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## THE TYPOLOGY OF THE MIDDLE ENGLISH SOUND SYSTEM

### 1. Introduction

The scope of this paper is limited in that attention is focussed not so much on the analysis of the Middle English sound system in terms of language universals (or near-universals) as on the change of type of the paradigmatic sound system in the Middle English period, at the same time taking into account structural and typological peculiarities of the Old and Modern English sound systems. The importance of Middle English sound and morphological changes from the typological point of view has been specially emphasised by Roger Lass<sup>1</sup>. With reference to sound changes, the time span within which the overall restructuring occurred may be specified more exactly. Thus the main idea is that the most radical restructuring of the English paradigmatic sound system occurred not so much in the transitional periods between Old English and Middle English, or between Middle English and Modern English, as in Middle English itself, in the transitional period between early Middle English (the 12th century and the first half of the 13th century) and late Middle English (the latter half of the 13th century and the first half of the 15th century). Illustrations for the text of the paper are provided in the form of overall patterns and matrices. These patterns and matrices present not only the inventory of phonemes, but also the hierarchy of distinctive features (hereafter abbreviated DFs) and oppositions.

The typological evaluation of the sound systems under analysis depends to a great degree on how these systems are modelled. Modelling presupposes naturally some basic principles of analysis, a certain meta-language in terms of which the sound system is described. Because of some modifications in the traditional functionalist approach to phonological analysis, especially with respect to the system of DFs and hierarchies of oppositions, at least a short exposition of some concepts is necessary.

The most important problems of phonological analysis which have to be clarified center on the system of DFs to be used. Among the problems which demand special attention one may point out the need of correlating phonemic features with phonetic ones, a more detailed argumentation in favour of the universally binary structure of DFs, the distinction between universal and language specific features, primary and secondary features, the hierarchical order of DFs and oppositions<sup>2</sup>.

The correlation between phonetic and phonemic features is the core of the problem. Though on the whole we may consider those systems of DFs better in which DFs have clearly stated phonetic correlates, DFs need not be related directly to phonetic features. The same DFs may have different phonetic correlates, and, on the other hand, the same phonetic features may be manifestations of different DFs. What is referred to as a single DF is actually a complex of articulatory and acoustic parameters, and this complex may be different in the realization of different phonemes of the same series. Thus the labial series may consist of purely labial and labio-dental consonants. In many cases of consonantal features referring to the place of articulation the exact points of articulation are phonologically essential. Yet in some cases different, though adjacent, points participate in the production of the same local series; cf. the possibility to classify the English pharyngeal /h/ among the dorsal series, together with dorsals proper, such as /k/, /g/. How the same phonetic features may serve as realizations of different DFs may be illustrated by the distinctions *gliding* (*diphthong*) vs. *nongliding* (*monophthong*), *long* vs. *short*, and *checked* vs. *free*; the free vocalic phonemes may be manifested as diphthongs or long vowels. It is important to realize that DFs are not so much facts of language reality, as concepts of modeling this reality, where arbitrary solutions are to be allowed to a certain degree, for considerations of the economy, consistency, or simplicity of description. This makes us concede the fact that universally acceptable solutions, no matter how desirable, in the description of the same sound corpus can never be achieved. What remains is common sense in judging which solutions offered are closer to reality and more practical.

The relationships between phonemic and phonetic features may be defined more exactly in terms of the binary theories of DFs, as initiated by Roman Jakobson, and Nikolaj Trubetzkoy's system of privative, gradual, and equipollent oppositions. The binarism of DFs is based on the assumption that DFs as elementary entities of the phonological structure must be characterized by most elementary relationships, and binary contrasts are the most elementary of all possible relationships. The practice of phonological analysis, moreover, has shown that the most exact definitions of phonemes and their oppositions seem to be those which are expressed in terms of binary features.

The universally binary structure of DFs is not at variance with Trubetzkoy's privative, gradual, and equipollent oppositions, which are dis-

tinguished according to the relationships between the members of the same opposition. These oppositions must be reinterpreted, however, as phonetic distinctions upon which binary phonemic distinctions may be based. From the point of view of their physical nature, binary features may be termed *privative* when they are based upon the presence and the absence of the same sound property, as voiced and voiceless consonants, or nasal and oral (nonnasal) consonants and vowels, *gradual* when they present different gradations of the same property, as vowels of different degrees of tongue height, and *equipollent* when they are represented by two physically different and logically equivalent properties. In other words, though DFs may be presented as universally binary, they are nevertheless based upon different relations of phonetic features. The privative oppositions are special in that they show the importance of the notion *zero* in phonological analysis (just like in language description in general).

In each separate opposition, one feature is treated as positively expressed and assigned a plus value, whereas its counterpart is treated as negatively expressed and, accordingly, assigned a minus value, irrespective of whether the opposition is privative, gradual, or equipollent. Of course, a positively expressed feature and the respective negatively expressed feature should be considered as two different features and not the same feature with the plus and minus values.

Binary sound features are used to describe not only phonemes, but their allophones as well. Allophones are to be defined as positional realizations of phonemes differentiated by means of phonemically non-distinctive binary features.

One of the principle questions is the hierarchy of DFs and oppositions. DFs may be hierarchically grouped according to the degree of their universality, thus distinguishing *universal* (or *near-universal*) and *language specific* features, or according to their functional significance, thus distinguishing *primary* and *secondary* features. Universal features determine the general structuring of the overall patterns of sound systems, whereas specific features reflect marked typological characteristics of languages. The view advanced here is that the number of universal distinctive features has considerably to be extended. In addition to the traditional universal features *vocalic* vs. *consonantal*, the following consonantal features must be classified as universal as well: *obstruent* vs. *nonobstruent*, *sonorant* vs. *nonsonorant*, *stop* vs. *nonstop*, *apical* vs. *nonapical* (for which the articulatory correlate is the tip and the front part of the tongue), *labial* vs. *nonlabial*, and *dorsal* vs. *nondorsal* (with the back of the tongue as the articulatory correlate). In other words, the structure of consonantal overall patterns is determined, in the first place, by the presence of the universal classes of sonorant and obstruent, nasal and nonnasal, occlusive (stop) and fricative, as well as labial, apical, and dorsal phonemes. For vowels, only the features of aperture, viz., *high* vs. *nonhigh*, and *low* vs. *nonlow*, may be classified among universal. This accounts for the fact why on the whole consonantal systems are more typologically similar, whereas vowels are

more language specific. It is also self-evident that language specific contrasts are more apt to change, even when functionally they are of primary importance. This fully applies to the paradigmatic sound systems of the diachronic layers of English under analysis.

The set-up of hierarchies must be such that oppositions of a higher rank comprise oppositions of a lower rank. It follows from this that subclasses of different classes of phonemes are not structurally and functionally identical and must be set up independently, irrespective of the possible identity of their sound features. Thus sound features, phonemically distinct for one set of phonemes, may be non-distinctive for another (cf. voice in sonorants, or occlusiveness of nasal sonorants; in matrices of phonemes such non-distinctive features are assigned the zero value).

Proceeding from these basic principles of phonological analysis, the paradigmatic sound systems of the Old, Middle, and Modern periods in the history of the English language may be modeled as shown in the overall patterns and matrices of phonemes and DFs in tables 1-16.

Table 1

**The overall pattern of the OE consonants**

b(:)	d(:)			g(:)
p(:)	t(:)			k(:)
			ǰ(:)	
			ķ(:)	
[f]	ǧ[ǧ]	s[s]	ǧ	h[h x x']
[v]	[ð]	[z]		[ØØ']
f:	ǧ:	s:	ǧ:	h:
m(:)		n(:)		ŋ
w		l(:)	r(:)	j

Table 2

**DFs of OE consonant phonemes**

	b	b:	d	d:	g	g:	p	p:	t	t:	k	k:	ǰ	ǰ:	ķ	ķ:	f	f:	ǧ	ǧ:	
Consonantal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Long	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Sonorant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fricative	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+
Stop	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Voiced	+	+	+	+	+	+	-	-	-	-	-	-	+	+	-	-	0	0	0	0	0
Nasal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apical	-	-	+	+	-	-	-	+	+	-	-	+	+	+	+	-	-	-	+	+	+
Labial	+	+	0	0	-	-	+	0	0	-	-	0	0	0	0	+	+	0	0	+	0
Dental	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+
Alveolar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Continuation table 2

	s	s:	ǵ	ǵ:	h	h:	m	m:	n	n:	ŋ	w	l	l:	r	r:	j
Consonantal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Long	-	+	-	+	-	-	-	+	-	+	-	-	-	+	-	+	-
Sonorant	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+
Fricative	+	+	+	+	+	+	0	0	0	0	0	0	0	0	0	0	0
Stop	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0
Voiced	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nasal	0	0	0	0	0	0	+	+	+	+	+	-	-	-	-	-	-
Apical	+	+	+	+	-	-	-	-	+	+	+	-	+	+	+	+	+
Labial	0	0	0	0	-	-	+	+	0	0	0	-	0	0	0	0	-
Dental	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Alveolar	+	+	-	-	0	0	0	0	0	0	0	0	+	+	-	-	0

Notes: (1) *consonantal vs. vocalic*, (2) *long vs. short*, (3) *sonorant vs. obstruent*, (4) *fricative vs. nonfricative*, (5) *stop vs. nonstop*, (6) *voiced vs. voiceless*, (7) *nasal vs. nonnasal*, (8) *labial vs. nonlabial*, (9) *apical vs. dorsal*, (10) *dental vs. postdental*, (11) *alveolar vs. postalveolar*.

Table 3

## The overall pattern of the OE vowels

i(:)	ū(:)	u(:)	io(:)
e(:)	ō(:)	o(:)	eo(:)
æ(:)		Ń(:)	ea(:)

Table 4

## DFs of the OE vowel phonemes

	i	i:	e	e:	æ	æ:	ū	ū:	ō	ō:	u	u:	o	o:	Ń	Ń:	io	io:	eo	eo:	ea	ea:	
Vocalic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Long	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-
Gliding	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+
Back	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	0	0	0	0	0	0	0
Rounded	-	-	-	-	-	-	+	+	+	+	0	0	0	0	0	0	0	0	0	0	0	0	0
High	+	+	-	-	-	+	+	-	-	+	+	-	-	-	-	-	+	+	-	-	-	-	-
Low	-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-	-	+

Notes: (1) *vocalic vs. consonantal*, (2) *long vs. short*, (3) *gliding (diphthongal) vs. nongliding (monophthongal)*, (4) *back vs. front*, (5) *rounded vs. nonrounded*, (6) *high vs. nonhigh*, (7) *low vs. nonlow*.

Table 5

DFs of the OE vowel phonemes			
b(:)	d(:)		g(:)
p(:)	t(:)		k(:)
			ǰ(:)
			ķ(:)
f[f]	ǵ[ǵ]	s[s]	h[h x x']
[v]	[ð]	[z]	
f:	ǵ:	s:	h:
m(:)		n(:)	ŋ
w		l(:)	r(:)

Table 6

**DFs of the eMidE consonant phonemes**

	b	b:	d	d:	g	g:	p	p:	t	t:	k	k:	ʃ	ʃ:	f	f:	ǰ	ǰ:	s	s:	ǰ	h	h:	
Consonantal	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Long	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+	-	+
Sonorant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fricative	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+
Stop	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-
Voiced	+	+	+	+	+	+	-	-	-	-	-	-	+	-	0	0	0	0	0	0	0	0	0	0
Nasal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apical	-	-	+	+	-	-	-	+	+	-	-	+	+	-	-	+	+	+	+	+	+	-	-	-
Labial	+	+	0	0	-	-	+	0	0	-	-	0	0	+	+	0	0	0	0	0	0	-	-	-
Dental	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	-	-	-	0	0
Alveolar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	-	0	0	

Notes: (1) *consonantal vs. vocalic*, (2) *long vs. short*, (3) *sonorant vs. obstruent*, (4) *fricative vs. nonfricative*, (5) *stop vs. nonstop*, (6) *voiced vs. voiceless*, (7) *nasal vs. nonnasal*, (8) *apical vs. nonapical*, (9) *labial vs. dorsal*, (10) *dental vs. postdental*, (11) *alveolar vs. postalveolar*

Table 7

**The overall pattern of the eMidE vowels**

i(:)	ü(:)	u(:)
e:		o:
Û(:)		Ô(:)
a(:)		

Table 8

**DFs of the eMidE vowel phonemes**

	i	i:	e:	Û	Û:	a	a:	ü	ü:	u	u:	o	o:	Ô	Ô:
Vocalic	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Long	-	+	+	-	+	-	+	-	+	-	+	-	+	-	+
Back	-	-	-	-	-	0	0	-	-	+	+	+	+	+	+
Rounded	-	-	-	-	-	-	-	+	+	0	0	0	0	0	0
High	+	+	+	-	-	-	-	+	+	+	+	+	+	+	-
Mid	-	-		+	+	+	-	-	-	-	-	+	+	+	+

Notes: (1) *vocalic vs. consonantal*, (2) *long vs. short*, (3) *back vs. front*, (4) *rounded vs. nonrounded*, (5) *high vs. low*, (6) *mid vs. nonmid*

Table 9

**The overall pattern of the lMidE consonants**

b	d		g
p	t		k
			ǰ(:)
			ǰ(:)
f	ǰ	s	ǰ
v	ð	z	h
m		n	ŋ
w		l	r
			j

Table 10

DFs of the lMidE consonant phonemes		b	d	g	p	t	k	ʃ	ç	f	ğ	s	ğ	h	v	ð	z	m	n	ŋ	w	l	r	j
Consonantal		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sonorant		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+
Stop		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0	0	0	0	0	0	0
Fricative		-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	0	0	0	0	0	0	0
Voiced		+	+	+	-	-	+	-	-	-	-	-	-	-	+	+	+	0	0	0	0	0	0	0
Nasal		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	+	-	-	-	-
Apical		-	+	-	-	+	-	+	+	-	+	+	+	-	-	+	+	-	+	-	-	+	+	-
Labial		+	0	-	+	0	-	0	0	+	0	0	0	-	+	0	0	+	0	0	+	0	0	-
Dental		0	0	0	0	0	0	0	0	+	-	-	0	0	+	-	0	-	0	0	-	0	0	-
Alveolar		0	0	0	0	0	0	0	0	0	+	-	0	0	0	+	0	+	0	0	+	0	0	-

Notes: (1) *consonantal vs. vocalic*, (2) *sonorant vs. obstruent*, (3) *stop vs. nonstop*, (4) *fricative vs. nonfricative*, (5) *voiced vs. voiceless*, (6) *nasal vs. nonnasal*, (7) *apical vs. nonapical*, (8) *labial vs. dorsal*, (9) *dental vs. postdental*, (10) *alveolar vs. postalveolar*

Table 11

The overall pattern of the lMidE vowels									
i	u		ii		iu		uu		
			ei	ee	eu	ou	oo		
Û	Ú	Ô	Ûi	ÛÛ	Ûu	Ôu	ÔÔ		
a			aa			∇u			

Table 12

DFs of the lMidE vowel phonemes		i	Û	a	Ú	u	Ô	ei	Ûi	ii	ee	ÛÛ	aa	iu	eu	Ûu	ou	Ôu	Ŋu	uu	oo	ÔÔ
Vocalic		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Checked		-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Front		+	+	0	-	-	-	+	+	+	+	+	0	+	+	+	-	-	-	-	-	-
Back		-	-	0	-	-	-	+	+	+	+	+	0	+	+	+	+	+	+	+	+	+
High		+	-	0	+	-	+	-	+	+	-	-	+	+	-	+	-	+	-	+	+	+
Mid		-	+	-	+	-	+	+	+	-	+	+	-	+	+	-	+	+	+	-	+	+
Closing		0	0	0	0	0	0	+	+	+	+	+	+	0	0	0	+	+	+	-	-	-

Notes: (1) *vocalic vs. consonantal*, (2) *checked vs. free*, (3) *front vs. nonfront*, (4) *back vs. nonback*, (5) *high vs. low*, (6) *mid vs. nonmid*, (7) *closing vs. level*.

Table 13

## DFs of the lMidE vowel phonemes

p		t		k
b		d		g
			ç	
			ʃ	
f	ğ	s	ğ	h
v	ð	z		
m		n		ŋ
w		l	r	j

Table 14

		DFs of the ModE consonant phonemes																						
		p	t	k	b	d	g	ʒ	f	ʃ	s	ʒ	v	ð	z	i	h	m	n	ŋ	w	l	r	j
Consonantal		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Sonorant		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+
Stop		+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0
Fricative		-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	0	0	0	0	0	0	0
Fortis		+	+	+	-	-	+	+	+	+	+	+	+	-	-	-	-	-	0	0	0	0	0	0
Nasal		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	+	+	+	-	-	-	-
Apical		-	+	-	-	+	-	+	+	+	-	+	+	+	-	-	+	-	-	-	+	+	-	-
Labial		+	0	-	+	0	-	0	0	+	0	0	0	+	0	0	0	-	+	0	-	+	0	0
Dental		0	0	0	0	0	0	0	0	+	-	-	0	+	-	-	0	0	0	0	0	0	0	0
Alveolar		0	0	0	0	0	0	0	0	0	+	-	0	0	+	-	0	0	0	0	0	0	+	-

Notes: (1) *consonantal vocalic*, (2) *sonorant vs. obstruent*, (3) *stop vs. nonstop*, (4) *fricative vs. nonfricative*, (5) *fortis vs. lenis*, (6) *nasal vs. nonnasal*, (7) *apical vs. nonapical*, (8) *labial vs. dorsal*, (9) *dental vs. postalveolar*, (10) *alveolar vs. postalveolar*.

Table 15

The overall pattern of the ModE vowels									
i	u	ii	iÛ	uu	uÛ				
e	Û	o	ei	eÛ[Û:]	ou	oÛ[Û:]	oi		
æ		Ĝ		ÛÛ		vÛ[v:]	vi		

Table 16

		DFs of Modern English vowel phonemes																				
		i	e	æ	Û	u	o	Ĝ	ii	ei	iÛ	eÛ	ÛÛ	uu	Ńu	uÛ	oÛ	ŃÛ	oi	Ńi		
Vocalic		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Checked		+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Front		+	+	+	-	-	-	+	+	+	+	+	-	-	-	-	-	-	-	+	+	+
Back		-	-	-	-	+	+	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+
Central		-	-	-	+	-	-	-	-	-	-	+	+	-	-	+	+	+	+	+	+	+
High		+	-	-	+	-	-	+	-	+	-	+	-	+	-	+	-	-	-	-	-	-
Low		-	-	+	-	-	+	-	-	+	-	+	-	+	-	+	-	-	+	-	+	-

Notes: (1) *vocalic vs. consonantal*, (2) *checked vs. free*, (3) *front vs. nonfront*, (4) *back vs. nonback*, (5) *central vs. noncentral*, (6) *high vs. nonhigh*, (7) *low vs. nonlow*.

## 2. A contrastive analysis of Old English and early Middle English sound systems

### 2.1. Consonants

In terms of the DFs according to the manner of articulation, the late Old English consonants are contrasted as: (1) *long vs. short*, (2) *obstruent vs. sonorant*, (3) *stop vs. nonstop*, (4) *fricative vs. nonfricative*, (5) *voiced vs. voiceless*, (6) *nasal vs. nonnasal*. From the point of view of the DFs according to the place of articulation, the late Old English consonants are



further contrasted as: (7) *apical* vs. *nonapical*, (8) *labial* vs. *nonlabial* (*dorsal*), (9) *dental* vs. *postdental*, (10) *alveolar* vs. *postalveolar* (for the overall pattern and for the specification of the individual Old English consonants in terms of the suggested DFs see table 1 and table 2).

As there are differences of opinion on the phonological interpretation of the Old English consonantism and the approach suggested here is on some points novel, the given overall pattern and DFs need some comments.

Length in Old English consonants is considered as an inherent feature. This is in accord with Roger Lass's<sup>3</sup> presentation. Richard Hogg's approach, however, is more problematic<sup>4</sup>. On the one hand, he speaks of the feature of length as phonologically contrastive for consonants<sup>5</sup>. On the other hand, he analyses long consonants as geminates and presents them as /bb/, /pp/, etc., that is, as biphonemic. The main argument in favour of such interpretation is an assumption that already «by the period of the written texts they only occurred intervocalically over syllable boundaries»<sup>6</sup>. Contrary to this, the following arguments for the monophonemic interpretation of Old English long consonants may be put forward. First of all, if one assumes that length is an inherent DF for vowels, then the same assumption seems to hold good for consonants as well. Secondly, the variation of single and double consonant letters in such forms as *bedd* — *bed*, *eall* — *eal*, *mann* — *man* practically throughout the whole Old English period may quite well attest that long consonants were found word finally as well, although evidently in free variation with their short counterparts and gradually yielding ground to the latter towards the end of the period. Thirdly, in disyllables and polysyllables, an intervocalic long consonant may be interpreted as the coda of the preceding syllable<sup>7</sup>. Thus this syllable is marked as closed and as distinct from an open syllable with a short consonant; cf. *sett-an* 'set' vs. *me-tan* 'measure', *mē-tan* 'meet'. It must be admitted that analysis is more complicated in cases when a morpheme boundary seems to lie within long consonants, as in *ǣnne* ac.sg. 'one', *ǣrre* adj. 'earlier', *mētte* pret. 'met', *lǣdde* pret. 'led'<sup>8</sup>. It may be argued that at least such forms have biphonemic geminates. It is more likely, however, that such forms present cases of morpheme fusion at long consonants (cf. *sende* 'sent', instead of *\*sendde*).

The Old English consonantal contrast of length was well established paradigmatically, although restricted syntagmatically in that long consonants were not found word initially. Thus length, although language specific, was a primary distinction in Old English consonants. The consonants which did not contrast as short and long in pairs were quite few. As a matter of fact, such are /w/, /j/, and /ŋ/ (if the latter is interpreted as a separate phoneme). The contrast /ǰ/—/ǰ:/, although problematic, can still be argued for. Much like short fricatives in word initial and word final positions and long fricatives intervocalically, this consonant is invariably voiceless. This could possibly be accounted for by its origin. This consonant is the result of the phonemization of the phonemic cluster of the

voiceless consonants /sk/, and as Hogg<sup>9</sup> reasonably assumes, the result of the change intervocalically would be the long /ǵ:/ ("the geminate /ǵǵ/", in Hogg's terms). Word initially, however, where only short consonants were possible, it had to be interpreted as the short /ǵ/. The distribution of /ǵ/ and /ǵ:/ was complementary (in that the short /ǵ/ did not occur between vowels). Nevertheless, their contrast could be phonemic, as /ǵ/ groups naturally with the short consonantal phonemes, and /ǵ:/, with the long ones. Thus the rise of the opposition /ǵ/ - /ǵ:/ is another example of the so-called paradigmatic phonologization in the history of English (cf. the rise of the Old English opposition of the short /æ/ - /ǣ/ under the paradigmatic pressure of the opposition of the longæ /i:/ - /ī:/, or the rise of the Old English short diphthongs under the paradigmatic pressure of the long diphthongs<sup>10</sup>). However, because of the defective distribution this opposition may have been lost earlier than the quantitative oppositions of the majority of other consonants, presumably towards the end of the Old English period.

There are some problems and differences of opinion concerning affricates, with respect to their phonemic status, as well as their quantitative, modal and local distinctions. Roger Lass<sup>11</sup> distinguishes affricates as separate phonemic items, on a par with the other stops in the series /p t k k/, /b d ĵ g/ and /p: t: k: k:/, /b: d: ĵ: g:/ . Thus the Old English affricates are distinguished as short and long, and their contrast to stops is shown as a local one. Richard M. Hogg<sup>12</sup> defines the Old English affricates (just like the present-day affricates) as "the combination of a dental stop and a palatal sibilant, hence /k/ and /ĵ/". The long affricates are transcribed phonemically by him as /tʃ:/, /dʒ/. The interpretation of long affricates as a combination of three consonantal phonemes would be especially open to doubt. Yet equally doubtful would be an a priori assertion that affricates are necessarily combinations of consonants. However, in a later publication of the same year, Hogg<sup>13</sup> presents a clearer and apparently modified view on the Old English affricates. Here both of the affricates are characterized phonetically as «a dental stop whose release is accompanied by friction resulting in a palatal sibilant of relatively short duration» and, what is especially important, it is clearly stated that they are viewed as monophonemic. In the general consonant system for Old English, these affricates are assigned a separate modal series, and their point of articulation is shown as between dental and palatal local series<sup>14</sup>.

Although not language universal, monophonemic affricates are a separate and quite common type of consonantal phonemes. The main problems of affricates are their differentiation from phonetically similar bi-phonemic consonantal clusters and their specification in terms of modal and local DFs. As monophonemes, they indicate a certain model of their structure so that we can describe them in terms of the DFs relevant for the obstruents whose integral part they are. According to the interpretation suggested here, the Old English affricates constitute a separate modal series of stop fricative phonemes whose local DF is specified simply as

*apical*, although phonetically their point of articulation is the same as that of /ǵ(:)/ and /r(:)/ (*postalveolar*). Judging from differences in spelling, these affricates contrasted originally as short and long: /k/⟨c⟩-/k̄:/⟨cc⟩, as in *cild* 'child', *þecen* 'roof', *rice* 'kingdom', *dīc* 'ditch' against *þeccan* 'cover', and /ĵ/⟨g⟩-/ĵ̄:/⟨cg gg cgg⟩, as in *sengan* 'sing', *þing* 'thing' against *secgan*, *secggan* 'say', *secg*, *segg* 'sedge'. However, length contrast in affricates may have been lost towards the end of Old English, that is, earlier than in the other consonants. To begin with, length distinctions may be more difficult to retain in affricates because of their complex phonetic nature. Besides, the short /ĵ/ was found only after /n/. Thus because of distributional restrictions, the contrast /ĵ/-/ĵ̄:/ was functionally insignificant. This had inevitably to affect the stability of the phonological contrast not only of the voiced /ĵ/-/ĵ̄:/, but of the voiceless /k/⟨c⟩-/k̄:/⟨cc⟩ as well. It is significant that ⟨cg⟩ is sometimes found for ⟨g⟩, especially in Northumbrian and late texts<sup>15</sup>.

The short and long fricative phonemes of the dorsal series are transcribed as /h/, /h:/, in accordance with the most regular spellings ⟨h⟩, ⟨hh⟩ for these phonemes. The short /h/ is reconstructed as a phoneme with a wide range of allophonic variation.

When reconstructing the late Old English consonant system one has to make allowance for the presence of highly language-specific voiceless sonorants, transcribed phonemically as /L/, /R/, /N/, /W/ (/Ĥ/). In Campbell's<sup>16</sup> interpretation, the voiceless sonorants are represented in Old English writings by the word initial spellings ⟨hl hr hn hw⟩, as in *hlāf* 'loaf', *hrēosan* 'fall', *hnutu* 'nut', *hwēol* 'wheel'. Thus Campbell assumes that voiceless sonorants were part of the consonant system throughout the Old English period. Karl Brunner defines these initial sonorants as aspirated consonants which became voiceless with the loss of /h/ before /l/, /r/, /n/ in late Old English and then were replaced by the corresponding voiced consonants, although the reflex of /hw/ persisted as aspirated and voiceless much longer<sup>17</sup>. Jacek Fisiak<sup>18</sup> and Jerzy Weña<sup>19</sup> speak here of the simplification of the clusters with /h-/ into monophonemic voiceless consonants. In other words, it is a case of phonemization of phonemic clusters (on the possible sources of new phonemes see Steponavičius<sup>20</sup>). The voiceless sonorants as the outcome of the phonological merger of the clusters /hl-/, /hr-/, /hn-/, and /hw-/ are quite convincingly attested by the occasional spellings ⟨lh rh nh⟩ for the reflexes of /hl hr hn/, respectively, by the spelling ⟨wh⟩ for the reflex of /hw/, and by the presence of the voiceless /Ĥ/ in Modern English dialects; in addition, it is instructive that in later Old English poetry the original /hl/, /hr/, /hn/ and /hw/ alliterate no longer with one another, but only with themselves<sup>21</sup>.

Finally, some justification is necessary for the phonemic treatment of [ŋ]. Considering its complementary distribution with respect to [n] ([ŋ] was found exclusively before the dorsal consonants /g/ and /k/), this is certainly problematic. Nevertheless, there are arguments for such a treatment as well. First of all, it is the use of the rune *ing* for [ŋ] alongside the

rune *nēd* for [n]; allophones are not normally indicated in spelling. Secondly, since [ŋ] belonged to the dorsal series, one of the three major local series of consonants, it could be reinterpreted as the dorsal sonorant nasal phoneme /ŋ/ even when retaining its complementary distribution (a case of the so-called paradigmatic phonologization). It is also instructive that /ŋ/ retains traces of complementary distribution even in Modern English, in such forms as *single*, *tango*, *drink*.

The early Middle English consonants may be defined and arranged into an overall pattern on the basis of the same DFs as those of the Old English consonants (cf. tables 1–2 and tables 5–6). Thus there are no marked differences between the late Old English and the early Middle English paradigmatic systems of consonants. One of the differences may have been the presence of voiceless sonorants in late Old English and their loss in early Middle English. One may also point out the changes [Ø] > [w] and [Ø'] > [j]; these must be specified as changes in the allophones of /h/ and the syntagmatic replacements /h/ [Ø] > /w/ and /h/ [Ø'] > /j/ in such words as OE *dragan* > eMidE *draien*, *drawen* 'draw' and OE *nigon* > eMidE *niien* 'nine', respectively. Otherwise both Old English and Middle English consonants continue to contrast as *short* vs. *long*.

## 2.2. Vowels

The Old English overall pattern of vocalic phonemes is reconstructed as a system of: (1) long and short vowels; (2) diphthongs and monophthongs; (3) back and front vowels; (4) rounded and nonrounded vowels; (5) vowels of three different degrees of tongue elevation. Alternatively it might be said that the following vocalic features were distinctive in Old English: (1) *long* vs. *short*; (2) *gliding* vs. *nongliding*; (3) *back* vs. *front*; (4) *rounded* vs. *nonrounded*; (5) *high* vs. *nonhigh*; (6) *low* vs. *nonlow* (see table 3 and table 4). From the point of view of the contrasts of height, the West Mercian vowel system was different from the overall pattern in that there was a four-degree height contrast amongst short vowels. As a result of the second fronting, the mid vowels contrasted here as mid high and mid low, i.e., /e o/ vs. /Û Ö/<sup>22</sup>. The height contrasts amongst diphthongs need also specification, with respect to both diachronic layers and dialects. Diphthongs of three degrees of tongue height, /io(:) eo(:) ea(:)/, may be reconstructed only in the language of some of the earliest written records (8th–9th cc.), and most certainly in Northumbrian. In Kentish and West Saxon in the 8th–9th centuries, in Mercian a little later, probably in the 9th century, the opposition of the diphthongs /io(:)/ and /eo(:)/ was lost. In the language of early West Saxon writings there were short and long diphthongs spelt <ie>. These diphthongs, /ie(:)/, are the result of the merger of the i-mutated diphthongs /iü(:)/ (< [iu(:)], [eu(:)] and /eü(:)/ (< [æu(:)]), as well as the result of the diphthongization of /e(:)/ after palatal consonants<sup>23</sup>. Phonemically they must be specified as *high*,

on a par with the lost /io(:)/, and thus even in the late 9th century the West Saxon diphthongs preserved a three-degree height contrast, i.e., /ie(:) eo(:) ea(:)/. But by the 10th century /ie(:)/ had been monophthongized, and there remained only the diphthongs of two-degree tongue height, just like in Mercian and Kentish. The original three-degree height contrast /io(:)/ vs. /eo(:)/ vs. /ea(:)/ was possibly preserved during the whole Old English period only in Northumbrian (or at least in some of its dialects)<sup>24</sup>. The contrast *back* vs. *front* was primary, whereas the contrast *rounded* vs. *nonrounded* was secondary. The feature of rounding was distinctive only for front vowels. In addition, the low front /æ(:)/ had never had a rounded correlate. Nevertheless, it naturally groups with the other front nonrounded vowels and may be specified as *nonrounded*. The Old English vowels of the front rounded series may be characterized, moreover, as unstable phonemes. In the Kentish dialect rounding lost its relevance in the late 9th — early 10th centuries. In the majority of the other dialects rounding as a distinctive feature was preserved only in the phoneme /ü(:)/, while /ö(:)/ had merged with /e(:)/ (on front rounded vowels and their unrounding see<sup>25</sup>).

Finally, a few remarks must be made on the nasal vowels, or, to be more exact, on the reflexes of these vowels in the language of the Old English writings. Nasal vowels can be reconstructed in Proto-Old English. The long /ā:/, /ī:/, /ū:/ originated from the short /a i u/ before the clusters /nh mf nğ ns/ when these vowels and the following nasal sonorants before fricatives phonemized into long nasal vowels. In the period of the oldest written records the Proto-Old English nasal vowels /ā:/, /ī:/, /ū:/ are found already denasalized to /o:/, /i:/, /u:/, respectively, yet the development of the low /ā:/ must have differed greatly from the development of the high /ī:/, /ū:/. In contrast to the short-lived /ī:/ and /ū:/, the low /ā:/ proved to be more stable and led to notable further modifications of the vowel system. One such modification is the replacement of /e:/ (or /æ:/) before nasals: the reflexes of the Proto-Germanic /e:/ before nasals are not /æ:/ (WS) or /e:/ (non-WS), as usual, but /o:/, which suggests the one-time presence of /ā:/ in such forms as *mōna* 'moon'. Moreover, under the paradigmatic pressure of /ā:/, the short nasal /ā/ appeared before nasal consonants, in such forms as *mann* 'man', *nama* 'name', *land* 'land', *sang* 'sang, song'. When the long /ā:/ had been lost and syntagmatically replaced by /o:/, its short counterpart, as a completely isolated phoneme, could not survive for a long time either. The process of denasalization is attested in spelling. In the early writings (mainly from the 9th century) of the Anglian, West Saxon and Kentish dialects, /ā/ is spelt out with ⟨a⟩ and ⟨o⟩ interchangeably. This interchange may be regarded, naturally, as due to the absence of a separate symbol for /ā/. Yet it may reflect the phonemic instability of /ā/ and its confusion now with /Ñ/, now with /o/. Beginning with the tenth century, the forms with the original /ā/ are spelt out with ⟨a⟩ in the writings of almost all the dialects. This attests to the loss of the short nasal vowel

and its replacement by / $\tilde{N}$ /. In the ninth century the forms with the original / $\tilde{a}$ / are spelt out only in West Mercian. It may be argued that here / $\tilde{a}$ / changed to / $\tilde{O}$ /, a mid low back vowel which contrasted with the mid low front / $\tilde{U}$ /. A truly well-grounded description of the evolution of nasal vowels may be found in Yakov Krupatkin's articles<sup>26</sup>.

The transition from Old to Middle English vowel systems may be said to be marked first of all by the loss of the front rounded vowels in the Northern and East Midland dialects, as well as in part of the Southwestern dialect, in the 11th–12th centuries, although in West Midland and the majority of Southwestern the front rounded vowels were retained up till the 15th century. There are also no diphthongs of the Old English type in the early Middle English vowel system, but these were already lost in the 10th–11th centuries, i. e., before, according to our dating, the Middle English period began. Significant differences between Old English and early Middle English vowel systems appeared as a result of changes of the low vowels and the lengthening of vowels in open syllables. The opposition of the short / $\tilde{a}$ -/ $\tilde{N}$ / must have been lost in the 11th–12th centuries. Phonetically the process is described as lowering of / $\tilde{a}$ / to [a] and fronting of / $\tilde{N}$ / to the same value<sup>27</sup>. In other words, the prevailing type of the phonetic manifestation of the resultant phoneme must have been a front and somewhat lower than / $\tilde{a}$ / vowel, which is therefore phonemically transcribed as /a/. Consequently, the original /e/ and /o/ could also acquire a more open articulation, and thus they may be transcribed phonemically as / $\tilde{U}$ / and / $\tilde{O}$ /. The development of the long / $\tilde{a}$ -/ $\tilde{N}$ :/ was connected above all with the rounding and raising of / $\tilde{N}$ :. It is usually said that / $\tilde{N}$ :/ became rounded and rose to reach the level of / $\tilde{O}$ :/ in the Midlands and the South in the 12th–13th centuries, whereas in the North it was either preserved without change or fronted<sup>28</sup>. The phonetic prerequisites for the change of the long / $\tilde{a}$ -/ $\tilde{N}$ :/ must have been, however, like those for the short / $\tilde{a}$ -/ $\tilde{N}$ :/<sup>29</sup>. In the eleventh or twelfth century / $\tilde{a}$ :/ raised to [ $\tilde{U}$ :], and thus / $\tilde{N}$ :/ had two possibilities of further development when /a/ (the result of the merger of / $\tilde{a}$ -/ $\tilde{N}$ /) lengthened to /a:/: to be fronted and merge with /a:/, or rise to the position of the mid low vowel / $\tilde{O}$ :. The first type of change took place in the Northern dialects, as may be inferred from the spellings and further development of such forms as *bain* (< OE *bān* 'bone'), *lair* (< OE *lār* 'lore'), *raid* (< OE *rād* 'riding'; cf. ModE *raid*). The second type occurred in the Midland and Southern dialects, interpreting the result of the lengthening of /a/, as well as the vowel of such French loanwords as *cas* (> ModE *case*), *las* (> ModE *lace*), *pas* (> ModE *pace*), whereas the original / $\tilde{N}$ :/ was reinterpreted as the low mid / $\tilde{O}$ :. According to this view, the rounding of / $\tilde{N}$ :/ is a concurrent, purely phonetic, change, which, however, was important in that it contributed to the distinction between / $\tilde{U}$ :/ and / $\tilde{O}$ :/, and between /a:/ and / $\tilde{O}$ :. The Northern / $\tilde{O}$ :/ is the result of the lengthening of /o/. Although the interpretation of /a/ and /a:/ as typically front vowels is well founded<sup>30</sup>, these phonemes may have had more retracted positional realizations as well, as in the

neighbourhood of the (phonetically) velar /w/ (cf. MidE *straw(e)*, *clawe*, *was*'), or before the (phonetically) velar /l/, /h/[x] (cf. MidE *all*, *callen* 'call', *auhte* 'ought'). Therefore they are specified in terms of DFs simply as *low* (see tables 11–12).

### 3. Change of type of the paradigmatic sound system in late Middle English

The most radical restructuring of the English sound system occurred within the late Middle English period itself. In consonants, the correlation *long* vs. *short* was lost and the correlation *voiced* vs. *voiceless* was extended in that fricatives began to contrast as voiced and voiceless as well. As a result of these changes, the late Middle English consonant system became rather different from the early Middle English consonant system and less different from the Modern English consonant system, at least in the number of consonant phonemes and their arrangement, although the primary language specific distinctions were still different (*voiced* vs. *voiceless* for late Middle English consonants, and *fortis* vs. *lenis* for Modern English consonants, cf. tables 9–10 and tables 13–14).

In vowels, the correlation *long* vs. *short* was replaced by the correlation *checked* vs. *free*. From the structural and the typological point of view, the latter change is of the greatest consequence. The language specific distinction *checked* vs. *free* in the late Middle English vocalic system is of a primary type as all the vowels are specified as either *checked* or *free*. Naturally, it implies that this pair of distinctive features should be included into the universal inventory of distinctive features. As far as I know, the distinction *checked* vs. *free* was introduced into phonological analysis by Nikolaj Trubetzkoy in his *Grundzüge der Phonologie*, yet he specified these features as prosodic, whereas here they are classified among inherent distinctive features. Checked vowels, the marked members of the opposition *checked* vs. *free*, are sounds with abrupt recede, and free vowels, with slow, or free, recede. Phonetically, checked vowels are what may be called short monophthongs, and the free vowels are manifested as gliding sounds (diphthongs) and long vowels (which show a tendency to gliding, cf. the vocalic segments in such English forms as *more*, *mar*, *fir*); nevertheless, the vowels of the two latter types constitute a single tightly-knit subsystem.

My description of the rise of the correlation *checked* vs. *free* and its prerequisites may be summed up as follows<sup>31</sup>.

First of all, all the previous quantitative changes of vowels and especially lengthening in open syllables had strongly unbalanced the vocalic correlation *long* vs. *short*. Yet the main reason for the replacement of the correlation *long* vs. *short* by the correlation *checked* vs. *free* was the appearance of new vocalic segments as a result of changes of the

dorsals [Ø], [Ø], [w], or in the neighbourhood of the dorsals [x], [x:]<sup>32</sup>. The process must have begun with the change of [Ø] to [j] in forms in which [Ø] was palatalized after front vowels unless a back vowel directly followed, for example, in *dæg* 'day', *dæg*es gen.sg., *næg(e)* 'nail', *weg* 'way' (but not in *wegas* 'ways', *nigon* 'nine'). This change may be dated back to earliest Old English writings, such as the earliest Mercian glossaries and Kentish charters and glosses. It is evidenced by the spellings (ei æi) instead of the standard (eg æg), as in *dei* (5x) 'day' Charter 1510 (Charter 42 in Sweet 1885), *grei* 'grey' Corpus 967, *meihanda* 'relative' Charter 1200 (Charter 38 in Sweet 1885), *wæi* (pret. of *wegan* 'move') Kentish Glosses 274. It is quite possible to suppose that the final [-j] in tautosyllabic [i(:)j], [e(:)j], [æ(:)j] could be further changed to [-i] even at this early date. Yet such [-i] could be at least in free variation with [-j] which is clearly suggested by the compromise spellings <eig æig>. These spellings are characteristic of late West Saxon and late Northumbrian texts, but they are also noted in the earliest writings, such as the Corpus *seign* 'sign' 2093, *grëig* 'grey' 850<sup>33</sup>. Subsequently [Ø'] must have appeared after a front vowel even when a back vowel directly followed, in such forms as *nigon* 'nine'. In early Middle English such [Ø'] changes to [j] as well: *nigon* [niØ'on] > *nii*en [nijÛn]. Towards late Middle English, with the vocalization of [-j] to [-i] and the loss of length distinctions in preceding front vowels, the following monophonemic vocalic segments arise<sup>34</sup>: /i:/ (< [ij], [i:j], as in MidE *nine* < OE *nigon* 'nine', MidE *stīle* < OE *stīgol* 'stīle'), /ei/ (< [Ûj], [e:j], as in MidE *wei*, *wey* < OE *weg* 'way', MidE *tweye*, *tweyne* < OE *twēgen* 'two'), /Ûi/ (< [aj], [Û:j], as in MidE *dai*, *day* < OE *dæg* 'day', MidE *grei*, *grey*, *gray* < OE *græg* 'gray'). Analogous *i*-gliding segments arose before the palatal voiceless dorsal fricative [x'] by way of the following changes: [ex'] > [eix'], as in MidE *fehten* (< OE *feohtan*) > *feihten* 'fight', [ix'] > [iix'], as in MidE *niht*, *night* (< OE *neaht*, *niht* 'night'). In West Midland and Southern dialects there was also an *i*-gliding segment with the front rounded initial element [ü-]: /üi/ (< [ÿj], as in WM, S *druie*, *druye*, *dru*e, *dru* < OE *drǣge* 'dry'). On the other hand, a set of *u*-gliding monophonemic segments appeared as a result of the vocalization of the postvocalic /w/ (which could also go back to the voiced velar dorsal fricative [Ø])<sup>35</sup>: /uu/ (< [u(:)w] < [u(:)Ø], as in MidE *foul*, *fowl* < OE *fugol* 'bird', MidE *bouwe*, *bow* < OE *būgan* 'to bow'), /ou/ (< [o:w], as in MidE *growe* < OE *grōwan* 'grow', or from [Ōw], [o:w] < [o(:)Ø], as in MidE *boie*, *bow(e)* < OE *boga* 'bow', MidE *plōwes* < OE *plōgas* 'ploughs'), /Ōu/ (< [Ō:w], as in MidE *blowe*, *blow* < OE *blāwan* 'blow', or from [Ō:w] < [Ō:Ø], as in MidE *owen*, *owe* < OE *āgan* 'possess'), /Ņu/ (< [Ņw], as in MidE *clau*, *clawe*, *claw* < OE *clawu* 'claw', or from [Ņw] < [ŅØ], as in MidE *lawe* < OE *lagu* 'law'), /iu/ (< [i:w], as in MidE *tīwesdai*, *tewesday*, *tuesday* < OE *tīwesdæg* 'Tuesday'), /eu/ (< [e:w] < [ö:w] < [eo:w], as in MidE *neowe*, *newe* < OE *nēowe* 'new'), /Ûu/ (< [Û:w] < [æ:w], as in MidE *lewed*, *leude*, *lewd* < OE *læwede* 'lay', MidE *hewen*, *hew* < OE *hēawan* 'hew'). Analogous segments arose when



an [-u] glide developed between a back vowel and the voiceless velar dorsal fricative [x]: [Ńux] (< [Ńx], as in MidE *tauhte*, *taught* < OE *tahte* 'taught'), [oux] (< [Ōx], [o:x], as in MidE *doughter* < OE *dohtor* 'daughter', MidE *ynogh*, *ynough* < OE *genōh* 'enough'), [Ōux] (< Ō:x] < [Ń:x], as in MidE *doh*, *dough* < OE *dāh* 'dough'). Proceeding from Luick's<sup>36</sup> description of Middle English diphthongs, Welna<sup>37</sup> dates the rise of Middle English monophonemic diphthongs at c. 1200. In any case, it may be safely inferred that in the 13th century the correlation *long vs. short* was already replaced by the correlation *checked vs. free*. At the time, the subsystem of free vowels consisted of out-gliding diphthongs in [-i] and [-u], and long vowels which can also be presented as gliding monophonemes within the same series and tongue height, i.e., as level gliding sounds, for example, /i:/ = /ii/, /a:/ = /aa/, /ū:/ = /ŪŪ/, etc.<sup>38</sup> Level free vowels are opposed to closing free vowels (see tables 11–12). This vocalic system was not well balanced, therefore shortly after it underwent radical modifications. First of all, the contrasts between /ei/ and /Ūi/, /eu/ and /Ūu/, /ou/ and /Ōu/ were lost, and, on the other hand, /oi/ appeared with such French loanwords as *chois* 'choice', *joye* 'joy'. In the course of the 14th century /ou/ before [x] could be narrowed into /uu/, as in *plough* [ploux] > [pluux] (ModE *plough* [plŃu]), /ei/ before [x'] was replaced by /ii/, as in *hēh* > *heih*, *heigh* > *high*, and /eu/ was replaced by /iu/. In the period of the fourteenth through the sixteenth century the level free vowels („long monophthongs“) underwent a series of mutually related changes the outcome of which was their replacement in Standard Modern English by outgliding vowels in [-i] and [-u]. These changes, known as the Great Vowel Shift (hereafter abbreviated GVS), are, however, only a rearrangement, loss or addition of phonemes within the primary correlation *checked vs. free*. The same applies to the changes as a result of the vocalization of /r/, which gave rise to the free gliding vowels in [-Ū]. From the point of view of the primary distinction *checked vs. free* there is in principle no difference between late Middle English and Modern English vowels, and the GVS may be interpreted in a wider and a narrower sense. The GVS in the wider sense begins with the establishment of the correlation *checked vs. free* towards the beginning of late Middle English and continues with the Modern English raisings and diphthongizations of vowels, as well as vowel changes connected with the vocalization of /r/ in Modern English. The GVS in the narrower sense is limited to the latter changes. Naturally, the GVS even in the narrower sense fully deserves the honorific „Great“. Viewed from a teleological point of view, the GVS led to an integration of the free vowels into a more closely knit and therefore more stable system.

<sup>1</sup> *Lass R.* Phonology and morphology / Ed. Norman Blake. 1992. P. 23.

<sup>2</sup> *Steponavičius A.* On the correlation of phonetic and phonemic distinctions / Ed. M. P. R. Van den Broecke, A. Cohen. 1984. P. 651–653; *Id.* English historical phonology. Moskva, 1987. § 28–34.

- <sup>3</sup> *Lass R.* Op. cit. P. 41.
- <sup>4</sup> *Hogg R. M.* Phonology and morphology / Ed. Richard M. Hogg. 1992. P. 89–95; *Id.* A grammar of Old English. Vol. 1. Phonology. Blackwell, 1992. P. 27–43.
- <sup>5</sup> *Hogg R. M.* A grammar of Old English. § 2.46.
- <sup>6</sup> *Ibid.* § 2.46, 2.78.
- <sup>7</sup> *Steponavičius A.* English historical phonology. § 119.
- <sup>8</sup> *Pilch H.* Altenglische Grammatik. München, 1970. § 8.1.
- <sup>9</sup> *Hogg R. M.* A grammar of Old English. § 2.64.
- <sup>10</sup> *Krupatkin Y. B.* From Germanic to English and Frisian // *Us Wurk: Meidielingen fan it Frysk Ynstitut oan de Ryksuniversiteit to Grins. Jiergong* 19, 3: 49–71. 1970; *Steponavičius A.* English historical phonology. § 51, 137, 140.
- <sup>11</sup> *Lass R.* Op. cit. P. 41.
- <sup>12</sup> *Hogg R. M.* Phonology and morphology. P. 93.
- <sup>13</sup> *Hogg R. M.* A grammar of Old English. § 2.65.
- <sup>14</sup> *Ibid.* § 2.79.
- <sup>15</sup> *Brunner K.* Altenglische Grammatik (nach der angelsächsischen Grammatik von Eduard Sievers neubearbeitet). 2nd ed. Halle (Saale), 1951; § 2.67.
- <sup>16</sup> *Campbell A.* Old English grammar. Oxford, 1959. § 50.
- <sup>17</sup> *Brunner K.* Op. cit. § 217. Anm. 2.
- <sup>18</sup> *Fisiak J.* A short grammar of Middle English. Pb. I: Graphemics, phonemics and morphemics. Warszawa, 1968. § 2.63.
- <sup>19</sup> *Welna J.* A diachronic grammar of English. Pb. I: Phonology. Warszawa, 1978. § 2.46. 3.149.
- <sup>20</sup> *Steponavičius A.* English historical phonology. § 48–54.
- <sup>21</sup> *Brunner K.* Op. cit. § 217. Anm. 2.
- <sup>22</sup> *Steponavičius A.* English historical phonology. § 111, 147–150; *Id.* On the phonetic and phonological interpretation. P. 496.
- <sup>23</sup> *Steponavičius A.* English historical phonology. § 143, 141.
- <sup>24</sup> *Luick K.* Historische Grammatik der englischen Sprache. Vol. I. P. I. Cambridge, Massachusetts, 1964. § 358; *Bülbring K.* Op. cit. § 111.
- <sup>25</sup> *Steponavičius A.* English historical phonology. § 109, 180; *Hogg R. M.* A grammar of Old English. § 2.16–18, 5.170 ff, 5.194–5.
- <sup>26</sup> See especially: *Krupatkin Y. B.* Op. cit.; see also: *Steponavičius A.* English historical phonology. § 133–134, 149; *Id.* On the phonetic and phonological interpretation of the reflexes of the Old English diphthongs in the *Ayenbite of Inwytt* / Ed. I. Taavitsainen, T. Nevalainen, P. Pahta, M. Rissanen. 2000. P. 496; *Hogg R. M.* A grammar of Old English. § 3.13–14, 3.22–23, 5.3–6.
- <sup>27</sup> *Lass R.* Op. cit. P. 44.
- <sup>28</sup> *Fisiak J.* Op. cit. § 2.31; *Welna J.* Op. cit. § 3.64–65.
- <sup>29</sup> *Lass R.* Op. cit. P. 45.
- <sup>30</sup> *Lass R.* English phonology and phonological theory. Cambridge, 1976. P. 122–123, 129; *Steponavičius A.* Middle (and Old) English prerequisites for the Great Vowel Shift / Ed. J. Fisiak. 1997. P. 564, 565.
- <sup>31</sup> For details see: *Ibid.*
- <sup>32</sup> *Kviatkovskij V. A.* Fonologičeskie problemy velikogo sdviga glasnyx v anglijskom jazyke [Phonological problems of the Great Vowel Shift in English] // *Issledovanija po fonologii* [Phonological studies]. M., 1966. P. 385–393; *Ivanova I. P., Čaxojan L. P.* Istorija anglijskogo jazyka [A history of the English language]. M., 1976. § 67–68; *Stockwell R. P.* Perseverance in the English vowel shift / Ed. J. Fisiak. 1978. P. 337–348; *Stockwell R. P., Minkova D.* The English vowel shift: problems of coherence and explanation / Ed. D. Kastovsky, G. Bauer. 1988. P. 355–394.
- <sup>33</sup> *Hogg R. M.* Phonology and morphology. § 48–54.

- <sup>34</sup> *Berndt R.* Einführung in das Studium des Mittelenglischen. Halle (Saale), 1960. S. 50–57; *Fisiak J.* Op. cit. § 2.46; *Welna J.* Op. cit. § 3.92–95.
- <sup>35</sup> *Berndt R.* Op. cit. P. 57–64; *Fisiak J.* Op. cit. § 2.47–49; *Welna J.* Op. cit. § 3.96–3.114.
- <sup>36</sup> *Luick K.* Op. cit. § 257–258, 372–373, 378, 399, 404.
- <sup>37</sup> *Welna J.* Historische Grammatik and Middle English diphthongal system / Ed. D. Kastovsky, G. Bauer. 1988. P. 421–424.
- <sup>38</sup> *Steponavičius A.* Middle (and Old) English prerequisites for the Great Vowel Shift. P. 569.