder << OE mǽdere; úddder << OE úder.

This point has occupied many philologists and historical linguists concerned with English phonological history. Some handbooks indicate that the change undergoes intermediate stages of development in Middle English and Early Modern English and is affected by dialectal differences as well. Many suggest that the data which present themselves are very complicated, involving at least two sets of less

than perfectly understood combinatory changes at four hundred or five hundred years' distance from each other; namely, that in the tenth century, /θ/ after vowels and resonants and before /(ɛ)r/ became /d/, but that in the fifteenth(or beginning in the late fourteenth century) this /d/, along with all others similarly placed, became /ð/. For example, OE fé<u>ðe</u>r > ME <u>féder</u> > ModE <u>féather</u> to illustrate the late Old English change /θ/ > /d/; and OE f<u>æder</u> > ME <u>fáder</u> > ModE <u>fáther</u> to illustrate the late Middle English change /d/ > /ð/. Only a few linguists have attempted to establish the sound change patterns involved here.

My purpose in this study is first to make a historical inquiry into the scholarship concerning OE /V́d(d)(V)r/ >> EModE /V̂ðVr/. I shall begin by looking at scholarly studies from the late nineteenth century, which is the latter part of the period when the notion of history began to be applied to language in the same way that it had been applied to other historical phenomena--by establishing the relationship between events through time and space. It is the flowering of the period when scholars became interested in explaining language change in

the narrowest sense of what we now call "linguistics." Secondly, I shall make a structural study of the relevant corpus in the manner and fashion handed down to us by the neogrammarian tradition of the nineteenth century, in an attempt to formulate this sound change in terms of the phonetic conditioning factors, which traditionally determine change. Then I shall consider the orthoepic evidence--an increasingly popular type of inquiry--particularly those statements concerning the phonetic quality of the graph d. Next, language contact evidence will be considered; and finally, as a footnote to this study, I shall look at a recent phonological theory which suggests that the specifications of some phonological changes can be explained with non-phonetic information; that is, with reference to morphophonemic and/or superficial grammatical structure. This is the view suggested by phonological work done within the framework of generative grammar, a theory that is consistent with older theories (which are purely phonetic in application) but which adds more abstract environments to the phonetic character of sound change: namely, that part of the conditioning environment affecting sound change involves surface constituent structure;

changes happen only in particular form classes or stem types.

Granting its heuristic quality, as one must in speculative inquiry, my hypothesis is that in Old and Middle English, the single grapheme d, postvocalic and before (V)r, never stands in contrastive distribution with any allograph representing the voiced (inter)dental fricative [ð] in any one English dialect at any one time, and is therefore, in free graphic alternation with th and its variants in this position. The exact phonetic realization of d in this environment is ambiguous, but it is probably not a voiced alveolar stop; its phonemic indistinction is clear. Therefore, I propose that the isolative change of OE /V́dVr/ >> EModE /V́ðVr/ is more graphic than phonetic; it is probably owing to a long-standing sound/symbol variant interpretation of the graph d, which has finally been resolved in Modern English spelling and pronunciation. As a result, now d = [d] in all environments; and the older, ambiguous, intervocalic d has been replaced with the digraph th = [ð], which more nearly reflects the Late Old English and Early Middle English intervocalic /d/.

I further suggest that a structural study (analogous patterning) cannot conclusively reveal a conditioned sound change. Moreover, the application of the broader concepts underlying modern theories (that extra-phonemic morphological and suprasegmental factors might well have affected this not-so-simple sound change) can offer only some very interesting footnotes to a phenomenon which is complex and contradictory. The sound change OE /d/ >> EModE /ð/ before /Vr/ has not been and apparently cannot be conclusively explained with any methodological techniques available to the historical linguist at this time.

II THE TRADITION

Henry Sweet was one of the first to deal with the problem of OE and ME /ˈd(V)r/ becoming EModE /ˈdɛVr/. As a university undergraduate, Sweet wrote for the 1869 meeting of the Philological Society a paper on the question of OE /θ/ and /d/, predicated chiefly on a physicalist principle of change:

> If we compare the two extremes, Latin pater and English father, an examination of the various forms will soon convince us that these changes are due to assimilation. The most abrupt transition possible is from a vowel to a voiceless stopped consonant, as in Latin pater, which has every right to be considered the original form. In the Gothic fadar, the first stage of assimilation is entered upon; the voice runs on without interruption through the whole word. Finally, in the English father, the d is further approximated to the adjoining vowels; not only is the voice continuous, but the voiced breath flows out continuously. If the th were to undergo a further change into an l, the combination would almost amount to a regular diphthong.[1]

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[1] Henry Sweet, "The History of the TH in English," Collected Papers of Henry Sweet, ed. Henry C. Wyld, (Oxford, 1913), p. 183.

If we forgive Sweet obscurities such as the value he gives Gothic d or the reasoning behind his suggestion that a fricative becomes a lateral, he fairly well typifies one facet of the neogrammarian school of the late 1800's in his view that sound change proceeds from a striving toward an easier manner of articulation or that sound changes are always based on a decrease of effort. The theory is perhaps well exemplified in original /t/ > /d/ as IE *pətēr >> OE fæder, a fortis > lenis weakening, followed by /d/ > /ð/ as ME fader > EModE father, a reduction step to spirantization which involves fewer muscular actions than a stop articulation. However, analogous patterning suggests that the next step would be /ð/ > null as in Latin patrem >> French père, Provençal paire, Catalan pare rather than /ð/ > /l/ as Sweet suggests. This concept of simplification of pronunciation is, I think, held by no modern except in regard to unfamiliar sounds and the difficulties a language learner has regarding imitation of the unfamiliar. The "ease" concept runs counter, furthermore, to development in the opposite direction--for example, /d/ > /t/ (OE tien << IE *de'km) and /t/ > */ts/ (OHG zehan << PrimGmc *tegan).

In a later revision of that 1869 paper, Sweet moved to a behaviorist position when he stated that /d/ becoming /ð/ " . . . result[s] from relaxation of articulative energy modified by assimilation tendencies. Of all articulations the stopped consonants require the greatest exertion. [When it does not change, it is owing to] . . . the tendency to save trouble by continuing a given formative position unchanged, or with as little change as possible."[2]

Thirty-one years later, Sweet passed over the matter by writing, "In First MnE [1500-1600] (d) preceded by a vowel and followed by (r) was opened into (ð) in many words, such as father, together, hither = OE fæder, Late ME fader, fāder, OE tōgædere, hider."[3]

As one moves through a historical survey of the change in question, one notes that modern scholars tend to quote from one another, and in

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[2]Henry Sweet, "The Old English Þ," in his ed. of King Alfred's West Saxon Version of Gregory's Pastoral Care, E.E.T.S.(London, 1871), App. I, p.489.

[3]Henry Sweet, A New English Grammar (Oxford, 1900), Pt. 1, p. 283.

a delusive appearance of simplicity, they posit a sound change based on a few examples, which in no sense proves any "exceptionless sound law" nor properly provides for the conditioned (and sometimes unconditioned) anomalies that often disrupt the scheme of so many sound change patterns.

The 1905 English Dialect Grammar of Joseph Wright appears to have laid the groundwork, provided the data, and established the theories for a number of philologists and linguists concerned with OE /ˈVdVr/ > EModE /ˈVðVr/. Wright states it thus:

> Intervocalic d followed by r in the next syllable became in the first instance ð in all dialects . . . .
>
> This ð from d (OE fæder etc.) fell together with OE ð in the same position (OE feðer etc.) and underwent all further changes in common with it. It has thus become (1) d beside dð in . . . [Lake Country]. (2) d in . . . [the extreme Northern and Kentish areas]. At first it might seem as if forms like fadə(r, gadə(r, mudə(r, etc. had retained OE d and that forms like fadðə(r mudðə(r, etc. represent the intermediate stage of development of OE d to ð in this position, but from the fact that words like brother, feather, leather, other, rather, weather, etc. have had the same development

> in these dialects, it is clear that the d, dð in the former class of words started out from ð.[4]

Wright's comments are typical of most twentieth century writers on this topic--terse statements that the phonetic change /d/ > /ð/ did indeed occur, but without explanation of why in some words and why not in others. Of course, some descriptivists feel that why is not in their purview, but only what. I think, however, that what, fully explained, can answer why.

Early twentieth century German writers of philological monuments have shown deeper insights into the problem and have offered fairly full explanations. Richard Jordan restricts the fifteenth century change of /d/ to /ð/ before /(V)r/ to the

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[4]Joseph Wright, English Dialect Grammar (Oxford, 1905), sec. 297. Note Wright's statement, " . . . it might seem as if forms . . . [with dð] represent the intermediate stage . . . ." Apparently infelicitous readings have given rise to the suggestion that /dð/ is an intermediate stage of development (cf. quotations from Jordan and Schlauch, ff.). Wright did not intend this, and the evidence suggests nothing more than that /dð/ forms are a late (seventeenth century) dialectal feature of the Lake Country. Andrew Ellis, On Early English Pronunciation (London, 1869), p. 893, calls the d of dth a literary man's diacritic for indicating voice.

short or single /d/, positing a doubled or lengthened /d·/ in words like adder, bladder, fodder, and udder, where a stop remains.

> While đ before non-syllabic r (and other liquids) results in the stop d at an early stage, d, on the other hand, when preceded by a vowel and standing before syllabic r or ər, softened to đ by way of dđ from 1400 on. Thus fader > father (đ), mōder > mōther, correspondingly gather(en), together, wether, wither(en), hither (hēther), thither, whither; in addition cosetherynge = considering . . . . The intermediate stage dđ was preserved in northern dialects and partly reverted to d (Murray 121, Wright sec. 297): cf. gadther, hydther, etc. in Tyndale, which may, however, be compromise spellings. Lengthened d before r was preserved in . . . adder, bladder (from addre, bläddre . . . OE ædre, blædre), fōdder, udder (OE fŏdder, *udder); This shows that the beginning of the change of the d goes back to the time when there were still long consonants. Yet blather (1520), uther (1515), and corresponding forms in living dialects also occur with the softening of shortened d.[5]

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[5]Richard Jordan, Handbuch der mittelenglishen Grammatik, Part I: Phonology (Heidelberg, 1925, p. 252, sec. 298. "Während đ vor unsilbischen r (und anderen Liquiden) früh den Verschlusslaut d ergab (sec. 206), wurde umgekehrt d, dem Vokal vorherging, vor

This analysis is cogent and clear except for the abstruse reference to compromise spelling. It is not clear what is being compromised. It is apparently Jordan's way of saying that Tyndale is aware of /d ~ ð/, so he puts down his graph for both phonemes. This does not, however, account for Wright's modern examples.

Karl Luick gives quite a full discussion of the change. He agrees with Jordan that it occurs only with single /d/, not doubled, and also not in combination with a preceding liquid or nasal. But Luick does not make the matter out quite so simply as Jordan and Wright, for he admits the difficulties of chronology that remain. Most significant are

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silbischen r̥ oder ər von 1400 ab über dd̄ zu d̄ gelöst. So fader > father (d̄) 'Vater', mōdor > mōther 'Mutter', entsprechend gather(en) 'versammeln', together 'zusammen', wether 'Wetter', wither(en) 'verwittern', hither (hether) 'hierher', thither 'dorthin', whither 'wohin'; dazu cosetherynge = considering . . . . Die Zwischenstufe dd̄ erhielt sich in nördlichen Mundarten und kehrte teilweise zu d zurück (Murray 121, Wright sec. 297); vgl. gadther, hydther u.a. bei Tyndale, die aber auch Kompromisschreibungen sein können . . . . Bewarht blieb gelängtes d vor r . . . . . adder 'Natter', bladder 'Blase' (aus addre, bladdre . . . ae. ædre, blædre), fōdder 'Futter', udder 'Euter' (ae. fōddor, *udder); dies zeigt das der Anfang der Veränderung des d noch in die Zeit der erhaltenen langen Konsonanten zurückgeht. Doch begegnen auch mit Erweichung von gekürztem d blather (1520), uther (1515) und entsprechende Formen in lebenden Mundarten.

his notes:

> Note 3. The phonetic process is not easy to completely clarify. It is very likely that an interdental or postdental d, such as the northern English dialects still exhibit today, existed as a transitional stage between the original dorsal d and the present-day interdental or postdental d̲. But the cause of the shifting of the d is not clear, for trilled r follows dorsal d without difficulty. Perhaps initially the entire group was fronted and d was moved to the foremost position as a result of a certain exaggeration which can frequently be observed in the case of newly appearing sound tendencies. The movement from interdental or postdental d to r is liable to be accompanied by friction, as can be readily observed, and this friction has eventually prevailed in many cases.
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> Note 4. (Chronology) Judging from the time of the first appearance of written evidence, this change is most likely to have taken place in the fourteenth century, or in the fifteenth century in some parts of the country. It seems, in any case, to have been colloquial in character to begin with, and has, consequently, prevailed only slowly in the literary language.[6]

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[6]Karl Luick, Historische Grammatik der englischen Sprache (Leipzig, 1914-1940), I, Part 2, p. 1012, sec. 752. "Anm. 3. Der phonetische Vorgang

In a note, Karl Brunner refers the reader principally to Luick for discussion of the change. He does, however, find the change of /θ/ to /d/ before /r/ regular, but either divided on the basis of origin (as before /l/) or not clear (as before /m/) when the /θ/ stands before other resonants, though the change before any of these resonants seems to be part of a single phenomenon. Actually, Brunner gives only WSax ædr beside Mercian ēðr as examples

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ist nicht leicht völlig klarzulegen. Dass als Zwischenstufe zwischen dem ursprünglichen dorsalen d̲ und dem heutigen interdentalen oder post dentalen ð̲ ein interdentales oder postdentales d̪, wie es die nordenglischen Mundarten noch heute ƀieten gegolten hat, ist sehr wahrscheinlich. Aber die Ursache der Verscheibung des d̲ ist nich klar. Denn an ein dorsales d̲ schliesst sich Zungenspitzen-r̲ ohne weiteres an. Vielleicht wurde zunächst die ganze Gruppe vorgeschoben und dabei mit einer gewissen Übertreibung, wie sie bei neu auftretenden Lauttendenzen öfter zu beobachten ist, das d̲ bis an die vorderste Stelle gerückt. Beim Übergang eines interdentalen oder postdentalen d̲ zu r̲ stellt sich aber, wie der Versuch zeigt, leicht ein Reibegeräusch ein und dieses hat schliesslich häufig die Oberhand erhalten.

Amn.4. (Chronologie). Nach dem Zeitpunckt des ersten Auftauchens von Belegen muss sich dieser Wandel wohl im 14. Jahrhundert, in manchen Landesteilen wohl erst im 15. Jahrhundert vollzogen haben. Allerdings scheint er zunächst umgangsprachlichen Charakter gehabt zu haben und ist daher in der Gemeinsprache nur langsam durchgedrungen."

of the alternation before /r/, and no examples with /Vr/.[7]

A present-day historical linguist, Alistair Campbell, discusses only the various changes of /θ/ in Old English as " . . . a tendency to develop stops from spirants before liquids and nasals,"[8] rather than as an invariable change; and he also distinguishes changes peculiar to individual dialects from those characteristic of Old English as a whole and tries to compare them with parallel changes in Low German and Frisian. He explains that the tendency for þr > dr as in ædr 'vein' is Kentish, while Anglian (which is the proper developmental forerunner of Middle English) kept the spirant, which ultimately became voiced after long vowels, as in ēðre. Too, Campbell notes that in Anglian and Mercian, d before l equals ð [ð]. Campbell relegates the change /θ/ > /ð/ > /d/ in words like fædm to West Saxon; preserved

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[7]Karl Brunner, ed., Altenglische Grammatik by Edward Sievers, 2nd rev. ed. (Halle, 1951), p. 175, n. 7.

[8]Alistair Campbell, Old English Grammar (Oxford, 1959), p. 171, sec. 419.

forms with /ð/ remain in Mercian, and Northern has /ð/ beside /d/.[9] Campbell does not give any examples involving /θr/ ~ /dr/, or indeed, any in which /θ/ or /d/ precedes vowel plus resonant except heðir[10] 'kidney, rein' as an example of a retained spirant following a long vowel.

E.J. Dobson alludes to Jordan and Wright in his comment on the change of /d/ > /ð/, mostly preliminary to the period with which he is concerned. He writes: " . . . about 1400 postvocalic [d] became [ð] before [r] or [ər] in father, mother, together, weather, hither, etc., perhaps through the intermediate stage [dð] preserved in Northern dialects (see Jordan, sec. 298, but contrast Wright, sec. 297)."[11] Dobson adds in a note: "The sound change

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[9]Campbell, secs. 423, 424, p. 172.

[10]This word is a good example of what is noted by Henry Sweet as an advanced, less clumsy form in which ð is substituted for an ambiguous d; i.e., d = [ð]. The Oldest English Texts: Corpus Gloss, (E.E.T.S., London, 1885), Original Series, 83, p. 3.

[11]Eric J. Dobson, English Pronunciation 1500-1700 (Oxford, 1957), II, p. 956, sec. 384.

[d] > [ð] is restricted to the case where a vowel precedes."[12]

Dobson's remarks reflect the established doctrine of historical English linguistics. This doctrine recognizes two major changes in the treatment of OE /d/ and /θ/ after vowels and resonants and before /r ~ ɾ ~ Vr/: that in Late Old English and Early Middle English, /θ/ before /rV/ became /d/, but that in the fifteenth century (or beginning in the late fourteenth century) this /d/, along with all others similarly placed now before /rV/ or /Vr/, became /ð/. One must be quite careful to distinguish between the environments of these two changes. The earlier change is indicated as being " . . . vor unmittelbar folgendem nicht silbischem . . . r;"[13] that is in the environment /-rV/ to the exclusion of /-ɾ/ or /-Vr/. The second of these changes , the specific problem of my investigation, is in the environment /V́_ɾ/ or /V́_Vr/.

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[12]Dobson, II, p. 956, sec. 384.

[13]Jordan, p. 183, sec. 206; also Dobson, II, p. 954, sec. 381.

Many recent statements of the matter are often oversimplifications. Fernand Mossé said only of the earlier of these changes: "þ (ð) before m, n, r, l becomes d: OE fæðm 'fathom' > fadme, OE byrðen > ME birden."[14]

Eilert Ekwall, although not principally concerned with historical phonology, passes off the later change with, " . . . a change of d to th is well known in words like father, mother (Old English fæder, modor)."[15]

Margaret Schlauch's dressed-up, but equally pat version reads: "The voiced stop [d] became the spirant [ð] by way of [dð] before unaccented -er [ər], as in mother < modor, gather < gæder, weather < weder."[16]

More recently, Hans Kurath stated: "Medial [ð] is in part derived from earlier [d] in the cluster

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[14]Fernand Mossé, Handbook of Middle English, trans. James A. Walker (Baltimore, 1952), p. 43.

[15]Eilert Ekwall, The Concise Oxford Dictionary of English Place-Names (Oxford, 1936), p. xxxiv.

[16]Margaret Schlauch, The English Language (Oxford, 1959), p. 47.

[dr] as in father, gather, hither, mother, weather, whither. This change took place in late ME. As a result, weather became homophonous with wether."[17]

The final interpretation in this historical survey is somewhat out of the purely phonological mainstream of most of the above explanation. It has influenced my thinking and suggests the strong possibility of the necessity for a phone-graph reinterpretation. It is Otto Jespersen's physiological explanation, which strongly echoes Sweet:

> The vacillation found between /ð/ and /d/ especially in the neighbourhood of r must be explained through the interdental stop, analphabetically written βO^{d}: the tip of the tongue forms a stop with the lower edge of the upper teeth, I heard this sound most distinctly in 1889 in the Yorkshire dialect of the Rev. C.F. Morris, who writes it ddh before (e)r; it is also found, I think, in the Irish pronunciation of loud(h)er, broad(h)er. It may be popularly described as a [d] formed where [ð] is usually formed or a [ð] exaggerated to a stop.[18]

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[17]Hans Kurath, A Phonology and Prosody of Modern English (Ann Arbor, 1964), p. 57.

[18]Otto Jespersen, A Modern English Grammar (Heidelberg, 1928), I, pp. 208-209, sec. 7.2. See MEG, p. 387, sec. 14.02 for discussion of Jespersen's analphabetic notation system: Greek letter = articulator, number = point of articulation, raised Roman = manner of articulation.

The change of postvocalic /d/ to /ð/ before /Vr/ from Old English words to their Modern English cognates has concerned not a few scholars. Historical phonologists agree that the change took place. And certainly it did happen if one accepts historical phonology as they present it, but maybe it did not happen at all. Certainly the analyses of the change have been serious, but they are not always neat. There are uncomfortable lapses and explanations that some teachers and students feel are not really explanations at all.

It is reasonable to expect from the neogrammarian tradition an analysis plus perhaps a list of exceptions to whatever general pattern is established. All of the above analyses have in some form or other relied on analogical patterning, which in itself is fine, but by itself, I suspect, denies a regular phonetic change. Most present-day linguists subscribe to the notion that all sound changes can be described in purely phonetic terms and that any list of exceptions can then be described in the same way until the exceptions are explained away, and the sound change can be described by a series of sound change patterns that will account for <u>all</u> the developmental

forms involved in the sound change. None of the above analyses does this. It is this lacuna that the next chapter will attempt to fill.

III THE EVIDENCE AND TRADITIONAL ANALYSIS

The dominant view of sound change is and has been based on the autonomy of phonology,

> . . . that in general, phonological change takes place under conditions and within limitations which are in phonological terms . . . . The conditions under which particular changes [take] place [involve] features such as voicing or voicelessness of neighboring sounds and the positions of accent with regard to the sound in question . . . .[1]

The application of such a theory to the change in question calls for a structural study, a part of which requires setting up charts which dialectally and chronologically illustrate relevant forms and should thereby reveal the sound change in process and in state.

Turning to three principal sources: the Oxford English Dictionary (OED), the Middle English Dictionary (MED), and The English Dialect Dictionary (EDD), I examined the entire corpus (including all

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[1]Charles A. Ferguson, Review of The Sound Pattern of Russian by Morris Halle, Language XXXVIII: 3 (July-Sept., 1962), 289.

recorded spellings) of uninflected, non-derived, Modern English words which contain the graphic sequences V́d(d)Vr or V́thVr, which developed from cognate V́d(d)(V)r forms in Old English.[2]

The relevant words are ModE adder, bladder, ladder, madder, udder, fodder, mother, father, gather, hither, thither, together, whither, weather; their histories are clear and well attested. They are unquestionably active, native vocabulary. Several words: for example, ModE crowder (crowther) < ME crouder (crowdere, crowther); ModE dither < ME ?didderen; ModE dodder (dother) < ME doder; ModE heather < ME hather (hadder); ModE slither < ME slitheran (?slideran)[3] have very uncertain or unknown etyma. Although important, they remain peripheral to this study; so do related words that do not enter into the mainstream of the sound change, such as

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[2]See Appendix I for the words examined. Words in different but similar environments such as /ndVr/ or /Vðm/, in which the same phenomenon may be suspected, are noted. I have, however, restricted the study to the word types noted above.

[3]At first glance, slidrian > slideran > slitheren might appear to be a normal development for this word, but there are two developments from two different words: OE sleðeran > ME slitheren > ModE slither and OE slidrian > ME slederan > ModE dial. slidder.

farthing and brothel, which likewise have variants with d at the time in question. (One may hope that the conclusion of this study could offer some insights into the etymology of these words.) For this controlled study, we must, however, stay with OE V́d(d)(V)r patterns having Modern English reflexes, in respect of the tradition under study, for simplicity, and for clarity.

A study of Appendix I shows that the non-native vocabulary is principally from Scandinavian, Latin, and French. Except for sporadic anomalies, such borrowings come through Middle English into Early Modern English consonantally unchanged: for example, Danish buldre > ME boulder; L moderatus > ME moderate; OF sidre > ME sidre (sither, cidre). Intervocalic /θ/ (found only in non-native words) presumably derives from ME /t/ as in ModE author < ME auctor.[4]

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[4][ɔ́θər] is thought by some (e.g., Helge Kökeritz, Shakespeare's Pronunciation (New Haven, 1953), p. 320.) to have developed as a spelling pronunciation of the 1550 alternate aucthor for auctor. Since it is impossible to say when the modern pronunciation with [θ] was established, it is equally valid to assume that the spelling arose out of the pronunciation--the more usual direction when orthography has not been subject to the pressures of convention such as we presently

A number of borrowings are unattested, or they are relatively late forms; for example, pother dates from 1692 and is labeled origin unknown. Old English words having postvocalic (inter)dentals before /(V)r/ retain those (inter)dentals in Early Modern English except for OE roðer >> EModE rudder; OE spiðra >> EModE spider. These two are apparent perversitiies until it is noted that the usual lexical form OE roðer is related to and probably developed from the North Germanic cognate róður, while all Low (West) Germanic cognates have medial d--including, according to the OED, Old English. Thus OE róður >> ModE rudder will be seen to be a regular change and ME rother, a Scandinavian borrowing. The early history of spider is extremely obscure, but the earliest written occurrence of the word (in the West Saxon Leech-Book (9th century)) is spiden (wiht). The Old English form *spiðra is a reconstruction as noted in some dictionaries, Webster's New World, for example. The usual developmental notation,

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experience--and even more so when one considers that the graph h had and has long functioned as an aspiration diacritic, as in Greek ph = [pʰ], th = [θ]; Sanskrit bh = [bʰ], dh = [dʰ]; German th = [tʰ]; and was advocated for just that function by the orthoepist, John Hart, An Orthography (1569). In Works, ed. Bror Danielsson (Stockholm, 1955), pp. 204-205.

ME spithre > spyder, should read ME spithre ~ spyder > spyder, as given in the etymology of the word in Webster's Third New International Dictionary. If the Old English cognates of rudder and spider do have medial stop consonants rather than fricatives, then rudder will have undergone the same development as adder, etc., and spider can be explained as a retained or unchanged form. Its appearance with th might be related to the tendency to change, or it might be a unique or unusual morphological development related to the adaption of the Germanic suffix -þra as seen in the form spinnan (v.) > *spinðra (n.). The great blur on the development of this word as a derivative from the verb spinnan permits little but the most speculative of analyses.

The area identifications of the forms in Appendix I are based on the Middle English dialect areas identified by Moore, Meech, and Whitehall.[5] Dialect identification of OED and MED forms was

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[5]Samuel Moore, Sanford B. Meech, and Harold Whitehall, "Middle English Dialect Characteristics and Dialect Boundaries," Essays and Studies in English and Comparative Literature, University of Michigan Publications in Language and Literature, XIII (Ann Arbor, 1935), pp. 1-60.

established principally, and insofar as possible, from the identifications given in the MED "Plan and Bibliography,"[6] or from those in the Cambridge Bibliography[7] or from the Wells' Manual,[8] and occasionally from the introductions of scholarly editions of texts. On the whole, the forms were dialectally identifiable and sufficiently distributed to permit adequate analysis. Schematized versions of my working charts appear in Appendix II.

Diachronic form-sound charts revealed the following normalized developments of the relevant words in the corpus:

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[6]Hans Kurath, "Plan and Bibliography," Middle English Dictionary, eds. Hans Kurath, Sherman Kuhn, and John Riedy, (Ann Arbor, 1952-), pp. 11-12.

[7]T.W. Bateson, "General Introduction," Cambridge Bibliography of English Literature (Cambridge, England, 1966), I, pp. 36, 41.

[8]John E. Wells, A Manual of the Writings in Middle English 1050-1400 and Supplements I-IX (New Haven, 1916-52), passim.

Group I

EModE (16C)		Late ME (15C)		OE
adder	/ǽdəɾ/	adder	/ǽddəɾ/[9]	nǣddre
bladder	/blǽdəɾ/	bladder	/blǽddəɾ	blǣddre
ladder	/lǽdəɾ/	ladder	/lǽddəɾ/	hlǣddre
madder	/mǽdəɾ/	madder	/mǽddəɾ/	mædere
udder	/Ǘdəɾ/	udder	/úddəɾ/	ūder
fodder	/fɔ́dəɾ/	fodder	/fǒ(ɔ́)ddəɾ/	fōdor

Group II

mother	/mʌ́ðəɾ/	moder	/mǒdəɾ/	mōdor
father	/fáðəɾ/	fader	/fǽdəɾ/	fæder
gather	/gáðəɾ/	gader	/gǽdəɾ/	gædrian
together	/togɛ́ðəɾ/	togider	/togídəɾ/	tōgædere
thither	/θíðəɾ/	thider	/θídəɾ/	þider
weather	/wɛ́ðəɾ/	weder	/wɛ́dəɾ/	weder
whither	/wíðəɾ/	whider	/hwídəɾ/	hwider

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[9]The positing of the double stop is, of course, arbitrary. The forms are idealized. The phoneme might have had phonic length /d·/. There are presently two schools of thought on this matter (relating particularly to Old English rather than Middle English, however). Quirk and Wrenn, for example, interpret a double graph as representing a phonically long consonant, while Campbell considers the double graphs as two phonically short consonants. The whole contoversy is excellently summarized in Robert A. Peters, "Phonic and Phonemic Long Consonants in Old English," Studies in Linguistics, XIX:1, 1-4.

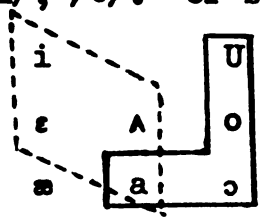
In Group I, the number of dd spellings from original d increases after the year 1000. However, madder shows no dd form until c1350 and not constantly until c1550. Scottish adder and udder alternate d and dd through the fifteenth century. Elsewhere these two show relatively stable dd forms. The remaining words, bladder, ladder, madder, and fodder, show a slight tendency to a graphic shape with -ther in two notable cases: (1) sixteenth century East Midland and (2) seventeenth century Northern; but the -dder pattern occurs ninety percent of the time in all the dialects in all periods. Between 1500 and 1600 and continuing through the seventeenth century, one can find instances of th forms of the entire first group in all the dialects.

The history of the forms in Group II can be viewed from the following schema, which indicates the date and dialect of the first occurrence of the word with th; date when the th form took over as the dominant form (based on simple frequency of occurrence); then some comments on what I thought to be most notable about these forms. In general the words in Group II are spelled with -der throughout their early history, with -ther after 1525.

	First -th- Occurrence	50% -th- Occurrence	Comments
mother	c1350 E. Midland	1500	dd forms are prevalent in Sc. and N. through the 17C. d forms persist in K. through 17C.
father	c1275 E. Midland	1450	d ~ dd forms persist in all but WM. and S. through 17C. Geminate a (indicating length?) in all dialects except Sc. in 17C.
gather	c1400 E. Midland	1500	d ~ th frequently in 14C and 15C. d forms persist in Sc., N., WM. through 17C.
hither	c1300 Northern	1500	dd forms in 16C Sc. Remarkable in that once d disappears, it persists in no dialect except Sc.
thither	c1300 Northern	1500	As hither. Numerous dd forms in 14C Sc.
together	c1450 Northern	1500	Strong tendency to þ in 15C N. dd forms in 16C Sc.
weather	c1400 E. Midland	1500	dd forms prevalent in Sc. and partially so in N. through 17C. d forms persist in K. through 17C.
whither	c1300 Northern	1500	As hither. dd forms persist in most dialects through 17C.

The history of the forms in Group II words is confused and confusing. In the absence of a graph reinterpretation, it is difficult to make any really discerning comments about this group. However, in general terms, the data on page thirty-three support the general view that the sound change took place in the fifteenth century and was well on its way to completion by the Early Modern English period (1500).

A phonological analysis of the Early Modern English words from the list on page thirty-one reveals that in Group I the phonic environment is /V̂dər/ where /V̂/ = /a/, /U/, /ɔ/; in Group II it is /V̂ər/ where /V̂/ = /ʌ/, /a/, /i/, /ɛ/. Or schematically:



This distribution suggests the possibility of a back-central versus a front-central vowel conditioning factor with an additional conditioning factor on the central /a/. Limitations can be placed on /a/ which in Group I occurs (1) initially, (2) after the consonant blend /bl/, (3) after the lateral /l/, (4) after the nasal /m/. In the second group, /a/ occurs

(1) after the voiceless labio-dental fricative /f/, (2) after the voiced dorso-velar stop /g/. Thus considering only segmental features, the formulation for this change is: ME postvocalic /d/ > EModE /ð/ before /ər/ except when preceded by (1) a back vowel or (2) a low vowel when free or when combined with a preceding lateral or nasal.

If the allophonic values of /a/ were known and agreed upon, the solution might be a simple one. OE fæder and gædrian contain OE ă̆, a front vowel, which gave rise to ME ā, namely front [a·].[10] On the other hand, ME ă in adder, bladder, ladder, madder is usually held to have been, in the Early Middle English period, the back vowel [ɑ].[11] If these assumptions were true, there would be a clear separation of change according as /V́/ is back on the one hand or front on the other. However, one need only turn to the discussion of the free development of stressed vowels in Kökeritz[12] and Dobson[13] in

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[10]Dobson, II, p. 594, sec. 98.

[11]Dobson, II, p. 545, sec. 59.

[12]Kökeritz, p. 167.

[13]Dobson, II, Chp. 6, passim.

order to be confronted with a lively (and yet to be resolved) controversy concerning the articulatory production of the allophones of /a/, the chronology of the raising of ME [a°] to [æ°], and its subsequent retraction and lowering to [ɑ°]. I personally have much faith in Dobson's theories, but it must be remembered that his theories are often based on his interpretation of orthoepic evidence, and that his theories assume a complete regularity of change.

Assuming this back-front vowel conditioning and returning to the excluded words on the second page of this chapter, the normative developments crowder < crouder; dither < didderen; dodder < doder are thus verified by the known data. Presumably, then, the alternate spellings or the divergent forms would indicate either a dialectal retention of an older form or a dialectal fronting or backing of a radical vowel.

Recalling the "quantity" theories of Jordan and Luick brings a slightly different result. There is an established tradition in Modern English that the vowel preceding a doubled graphic consonant is phonically short. Therefore, one can reasonably

assume that in the absence of the graphic geminate, the preceding vowel, though perhaps not long, is not markedly short. Some use the expression "half long." In other words, the phonic value of V in a Vder sequence is relatively longer than it might be in a Vdder sequence. Thus, on the basis of vowel quantity, reflected in the orthographic practice of the modern period, one can say that ME postvocalic /d/ > EModE /ð/ before /ər/ except after a stressed short vowel, usually signaled in the orthography by a geminate (phonically lengthened?) consonant. This analysis finds support in the theory of Hans Kurath,[14] who in considering consonant quantity suggests that intervocalic /ð/ < /d˚/ or that OE fæder = /fæd˚ɛr/ >> ModE father = /faðər/; OE fōdor = /fo˚dor/ >> ModE fodder = /fadər/.

Such a theory based on single versus double consonants or quantitative phonetic features works well enough backwards, which is in one sense our aim --to posit the developmental forms of a word. But one must remember that a commonly used, authenticated

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[14]Hans Kurath, "The Loss of Long Consonants and the Rise of Voiced Fricatives in Middle English," Language, XXXII (1956), 435-445.

Middle English form might not be that which gave rise to the Early Modern English form. Reconstruction aids etymological studies, but it does not necessarily determine either a usual or a normalized pronunciation or spelling. "The aim of . . . structural analysis is, after all, to discover the extent of systemization in a language at a given time, not to impose a system on it."[15]

Either the preceding traditional analysis, based on discrete phonemic features and the environments in which they are found, or that based on vowel length could serve as an answer to those who are looking for purely phonetic phenomena as an explanation of the sound change under study here. Neither statement is, however, without exceptions and conditions because the sound change /dər/ > /ðər/ is an isolated change, or perhaps merely a phoneme substitution. The statements I have made differ from the well known sound laws of Grimm and Verner, which are not couched in terms of a single phoneme, but rather in terms of a class of sounds. On their

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[15]Kurath, "The Loss of Long Consonants," 442.

example, what happened to /d/ should have happened to /b/ and /g/ in similar environments since traditional theories hold that sound changes are regular. This is only true, however, when it is true. Linguists, like other scientists, aim to make their generalization as inclusive as possible. Grimm's statement, for example, is much broader than Verner's, but no less scientific; and so too, I should hope, are those offered here. Interestingly and unfortunately there are no attested native words cognate in Old English and Modern English having the graphic configuration Ṽb(b)Vr or Ṽg(g)Vr or with their related fricative congeners [ƀ] and [ɠ], which have long been lost to Modern English--and even Old English can hardly be shown to have [ƀ]. Without such sequences we cannot test distinctive feature formulation with finality. In addition, and so far as I can determine, no other Modern English voiced fricative appears to have developed from a voiced stop in the environment /Ṽ--Vr/.[16]

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[16]An obvious example of a fricative developing from a stop is ModE have < OE habban. The process is apparently: habe- > habj- > habb-. However, in the second and third persons singular and in the past tense, Old English retained haƀ- in the alternated hav- ~ haf-; thus OE habban, hafaþ (/f/ = [v], its

The difficulties of interpreting the sound change arise from the many forms over several centuries and into our own time. Most of us would agree, I think, with Yakov Malkiel, who wrote:

> The weakness of a phonological change may have a direct bearing on the infiltration of sporadic changes, lexical blends, and other modifications; it may also serve as an index of dialect mixture.[17]

What is perhaps the soundest phonological conclusion is to consider that both the segmental and suprasegmental factors are active conditioning forces; that one factor sometimes cancels out the other, and at times they work in harmony--just as Grimm's Law is modified by Verner's. Even together, they leave some problems unanswered, but with no large group of exceptions.

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intervocalic allophone). ME habb- forms were reduced by leveling to hav-. These kinds of changes are described by the OED editors as weakenings. The OED records intervocalic /f/ as in hafu as early as Beowulf; v in this position is first recorded in 1220.

[17]Yakov Malkiel, "The Inflectional Paradigms as an Occasional Determiner of Sound Change," Directions for Historical Linguistics, eds. Winfred Lehmann and Yakov Malkiel (Austin, 1968), p. 29.

IV ON THE PHONETIC MANNER OF D

The previous chapters of this study indicate an uncertainty concerning the theory and method of the change ME /d/ > EModE /ð/ before /V́r/. This chapter, based on works concerned principally with the production of those sounds, is enlightening in that previous theories of the sound change very often are not based on any evidence of articulatory phenomena.

It is difficult to write cogently about this point. One has to sense it, to feel it, rather than to know it. It has been so easy for historical linguists to be deceived (as it is for us all) through their own familiarity with spelling and the entire writing system. Nevertheless, I suggest that the many forms of my corpus appear to be the result of a long history of phonetic-graphemic ambiguity concerning d, which is clearly not always the voiced dental or alveolar stop which our handbooks would lead us to believe. Few handbooks of Old or Middle English suggest very forcefully that there is any alternative pronunciation for d other than [d]. Some do suggest the very general possibility in very

old texts. Quirk and Wrenn, for example, state that " . . . in the later eighth century the letter d was . . . often used for ([d] and [ð])."[1]

Since all phonetic work in Old and Middle English must be based on written records, orthographic tradition plays an important part in any analysis. A succinct overview of orthographic practice comes from Kurath, who writes:

> The spelling of modern English is in a large measure a heritage of the late Middle Ages. With the emergence of English as a literary language in the fourteenth century, a system of spelling was devised to render the phonemes of the spoken language. At that time, the correlation between grapheme and phoneme was systematic, although not all of the vowel phonemes were distinguished in spelling. The introduction of printing a century later (1475) served to standardize this spelling, though it was already out of step with the phonemic system, which had undergone remarkable changes between 1400 and 1500. During the last four centuries the two have drifted farther and farther apart.

The spelling system of Middle English

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[1]Randolph Quirk and C.L. Wrenn, An Old English Grammar (New York, 1957), p. 8.

> that stands back of the spelling of Modern English was devised by scholars who wrote and spoke Latin and French, the language of scholarship and high society. In the main, they adapted the spelling of Latin to rendering the English phonemes, but French spellings were retained in words taken from that language and in a few instances carried over into native words.[2]

Neither Middle French nor Vulgar Latin had an interdental fricative phone, and no graph to represent one. The digraph th, as in Classical Latin spatha, is a strongly aspirated dental stop, as in the emphatic pronunciation of ModE terrible.[3] In Old French, th is a development from Gallo-Romanic intervocalic [d], as in vida, which became [ð], as indicated by the Old French spelling vithe; it then weakened to silence in later Old French and Middle

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[2]Kurath, Phonology and Prosody, p. 35. Italics are mine. Although true in a general way, the statement implies a one to one relationship, a traditional tenet, which the following evidences do not, I believe, generally support.

[3]W. Sidney Allen, Vox Latina (Cambridge, England, 1965), p. 112.

French vie.[4] Or more specifically, in late Old French, the earlier postconsonantal aspirate h became a mute (i.e., a breath stop, no longer a fricative), weakening [θ] to inaudibility. As a result, the th digraph disappeared in Old French only to be occasionally revived as a scribal variant in fifteenth and sixteenth century France[5] where it has been presumed to have been a non-functional mute (i.e., not pronounced).[6]

A usual linguistic practice is to fill an unknown quantity with the nearest known quantity. Long ago, Skeat made the following observations on the orthographic practices of a Norman scribe rendering the Octavian Imperator:

> . . . It is worth while to see what he makes of the English th, a sound which it cost the Norman a good deal of trouble to achieve, though he learnt it at last. His

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[4]John H. Fox and Robin Wood, A Concise History of the French Language (Oxford, 1968), p. 50, or Frederick B. Luquiens, An Introduction to Old French Phonology and Morphology (New Haven, 1909), p. 43, sec. 116; p. 66, sec. 273; p. 67, sec. 278.

[5]Urban T. Holmes jr. and Alexander T. Schutz, A History of the French Language (New York, 1938), p. 55, sec. 33.

[6]OED, s.v. h.

> method was simple, viz., to confuse it with d; and when once we know this it is easy to tell what he means. When he writes de, he means the (105, 128, 206); but he only writes de occasionally, in moments of relapse.[7]

Skeat follows his comments with numerous examples, which graphically illustrate a remarkable fluctuation:

> . . . dyder for thyder, i.e., 'thither' (237)
> . . . brodyr, for brothyr, oder, for other . . . .
>
> It is still more odd to find the scribe substituting th for the English d; as in onther, for onder, i.e., 'under' (515), correctly spelt onder (with the Norman o for u) in l. 550; thonryght (1114), a variant of donryght (1560), i.e. 'downright'; with other traps for the unwary.[7]

Since Latin and French were the languages of the literati, we may note references to mispronunciation in Latin and French before we look at some commentary on English.

The earliest records that relate to the

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[7]Walter W. Skeat, "The Use of D for TH in Middle English," Notes and Queries, 9th series, X (October 25, 1902), 321-322.

problem are those of the sixteenth century orthoepists, spelling reformers, grammarians, and the like. They were very conscious of the pronunciation [ð] for the grapheme d. Their reactions to this pronunciation are couched in terms like "abused," "corrupt," "barbarous." Except for such value judgments, however, these early linguists discuss the phenomenon little and make only cursory, if any, analysis of the situation. But the fact of the change, the alternation, the substitution, or whatever, and its social aspects are obvious. One commentator, William Salesbury, writes of " . . . som barbarous lyspers . . . who deprave the true Latine pronunciation . . . [and] do read . . . quith legith in stede of quid legit."[8] And William Lily, also on Latin pronunciation, deplores " . . . the disfigurement created by our wandering when we pronounce t and d as if they were aspirates."[9]

French t and d were similarly mispronounced.

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[8]William Salesbury, A Playne and Familiar Introduction (London, 1567), pp. 30,46.

[9]William Lily, A Shorte Introduction of Grammar, II, Brevissima Institutio (London, 1567), sig. A4[r]. "Foede quoque erratur a nostris, ubi t & d tanquam aspiratas pronuntiant."

In John Palsgrave's early writing on French d, with the usual oblique Latin reference, he states:

> D in all maner thynges confermeth him to the general rules above rehersed, so that I se no particular thyng wherof to warne the lernar, save that they sound not d of ad in these wordes adultére, adoptión, adoulcér, like th as we of our tonge do in wordes of latine ath athjuuandum for ad adjuvandum corruptly, for in all wordes where d hath his distinct sounde, he shalbe sounded lyke as the latine tong soundeth d.[10]

In works on English, we find statements like Simon Daines' comment on the " . . . promiscuous use of D and Th, descended hereditarily to us from the Saxons. [The result is that] many pronounce Th like d."[11] In the late sixteenth century, the early phonetician John Hart wrote: "The d we abuse in the sound of th the figure of which element we ought to write even as we speak: and pronunce the d writen in his proper sound which is as in ladder, and not as we abuse yt yn derivations: as in adoption

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[10]John Palsgrave, Leclarcissement de la langue Francoyse, ed. F. Genin (Paris, 1852), p. 28.

[11]Simon Daines, Orthoepia Anglicana (1640), eds. M. Roesler and R. Brotanek (Halle, 1908). pp. 53-54.

when we pronunce yt athoption."[12] The matter was not just a problem of cultivated versus vulgar pronunciation; it was an academic concern, for Hart adds that his insistence that Latin d be pronounced [d] was " . . . moch against the good wills of . . . [his] masters."[13] Hart also notes that Latin d before another d should always be a stop.[14] If this is an accurate observation, it might well explain or indicate an influencing factor in single /d/ becoming a fricative and double /dd/ remaining a stop. These remarks suggest that not a few speakers of Early Modern English pronounced postvocalic d as [ð] or something very like [ð] in Latin loans--not in the dd context, however. Whether single d in native words was treated in the same fashion, Hart does not explain. But again, a usual linguistic practice is to give foreign words English pronunciations, not the converse. Thus French or Latin d if pronounced [ð] could only have come from some English phone-graph

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[12]John Hart, The Opening of the Unreasonable Writing of our Inglish Toung, ed. Bror Danielsson, John Hart's Works (Stockholm, 1955), Pt. 1, p. 144.

[13]Danielsson, Hart's Works, Pt. 1, p. 144.

[14]Danielsson, Hart's Works, Pt. 1, ad dico, p. 205; but aðvertized, p. 203.

correspondence.

Another important early work, considered to be the first grammar of English as a foreign language, is that of J.B. Gen. Ca. (now known as James or Jacques Bellot), Le Maistre d'Escole Anglois (1580). In this text, Bellot attempts to describe the pronunciation of d and th for the Frenchman aspiring " . . . to attayne the true pronouncing of the Englishe tongue."[15] Of d, he says, it is " . . . pronounced as in the French tongue;"[16] that is, as [d̪]. Of th, "Th are pronounced in blowing with the tongue against the fore teeth before the sounding of them and taketh the voice of one Delta, both before and after A,E,O."[17] There is little doubt that Bellot is here describing a voiced dental fricative [ð].

In the seventeenth century, George Mason, considering the same problems, stated:

Now when pronouncing these and similar

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[15]James Bellot, Le Maistre d'Escole Anglois, ed. Theo Spira (Halle, 1912), p. 1.

[16]Spira, Bellot's Le Maistre, p. 14.

[17]Spira, Bellot's Le Maistre, p. 25.

> words, the Frenchman should be careful lest instead of saying I thanke you, he says tanke you or danke you, as the Flemish do. If I were speaking to learned people who know the Greek language, I would tell them to pronounce these words as if they were written with a theta; but when speaking to those who do not know this language, I would tell them that when they pronounce these words, they gently touch their front teeth with the tip of the tongue, imitating approximately in pronouncing th either serpents or goslings when they hiss.[18]

Somewhat fancifully, this statement indicates that /θ/ is a voiceless dental or postdental fricative articulation, not, however, an interdental, nor [d̪] nor [t̪]. Nevertheless, at least three times in his work, Mason phonetically renders th with the symbol d; namely des, dat, de for these, that and the [19]

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[18] George Mason, Grammaire Angloise (1622), ed. Rudolf Brotanek (Halle, 1905), pp. 15-16. "Or en prononçant ces mots & semblables, que le François se donne garde que au lieu de, I thanke you, il profere, tanke you, ou danke you: comme font les Flamans: mais addressant ma parolle aux gens doctes qui entendent la langue Grecque, qu'ilz prononçent ces mots, comme s'ilz estoyent esscrits avec vn, θ, semblablement parlant aux ignorans d'icelle langue, quand ilz viendront à prononcer ces mots, qu'ilz touchent doulcement les dents de devant du bout de la langue, imitans en partie en la prolation de th, ou les serpens, ou les oisons quand ilz sifflent."

[19] Brotanek, Mason's Grammaire, p. 2.

meaning, I should think, that d signals some kind of fricative articulation.

After Mason, one finds no further really significant statements concerning the phonetic manner of d and th until Alexander Ellis's monumental work On Early English Pronunciation, which proved to be a disappointing source for the matter under study here. Relating chiefly to Gower and Chaucer, Ellis states that "D was (d) of course."[20] His reference to th, however, suggests that the phone [d] which became [ð] should have undergone the change by Chaucer's time, for he says:

> TH . . . had probably the same sounds as at present and distributed in the same manner. Occasionally we meet with d in places where we should have expected th = (dh), as in fadur 100 = father, hider 674, thider, slider 1265, where the rhyme shews that the sound was really (d) and not (dh), but the (d) seems to guarantee the pronunciation of th as (dh) when written in these words.[21]

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[20]Alexander J. Ellis, On Early English Pronunciation (E.E.T.S., Extra Series 2,7,14,23,55, London, 1869), p. 308, sec. 3.

[21]Ellis, p. 317, sec. 3. Numbers refer to lines in Thomas Wright's edition of the Canterbury Tales (Harleian MS.). In F.N. Robinson's edition (New York, 1933), l. 674 = 672.

Ignoring the cogency of the evidence, what Ellis is concerned with is not the value of d, which he stated earlier and unequivocally was [d], but that [d] > [ð], not [θ]. As I noted earlier, what Ellis has to say about EModE dth is interesting: "Some literary men write dth to indicate the sound ([ð])."[22] This appears to be a reasonable answer to the orthoepists' plea for the resolution of the ambiguous th, a plea which is still heard today, as well as a reasonable explanation of the supposed transitional state noted in Chapter II.

Following Ellis, a few twentieth-century scholars have something to say about the past phonetic manner d and graphemic-phonetic correspondence in Old and Middle English. Sporadic, isolated references in language texts suggest the possibility that d = [ð] in many instances, or that d represents an allophonic distinction. Karl Bülbring, for example, writes that, " . . . voiced [đ] is frequently represented by d in the oldest texts; very rarely is voiceless [þ]."[23]

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[22]Ellis, p. 593,

[23]Karl Bülbring, Altenglisches Elementarbuch (Heidelberg, 1902), Pt. 1: Phonology, p. 187, n. 2. "Das stimmhafte [đ] wird in den ältesten Texten häufig d durch wiedergeben; sehr seltan das stimmlose [þ]."

By this it is conceivable that d is the traditional grapheme for [ð] in Old English, and that it is retained as such throughout Middle English. The graph shows phonetic rather than phonemic value. Similar parallels can be noted in the indistinction between palatal [c] and velar [k] or [g] in the runes of the Ruthwell Cross where the graph of the front phone stands for both front and velar phones.[24] Similarly in Common Celtic c = [c] or [k].[25]

Looking at scribal variations in fifteenth century correspondence, Norman Davis found the following vagaries of d before er in the letters of three educated men, all in the employ of the Pastons:

> James Gloys. The usual spelling is d whether the word is written full, as fadere, moder, gadered or abbreviated, as mod'. But with 'other' there is some uncertainty, ǒd' and the toder occurring early in contrast [graphic, but not phonetic?] with prevailing othre, othere.
>
> Richard Calle. The use of d is familiar,

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[24]Brunner, Siever's Grammatik, p. 180, sec. 205, n. 1; cf. Campbell, OE Grammar, p. 173, sec. 427, n. 1.

[25]Kenneth Jackson, Language and History in Early Britain (Cambridge, Mass., 1953), p. 402, sec. 56.

> as modre, gadre, thider, but th is more frequent: fathers, gather--(at least four times), hether, together.
>
> [The others] . . . show only d in all such words. John Wykes has whethere . . . , and hethere in a letter written for Margaret Paston; but otherwise gedere, hedere, theder.[26]

Such examples support the view of modernists over that of the nineteenth century tradition, as we note in these comments by Lehmann:

> . . . recall how explicit Saussure [19th c.] was about the ineffective role of the speaker in initiating, and even controlling language. . . . He speaks of a blind force operating against the sign system.
>
> Kurylowicz [20th c.] in contrast views the speaker as deciding between alternate forms and through such decisions controlling the selection of two or more competing forms.[27]

Saussure implies a general linguistic naiveté, Kurylowicz, on the other hand, a general linguistic sophistication (or at least a linguistic awareness) which

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[26] Norman Davis, "Scribal Variation in Late Fifteenth Century English," in Mélanges de Linguistique et de Philologie: Fernand Mossé in Memoriam (Paris, 1959), p. 99.

[27] Winfred P. Lehmann, "Saussure's Dichotomy between Descriptive and Historical Linguistics," in Lehmann and Malkiel, Directions, p. 15.

I readily grant the medieval man, lettered or unlettered.

Most of my original corpus and related words show alternate (competing?) -der/-ther forms in Middle English, principally in native words rather than foreign (not to the complete exclusion of the latter, however). The list in Appendix III offers evidence that d often alternates with th in the same word, in the same dialect, and in the same century. For example, fifteenth century brother has d ~ th forms from the south through Scotland--even within the same text.[28] This suggests either alternative pronunciations or that d and th are free variant graphs of some allophone of either /ð/ or /d/.

It is reasonable to assume that spellings arise out of pronunciations, especially in the beginning of an orthographic tradition. However, lettered men are known for their conservatism, and it is a commonplace that there is an orthographic lag in the rendering of a sound change. Too, the graphs ð and d had spent many centuries being con-

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[28] The "Gest Hystoriale" of the Destruction of Troy, eds. George A. Patton and David Donaldson, E.E.T.S. (London, 1869), p. 312, l. 9589; p. 431, l. 13167.

fused because of their nearly identical graphic shapes and/or possibly their nearly identical phonetic renderings. In late Old English, the graph ð stood for both the voiced and voiceless (inter-) dental fricatives. It was ostensibly replaced with th, but d has had a long history of carrying the double function of stop and fricative,[29] and it has often been editorially changed to ð.[30] Thus the writing of d or ð might be nothing more than what Paul Postal calls " . . . the general tendency of human cultural products to undergo 'nonfunctional' stylistic change,"[31] like schoolgirl circles over i's.

Therefore, I propose that textbooks of Middle English would do well to modify statements like Mossé's, " . . . the greater part of Middle English consonants were pronounced pretty much as in ModE."[32] They should

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[29]Charles L. Wrenn, "The Value of Spelling as Evidence," Word and Symbol (London, 1967), p. 132.

[30]The most convenient, illustrative example is the Exeter Book (eds. Krapp and Dobbie). "Christ," pp. 3-49, contains fifteen instances of d ~ ð or d clearly resulting from ð by scribal emendation.

[31]Paul Postal, Aspects of Phonological Theory (New York, 1968), p. 283.

[32]Mossé, Handbook ME, p. 14.

note that Middle English single d between a stressed and a non-stressed vowel which develops into Modern English th was probably pronounced [ð] by many cultivated speakers.

I do not deny that such statements exist. They do, but minimally, or out of the mainstream of the discussion. With reference to Wright, Mossé, and Bülbring, M.H. Scargill states, "The voiced spirant (ð) is frequently represented by d in Old English."[33] Meanwhile, A. Campbell leans in a slightly different direction (which he later modifies) when he states:

> The assumption that th at first represented a voiceless spirant is based on Irish usage, and the parallel with ch. No OE manuscript preserves this usage: some use th only initially, and have d medially for both the voiced and voiceless sound . . . .[34]
>
> Early manuscripts . . . use th initially and d medially and finally, for a dental spirant. The distinction seems to be one of position in the word, not voiced

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[33]Matthew H. Scargill, Notes on the Development of the Principal Sounds of Indo-European through Proto-Germanic and West Germanic into Old English (Toronto, 1951), p. 42.

[34]Campbell, OE Grammar, p. 23, sec, 55, n. 3.

> and unvoiced sounds, for d often represents a voiceless spirant . . . .[35]

Campbell continues to suggest that later d = [ð] or [θ],[36] but never that th ~ ȝ = [d]. He concludes his discussion of Old English orthography and pronunciation with this note: "The use of the d symbol for þ [the most frequent graph for both the voiced and the voiceless fricative] in runes . . . is due to the influence of the Latin alphabet."[37]

OED editors reflect the middle-of-the-road position regarding the value of d. In discussing father, they note:

> The spelling in our quotations is uniformly with d until the 16th century. Except that faþer occurs sporadically in the Cotton and Göttingen MSS. of the Cursor Mundi (a. 1300); but the pronunciation (ð) may have been widely current in the 15th century or even earlier; in the 14th and 15th centuries the spelling with -der is very common in words

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[35]Campbell, OE Grammar, p. 24, sec. 57 (5).

[36]Campbell, p. 26, sec. 63; p. 29, sec. 69.

[37]Campbell, p. 29, sec. 70, n. 1.

> like brother, feather, leather, though this spelling cannot in all cases be supposed to indicate that the writers pronounced the words with (d). The Modern English -ther (ð) of OE. -der, -dor . . . is really the result of a phonetic law common to the great majority of English dialects.[38]

The "law" to which the OED editors refer is the fifteenth century change under discussion here. They obviously regard the change as regular. This reflects one weakness of past work in historical phonology--the passing off of substantive evidence in favor of supposed phonetic laws. One can only suggest further possibilities about phonology when it is based solely on the written record. We can sometimes be rather certain about matters, but we can never be dogmatic when talking about past pronunciations which are only partially recoverable.

I am rather certain that the orthoepic and philological analyses just presented can lead to only one conclusion--that ME /ˈvdər/ > EModE /ˈvðər/ is a leveling of allophones. In other words, what has long been considered to be a phonemic shift, is really a phonemic split, brought about by North

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[38] OED, s.v. father.

Germanic influences. One often reads of Scandinavian lexical contributions but seldom of any phonological influence except in place-name studies. Eilert Ekwall remarks, " . . . a short d never occurred in Scandinavian between vowels, ð (dh) generally corresponding to Old English d. In such positions d was replaced by Old Scandinavian ð. Hence MYTHOP from original Midhop, LOUTH from original Hlūde. This is a very common phenomenon."[39]

Such a process might carry over as well into the general vocabulary and result in competing forms first inside the Danelaw, then through dialect mixture, throughout the country. Finally, through convention and the crystalizing influence of printing and learning, the resultant form as we now know it prevails. A few more illustrative place-names, their developments and earliest dates as garnered from Ekwall are: (EM) Atherstone (1221) < Aderston (710); (WM) Batherton (1260) < Baderton (1086); (K) Bethersden (14C) < Bedersden (1100); (S) Cheddar (1100) < Chedar (880); (N) Adderston (n.d.) < Edreston (1233). These and similar examples indicate that the medial graph d

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[39]Ekwall, English Place-Names, p. xxv.

is regularly changed to th in place-names in or by the mid-thirteenth century and very seldom later than that. It is probably safe to assume as Henry Wyld did almost a half century ago:

> In the spelling of Middle English many dialectal varieties of pronunciation, and doubtless also of individual peculiarities, are expressed; but in a highly-cultivated literary language the spelling is usually crystallized and expresses merely a general average of the extant pronunciations, the same symbol being used by "correct" writers without regard to differences. Thus . . . symbols . . . which for practical purposes of philological statement and investigation, we consider as representing severally the same sound . . . with perfect consistency, may in reality have been conventionally used, in the same words, by writers whose pronunciation differed more or less considerably.[40]

I, of course, wholeheartedly subscribe to this statement which supports my view of variant phone-graph correspondences. Unfortunately, Wyld withdraws to safer, traditional ground as he continues:

> However, until a spelling has become

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[40]Henry C. Wyld, The Historical Study of the Mother Tongue (London, 1920), p. 116.

> absolutely fixed, like that of Classical Greek and Latin or Modern English, it is safe to assume that the use of a symbol is fairly consistent, and that it expresses at the worst, a group of closely-related varieties of sound.[41]

Earlier in the same work, Wyld approached modern theory when he wrote of sound change in general:

> What really happened is that the underlying memory pictures of sound and movements undergo gradual modification, and are different in one age from what they were in a former . . . ; meaning thereby a change in the aggregate of mental pictures possessed by all the individuals of a community, the result of which is that a series of substitutions takes place of one sound for another, until the sounds actually pronounced by a later generation in the same word differ widely from those pronounced by an earlier generation.[42]

Compare this with a modernist statement:

> Transition or transfer of features from one speaker to another appears to take place through the medium of bidialectal speakers, or more generally, speakers with

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[41] Wyld, Historical Study, p. 116.

[42] Wyld, Historical Study, p. 69.

> heterogeneous systems characterized by orderly differentiation. Change takes place (1) as a speaker learns an alternate form, (2) during the time that the two forms are in contact within his competence, and (3) when one of the forms becomes obsolete. The transfer seems to take place between peer groups of slightly differing age levels; all the empirical evidence gathered to date indicates that children do not preserve the dialect characteristics of their parents, but rather those of the peer group which dominates their preadolescent years.[43]

Then more exactly to our point:

> At some point the social and linguistic issues are resolved together; when the opposition is no longer maintained, the receding variant disappears. This view fits the general observation that change is more regular in the outcome than in process.[44]

Thus the Old English graph d might well have had two pronunciations, freely alternated, but probably socially conditioned. OE d was either native Germanic [d] or its Romance counterpart [d̂], which

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[43]Uriel Weinreich, William Labov, Marin Herzog, "A Theory of Language Change," in Lehmann and Malkiel, Directions, p. 184.

[44]Weinreich, et al.,"Theory of Change," p. 149, Italics are mine.

was introduced into Celtic Britain by Roman conquerors and Roman clergy during the periods of Roman occupation and sustained into Old English through the immense cultural impact of the Roman Christian missionaries. The articulatory differences between [d] and [d̠] are minimal and could distinguish social dialects--with [d̠] predominating in the influential circles of governance and religion. Staying within this language contact frame of reference, any late Old English [d] ~ [ð] could then be called the result of North Germanic influence from the Scandinavian invasions and occupations; these would distinguish regional dialects. In Middle English proper, the Romance pronunciation, the first of these two older traditions, would have been reenforced in the same measure by Norman conquerors who exerted the same kind of linguistic pressures in the same kind of social circles--government, religion, and education. The increased mobility of the people might then have led to a confluence of these factors [d] ~ [d̠] ~ [ð], resulting in a leveling by spirantization of the dental stops--another minimal phonetic step and a nonfunctional change.

After considering the foregoing observations

and theories, I am convinced that we must posit at least one new allophone of Middle English /d/, predicated on the supposition that the traditional pronunciation of Middle English is too often equivalent to a reading in terms of Modern English spelling conventions. It would appear that, in reconstructing the manner of d in Middle English, we have to consider the possibility of what is now a non-English sound or even an English sound signaled by what is not now the usual symbol. Rather than simply the voiced alveolar stop [d] in ME /ˈdəɾ/, three homorganic possibilities suggest themselves: (1) an aspirated medial [d^h], or, (2) Jespersen's earlier suggestion, dental [d̪], or (3) a hybrid of the two, [$d̪^h$], an aspirated dental stop. Of the three, I prefer the last over the other two because it is the more convincing relative of the interdental fricative we now have. In addition, there is a historical parallel in the tendency to aspiration of original /t̪/. John Hart's "breathed t" is at work in these pairs: author < auctor, lethargy < litargie. It appears that /t/ : /θ/ :: /d/ : /ð/. The change /t/ > /θ/ is, however, much broader based since it involves loan words and is not restricted to inter-

vocalic /t/. There is, nevertheless, a similar principle at work in both pairs. If Latin and French had any phonological influence on English, and I see no reason to assume that they did not, since one was the language of learning and the other the language of culture, it is very likely that a common prestigious pronunciation of d (at least intervocalically) was the pure dental [d̪]. The original sound is described by Terentianus Marus in this manner:

"The tip of the tongue, moderately curved at its highest point, strikes low at the front of the teeth; then is the d sound completely articulated."[45]

Quite likely, the "crude and barbarous" speaker of English aspirated this stop to [d̪^{h}]--as is yet his wont.

If we accept the [d̪^{h}] allophone (and likewise the [t̪^{h}]) in the /V́·CVr/ sequence, and these allophones are in turn "breathed" (spirantized) in Early Modern English, there is little else that they can become except [ð] and [θ]. Too, we must remember that an orthography often remains undisturbed by

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[45]Allen, Vox Latina, p. 95. "At portio dentes quotiens suprema linguae/ pulsaverit imos modique curva summos/ tunc d sonitum perficit explicatque vocem."

changes in pronunciation, and Middle English orthography like Modern English is not necessarily phonetic but largely symbolic and somewhat ideographic. Thus, I think that the evidences of this chapter suggest the real possibility of no phonemic shift at all, but the resolution by Modern English spelling convention of a graph-phone ambiguity. Another alternative might be simply to accept [ɜ] as the intervocalic allophone of ME /d/ before /Vr/, which might be the simplest and truest answer in the long run.

V SOME NONPHONETIC FACTORS

Recent statements about phonological change derive in the main from the concepts behind the theory of transformational-generative grammar. The phonological aspect of this theory is embodied principally in a recent work by Noam Chomsky and Morris Halle. The theory utilizes an approach that embodies a concept of the triune impact of the semantic, syntactic, and phonetic components of language. The Chomsky-Halle concept of language refers to both spoken and written interpersonal communication; their concept of grammar refers to " . . . a compendium of specific and accidental (that is, nonessential) properties"[1] of a specific language.

This compendium of properties is a system of rules specifying sound-meaning correspondences. In order to communicate on an inter-personal level , it is necessary for the speaker-listener to have a fundamental knowledge of the grammar of the language in use. That knowledge might well be intuitive and not

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[1]Noam Chomsky and Morris Halle, The Sound Pattern of English (New York, 1968), p. 43.

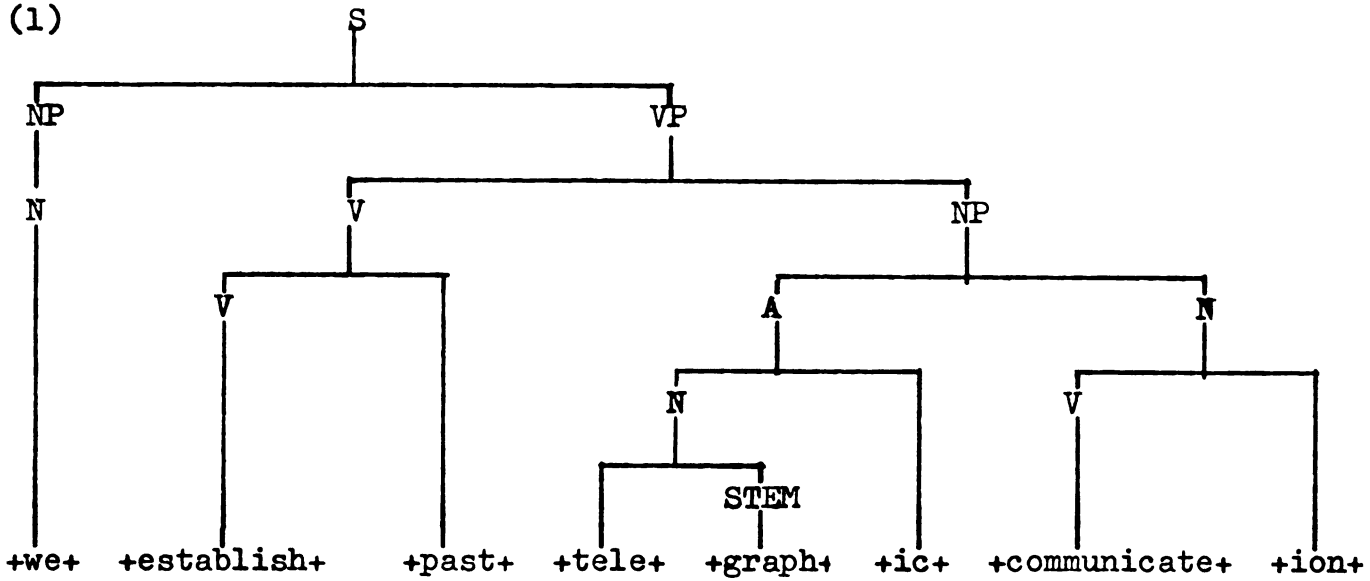
at all rationalized by the user, but it must exist.

The idea of the transformational cycle stems from the notable consistency of speech and writing patterns among users of the English language. The transformational cycle asserts that the overt structure of a complex expression is intuitively ordered through a fixed set of operations that considers the significance of each of its components. For Chomsky and Halle, the significant components for consideration should be classified in three general categories: semantic, syntactic, and phonetic. In their study, they deny the relevance of the phonemic level regarding the final language structure operating through the transformational cycle. They rely solely on the phonetic level of language description.

The syntactic property of grammar refers to the symbol or form structure; the semantic to the symbol meaning; the phonetic to the symbol sound. Chomsky and Halle believe that certain demands are concurrently placed upon the formless and ununified elements of language (such as the letter or sound symbols) by these three components of grammar, so that a resultant, meaningful, overt expression is

generated according to certain intuitively prescribed procedures. The outlining of these regulating precepts maps the transformational cycle. It is the principle of the transformational cycle that underlies a semantic interpretation of writing or utterance, the syntactic interpretation of writing, and the phonetic interpretation of utterance. Chomsky and Halle state the correspondence in this manner: (1)a branching tree diagram of the deep structure, (2) a linear terminal string illustrating symbolically and actually the morphemic sequence, and finally, (3) a phonetic rendering of that morphemic string; for example:

(1)



(2) [S[NP[N+we+]N]NP[VP[V[+establish+]V+past+]V[NP[A[N+tele+[STEM+graph+]STEM]N +ic+]A[N[V+communicate+]V+ion+]N]NP]VP]S

(3) wɪ̄yəstæ̂blɪšt + tèləgræ̂fik + kəmyù̇wnəkéyšən [2]

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[2]Chomsky and Halle, pp. 8-9.

It can be seen from the above that the thrust of this generative phonology effort is directed toward an analysis of the surface structure of English grammar. Therefore, the syntactic component will have special significance, since it seems to constitute the genesis of the overt ordered system of written communication beyond the abstract conceptions of the mind. Too, the phonetic interpretation is important only in the surface structure; it is only loosely related to the deep structure. The semantic component refers specifically to the deep structure and assists in generating and interpreting the surface structure. Its relationship to the surface structure is not, however, much discussed by Chomsky and Halle.

In the simplicity of everyday speech, it appears that deep structures are the mind's thoughts to be conveyed in written or spoken sentences. People often have similar thoughts or mental pictures of an idea, whether they speak the same language or not. Their separate surface structures according to their separate languages are simply their distinct means (as culturally defined) of expressing these meaningful thoughts.

The surface structure of English, according to Chomsky and Halle, consists of a string of formatives to which certain lexical features are attached. For example, father is an element that begins with a voiceless fricative and ends with a retroflex glide; it is a "noun," "animate," "masculine,"... --a classification not unlike the taxonomy of the classical empiricists Locke, Berkley, and Hume, who considered such concepts as "substance," "primary goals," "secondary goals," (i.e., a thing is as you perceive it). These features of language receive specific names if their importance is realized in a specific language. Chomsky and Halle suggest that most of these feature categories are univerally utilized but culturally defined. In addition, they offer a category of physiological features: certain articulators, points of articulation, and manners of articulation that are perhaps meaning-conveying universals. This is not to say that every language uses all these different categories or all these different features to convey meaning. However, many categories are widely used in diverse languages.

Chomsky and Halle go on to posit universal categories referring to the phraseology or bracketing

substrings of "feature" elements. Some items within this categorization are sentence, noun phrase, verb phrase, adjectival phrase... . Universal lexical categories include such items as noun, verb, adjective... . Taken together, the universal phrase categories, universal lexical categories, and universal phonetic categories as well as universal lexical features form an infinite set of plausible surface structures. These features can then be defined along syntactic or semantic or phonological lines.

Unfortunately, the utility of the Chomsky-Halle generative phonology theory in its fullest form has little apparent power to explain the change OE /ˈdVr/>> EModE /ˈdər/. Specifically, Chomsky and Halle call for a rule addition in the phonological component to account for sound change. The sound changes of diachronic English phonology, they say, can be exemplified in terms of the rules of two large classes: readjustment rules and phonological rules. Readjustment rules express the properties of the lexical formative in a restricted syntactic context. Readjustment rules specify the change with formulas of the familiar type X ⟶ Y / Z (X becomes Y in the environment Z).

Phonological rules specifically identify a sound change as a replacive, a softening, a laxing, a spirantization, a cluster simplification... . The assumption is, however, that changes in the phonetic actualization of a sound are very slight; and further, that there is considerable lack of evidence for historical sound change. They quote from Hoenigswald: "It [sound change] has always been a speculative picture whose best feature is a surface plausibility which it once possessed, but it does not possess anymore."[3]

Unlike the traditional approach to sound change--the observed correspondence between two stages of a language, purely at the lexical level (e.g., stan > stone)--Chomsky-Halle call for a grammar addition rule that may function for many generations without causing changes in the lexical representation. This addition rule may be formalized in abstract, formulaic notation, but it will not be observable in the written words themselves. Chomsky-Halle further suggest that if within a syn-

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[3]Chomsky and Halle, p. 250 citing H.M. Hoenigswald, Graduality, Sporadicity, and the Minor Sound Change Processes," Phonetica, p. 207.

chronic grammar, a rule cannot be traced to any sound change, it is the result of the dominance of one grammar over an alternative grammar. They state that a child is exposed to at least three grammars: G_1 (his parents' grammar), G_2 (his own grammar), G_3 (his peers' grammar). G_2 differs from G_1 by grammar rule addition in order to approximate G_3, the desired grammatical goal and therefore evaluatively higher in the child's view of a grammatical hierarchy. In the process of striving for G_3, the child loses G_2 and acquires a new $\underline{G}_3$, which is evaluatively higher than G_1, G_2, or G_3. It is his desired goal. $\underline{G}_3$ is constructed on the basis of the actualization of G_1 and G_3, from which the child has chosen those features most highly valued. In other words, sometimes the child will choose the grammar incorporating a historically attested change, and sometimes he will not, depending upon his evaluative measure of the choice given. It is the result of these unpredictable synchronic choices that establishes the diachronic pattern.

The Chomsky-Halle approach to the consonant system of English begins with this remark: "Although

it is not without its problems, the consonant system seems less interesting than the vowel system and we will not treat it in anything like the same detail."[4] They hold to their word. Their discussion leads to sample readjustment rules (sound change formulas) of words derivationally inflected, then to specific change types: velar softening rules, stress rules, spirantization rules, palatalization rules, and the like, all utilizing Romance words, none of which shed light on the change under study here. At best what they do with historical phonology is to provide a formulaic notation system based on the text's distinctive feature notation, and they apply that notation to the linear rules already provided by the past. For example, "slightly modified forms"[5] of Grimm's and Verner's Laws are formulaically noted:

$$\begin{bmatrix} -\text{voc} \\ +\text{con} \\ -\text{nasal} \end{bmatrix} \rightarrow \begin{cases} [+\text{cont}] \,/\, \begin{bmatrix} +\text{voc} \\ -\text{cons} \end{bmatrix} \text{====} & \text{(a)} \\ [+\text{voice}] \,/\, \begin{bmatrix} -- \\ +\text{cont} \end{bmatrix} \begin{bmatrix} +\text{voc} \\ -\text{cons} \end{bmatrix} & \text{(b)} \end{cases}$$

This is an abstract generalization of the statements that:

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[4]Chomsky and Halle, p. 223.

[5]Chomsky and Halle, pp. 340-341. Actually, the modification is not so slight, since it eliminates initial and final stops and bases Verner's Law on a following vowel, not a following accent--liberties the authors neither justify nor explain.

(1) the stops /p,t,k/ are actualized as their voiceless fricative congeners [φ,θ,x] if preceded by but not followed by a vowel (a);
(2) the stops /p,t,k/ are actualized as their voiced fricative congeners [β,ð,g] if preceded and followed by a vowel ((a) plus the top half of (b));
(3) the sibilant /s/ is actualized as its voiced congener [z] if followed by a vowel (bottom half of (b)).

Although the principal thrust of the Chomsky-Halle theory is concerned with the synchronic description of sound change in non-native words, although their discussion of historical change is primarily a notational innovation rather than a new explanation, it does suggest that perhaps we should look beyond the traditional approach of autonomous phonology. We can borrow from the larger concept behind the theory as expressed by Paul Postal: " . . . some regular phonetic changes take place in environments whose specification requires reference to nonphonetic morphophonemic and/or superficial grammatical structure."[6]

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[6]Postal, Aspects Phonological Theory, p. 240.

Some extra-phonetic processes that immediately suggest themselves are homonymic conflict, functional shift, and possibly stress readjustment. Group I words, those presently spelled with dd, have or have had homonyms; they have propensities for word-level transformation different from Group II words; their surface structures, in other words, have subtle differences which might account for Group II entering and Group I not entering into the sound change /d/ > /ð/. It is such possibilities that I should like to consider here.

In the Early Modern English period, /ádər/, /bládər/, /lǽdər/, /Údər/, /fɔ́dər/ formed minimal pairs with /áðər/ 'either,' /bláðər/, /lǽðər/, /Úðər/, /fɔ́ðər/ 'load,' respectively; thus contrasting /d/ with /ð/. No such clearly cut minimal pairs contrast /d/ with /ð/ in Early Modern English words that have undergone the sound change. Therefore, any change from /d/ to /ð/ in the former group of words would have resulted in a conflict of homonyms, which, according to the theory of Jules Gilliéron and Mario Roques,[7] would have resulted in the ultimate suppression

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[7]As synthesized by Robert Menner in "The Conflict of Homonyms in English," Language, XII (1936), 229-244.

of one or the other formative. In general, the Gilliéron-Roques homophonic conflict theory calls for three steps: (1) homophonic development, (2) homophonic conflict, (3) homophonic suppression.[8]

The fact that variant spellings (and presumably variant pronunciations) of _adder_, _bladder_, etc. with _th_ (_ather_, _blather_ ...), did develop in Middle English indicates a homophonic development. However, the second stage, that of conflict, would probably be infrequent in the words of my corpus because the homonyms would seldom fall into the same sphere of ideas or appear in similar contexts. The result, in these words at least, is no overt suppression of forms, and, therefore, some dialectal substantive homonyms having the same phonic and graphic shape. Some of these conflicting forms survive today. For example, in northern British dialects, _fodder_ and _fother_ both contrast and alternate their medial consonants and might on occasion create an ambiguity. A degree of suppression can be seen in typical dictionary entries like: _fodder_ (dial. var. _fother_) 'food,'

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[8]For example, OE _cwēn_ 'queen, princess' > ME /kwe·n/ > EModE /kwi·n/; OE _cwene_ 'woman, harlot' > ME / kwɛ·n/ > EModE /kwi·n/ (the latter suppressed).

but fother or fodder 'load' is labeled an infrequent dialectal form whether it be identified as a morphemic variant or a separate morpheme.[9]

What this suggests is that Group I words had an occasionally realized propensity for undergoing the sound change /ˈVdVr/ > /ˈVðər/, but in the process, the change created a phonetic as well as a graphic shape already signifying another morpheme. Since an alternative was available (that is, no change at all), that which was the least ambiguous form survived into Modern English. Many dialect forms that were Middle and Early Modern English lexical homonyms showed or began showing contrasts in the radical vowel, thus resolving their ambiguities in another way. For example, the radical vowel of fother (fodder) 'load' had length as opposed to fodder (fother) 'food' which did not.[10] This further suggests that the resistance to change might be corollary with something we could call homophonic aversion. This could be one explanation for rodyr 'rudder' not becoming rother 'ox' or tudor 'progeny' not becoming tuther 'one who toothes (saws)'.

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[9] OED or Webster's Third New International Dictionary (Springfield, 1967), s.v. fodder, fother.

[10] MED, s.v. fodder, fother.

From Group I, adder, bladder, madder, and udder are principally substantives in English; they seldom generate another form class except as adjuncts. On the other hand, the formatives of Group II, mother, father, gather, hither, weather, whither, together, thither are substantives, verbs, and adverbs. The three nouns are frequently subject to derivational processes and often appear as verbs ("to mother the baby," "to father a child," "to weather the storm"). Therefore, perhaps a nonphonetic, morphological factor governs the sound change; namely, that ME postvocalic /d/ becomes /ð/ before /ər/ in verbs and adverbs, derived or regular, the verb form thus giving rise by leveling to the resultant Early Modern English substantive. As tenuous as this might at first appear, there are related data that seem to bear on this. The first occurrence of weather with th is in 1400--coincident with its first occurrence as a verb. At the same time, fadir appears as a verb; the OED entry lists only two occurrences of it as such with a d, thereinafter it is always with th. Mother does not appear as a verb until 1548, but as a verb, it always appears in the th form. The anomalous fodder does not behave like the others in

Group I, but its first occurrence as a verb is in 1300 with a þ in medial position. From the EDD one finds that all the verb forms quoted for fodder are with th. The verb to bladder is an infrequent technical term and etymologically difficult to sift from the verb blather. One further interesting form is the ME smo(r)theren, an alternation of the OE verb smorian; which process of change suggests that the epenthetic th or the suffixal -ther, whichever might be the case, could have been a verb morpheme (or perhaps a phonestheme)[11] in Middle English. Although presently all the words under consideration here are monomorphemic, -ther does have a history as a suffix expressing comparison and/or alternation[12] as in further, hither, thither, either. There is, then, the possibility that the speaker of Early Modern English saw -ther or heard [-ðər] as a verb/adverb productive subclass, or conversely and more simply -der [dər] as an exclusive noun formative.

Such considerations give rise to the further

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[11]As is sp in spit, spew, etc.

[12]Klein, Etymological Dictionary, s.v. -ther.

possibility of the blending of morphological and suprasegmental phonological conditioning. When a word shifts its form class, it often shifts stress, a common enough feature of Romance borrowings in present-day English: pérfect (adj.) > perféct (v.), for example. Similar changes in native words are not known. One reason for this is that Old English and Middle English stress has only recently begun to be studied within an adequate phonemic frame. The reconstruction of the suprasegmentals is only tentative at this time. However, possibilities can be offered. Using the terminology of Hans Kurath,[13] father, a fully stressed noun under sentence accent, could possibly have become a half-stressed verb in the transitive verb phrase "to father a child." Thus when the Middle English noun fáder became the verb to fàder, the weakened stress of the radical vowel in conjunction with the following unstressed /ər/ might well have given rise to a phonological downgrading of the voiced stop /d/ to the voiced fricative /ð/. (Recall Sweet's "relaxation of articulative energy.") That is, an original /d/ in nouns

[13]Kurath, Phonology and Prosody, p. 141.

under the influence of two weakly stressed vowels weakens from a forceful stop articulation to its fricative congener. This fails, however, to account for the change in adverbs, which under both sentence accent and phrase stress usually receive primary stress. So too do the noun and verb father under sentence stress in Modern English. We can suggest, but we must question distributional statements about stress until more data are available. We must remember too, however, that the use and function of stress in Old and Middle English was probably more significant and functional than it now is in Modern English.

One final and rather simple nonphonetic solution might be based on the features "human" and "nonhuman". All the formatives of Group I are nonhuman nouns. Group II presents the exceptional form weather plus human nouns and adverbs. It looks as if /-dVr/ became /-ðər/ except in the case of nonhuman nouns. This gains strength when one notes the large number of dd forms for weather. In other words, weather tends to the nonhuman pattern, especially in the Scottish and Northern dialects. An exception to the change? Yes. But as Paul Postal unequivocally

states in his anti-neogrammarian claim, "Exceptions exist."[14] Of course, all the neogrammarians ever claimed, and all I claim, is that exceptions exist by virtue of some actual if not always ascertainable fact or principle. And, in fact, I have assumed this all along in my attempt to discover why some words develop differently from others. If something is an article of faith, rather than a demonstrable fact, we must still try to describe it, or give up trying to explain anything. We must assume order, not chaos, if we are to discover the principles of order, obviously.

What these nonphonetic factors suggest is that each word has its history; and with many forces at work on a word, some give way to one force while others give way to another, and few do so with parallel consistency. Sound changes, in other words, are linguistic tendencies rather than linguistic laws.

As I stated in the introduction, this chapter was intended to do no more than note what might be possible explanations outside the traditional mode of autonomous phonology for the sound change

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[14]Postal, Aspects Phonological Theory, pp. 276-277, n.5.

/ṽdVr/ > /ṽɜər/. The generative phonologists strike at some basic tenets of the traditional theory of sound change when they deny analogy[15] and pooh-pooh purely phonetic environments as explanations for all sets of change, " . . . the claim that all rules are purely phonetic is empty."[16] But I fail to see how nonphonetic considerations, in an attempt to come up with the simplest answer, can do better than generate some interesting near-facts. Rather than providing the answer to sound change, I see nonphonetic factors embellishing and adding to the phonetic features that describe a sound change. Perhaps one day we will find that they work in harmony rather than in conflict. I think they are doing just this to some degree in this study.

The weakness of both the traditional and modern theories lies not so much in their separate but equal aims, their sense of rigor and regularity, but in our lack of sufficient evidence and especially our inability to recover that which is apparently

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[15]Postal, p. 234, n. 3, and passim. Too, Chomsky and Halle, p. 356, n. 11.

[16]Postal, p. 258, n. 11.

unrecoverable (in any wholly complete sense). Hopefully the search for the truth will go on and new possibilities might somehow, someday, help uncover that one true answer (if it exists) to a not-so-simple problem.

VI SUMMARY AND CONCLUSION

In summary and conclusion, the supposed historical sound change, Middle English postvocalic /d/ becomes Early Modern English /ð/ before /Vr/, has never been adequately explained. Some serious and important insights into the question were shown by the neogrammarians, but their answers were partial ones and sometimes contradictory. When one turns to the writers of modern handbooks, the usual student tool, he finds that they often have little time for deep analysis of this crux of English historical phonology; they are content with superficial restatements. The assumed change has been based principally on the fact that some Old and Middle English words which were spelled with a medial d are now spelled with th in the same position. Therefore, /d/ has become /ð/ in certain instances--an apparent phonemic shift.

If one assumes a genuine phonetic change, the traditional theory of autonomous phonology (that all phonetic change can be explained in purely phonetic terms) offers some answers to explain the process. Such an explanation is not, however,

conclusive because we are uncertain of the real phonic quality of much of the corpus: that is, what the vowel equivalences were at various stages of the language and which form truly represents the dominant phonic feature of a particular dialect during a particular period. Based on idealized states, autonomous phonology does suggest that a back versus front vowel conditioning factor appears to determine /V́dVr/ > /V́ɜər/, with a front vowel determining change.

In an attempt to expand the possibilities already formulated, I have suggested that an analysis of the sound change can be couched in terms of vowel length; that the change occurs only in a word whose radical vowel had length. This quality must be extrapolated from the evidence of the Modern English word, which verges upon imposing a system rather than revealing one. One would hope that forthcoming studies such as the Halle-Keyser theory of stress[1](provided they are on the right track) would cast some light on this problem, but like pitch, there is a real question as to whether the metrics of discourse

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[1]Tentatively The Evolution of Stress in English.

are really recoverable.

For the present and on the basis of orthographic, orthoepic, and language contact evidence, this study, rather than explaining a sound change, supports a graphemic-phonetic reanalysis of Old English and Middle English d: that d is an ambiguous grapheme in the environment V--Vr; in this position its manner of articulation often was closer to that of [ð] than of [d]. I further conclude that this value generated from developments that had their origin in the Old and Middle English periods with the introduction of (1) the non-English [d͡] as an allophone of /d/ in Romance words, with a subsequent falling together with West Germanic /d/ [d] in native words; and (2) the North Germanic medial [ð] in Scandinavian borrowings and cognates where [d] in the same position normally occurred in native words. The result was a falling together of variant pronunciations yielding a medial [d͡^{h}] or [ð] in certain common-core native vocabulary. I recognize that the sounds and formatives of English are not the developments from a single dialect and that they develop through mixed and confusing states, ultimately leveling in a standard pattern of language features which can be ex-

pressed in the terms of some idealized language state.

Language features are the result of a confluence of factors. Every contribution to the complete picture enhances in some way our perceptions into the way of language, both its vagaries and its regularities. Therefore, I turned to a modern theory of language change, generative phonology, in the hope that it might answer the unanswered. Like traditional theory, generative phonology shed light, but it offered no final answer. It suggested to us to look to nonphonetic factors, to posit change in morphological rather than in phonetic terms. Generative phonology presents some interesting possibilities, but it still lacks a rigorous methodology, fully worked out. The theory has little to offer diachronic historical linguistics. It does not measurably improve upon a structural study. It does, however, tell the structuralist to broaden his view, to consider both phonetic and nonphonetic factors, and it suggests that the factors might work together in effecting a sound change.

I am convinced that the best insights into language are those that are not constrained by a

single theory, new or old, but are enlightened by all theories and observations; evidence of any kind should be incorporated into an analysis. Apparently explanations of a sound change which are confined to one or the other theory (e.g., autonomous or generative phonology in this study), no matter how well constructed, will fail to account for all the regularities and irregularities that can be observed in empirical studies of a language. Nevertheless, even incomplete or partial studies have value; as Chomsky and Halle note: "Any investigation of grammar is . . . a contribution to the study of performance, but it does not exhaust this study."[2]

Any formulation abounding with unknowns, as we have here, has many difficulties. Nevertheless, I hope that in some way my contribution has helped to broaden our understanding of one problem of a complex, language state transition.

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[2]Chomsky and Halle, p. 110.

APPENDICES

APPENDIX I: THE CORPUS[1]

Old English (or as noted)	Middle English	Modern English
nǣd(d)re	adder naddre	ádder
alor	alder	álder
ML apothecarius	apotecarie	apóthecary
OF auctor	autour	áuthor
blǣ(d)dre bladdre	bladre bledder	bládder
blaðra < blaðr	blather blether	bláther bléther
?Scand.	blunderen	blúnder
MF bordure	bordure border	bórder
? IR. bodhar	XXX	bóther
? Scand.	bulder(stan)	bóulder
MF broder	broideren	bróider
brōðer	brother	bróther
AN calender	kalender	cálendar

[1]The forms noted here derive in the main from Ernest Klein, A Comprehensive Etymological Dictionary of the English Language (Amsterdam and New York, 1966); and from Charles T. Onions, The Oxford Dictionary of English Etymology (Oxford, 1966).

OF cedre	cedre	cédar
cildru	chyldern children childeren	chíldren
OF sidre	cidre sidre sither	cíder
sinder	cinder	cínder
cliðan	? XXX	clíder clíther
W. crwth	crouder crowdere crowther	crówder crówther
MF considérer	consideren consitheren	consíder
MF derision	derision	derísion
MF deriver	deriven	deríve
XXX	? didderen	díther
XXX	dodden	dóddered
XXX	doder doderen	dódder dóther
æghwæðer ægðer	aither either	éither
eldra	elder	élder
ellærn	eller eldre	élder
fæder	fader	fáther
feðer	fether	féather
? Scand.	flenderis	flínders

fōdor < fōda	foder	fódder
foðer	fother fudder	fóther
furðra < furðor	fother further	fúrther
ganra < gandra	gandre	gánder
gaderian gǣdrian	gaderen	gáther
MF gendre	gendre	génder
XXX ? *hæðer < hæþ	hadder hather	héather
hider	hider hither	híther
hlǣd(d)er hlædder	laddre	ládder
lēaþor	lather	láther
AF lavendre	lavendre	lávender
leðer	lether	léather
MF litargie ML liturgia	litargie	léthargy
mædere	mader	mádder
L moderātus	moderate	móderate
modor	moder	móther
mōrðor	modre moder morthre	múrder (n.)
myrðrian	murtheren mortheren	múrder (v.)

nauþer nāþer nāwþer	naither neither neyther nother nouther	néither
neoþera < neoþor niþera < niþer	nethere niþer nithere	néther
nāhwider nahwiþer	nowider nowther	nowíther
AF odour	odor	ódor
MF ordré	ordre order	órder
MF ordure	ordure	órdure
oþer	other	óther
MF ponderer	ponderen	pónder
XXX ? L pandarus	pander	pánder
XXX	XXX	póther púdder
MF poudre	poudre	pówder
hraþor	rather	ráther
MF rendre	rendren	rénder
rōþer	rother	rúdder
sculdor sculder	shuldre shulder	shóulder
XXX	shodderen shoderen shuderen	shúdder
OF escandele esclandrer esclandrir	sclaundre slaundre	sláander

slidrian	slideren slitheren	slíther
XXX	smolderen < smoltheren	smólder
smorian	smotheren < smortheren	smóther
spīðra	spyder < spithre	spíder
MF soudure < souder	soudour souldour	sólder
sundrian	sundren	súnder
MF surrendre	surrenderen	surrénder
OF tendre	tender	ténder
? ON tjōðr	tedir tethir	téther
ON þeir(r)a	their thair	théir
þār þǣr þer	thar ther	thére
þæder þider þyder	thider thither	thíther
XXX	diderward thitherward	XXX
þunor	thunder < thuner	thúnder
tynder tindre	tinder	tínder
teogathian	tither < thithen+er	títher

tōgadere tōgædere tōgædre	togedere togidere	togéther
uder	udder	údder
under	under	únder
wandrian	wandren wanderen	wánder
AN wardere wardour	warder	wárder
weder	weder	weáther
weƀer	wether	wéther
hwæƀer hweƀer	whether	whéther
hwider	hwider	whíther
? weder	widderen wideren~wederen <weder widren	wíther
wiƀer	wither	wíthers
XXX	woder	wóader
wundor	wunder wonder	wónder
wundrian	wundrien	wónder
XXX	yonder	yónder

APPENDIX II:
SCHEMATIC DIALECTAL-DIACHRONIC FORM CHARTS

"adder"

	SC	N	WM	EM	S	K	UNKNOWN
OE	VdrV VttVr		VdrV	Vd(d)rV	Vd(d)rV		
12C				Vd(d)rV	VdrV	VddrV	
13C		VddrV VddVr		VddrV	VdrV	VddrV	
14C		VddVrV		VddrV VddVr(V)	VddrV VddVrV	VddrV	
15C	VdVrV VddVrV			VddVr			VddVr
16C	VthVr			VddVr			
17C	VddVr VthVr VttVr	VddVr VthVr	VddVr VthVr	VddVr	VddVr	VddVr	

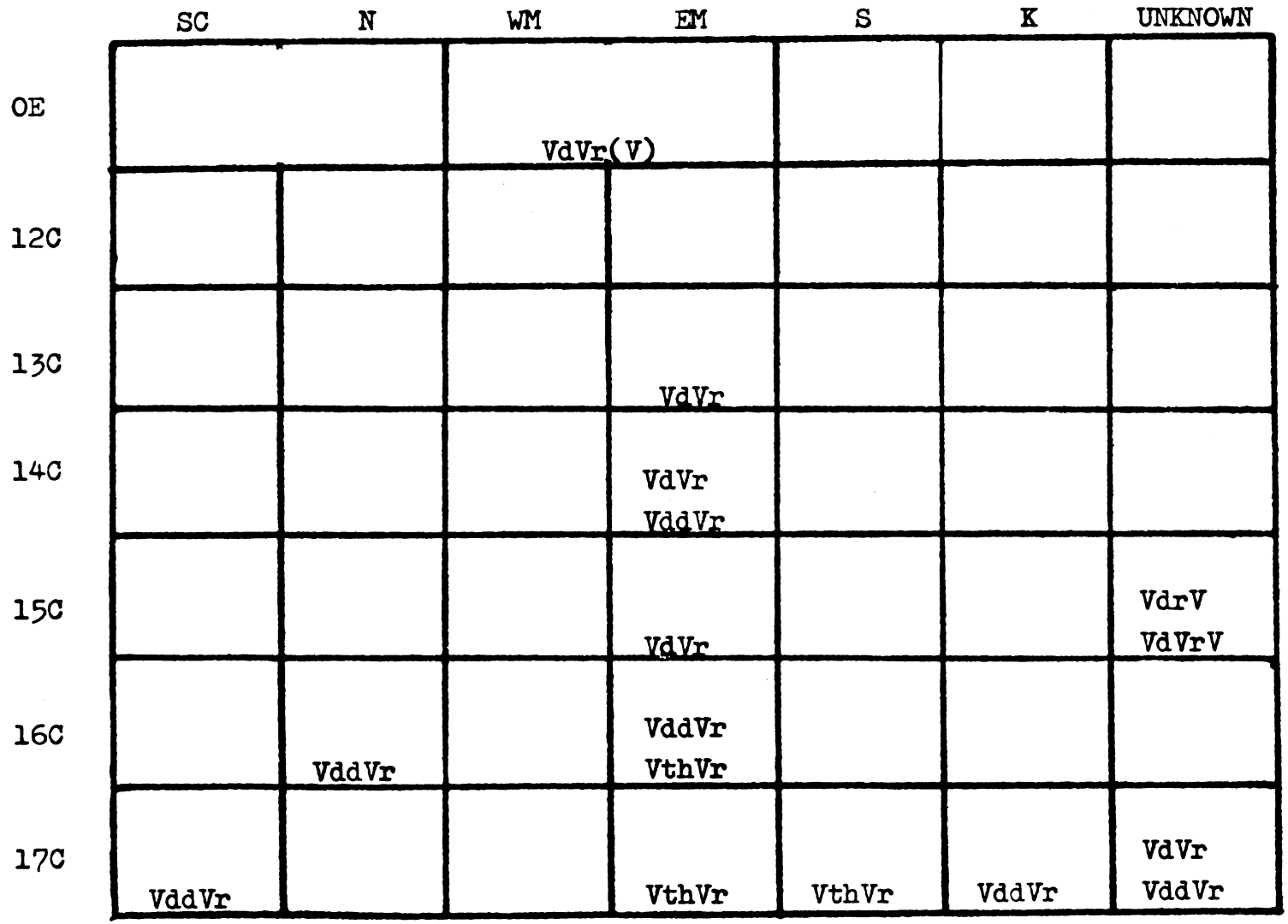
EModE /ádər/ < LateME /ád·ər/ << OE /nædə(d)rɛ/

"bladder"

	SC	N	WM	EM	S	K	UNKNOWN
OE			VdVr		Vd(d)rV		
12C					VdrV	Vd(d)rV	
13C				VddrV	VddrV	VddrV	
14C				VddrV VddVr	VddrV VddVr	VddrV	
15C				VVdrV VddVr(V)			
16C	VddVr			VddVr VthVr			VdVr VddVr(V)
17C	VddVr VthVr	VddVr VthVr	VddVr VthVr	VddVr VthVr	VddVr VthVr		VddVr

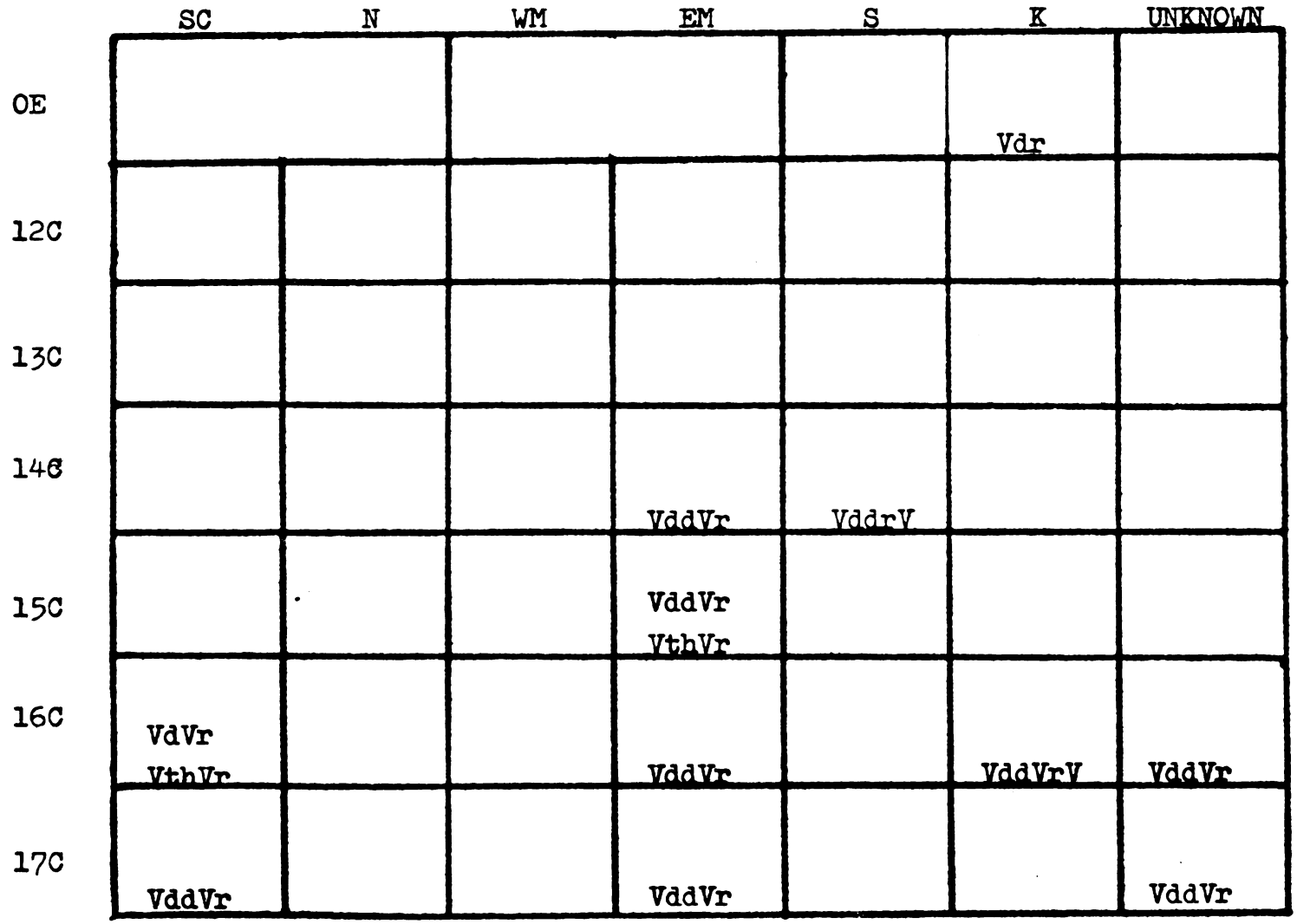
EModE /blád$_{ə}$r/ < LateME /blád·rə/ << OE /blǽdrɛ/

"madder"



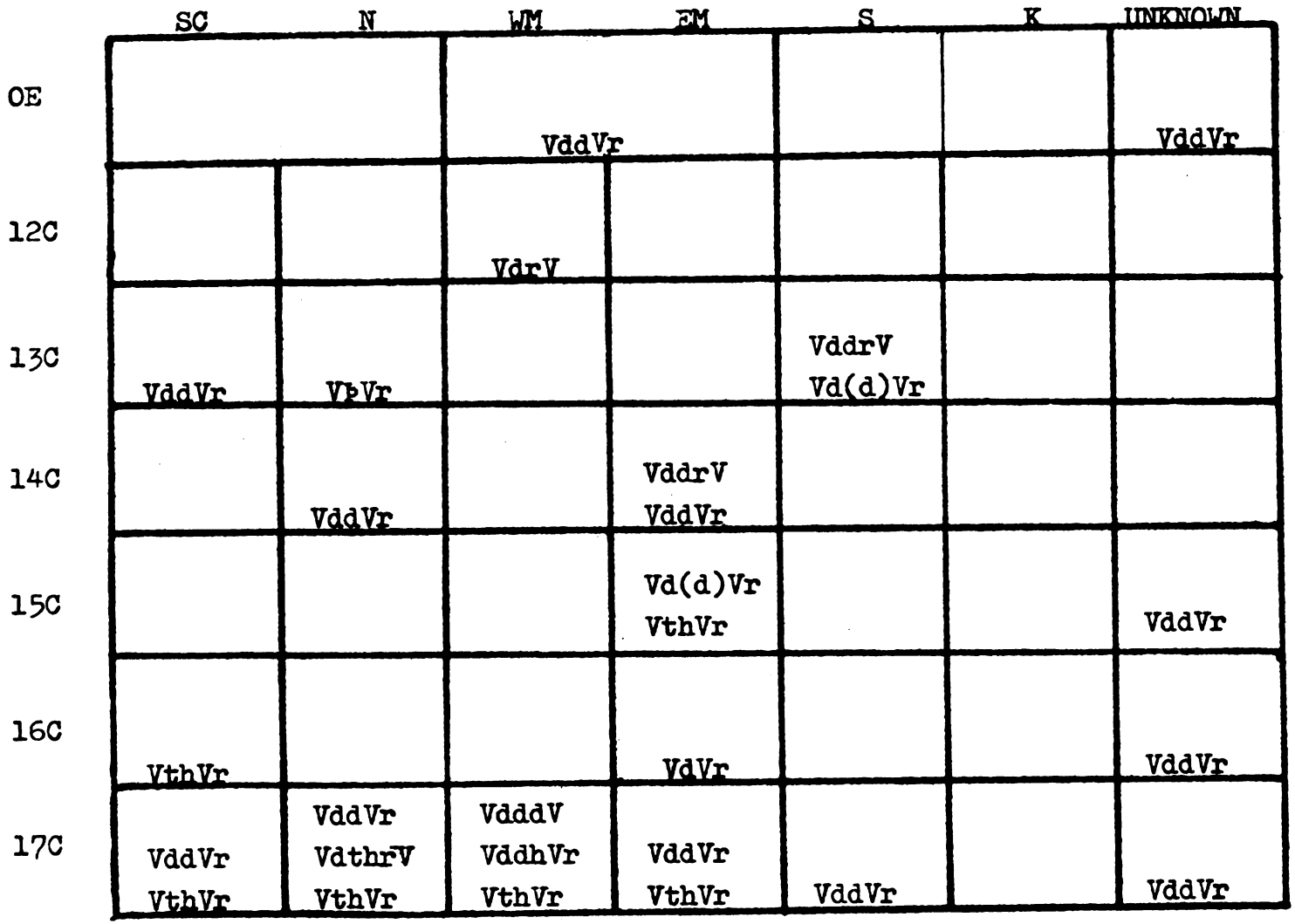
EModE /máder/ < LateME /mád·ər/ << OE /mǽdɛrɛ/

"udder"



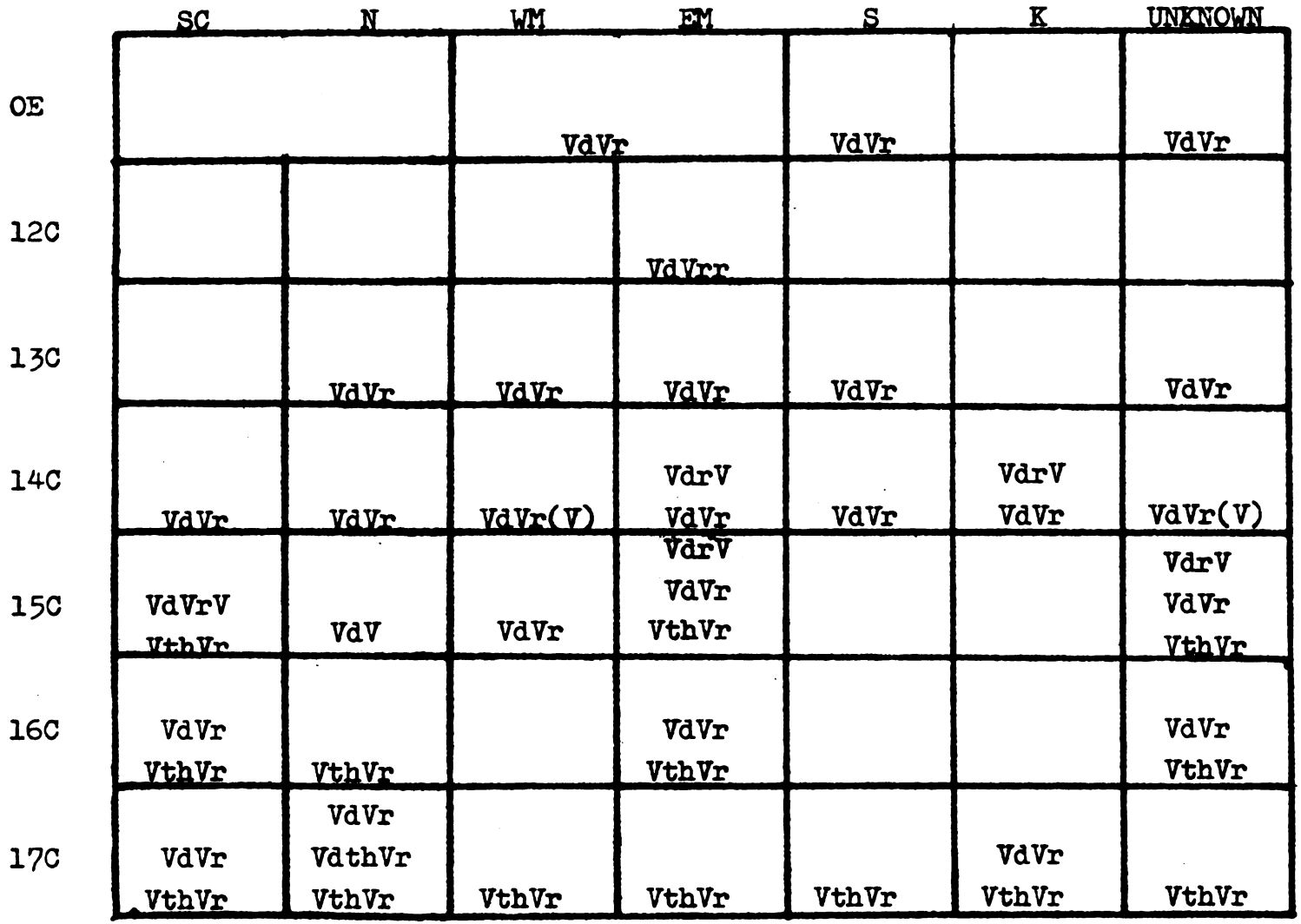
EModE /ʊ̄dəɾ/ < LateME ʊ̄d·əɾ/ << OE /ūdɛr/

"fodder"



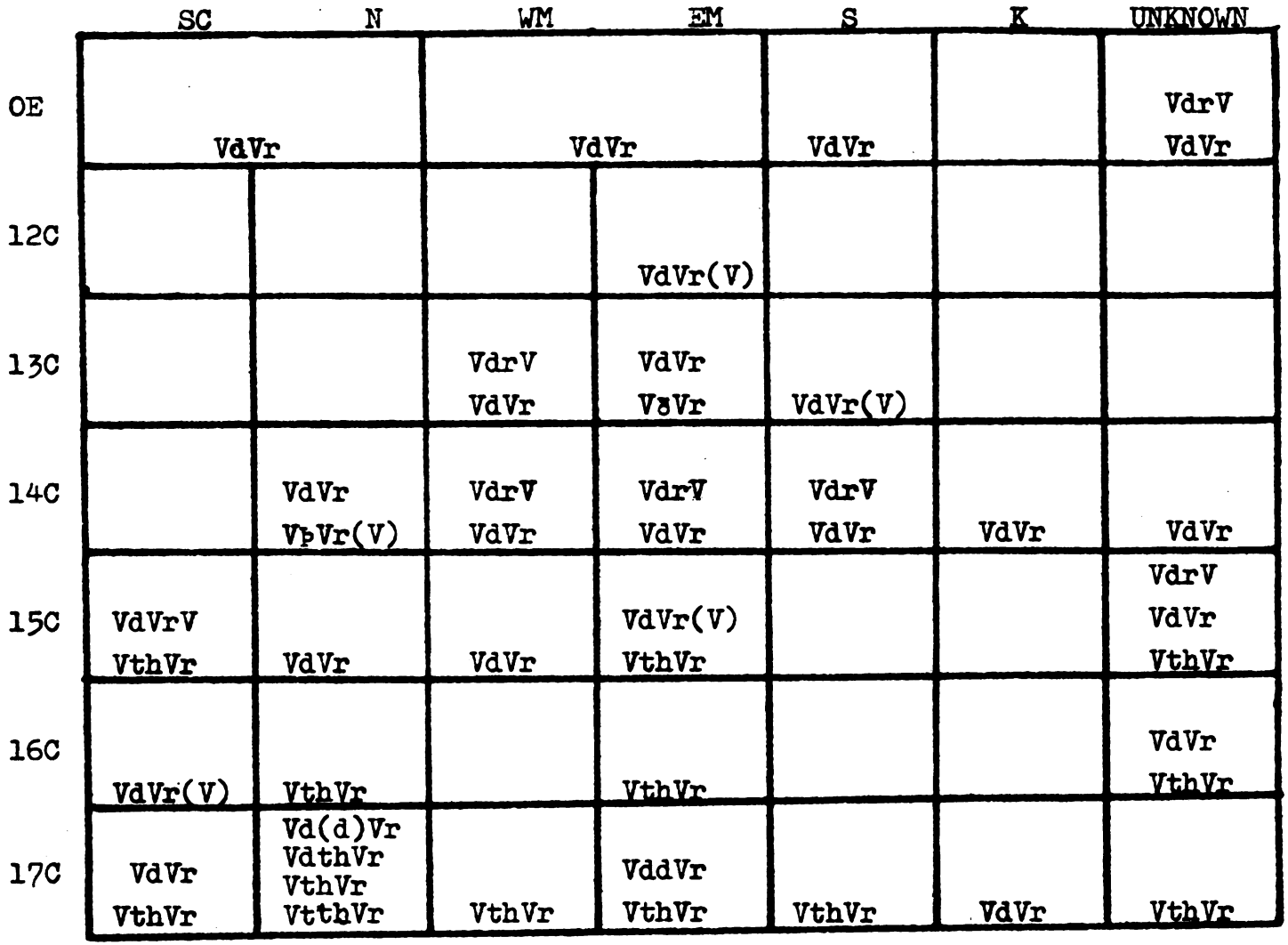
EModE /fɔ́dər/ < LateME /fɔ́(ó)dˑər/ << OE /fōdor/

"mother"

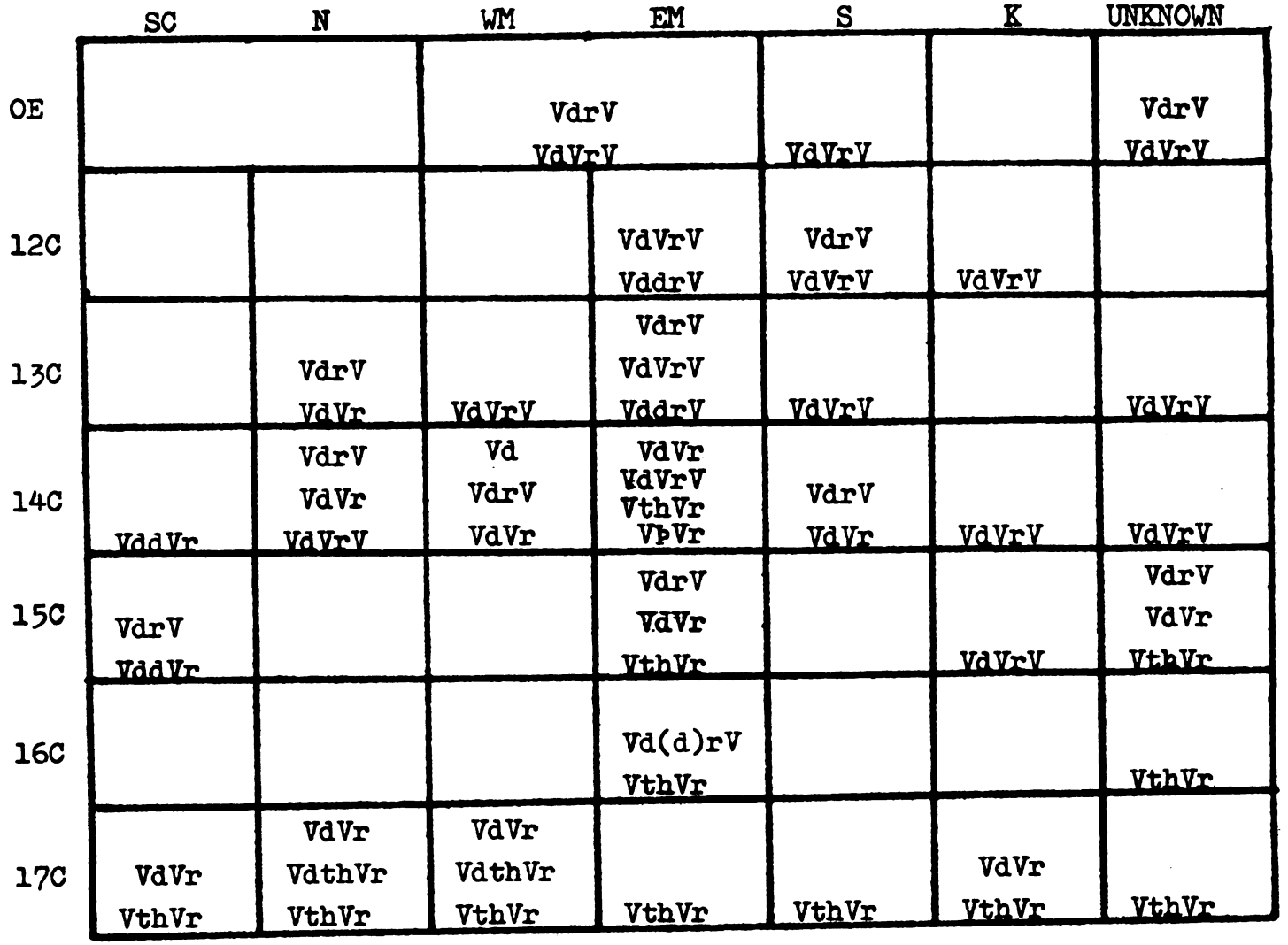


EModE /mʌ́ðər/ < LateME /mó͡ʊdər/ << OE /mo͡ʊdɛr/

"father"

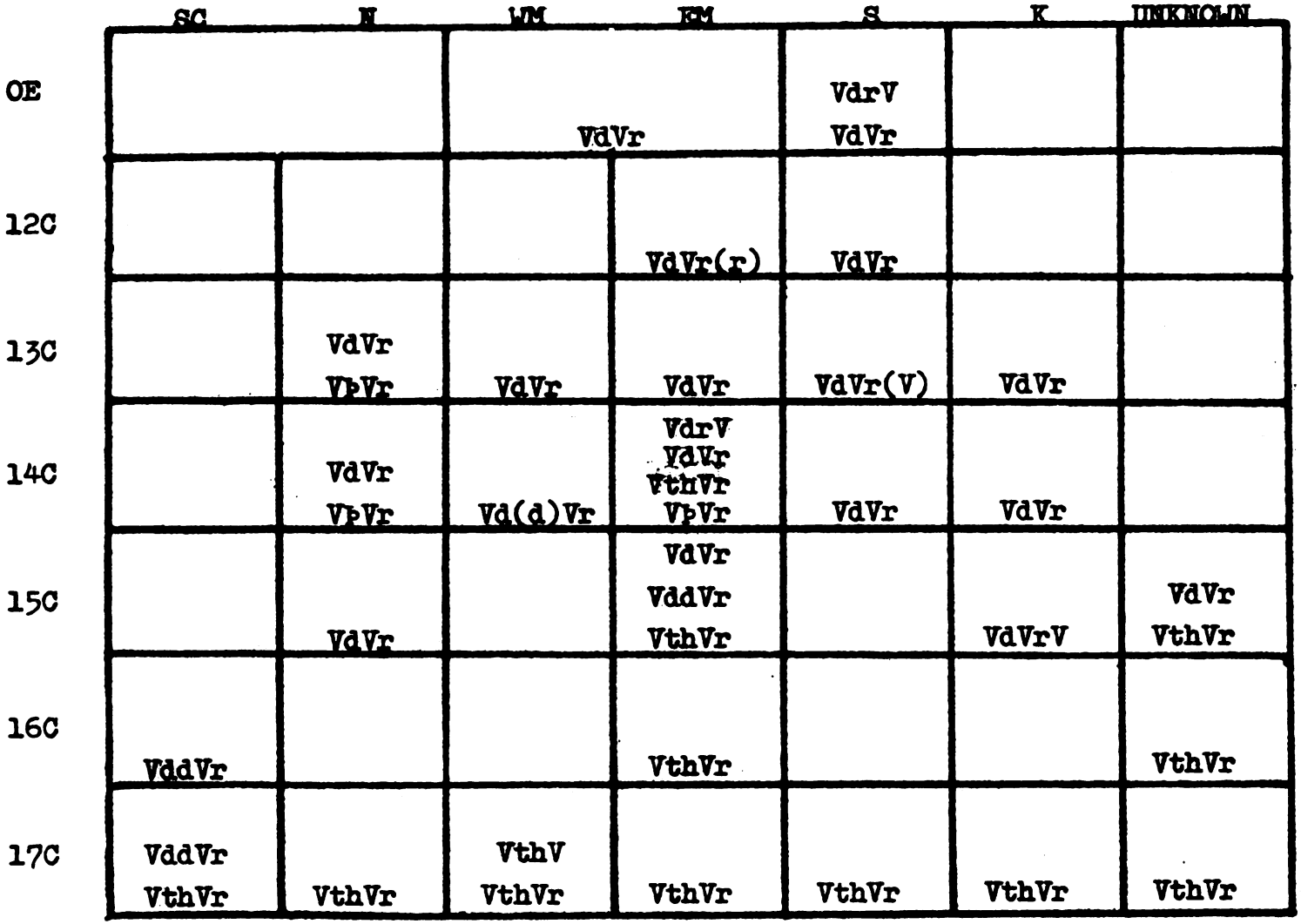


EModE /fáˑəər/ < LateME /fáˑdər/ << OE fæderˌ/



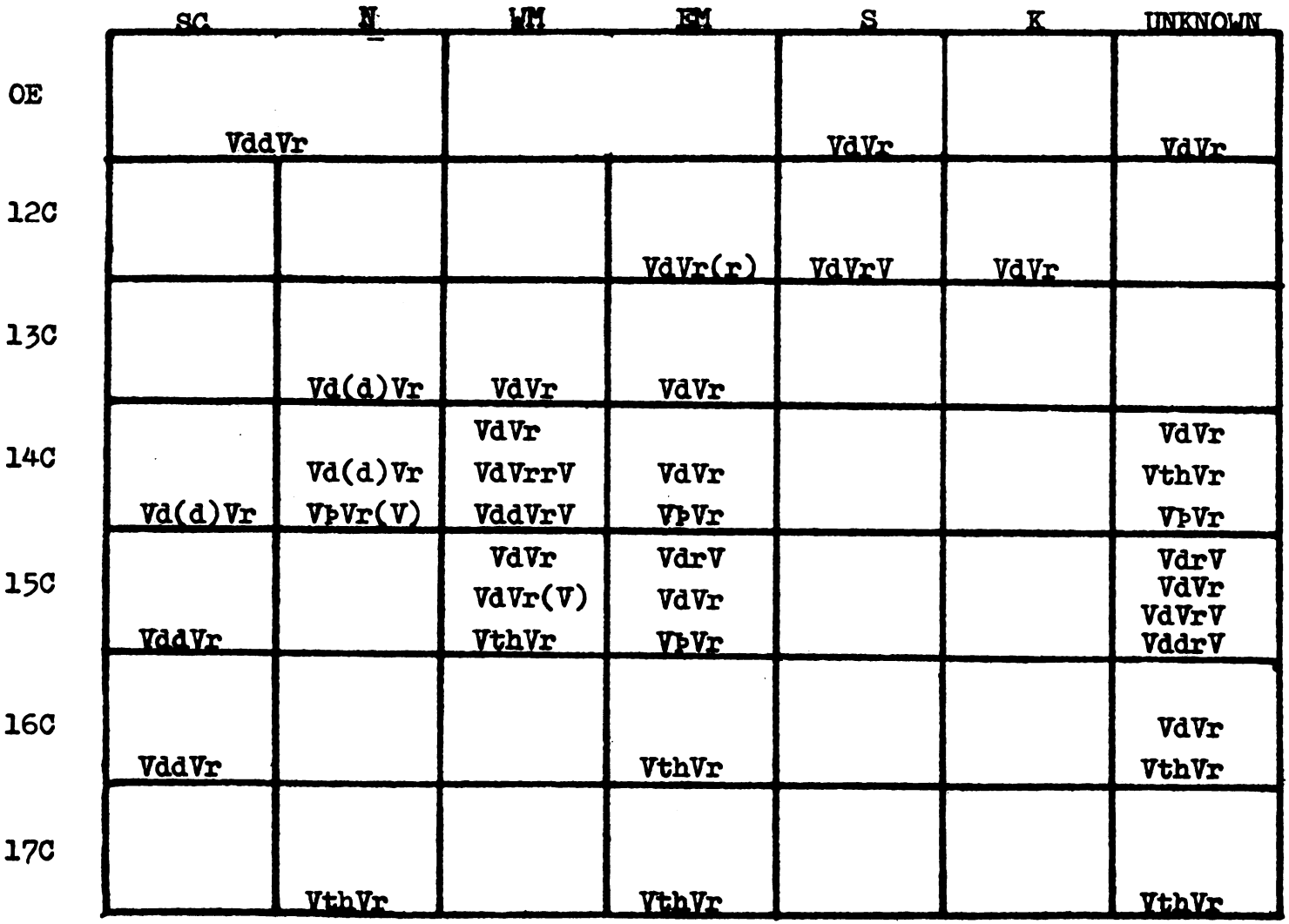
"gather"

EModE /gáˑðər/ < LateME /gáˑdər/ << OE /gáðɛrian ~ gǽdrian/



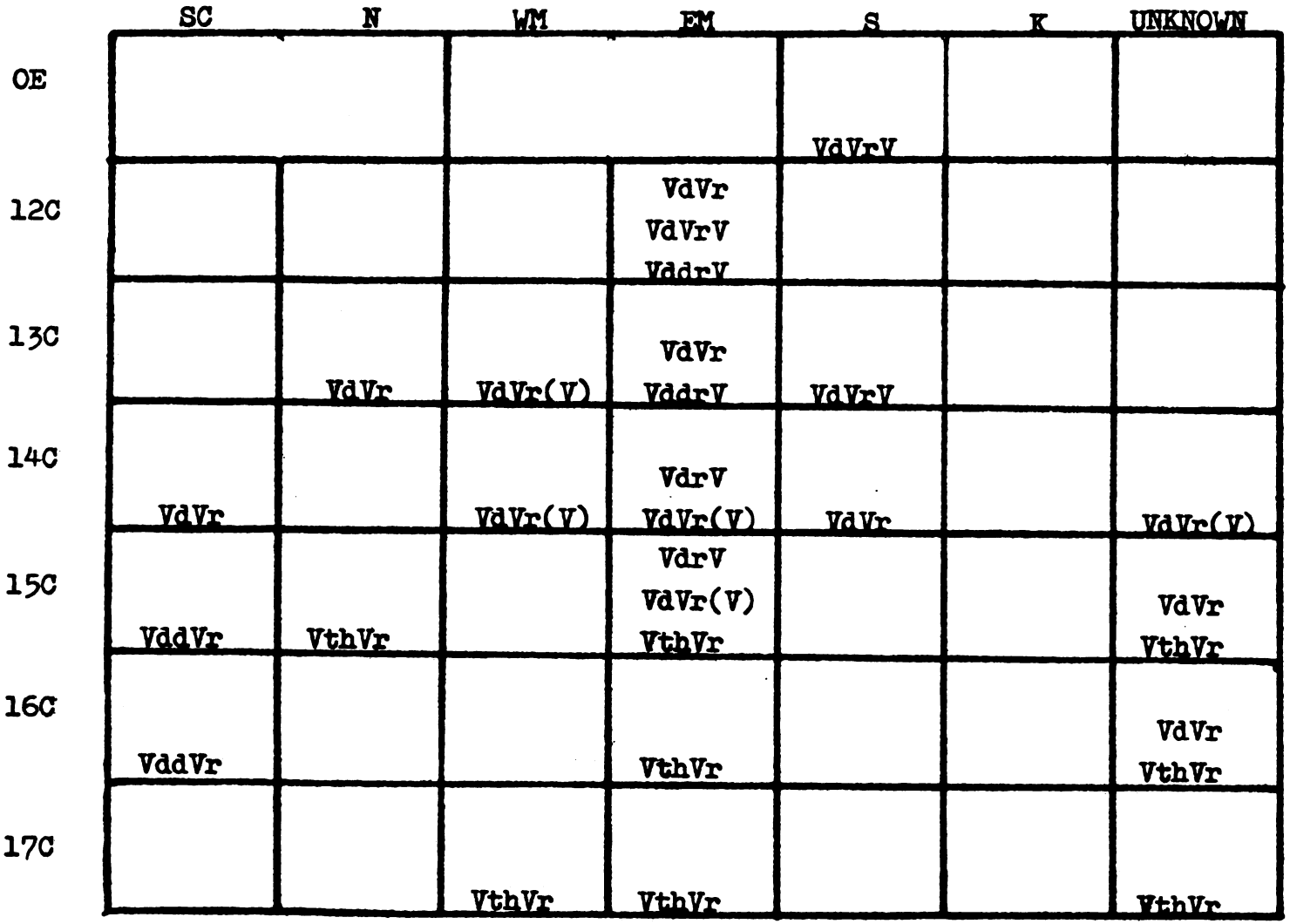
"hither"

EModE /hí˙ðər/ < LateME /hí˙dər/ << OE /hídɛr ~ hídrɛ/



"thither"

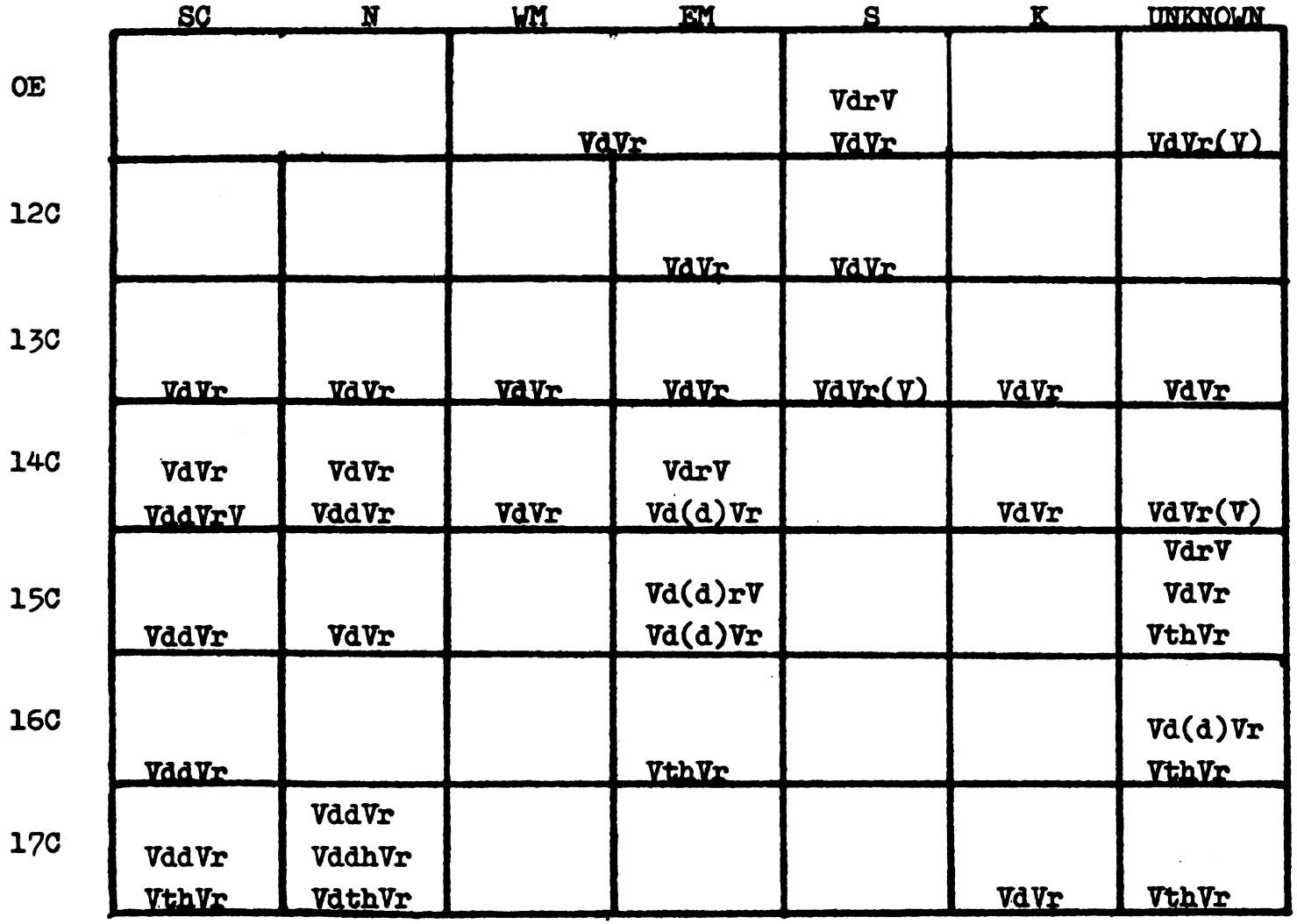
EModE /θíˑðər/ < LateME /θíˑðər ~ θíˑdər/ << OE /θíðɛr/



EModE /təgé˙ðər/ < LateME /tʊgɛ́˙dər/ << OE /tʊgǽd(ɛ)rɛ/

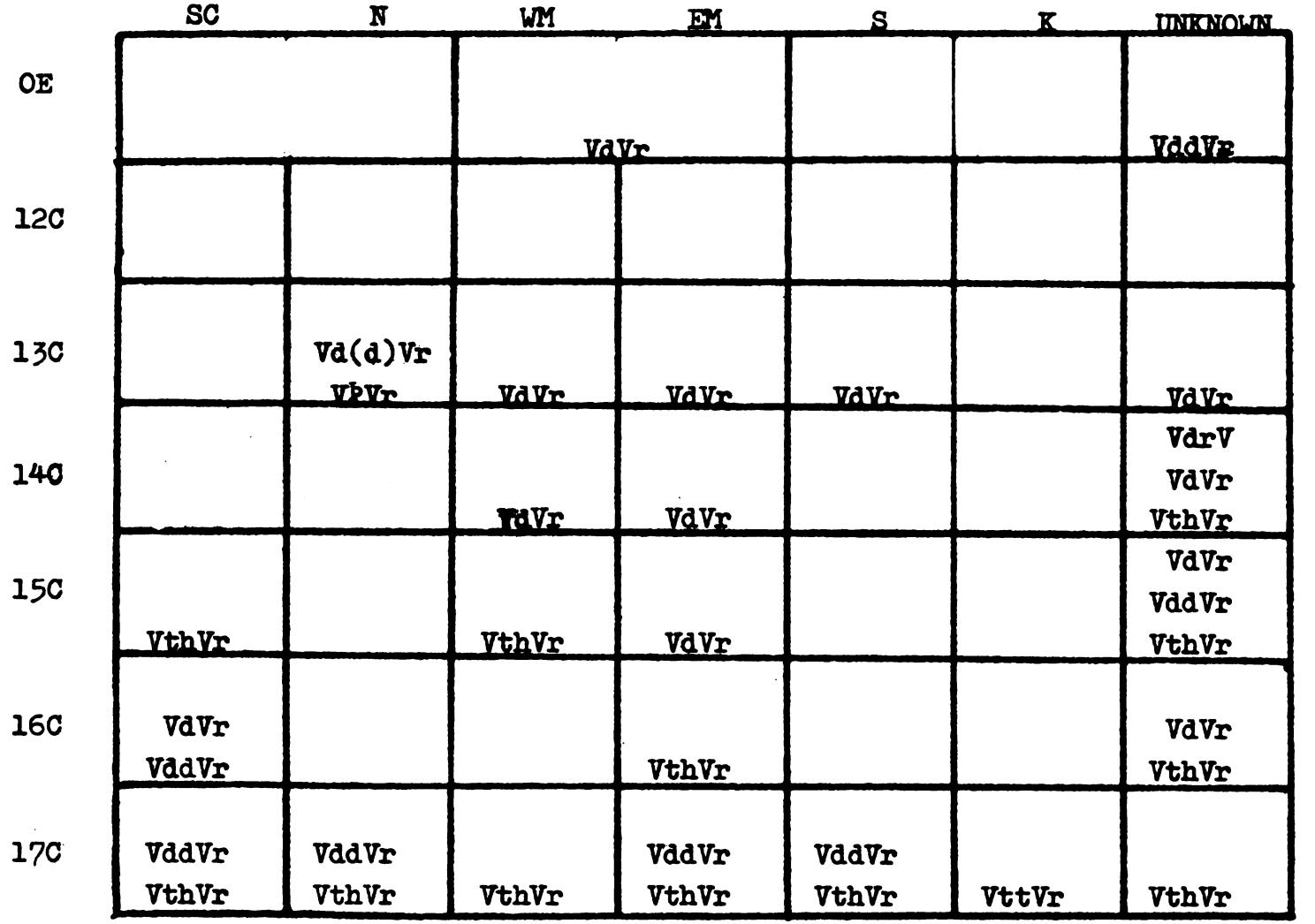
"together"

"weather"



EModE /wɛ́ːðər/ < LateME /wɛ́ːdər/ << OE wédɛr/

"whither"



EModE /wíˑɜər/ < LateME /hwíˑɜər/ << OE /xwídɛr/

APPENDIX III:
SOME MIDDLE ENGLISH DIALECTAL D ~ TH FORMS

alder:

13C	(K)	aldre, alþre, alther
14C	(EM)	alder, althir
15C	(N)	alder, althir
16C	(EM)	aldir, alþer, alther

brother:

14C	(N)	broder, broþer
	(EM)	broder, brother
15C	(SC)	bredur, brether
	(WM)	breder, brether, breoðer
	(EM)	broder, brother
	(S)	brodyr, brother
16C	(SC)	breder, brother
	(EM)	broder, brother

cider:

14C	(EM)	syderr, sither

either:

14C	(N)	ayder, aeiþer, ether

elder:

15C	(N)	elder, elther
	(EM)	elder, elther

farther:

14C	(S)	ferder, farther
15C	(S)	farder, farther
16C	(EM)	ferder, farther

farthing:

16C	(N)	farddyng, ferthyng
	(EM)	ferdyng, ferthyng

feather:

15C	(EM)	feder, feather
	(WM)	feder, fether
	(S)	feder, fether

fodder:

13C	(N)	fodder, foþer
14C	(EM)	fodder, fother

further:

16C	(SC)	furder, further
	(EM)	furder, further
	(WM)	furder, forther

gather:

14C (EM) gadyr, gyther, geþer

15C (EM) gader, gather

16C (EM) gad(d)re, gather

heather:

14C (SC) haddyr, hather

(N) haddyr, hather

15C (EM) heder, hether

hither:

14C (S) hyder, hither

15C (N) hider, hiþer

(EM) hider, hither

leather:

15C (EM) ledyr, lether

16C (EM) ledder, leather

mother:

15C (SC) modyre, mother

(EM) moder, mother

murder:

14C (EM) mordre, murderour, morthere

15C (N) mordre, mourthered

neither:

14C	(N)	neyder, neþer
15C	(WM)	neider, neiþer

nether:

16C	(SC)	neder, nether

other:

14C	(N)	oder, oþair
	(ĒM)	oderr, oðerr
16C	(SC)	uder, other
	(N)	udder, other

rather:

13C	(WM)	rader, raþer, raðer

rudder:

15C	(ĒM)	rodder, rother
16C	(SC)	rudir, ruther

tether:

14C	(N)	tedyr, thether, tethire
15C	(SC)	tedder, tether

tother:

14C	(N)	toder, toþer

under:

13C (K) onder, onþer

15C (N) ondire, onther, unþer

whether:

14C (S) weder, whether

wither:

16C (EM) wyder, wither

wonder:

14C (N) wonder, wonþer

yonder:

14C (S) ȝonder, yonþer

BIBLIOGRAPHY OF WORKS CONSULTED AND CITED

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Allen, William Sidney. Vox Latina. Cambridge, England, 1965.

Anderson, George K. The Literature of the Anglo-Saxons. Princeton, 1949.

Bellot, James (Jacques). Le Maistre d'Escole Anglois (1580). Edited by Theo Spira. Halle, 1912.

Bosworth, Joseph and T. Northcote Toller. An Anglo-Saxon Dictionary and Supplement (1921). London, 1898.

Braune, Wilhelm. Althochdeutches Lesebuch. Tübingen, 1952.

Brook, George L. English Dialects. London, 1963.

_____. A History of the English Language. Fairlawn, N.J., 1958.

Brunner, Karl. Altenglische Grammatik nach der angel-sachischen Grammatik von Eduard Sievers. 2nd edition, revised. Halle, 1951.

Bülbring, Karl. Altenglisches Elementarbuch. Part I, Phonology. Heidelberg, 1902.

Cambridge Bibliography of English Literature. Edited by F.W. Bateson. 4 vols. and supplement. Cambridge, England, 1966.

Campbell, Alistair. Old English Grammar. Oxford, 1959.

Chomsky, Noam. "Current Issues in Linguistic Theory." The Structure of Language: Readings in the Philosophy of Language. Edited by Jerry A. Fodor and Jarrold Katz. Englewood Cliffs, N.J., 1964, pp. 50-118.

_____ and Morris Halle. The Sound Pattern of English. New York, 1968.

Classen, E. Outlines of the History of the English Language. London, 1927.

Crystal, David and Randolph Quirk. Systems of Prosodic and Paralinguistic Features in English. The Hague, 1964.

Daines, Simon. Orthoepia Anglicana (1640). Edited by M. Roesler and R. Brotanek. Halle, 1908.

Danielsson, Bror. John Hart's Works on English Orthography and Pronunciation 1551, 1569, 1570. 2 vols. Stockholm, 1955 (I), 1963 (II).

Davis, Norman. "Scribal Variation in Fifteenth Century English." Mélanges de Linguistique et de Philologie: Fernand Mossé in Memoriam. Paris, 1959, pp. 95-103.

Denholm-Young, N. Handwriting in England and Wales. Cardiff, 1954.

Dobson, Eric J. English Pronunciation 1500-1700 2 vols. Oxford, 1957.

Ellis, Alexander J. On Early English Pronunciation. Early English Text Society, Extra Series, nos. 2, 7, 14, 23, 55. London, 1869.

Ekwall, Eilert. The Concise Oxford Dictionary of English Place-Names. 4th ed. Oxford, 1960.

Ferguson, Charles A. Review of the Sound Pattern of Russian by Morris Halle. Language, XXXVIII: 3 (1962), 284-297.

Fox, John H. and Robin Wood. A Concise History of the French Language. Oxford, 1968.

Gleason, Henry. An Introduction to Descriptive Linguistics. Revised edition. New York, 1961.

Hall, John R. A Concise Anglo-Saxon Dictionary with Supplement by Herbert D. Meritt. 4th ed. Cambridge, England, 1960.

Halle, Morris and Samuel Keyser. "Chaucer and the Study of Prosody." College English, XXVIII: 3 (1966), 187-219.

Hockett, Charles F. A Course in Modern Linguistics. New York, 1958.

Hoenigswald, Henry M. Language Change and Linguistic Reconstruction. Chicago, 1960.

Holmes, Urban T. and Alexander H. Schutz. A History of the French Language. New York, 1938.

Jackson, Kenneth. Language and History in Early Britain. Cambridge, Mass., 1953.

Jespersen, Otto. A Modern English Grammar on Historical Principles. 4th ed. Part I. Heidelberg, 1928.

Jones, Daniel. An English Pronouncing Dictionary. 4th ed. New York, 1956.

_____. The Pronunciation of English. 4th ed. Cambridge, Mass., 1956.

Jordan, Richard. Handbuch der mittelenglischen Grammatik. Part I. Heidelberg, 1925.

Kennedy, Arthur D. Bibliography of Writings on the English Language from the Beginning of Printing to the End of 1922. Cambridge, Mass., 1927.

Klein, Ernest. A Comprehensive Etymological Dictionary of the English Language. 2 vols. Amsterdam, London, New York, 1966.

Kökeritz, Helge. Shakespeare's Pronunciation. New Haven and London, 1953.

Krapp, George and Elliot V.K. Dobbie (eds.). The Exeter Book. Morningside Heights, N.Y., 1936.

Kurath, Hans. A Phonology and Prosody of Modern English. Ann Arbor, 1964.

_____. "The Loss of Long Consonants and the Rise of Voiced Fricatives in Middle English." Language, XXXII (1956), 435-445.

Lehmann, Winfred. Historical Linguistics: an Introduction. New York, 1962.

_____. A Reader in Nineteenth-Century Historical Indo-European Linguistics. Bloomington, 1967.

Lehmann, Winfred and Yakov Malkiel (eds.). Directions for Historical Linguistics. Austin and London, 1968.

Lily, William. A Shorte Introduction of Grammar II. Brevissima Institutio. London, 1567.

Luick, Karl. Historische Grammatik der englischen Sprache. I. Leipzig, 1914-1940.

Luquiens, Frederick B. An Introduction to Old French Phonology and Morphology. New Haven, 1909.

Martinet, André. Elements of General Linguistics. Translated by Elisabeth Palmer. Chicago, 1960.

Mason, George. Grammaire Angloise nach den Drucken von 1622 und 1633. Edited by Rudolf Brotanek. Halle, 1905.

Menner, Robert J. "Conflict of Homonyms in English." Language, XII (1936), 229-244.

Middle English Dictionary. Edited by Hans Kurath, Sherman Kuhn, and John Reidy. Ann Arbor, 1952. In progress.

Moore, Samuel. Historical Outlines of English Sounds and Inflections. Revised by Albert Marckwardt. Ann Arbor, 1965.

_____ and Thomas Knott. The Elements of Old English. 10th ed. Revised by James Hulbert. Ann Arbor, 1960.

_____, Sanford Meech, and Harold Whitehall. "Middle English Dialect Characteristics and Dialect Boundaries." Essays and Studies in English and Comparative Literature. University of Michigan Publications in Language and Literature, XIII. Ann Arbor, 1935.

Mossé, Fernand. A Handbook of Middle English. Translated by James A. Walker. Baltimore, 1952.

Moulton, William D. "The Stops and Spirants of Early Germanic." Language, XXX (1954), 1-42.

Nist, John. Phonemics and Distinctive Features of Beowulf." Studies in Linguistics, XIII: 1-2 (1958), 25-33.

_____. A Structural History of English. New York, 1966.

Onions, Charles T. The Oxford Dictionary of English Etymology. Oxford, 1966.

Oxford English Dictionary. 13 vols. Oxford, 1933.

Palmer, Leonard R. The Latin Language. London, 1954.

Palsgrave, John. Leclarcissment de la langue Francoyse. Edited by F. Genin. Paris, 1852.

Patton, George A. and David Donaldson, (eds.). The "Gest Hystoriale" of the Destruction of Troy. Early English Text Society. London, 1869.

Penzl, Herbert. "A Phonemic Change in Early Old English." Language, XX (1944), 84-87.

Peters, Robert. A Linguistic History of English. New York, 1968.

_____. "Phonic and Phonemic Long Consonants in Old English." Studies in Linguistics, XIX: 1, 2, 3, 4 (1967), 1-4.

Policardi, Silvio. Historical Outlines of the English Language. Milani, 1948.

Postal, Paul. Aspects of Phonological Theory. New York, 1968.

Pyles, Thomas. The Origins and Development of the English Language. New York, 1964.

Quirk, Randolph and C.L. Wrenn. An Old English Grammar. New York, 1957.

Salesbury, William. A Playne and Familiar Introduction. London, 1567.

Scargill, Matthew H. Notes on the Development of the Principal Sounds of Indo-European through Proto-Germanic and West Germanic into Old English. Toronto, 1951.

Schlauch, Margaret. The English Language. Oxford, 1959.

Skeat, Walter W. "The Use of D for TH in Middle English." Notes and Queries, 9th Series, X (Oct. 25, 1902), 321-322.

Stockwell, Robert and C. Westbrook Barritt. Some Old English Graphemic-Phonemic Correspondences --ae, ea, and a. New York, 1951.

Stratmann, Francis H. A Middle-English Dictionary. Revised by Henry Bradley. Oxford, 1891.

Sweet, Henry. King Alfred's West Saxon Version of Gregory's Pastoral Care. Appendix I. London, 1871.

_____. A New English Grammar. 2 Parts. Oxford, 1900.

_____. The Oldest English Texts. Early English Text Society. London, 1885.

Waterman, John T. A History of the German Language. Seattle and London, 1966.

Webster's New World Dictionary. College edition. Cleveland and New York, 1966.

Webster's Third New International Dictionary. Springfield, 1967.

Wells, John E. A Manual of Writings in Middle English. Supplements I-IX. New Haven, 1916-1952.

Wrenn, Charles L. Word and Symbol: Studies in the English Language. London, 1967.

Wright, Joseph. The English Dialect Dictionary. 6 vols. London, 1898-1905. (Reissued, New York, 1963).

Wright, Joseph. English Dialect Grammar. Oxford, 1905. Also incorporated into above.

_____. Grammar of the Gothic Language. 2nd ed. Oxford, 1954.

Wyld, Henry C. Collected Papers of Henry Sweet. Oxford, 1913.

_____. The Historical Study of the Mother Tongue. London, 1920.

_____. A Short History of English. New York, 1914.