PHONEMIC DISCRIMINATION OF
MIDDLE ENGLISH DIALECTS

EVERYONE who deals with Middle English texts knows, however positive he may be before his students or in print, that many of our datings and placings of Middle English literary monuments are at best intelligent guesses. Unless the author has said something equivalent to "I wrote this at such and such a time, at such and such a place," we have to depend on conjecture. Perhaps some other writer refers to this work, mentioning time and place; perhaps the author alludes to events that we know of from other sources. Often, though, we are reduced to the expedient of analyzing the dialect of a work in the hope that the analysis will reveal the time and place of origin.

Resources for analysis of dialects are many. Useful inferences may be drawn from the occurrence in a text of words of Norse origin, or French, or Dutch; from the scarcity or abundance of inflectional -*n;* from the occurrence of orthographic devices that have been identified with some language or dialect (e.g., Old French has *ou* where Old English has *u*); and from many other phenomena.[1] The evidence drawn from such inferences is convergent evidence. No one item of it is convincing, but a large number of items taken together do, unless they conflict, lead to conviction.[2]

Now, on the basis of the sorts of convergent evidence that have been available to the student of Middle English dialects and literature, every important Middle English literary document has been assigned, at least tentatively, to some dialect area and some period. The consensus about these assignments varies whenever new evidence disarranges the convergence of the old. A striking example of such variation is to be seen in the *New English Dictionary:* citations of

Gawain and the Green Knight are confidently dated "c.1340" throughout the early volumes, until the entry "follow." The next citation of the work is in the entry "forlance," and a dramatic break with tradition is evident in the more cautious "13 . . ".[3]

From time to time a new source of evidence is turned up. Some of the most important recent additions to the MS sleuth's equipment are modifications or adaptations of laboratory techniques: ultraviolet light, for examination of otherwise invisible "marks" on MSS; measurement of radioactivity, for dating by proportion of Carbon 14 (although physicists and radiologists tell me that the datings are dubious if the material analyzed has been exposed to the air). These techniques borrowed from the physical scientists are taking places alongside dialect analysis, comparative folklore, and political history as ways of settling problems of date and place.

Many of the sorts of evidence that we use may have been available to the authors and copyists; some of them must have been. If the author of *Havelok* did refer to the Parliament of 1301, he evidently knew he was referring to it. Both author and scribe, perhaps, were aware that they were using locution peculiar to the North of England.

Other sorts of evidence—equally useful to us—cannot have been available to author or copyist. They cannot have known anything about Carbon 14 or ultraviolet light; no Middle English scribe or author can have had access to any body of literature comparable to the publications of the Early English Text Society, not to mention all the other materials we are blessed with. Such privileged information, which the scribe could not have falsified even if he had wanted to, forms an indispensable part of our knowledge about all medieval languages and literatures.

The purpose of this paper is to introduce into the study of datings of Middle English documents a new source of privileged information about Middle English dialects: phonemic analysis.

During the past thirty years students of linguistics and of cultural anthropology have developed a fairly workable method of describing languages of pre-literate peoples through phonemic and morphemic analysis. The investigator makes a phonetic record of the language, using mechanical recorders and direct observation; ideally the phonetic record would take into account every phonetic phenomenon that can be heard in the language. Of course no phonetic record can be ideal: the investigator does not have perfect hearing, and his recorder does not have perfect fidelity. Besides, the record cannot be complete unless all possible utterances are recorded—an obvious impossibility.

After making his phonetic record as complete as he can, the investigator attempts to distinguish significant phonetic phenomena from insignificant ones.[4] Probably no two utterances in any language are exactly alike; it is because of subtle (and semantically unimportant) differences in pronunciation that we recognize the "voice" of an acquaintance, although we may not be able to describe the ways in which his speech differs from that of a neighbor or of a close relative. Even successive utterances by a single speaker of the "same" word or phrase differ enough, phonetically, that a microscopic examination of the groove cut in a recording disk will reveal differing patterns; such differences may be imperceptible as well as insignificant; nevertheless they exist. Some audible differences between speech sounds are greater than others. It is not necessary to labor this obvious point: the *m* of *man* differs more from the *a* than it does from the *n;* it differs more from the *n* than it does from the *m* of *cam.*

The object of phonemic analysis is to determine which perceptible differences are as important in the language being studied as the differences between *n* and *m* in *man*, and which are as unimportant as the differences between the *m* of *man* and the *m*'s of *empty, cam,* and *army.* When he finds that a difference, however small, is recognized by speakers of the language as a signal of distinction of meaning, the analyst marks the difference as a distinctive—*phonemic*—difference. Two speech sounds which differ in that way are members of two phonemes. If a difference, however large, however striking to the analyst, is not so recognized by speakers of the language, two speech sounds which exhibit that difference, and no other difference, are members of the same phoneme. The *n* and *m* of Modern English *man* are members of different phonemes; if it were possible to substitute this *n* (or even the *n* that can be pronounced, in Modern English, at the beginning of a word) for the *m*, the resulting *nan* would not be recognized as an apt translation of Latin *homo.* But if it were possible to pronounce the *m* of *empty* between the *r* and the *y* of *army*, the switch would hardly be noticed. The pronunciation might sound a little strange, but the meaning of the word would not disappear. The differences among the *m*'s of *man, cam, army,* and *empty* are *non-phonemic* differences, resulting primarily from differences of environment, and the *m*'s are members of the same phoneme.[5]

Having identified all the phonemes in the language, the investigator is ready to begin a morphemic analysis.[6] The morphemic analysis, when complete, becomes the basis of a descriptive grammar of the language.

It appears to me that the method just described can profitably be applied to the dating of medieval documents. The MSS that have been preserved can be made to serve the

purpose of the investigator's phonetic record, and the rest of the analysis can be strictly analogous to that of a living language. It is not far-fetched to assume that medieval scribes, writing "phonetically," would record at least those phonetic distinctions by which native speakers of the languages customarily recognized differences of meaning. An orthographic system which recorded these significant distinctions, and no others, would be phonemic; the investigator's work would be done for him.

The nearest approach to phonemic spelling is to be found, I suppose, in the *Ormulum*. Orm schooled himself to write each sound always in the same way; he attached great importance to the semantic value of the orthographic distinctions of his system. Except for a few inconsistencies, such as his habit of writing *t* initially instead of *þ* in words following final *t* (e.g., *þatt tatt* instead of *þatt þatt* "that which"), and the occurrence of *takenn* "to take" with no diacritical mark over the *a*, and also with one, two, and three marks over the *a*'s in several instances each, he succeeded remarkably well. When allowance is made for these inconsistencies and for Orm's device of recording vocalic differences by doubling or not doubling the following consonant symbols (the consensus is that the difference between his *ful* "foul" and his *full* "full" is phonetically a difference between vowels rather than a difference between *l* pronounced singly and *l* pronounced doubly), the investigator can confidently take the spelling in the *Ormulum* as a reliable record of the phonemic structure of Orm's dialect.

With any other text the investigator will have to make greater allowances for inconsistency in spelling. The orthography is likely to reflect the collision of two or more orthographic traditions: Old English with Latin, Old English with Anglo-Norman, all three of these with Norse, and so on. The

author or the copyist may have recorded phonetic differ-
ences which are not distinctive, and he may have recorded
such a difference in one pair of words and left it unrecorded
in an analogous pair. The phonetic transcription is crude,
neither strictly phonetic nor strictly phonemic nor consistent
in its omissions. And there is room for error in phonemic
analysis even when the analyst has himself made as complete
and sophisticated a transcription as he can.

Still it is possible to discern the phonemes. One can infer
them from semantic differences, from rimes, and from al-
literations; these may be used separately or in combination.
Neither rime nor alliteration appears in Wyclif's prose, but
he has a vocabulary large enough to allow the use of seman-
tic differences; *Piers Plowman* has hardly any rimes, but it
has a large vocabulary and a great deal of alliteration;
Gawain and the Green Knight has a large vocabulary and
much alliteration, and also a considerable number of rimes.[7]

By inference from all three sorts of evidence, I have dis-
cerned thirty-two phonemes in *Gawain and the Green
Knight*: twenty-one consonantal, eleven vocalic. In the
Ormulum I have discerned thirty-one: nineteen consonantal,
twelve vocalic. The difference in totals is by itself powerful
evidence that the two texts were written in different dialects,
or, if they are in the same dialect, that they were written at
different times.[8] A comparison of the phonemes is even more
powerful evidence:

ORM b ch d f g h   k l m n p r s sh t þ   w wh ʒ
GGK b ch d f g h dʒ k l m n p r s sh t þ v w wh ʒ
ORM æ ā ă ē ĕ ī ĭ ō ŏ ū ŭ ə
GGK   a ē ĕ ī ĭ o   u ə ay au ou

Two outstanding facts are worthy of note. First, the num-
bers of phonemes are different. The difference is not merely
the difference between thirty-one and thirty-two; it is the

sum of the differences between twenty-one and nineteen and between eleven and twelve. Second, the phonemes of one MS do not correspond fully with those of the other. The *Gawain*-poet distinguishes two consonantal phonemes /dʒ/ and /v/ and three diphthongs /ay, au, ou/ which Orm does not distinguish. Orm distinguishes /æ/, and recognizes "long" and "short" varieties of *a, e, i, o*, and *u*, whereas the *Gawain*-poet recognizes "long" and "short" *e* and *i*, but not "long" and "short" *a, o*, or *u*.[9] Of course, Orm may have pronounced quite as many diphthongs as did the *Gawain*-poet; his "long" *a* or his /æ/ may have corresponded exactly to the *Gawain*-poet's /ay/. The phonetic range of a Middle English phoneme, or the precise phonetic value of any of its members, cannot be known. The likelihood is, though, that Orm's "long" *a* had a phonetic range different from that of the *Gawain*-poet's /ay/.

The *Ormulum* and *Gawain and the Green Knight* are good enough for showing that medieval phonemes can be discerned, but they are not satisfactory as test documents. They are dated and placed mainly by internal evidence. A satisfactory test document would be an original MS, bearing some credible direct indication of the place and date of its composition, free from conscious literary embellishment, and long enough to exhibit every phoneme in all of its environments.

To demonstrate how such MSS can be used as test documents I have selected six returns of London Gilds and ten of Norwich Gilds, all made in 1389 at the demand of the King and his Parliament. There is little reason to suppose that these returns were not not made by people speaking and writing the dialects of London and Norwich.[10]

These prosaic writings do not have rime or alliteration, and they were not written by spelling reformers. Their

phonemic structures must be inferred from minimal semantic differences.

The first step is to prepare a glossary of each text, recording the absolute number of occurrences of each "word," with all variant spellings. The next step is to search each glossary for pairs of words that exhibit minimal orthographic differences (a typical minimal orthographic difference is the difference between *her* and *here,* or between *it* and *is*). The London returns exhibit some 200 such pairs; the Norwich returns exhibit a similar number. Some of the pairs are variant spellings: the orthographic differences do not reflect semantic differences. For example, in the return of the Gild of the Holy Trinity (London), *bretheren* occurs five times, *breþeren* five, and *breþerin* three; *paie* occurs once, *paye* once, and *payen* once, all meaning "to pay"; *at* occurs six times, *atte* forty. From such variant readings can be inferred such valuable information as the phonemic identity of *th* and *þ* and of consonantal *i* and *y,* and the phonemic insignificance of final *e* and of the doubling of final consonant symbols.

The rest of the pairs reflect semantic differences as well as orthographic ones. In the Holy Trinity return (London), *fer* "fire," *for* "for," and *fro* "forth"; *aȝen* "again," *aȝer* "per year"; *in, if, is, it; ony* "any," *onys* "once"; *seint* "saint," *sent* "sendeth"; *pouere* "poor," *powere* "power"—are typical of the material from which inferences are drawn.

Sometimes the paths of inference may become somewhat tangled. In this same Holy Trinity text, *hatȝ* occurs, meaning "hath." There is no variant reading. But a word meaning "they will" is spelled *willeth* three times, *willetȝ* once; hence the unique *hatȝ* is equivalent to **hath.* Again, the preposition "by" is spelled *be* four times, *bi* three; but the verb "be" is spelled *be* eleven times, with no variant. It can be inferred, then, that a phoneme /þ/ may be spelled *þ, th,* or *tȝ,* and

that one phoneme, occurring in the word that means "be," is spelled always *e*, while another phoneme, occurring in the word that means "by," may be spelled *e* or *i*.

By many such inferences I have discerned twenty consonantal phonemes in the London dialect c. 1389, and twenty-one in the Norwich dialect:

| *London* | b ch d f g h | k l m n p r s sh t þ v w wh y |
| *Norwich* | b ch d f g h dʒ k l m n p r s sh t þ v w wh y. |

The extra phoneme in the Norwich dialect is even less significant than it appears: /dʒ/ is the least frequent of the Norwich consonantal phonemes. Perhaps a corresponding phoneme would show up in a larger London sample.

Most of the consonantal phonemes in each dialect may appear initially, medially, or finally. But in the London dialect, /b, h, y/ do not appear in final position, and /wh/ appears in initial position only. In the Norwich dialect, /b, h, sh, y/ do not appear in final position, /v/ does not appear in initial position, and /wh/ appears in initial position only. Of course these generalizations apply strictly to the texts studied, and not to the dialects; but if it can be shown that /sh/ does not occur in final position and /v/ does not occur in initial position in a text under study, all other things being indeterminate, these facts will constitute evidence that the text is of Norwich rather than of London.

Similar test differences may be derived from analysis of the vocalic phonemes. I have discerned, in the London dialect, eleven vocalic phonemes, including five which appear initially, medially, and finally; three which appear initially and medially, but not finally; two which appear medially and finally, but not initially; and one which appears only medially. The Norwich dialect shows ten vocalic phonemes, including only four which appear in all three positions; three which appear initially and medially, but not finally; two

which appear medially and finally, but not initially; and one which appears only medially:[11]

	London		Norwich	
Initial	a e i ɪ ɔ ɔ ʊ	ə	a e ɪ ɔ ʊ æ ə	
Medial	a e i ɪ ɔ ɔ ʊ u ai ju ə		a e i ɪ ɔ u u æ ai ə	
Final	e i ɪ ɔ u ai	ə	a e i ɔ ai ə	

A mere statement of which phonemes appear initially, medially, and finally only suggests what can be learned through study of the environments in which phonemes may occur in the several dialects. As analyses become more complete and more detailed, discrimination of dialects can become correspondingly more acute.

At least one further test is available in the comparison of the frequencies of phonemes in the dialects. It is true that the /t/ of London is not necessarily identical, phonetically, with the /t/ of Norwich; but we have etymological evidence to show that what appears as *t* in one is approximately equivalent to what appears as *t* in another. To illustrate the kind of results that can be obtained in this way, I have calculated the frequencies in the dialects of London and Norwich, c.1389, in initial, medial, and final positions, of /t, þ, d/. The numbers in the table below represent frequency of occurrence per thousand words of running text; they are based on about 4,670 words in the Norwich samples, and about 6,500 words in the London samples.

	Initial		Medial		Final		Totals	
	Lon.	Nor.	Lon.	Nor.	Lon.	Nor.	Lon.	Nor.
d	22	28	138	147	51	41	211	216
t	40	34	72	78	87	103	199	215
þ	134	157	24	9	8	13	164	179
totals	196	219	234	234	146	157	574	610

Further analyses from larger samples would provide more accurate bases for inference. From these small samples, though, some tentative conclusions can be drawn. For example, suppose that we are to examine a text whose place of origin is unknown, but whose date is known to be about 1390. Suppose that this text exhibits a phonemic system of twenty-one consonantal phonemes, including one which seems to be /dʒ/, and ten vocalic phonemes, including one that seems to be "open e" or "front a"—that is, something like /æ/; in which only one "o" phoneme appears; in which /b, h, sh, y/ do not appear in final position and /v/ does not appear in initial position; and in which /d, t, þ/ appear with frequencies more like those listed for Norwich than like those listed for London (for instance, initial /d/ about thirty per thousand, or medial /þ/ about nine per thousand). We would be more likely to place that text in Norwich than in London. No item of the evidence is cogent; taken together, the several pieces of evidence converge and begin to convince, especially if they seem to corroborate other kinds of evidence.

To demonstrate the use of these two analyses, I had to specify pretty fully the character of the document being tested. With the passage of time, I hope, there will become available many more test analyses, so that any piece of writing known to be Middle English can be compared to them and dated and placed with considerable accuracy. Ideally, there would be enough test documents that each dialect would be represented with one test document for each measurable change in phonemic system. If such documents can be found and analyzed, they will provide a delicate and accurate means of obtaining information which can be obtained in no other way.

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NOTES

The phonemes discussed in this paper are *segmental* phonemes.

1. Sometimes these inferences are seen to conflict, as when orthog-raphy and penmanship and the abundance of inflectional *-n* seem to place a MS that mentions Edward III in the South of England, but a generous scattering of Danish words indicate that the author was perhaps a Northumbrian or a Yorkshireman. The editor then has opportunity to write notes.

2. Instances of the use of such convergent evidence to establish the places and times of composition of MSS are to be found in almost any scholarly edition of almost any Middle English literary work. I give three examples: Tolkien and Gordon, in *Sir Gawain and the Green Knight* (O.U.P., 1925), say on pp. xxii, xxiii, "The language . . . resembles that of the romances of the Ireland MS., which there is reason to believe was written at Hales in south-west Lancashire, not many years earlier than 1413. This resemblance, however, only goes to show that the dialect of the copyist was of Lancashire." They go on to a discussion of the language of the author himself, appealing to his knowledge of geography, to a few words of local use, to alliteration, and to rime, and they conclude on p. xxiv that "on the whole the evidence points to south Lanca-shire rather than Cheshire as the home of the dialect."

   In the introduction of Skeat's school edition of the B-text of *Piers the Plowman* (O.U.P., 1869 and later edd.), these remarks appear: ". . . the dialect . . . is certainly of a mixed character, as it exhibits the plural forms in *-en* in the indicative mood (which are a mark of Midland dialect), and also plural forms in *-eth* (which mark the Southern) . . . a careful examination of many MSS. has convinced me that such an admixture of dialect is an essential mark of the poem. . . . There are many traces of West of England speech also, and even some of Northern, but the latter may possibly be considered as common to both North and West."

   A long and circumstantial discussion of evidence of the sorts we are examining is given in K. Sisam's revision of Skeat's edition of *The Lay of Havelok the Dane* (O.U.P., 1915). In some eighteen pages Sisam appeals to (1) alleged "echoes" of the poem in Robert Mannyng's *Handlyng Synne*, said to have been written in 1303; (2) historical records of the date when Roxburgh first became a border fortress—1296—and of the date of the Parliament mentioned at l. 1179, of which it is said, it "must be the Parliament of 1301," and of the dates of other events which are said to be the very events mentioned

in the poem; (3) Skeat's discussion of final -*e*, asserting that 100 lines of *Havelok* show 88 examples in which the final -*e* constitutes a syllable, while 100 lines of *Handlyng Synne* show 52, and concluding that this difference indicates that, if the two were written in the same dialect, *Havelok* must be considerably earlier; (4) literary genealogy, with references to the Anlaf of the Battle of Brunanburh, to the Olaf Tryggvason who is said to have been among the victors at the Battle of Maldon, and to other historical or quasi-historical persons; (5) parallels in legend, such as those about Servius Tullius and Hamlet; (6) rime-words, which are said to be more resistant to alteration in transmission from person to person than are the bodies of lines, and which, it is asserted, are generally perfect, so that "In general, a false rime in *Havelok* indicates corruption"; and (7) phonology, accidence, and spelling, about which such assertions are made as these: ". . . presumably *Havelok* was written in a district where both a and ǫ were possible outcomes of OE a, that is to say, in the North Midlands. . . . *Havelok* is saturated with Norse words. Indeed their number is so great as to be in itself evidence of composition in some stronghold of Norse influence, such as Lincolnshire is known to have been. . . . *þusgate* is, according to Dr. Morris, unknown to the Southern dialect. . . . *qu* for OE *hw* is a common spelling in the North and Midlands, and points to strong aspiration."

3. A brief search does not turn up the publication or publications which presumably prompted the editors of the *NED* to change their *GGK* date; perhaps it was somewhat like H. L. Savage's *The Gawain-Poet* (U. of North Carolina Press, 1956), in which he argues convincingly that the *Gawain*-poet is also the poet of *Pearl* and *St. Erkenwald* and *Purity* and *Patience*, that he must have lived in the West Riding of Yorkshire or in East Lancashire, that he must have been in service of at least one of three powerful noblemen, and that he must have done his writing between 1365 and 1386—with perhaps a few years of leeway. If Savage's argument turns out to be as forceful as the one that changed "c.1340" to "13 . .", perhaps the editors of the *Middle English Dictionary* will modify their "?1390" dating of *Gawain and the Green Knight*.

4. If Modern English were the language being studied, the investigator would have to take note of the phonetic difference between the *t* of *to* and the *t* of *at*, as well as of the difference between the *t* of *to* and the *d* of *do*. A correct analysis of these differences would show that the first difference here is insignificant—the *t* of *to* does not occur in final position and the *t* of

at does not occur in initial position, and the sounds are said to be in "complementary distribution"—and that the second difference is significant, being used to distinguish the meaning of one utterance from the meaning of another.

5. A difference may be phonemic in one language and not in another. Modern English does not have a phoneme /p/ without post-aspiration distinct from another phoneme /p'/ with post-aspiration. Ancient Greek, it seems, did have such a pair; when the Romans, themselves not having such a pair of phonemes, heard the Greeks distinguishing words by nothing more than the difference between /pi/ and /p'i/, they transliterated the consonants as *p* and *ph*—that is, as post-aspirated and un-post-aspirated *p*. If the Romans had first heard Greek in later centuries, after the Greeks had allowed their post-aspirated /p'/ to degenerate into /f/, we might not today spell *physics, phonograph,* but *fysics, fonograf.*

6. *Morpheme* may be defined as "a word or part of a word that conveys meaning and cannot be divided into smaller elements conveying meaning." (This is not a working definition, as anyone will discover who tries to work with it, but rather a definition that tells approximately what a morpheme is without filling several pages.) *Be* is a morpheme, distinguished from *me* and *by* by the differences between *b* and *m* and between *e* and *y; by* is another morpheme, and *me* is another, but *b, m, e,* and *y* alone are not morphemes. They represent phonemes. *Meaning* is composed of two morphemes *mean* and *ing*. Some morphemes *(mean, by, be, me)* can stand alone; they are called "free morphemes." Some *(ing* in *meaning, ness* in *meanness, com* in *complete)* cannot; they are called "bound morphemes." Some languages (e.g., Chinese) have none but free morphemes; some have free morphemes and bound morphemes (e.g., English and most of the other European languages); some have none but bound morphemes (e.g., Nootka, an American Indian language of the Pacific Coast region).

7. The evidence from rime is of this kind: *bette* rimes with *mette,* but neither of these rimes with *swete, lete,* or *mete,* all of which rime together; *stedde* rimes with *bledde* and *redde,* but none of these with *crede, mysdede,* or *spede,* all of which rime together. These and several other groups of rime-words in *GGK* support the conclusion that the dialect had two phonemes both spelled *e*. Evidence from rimes can also be used to discern consonantal phonemes. Evidence from alliteration gives similar information: in *GGK wh-* often alliterates with *qu,* and both of these often alliterate with *k-*; hence it is not necessary to postulate a phoneme /kw/, and *wh* is sometimes merely a variant of *qu.*

The evidence from semantic differences is that each of the phonemes is used to distinguish some word or words spelled identically except for the substitution of a symbol representing some other phoneme. For example, in *GGK bare* and *bere* have different meanings, and the only difference between the spellings is the difference between *a* and *e*.

8. I do not suggest that anyone supposes that these two texts were written in the same dialect or at the same time; but the difference in numbers of phonemes *is* good evidence that they were not.

9. It is unlikely that the difference between a "long" vowel and its "short" relative was a difference in duration. The custom of calling two vowels by the same name, and labeling them "long" and "short" because they were different, was adopted by the Romans from the Greeks, who may well have made the distinction legitimately. The Romans spread the custom over most of Europe, although Vulgar Latin—the language from which the Romanic languages sprang, and the language, no doubt, of most of the Romans who went to England and hence probably the foundation of English ecclesiastical Latin—was never a quantitative language. Studying the classical writers and the classical grammarians, English churchmen would say "long e," "short e"; but they would pronounce [e], [ɛ]. They would pronounce the Latin with the same phonemic system they used in English, willy-nilly. Then, when they came to write English, they would use the orthographic system of Latin, adopting names and all. Editors of introductory texts in Old English tacitly recognize that "long" and "short" are not adequate for distinguishing the two vowels represented by Old English *i*, for instance; they say "short i as in Modern English hit, sit; long i as in machine." If Old English, Old French, Old Norse, and ecclesiastical Latin were all devoid of quantitative distinction of vowels, Middle English can hardly have developed the distinction.

10. The six London returns, printed in R. W. Chambers and Marjorie Daunt, *A Book of London English 1384-1424* (O.U.P., 1931), are those of the gilds of Carpenters, Garlickhithe, St. Katherine (Aldersgate), St. Fabian and St. Sebastian (Aldersgate), The Annunciation and Assumption (St. Paul's), and Holy Trinity (Coleman Street). The ten Norwich returns, printed in Toulmin Smith, *English Gilds*, E.E.T.S. O.S., 40 (London, 1870), are those of the gilds of St. Mary, St. Botulph, St. George, St. Katherine, St. Christopher, the Holy Trinity, Barbers, Peltyers, Tailors, and Carpenters. The London returns are more verbose than the Norwich returns, so that the sample of the London dialect is somewhat larger than the Norwich sample.

11. Although some symbols appear in both tables, a symbol does not necessarily represent the same phonetic range, or even closely comparable ranges, in both dialects. It is possible, for instance, that no variety of the /e/ of London would be recognized as /e/ in Norwich; perhaps, in Norwich, every variety of the /e/ of London would be apprehended as a variant of the /æ/ of Norwich. Perhaps some varieties of the /e/ of London would be apprehended in Norwich as variants of /æ/, and others as variants of /i/. We are dealing with phonemic systems, not with phonetic quality.