HIERARCHAL RELATIONS WITHIN THE SYSTEM OF DISTINCTIVE FEATURES

(with special reference to English and Lithuanian)

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The development of phonology took a definitely structural turn when linguists realized the importance of the now well-known Saussurean dictum: „Les phonèmes sont avant tout les entités oppositives, relatives et négatives" [Saussure, 1922, p.164; Соссюр, 1977, p. 151]. This amounts to saying that phonemes are characterized not simply by their proper qualities, but by their oppositions to one another. Phonemes are opposed to each other by one or more sound features, which may be expressed in articulatory or acoustic terms. Therefore in 1932 Roman Jakobson suggested the definition of the phoneme as a cluster, or bundle, of distinctive features (in de Saussure's terms, „éléments différentiels" 'distinctive elements') [see Jakobson, 1962, p. 231; 1971, p. 105]. Nowadays this Jakobsonian definition of the phoneme has been almost universally accepted. Following the tradition of functional linguistics, a more exhaustive definition of the phoneme could read as follows: the phoneme is the basic unit of the sound system, paradigmatically defined as a cluster of distinctive features (DFs), syntagmatically, as a minimal linear segment, regularly in contrastive distribution with the other analogous segments, and characterized by constitutive and distinctive functions. Considering the paradigmatic aspect of the definition as its most essential part, we should attach especial importance to the theories of DFs and oppositi ons. The current theories of DFs and oppositions vary from linguistic school to linguistic school and even from phonologist to phonologist. Therefore in the existing distinctive feature theories it is essential to assess properly both solutions which are indisputably tenable and those which are open to doubt. One may well begin with a critical appreciation of the fundamental works of N. S. Trubetzkoy, on the one hand, and Roman Jakobson and his co-workers, on the other, which have established two main approaches to the problem of DFs and oppositions. The importance of Trubetzkoy's works in the domain of sound features lies in elaborating a comprehensive taxonomy of DFs and his attempts at systematizing phonological oppositions, based upon such features [see Трубецкой, 1960, pp. 73–206]. Jakobson has greatly influenced and even determined the linguistic thinking of phonologists by demonstrating the possibility of presenting all types of oppositions and features as binary. The principle of binarism as the inherent principle of lin-

guistic relationships was put forward by Jakobson in 1938 [see Jakobson, 1962, pp. 272–279, the article „Observations sur le classement phonologique consonnes"]. Later on, the principles of what may be called dichotomic phonology were developed not only by Jakobson, but also by his numerous co-workers and followers, first of all by Gunnar Fant and Morris Halle. They have drawn a comparatively compact inventory of DFs by way of generalizing several acoustic or articulatory features of a similar nature when these features cannot be found to function simultaneously in the same language, so as to make them represent a single phonological feature [Якобсон, Фант и Халле, 1962; Jakobson, Fant and Halle, 1963; Jakobson and Halle, 1957; Якобсон и Халле, 1962; Halle, 1957; Halle, 1964]. This inventory has been declared to be exhaustive and finite, i. e. listing all the contrasts that can be found in languages[1].

It must be conceded that even purely hypothetically the binary structure of DFs seems most plausible; distinctive features as elementary units of the phonological structure must be characterized by most elementary relationships, and binary oppositions are the most elementary of all possible relationships. The practice of phonological analysis, moreover, has fully confirmed this, as the most exact definitions of phonemes, their most consistent classifications and hierarchical order seem to be those which are expressed in terms of binary features. Besides, Trubetzkoy's system of DFs and oppositions may by freely integrated into binary systems, though, naturally, with some modifications of the former. It may be pointed out as a reminder that in „Grundzüge der Phonologie" Trubetzkoy put forward three criteria for classifying phonological oppositions, (1) their relationship to the other oppositions of the same system, (2) the relationship between members of the same opposition, (3) the extent of their distinctive force in different positions, respectively distinguishing (1) bilateral and multilateral, proportional and isolated oppositions, (2) privative, gradual, and equipollent oppositions, (3) constant and neutralizable oppositions. Trubetzkoy's distinction between multilateral and bilateral opposition preserves its significance in that it reflects the degree of closeness of relationships of phonemes, viz., the most close relationships in the case of bilateral oppositions and more loose relationships in the case of multilateral oppositions. Secondly, in terms of proportional and isolated oppositions we can express the degree of paradigmatic integration of phonemes. Reinterpretation, however, is indispensable in the case of Trubetzkoy's gradual, privative, and equipollent oppositions. As has been demonstrated by Jakobson, Halle, Fant, Chomsky and others, the distinctions of vowels of different tongue-height may be expressed in binary features (the fact that the offered solutions

[1] Sometimes, however, they admit that this inventory cannot be considered once and for all established; cf. Fant, 1973, p. 171.

may be somehow different is not so essential here) [cf. Jakobson, 1962, pp. 484–485; Chomsky and Halle, 1968, pp. 304–306; Wang, 1968, p. 701]. The notion of graduality, just like those of privativeness and equipollence, is useful, though, when we want to indicate the physical implementation of sound features. From the point of view of their physical nature, binary sound features may be termed privative when they are based upon the presence and absence of the same sound property, gradual when they present different gradations of the same property, and equipollent when they are represented by two physically different and logically equivalent properties. For the sake of consistency of phonological analysis 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 (though in matrices it is most natural to specify the positively expressed features with the sign plus, and the negatively expressed features, with the sign minus, e. g., /+round/, /−round/). Binary sound features are by definition contradictory, i. e., they cannot cluster with each other into phonemes and their phonetic realizations [cf. Плоткин, 1970, p. 23]. The sound feature theory must provide a means for describing both phonemes (when sound features serve as DFs) and their phonetic realizations (when sound features serve as non-distinctive features).

Another matter of importance is the choice between articulatory and acoustic features. Trubetzkoy worked mainly in terms of articulatory features. Though he seems to have been under the impression that acoustic terminology as compared with articulatory is less ambiguous, he did not think that it mattered much for phonological analysis which one is made use of and gave preference to articulatory terminology because of its traditionally familiar character [cf. Трубецкой, 1960, pp. 101–102]. Later on, Jakobson, Halle and Fant worked out a detailed system of acoustic features, correlating them with articulatory features. Their works introduced a kind of fashion for acoustic features, much less followed in countries with strong traditions of functional linguistics, such as the Soviet Union or Czechoslovakia. In the last decade, as evidenced already by Chomsky and Halle [1968], the shift has been towards articulatory terms again. The articulatory terms, much more transparent and unequivocal than their acoustic counterparts, have proved to be more operative both in synchronic and diachronic analysis (especially in the latter). Of course, nobody can deny the importance of acoustic correlates of sound features as subsidiary means of phonological description.

The further progress of phonology lies much in defining more precisely the universal inventory of DFs, in establishing hierarchies of DFs and phonological oppositions, and in testing the validity of the general principles of phonological analysis on the material of particular languages. In this article an attempt has been made to define more precisely hierarchal relations within the system of DFs, both from the

point of view of language universals, and the phonemic systems of particular languages, especially English and Lithuanian[2].

Distinctive features 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. It is the criterion of universality which in the main determines the paradigmatic arrangement of phonemes in overall patterns. 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 the anthropophonic nature of their DFs [cf. Плоткин, 1970, p. 24]. Classes of phonemes may also be separated into subclasses by more than one pair of DFs at a time; in such cases the same phonemes may belong simultaneously to different subclasses, characterized by crossing relationships (cf. the oppositions of vowels of more than two degrees of aperture, or the interpretation of stops, fricatives and affricates below). When describing particular languages, for the sake of economy of linguistic description, separate pairs of universal distinctive features may be reduced to a single pair of features.

The main distinction of universal (or, to be more exact, near-universal) character is that between consonants and vowels, with both liquids and glides classified as consonants[3]. This universally primary distinction is expressed by means of two pairs of features, *consonantal* vs. *nonconsonantal*, and *vocalic* vs. *nonvocalic*, in view of the possible presence in some languages of items to be specified as / −con, −voc / (cf. the interpretation of the IE i/i, u/u), or as / +con, +voc / (cf. the "group-phoneme" of V. K. Žuravl'ov [Журавлев, 1966]). Practically, however, in the case of the majority of languages these two pairs of universal features are reducible to a single pair, *consonantal* vs. *vocalic (nonconsonantal)*.

[2] We have supplied the article with the overall patterns and matrices of the Modern English and Lithuanian phonemes (tables 1–8). In so far as we are interested here mainly in demonstrating the relevance of the suggested principles of hierarchal arrangement of phonemes, we shall not detail all the controversial problems of the phonological analysis of the two languages. The propounded analysis of the Lithuanian phonemes is closest to that by Schmalstieg [1958; 1972] and Kazlauskas [1966] in that diphthongs are analysed as biphonemic; besides, [e] and [ɛ] are interpreted as allophones of the same phoneme (/e/).

[3] As early as 1912 L. V. Ščerba suggested the possibility of phonological systems with no contrast between consonants and vowels. The idea was further developed by D. V. Bubrix, and was successfully made use of in the analysis of concrete languages by E. D. Polivanov, the A. and E. Dragunovs, N. F. Jakovlev, M. V. Gordina, A. H. Kuipers, S. D. Kacnel'son, R. I. Avanesov, V. K. Žuravl'ov. A very concise and exhaustive survey of works on the problem may be found in Žuravl'ov [Журавлев, 1966].

With regard to consonantal modal features, primary importance should be attached to the features *obstruent* vs. *nonobstruent*, and *sonant* vs. *nonsonant*. In the majority of languages these two pairs of features may be reduced to the single pair *obstruent* vs. *sonant (nonobstruent)*. The additional features / −obstr / and / −son / are indispensable, however, in the case of the presence of such phonemes as the Czech / ř /, or the Chippewyan / tɬ dl tl' /, which are to be specified as / +son, +obstr /, in contradistinction to / +son, −obstr / (e. g. / r /), and / +obstr, −son / (e. g. / š /).

The next pairs of modal features which must be classified among the primary and universal ones are *stop* vs. *nonstop*, and *fricative* vs. *nonfricative*, with stops proper specified as /+stop, −fric /, fricatives proper specified as /+fric, −stop /, and affricates specified as / +stop, +fric /. When affricates are lacking, it suffices to have a single pair of the features in question (*stop* vs. *fricative*, or *stop* vs. *nonstop*, or *fricative* vs. *nonfricative*).

The consonantal distinction *nasal* vs. *nonnasal*, though language universal, is secondary from the point of view of particular languages in that it is relevant only in the subsystem of sonants.

All the other modal features of consonants are language specific in that their presence or absence, primary or secondary status depends upon the concrete type of the language under analysis.

In determining the degree of the universality of the consonantal features according to the place of articulation, a sharp distinction should be made between the so-called active and passive organs of speech. According to the participation of the active organs of speech the following three natural classes of phonemes may be distinguished: labial, apical, and dorsal. The contrasts between these classes are specified by means of the following universal (or near-universal) DFs: *apical* vs. *nonapical*, *labial* vs. *nonlabial*, and *dorsal* vs. *nondorsal*. The actual utilization of these features and especially their hierarchical ordering, however, may be rather language specific. From the point of view of language universals the distinction *apical* vs. *nonapical* is of a higher hierarchical ordering than the other two oppositions[4], i. e. consonants must be contrasted first of all as apicals and nonapicals, unless there are reasons to do otherwise. Thus, in Proto-Germanic the local series /d z t θ s n l r̥/ contrasts with the rest of the consonants as *apical* vs. *nonapical*. Considering the presence of rounded dorsals in Proto-Germanic, the nonapicals may be further contrasted here as *labial* vs. *nonlabial (dorsal)* (/ b p f m / vs. / g gʷ k kʷ x xʷ j w /), and as *rounded* vs. *nonrounded* (/ gʷ kʷ xʷ w / vs. / g k x j /). In Old English, on the other hand, consonants contrast according to the point of articulation first of all as *labial* vs. *nonlabial* (the labial series is represented *by* / p pp b bb f ff m mm w /). The nonlabials

[4] Proved, among other things, by the presence of apicals in all the known languages [see Трубецкой, 1960, p. 142].

of Old English may be further subdivided according to the features *apical* vs. *nonapical (dorsal)*. The apical series is represented by / t tt d dd č dž θ θθ s ss š l ll r rr / , and the nonapical, by / k kk g gg x xx j / . The Old English nonlabial phoneme / n / is special in that it has both the apical and the nonapical (dorsal) allophones [n] – [ŋ], which prove the irrelevance of the features / ± apical / for its phonemic specification. This very fact also suggests that the contrast *labial* vs. *nonlabial* with respect to Old English is of a higher rank than the contrast *apical* vs. *nonapical*. Besides, in view of the absence of the rounded dorsal series, the Old English phoneme / w / could be integrated into the system only as a labial consonant. Lithuanian, with its allophones [n] – [ŋ] of the phoneme / n / , is much like Old English: here consonants contrast first of all as *labial* vs. *nonlabial* (the labials constitute the series / b' b p' p v' v f' f m' m /), the nonlabials further contrasting as *apical* vs. *nonapical (dorsal)* (see tables 5–6). Modern English, which has phonemicized the allophones [n] – [ŋ] into the opposition / n / – / ŋ /, may be described as contrasting its consonants according to the place of articulation first of all as *apical* vs. *nonapical*, the nonapicals further contrasted as *labial* vs. *nonlabial* (dorsal) (/ b p v f w m / vs. / g k h j ŋ / (see tables 1–2).

Further local specifications of consonants according to points in the stationary part of the vocal tract, viz., teeth, alveole, palate, velum, uvula and pharynx, are highly language specific. The most common and important of such distinctions is *palatal* vs. *nonpalatal (velar)*. For Lithuanian, just like for many other languages, this is a contrast of primary importance; all the Lithuanian consonants, with the exception of / j /, correlate as palatal and velar.

In some cases the exact points of the above-mentioned articulations are phonologically essential. Thus, in Old English in the series of fricative nonstop obstruents there were three kinds of apicals whose contrasts may be expressed in the most natural way as *dental* vs. *postdental* (*nondental)* (/ θ θθ / vs. / s ss š /), with the postdentals further contrasting as *alveolar* vs. *postalveolar (nonalveolar)* (/ s ss / vs. / š /). The contrast of the Old English / l ll / with / r rr / may also be expressed by means of the features *alveolar* vs. *postalveolar*. The same two pairs of DFs, *dental* vs. *postdental*, and *alveolar* vs. *postalveolar*, preserve their relevance for the corresponding consonants of Modern English (the dental / θ ð / vs. the postdental / s z š ž / ; the alveolar / s z / and / l / vs. the postalveolar / š ž / and / r /, respectively).

In many other cases different, though adjacent, points in the stationary part of the vocal tract participate in the production of the same local series. In such cases phonological contrasts may be said to rest simply on the difference between more advanced and more retracted articulations. For example, in Proto-Germanic there were two apicals in the series of voiced obstruents and two apicals in the series of voiceless fricative obstruents, which from the purely articulatory point of view must have differed as dental (/ d θ /) and postdental (/ z s /). Besides, there were two api-

Table 1

English consonantal phonemes and their DFs

Phonemes	Distinctive features										Phonemes	Distinctive features									
	Modal						Local					Modal						Local			
	Consonant	Obstruent	Stop	Fricative	Tense	Nasal	Apical	Labial	Dental	Alveolar		Consonant	Obstruent	Stop	Fricative	Tense	Nasal	Apical	Labial	Dental	Alveolar
p	+	+	+	−	+	o	−	+	o	o	ð	+	+	−	+	−	o	+	o	+	o
b	+	+	+	−	−	o	−	+	o	o	s	+	+	−	+	+	o	+	o	−	+
k	+	+	+	−	+	o	−	−	o	o	z	+	+	−	+	−	o	+	o	−	+
g	+	+	+	−	−	o	−	−	o	o	š	+	+	−	+	+	o	+	o	−	−
t	+	+	+	−	+	o	+	o	o	o	ž	+	+	−	+	−	o	+	o	−	−
d	+	+	+	−	−	o	+	o	o	o	m	+	−	o	o	o	+	−	+	o	o
č	+	+	+	+	+	o	+	o	o	o	ŋ	+	−	o	o	o	+	−	−	o	o
dž	+	+	+	+	−	o	+	o	o	o	n	+	−	o	o	o	+	+	o	o	o
f	+	+	−	+	+	o	−	+	o	o	w	+	−	o	o	o	−	−	+	o	o
v	+	+	−	+	−	o	−	+	o	o	j	+	−	o	o	o	−	−	−	o	o
h	+	+	−	+	+	o	−	−	o	o	l	+	−	o	o	o	−	+	o	o	+
θ	+	+	−	+	+	o	+	o	+	o	r	+	−	o	o	o	−	+	o	o	−

Table 2

The overall pattern of the English consonantal phonemes

p		t		k
b		d		g
			č	
			dž	
f	θ	s	š	h
v	ð	z	ž	
m		n		ŋ
w		l		j

cals in the series of nonnasal sonants, the alveolar / l / and the postalveolar / r /. For the sake of economy of description, these two pairs of features may be reduced to a single pair and termed *front* vs. *back* (/ d θ l / vs. / z s r /). The same analysis and terminology may be applied to the two series of Lithuanian apicals (the front / dz' dz c' c z' z s' s l' l / vs. the back / dž' dž č' č ž' ž š' š r' r /).

Additional specifications of local series of consonants are provided by lip-rounding and, correspondingly, the features *rounded* vs. *nonrounded* [on details see Chomsky and Halle, 1968, pp. 309–311], essential for the description of Indo-European and Proto-Germanic dorsals (IE / k^w g^w g^{wh} w / vs. / k g g^h j / ; PrGmc / k^w x^w g^w w / vs. / k x g j /).

Vocalic features of aperture are universal in that all the known languages have at least two vowel heights, the most regular type being three heights. English and Lithuanian also belong to the language type with three vowel heights. At least in the majority of cases the choice of the binary features of aperture depends exclusively upon the number of vowel heights. Contrasts of two vowel heights are specified as *high* vs. *low (nonhigh)*. Vowels of three degrees of aperture, such as / i u / vs. / e o / vs. / a /, are contrasted by means of two pairs of features, *high* vs. *nonhigh* (/ i u / vs. / e o a /), and *low* vs. *nonlow* (/ a / vs. / e o i u /). These features enable us to describe / i u / as /+high, −low /, / a /, as /+low, −high /, and / e o /, as /−high, −low /. Vowels of four degrees of aperture, such as / i u / vs. / e o/ vs. /ɛ ɔ / vs. /æ a /, can also be contrasted only by two pairs of features, *high* vs. *low (nonhigh)* (/ i u e o / vs. / ɛ ɔ æ a/), and *mid* vs. *nonmid* (/ e o ɛ ɔ / vs. / i u æ a /). These features enable us to describe / i u / in such cases as / +high, −mid /, / e o /, as / +high, +mid /, / ɛ ɔ /, as /−high, +mid /, and / æ a/, as /−high, −mid /. Short vowels of four degrees of aperture may be posited for Old West Mercian, a dialect of Old English [see Steponavičius, 1971, p. 26].

Primary importance should be attached to the vocalic features *front* vs. *nonfront*, *back* vs. *nonback*, and *rounded* vs. *nonrounded*. The utilization of these vocalic features is rather language specific, and on their basis separate typologies may be established, depending on whether tongue-retraction, or lip-rounding, or both are distinctive. The first two pairs of features may most often be reduced to a single pair, *front (nonback)* vs. *back (nonfront)* (potentially both frontness and backness may be marked). The discrimination of the pairs *front* vs. *nonfront*, and *back* vs. *nonback* in the universal inventory of DFs is essential, however, in view of the presence of monophonemic diphthongs, combining both front and back articulations. The description of phonological systems with central vowels, especially centering diphthongs, moreover, may be much simpler when utilizing the features *central* vs. *noncentral*, though it is also possible to specify central vowels as /−front, −back/. All this also suggests that the distinction *gliding (diphthong)* vs. *nongliding (monophthong)* goes to the making of the universal inventory of distinctive features. It is

Table 3

English vowel phonemes and their DFs

Phonemes	Distinctive features							Phonemes	Distinctive features						
	Consonant	Checked	High	Low	Back	Front	Central		Consonant	Checked	High	Low	Back	Front	Central
i	−	+	+	−	−	+	−	eə	−	−	−	−	−	+	+
e	−	+	−	−	−	+	−	ɛə	−	−	−	+	−	+	+
æ	−	+	−	+	−	+	−	uu	−	−	+	−	+	−	−
u	−	+	+	−	+	−	−	ou	−	−	−	−	+	−	−
o	−	+	−	−	+	−	−	au	−	−	−	+	+	−	−
ʌ	−	+	−	+	+	−	−	uə	−	−	+	−	+	−	+
ə	−	+	o	o	−	−	+	oə	−	−	−	−	+	−	+
ii	−	−	+	−	−	+	−	aə	−	−	−	+	+	−	+
ei	−	−	−	−	−	+	−	oi	−	−	−	−	+	+	−
iə	−	−	+	−	−	+	+	ai	−	−	−	+	+	+	−

Table 4

The overall pattern of the English vowel phonemes

i	u	iə	uu	uə
e	o	eə[ə:]	ou	oə[ɔ:,ɔə]
æ	ʌ	ɛə	au	aə[a:,aə]

important to realize that not only diphthongs, but also monophtongs may be marked in the correlation *monophthong* vs. *diphthong*. Thus, the Modern English checked vowels, phonematically marked[5], in view of the diphthongal character of all the free vowels, may alternatively be termed the marked monophthongs (see tables 3 – 4).

[5] The analysis of the Modern English vowels in terms of the correlation of contact (*checked* vs. *free*; Russ. *усеченный – неусеченный*) prevails among Soviet linguists. It goes back to Trubetzkoy [Трубецкой, 1960, p. 218], who approached the Modern English vowels in terms of the prosodic features of „fester" and „loser Anschluß". Though the majority of Soviet linguists, following Trubetzkoy, argue for the prosodic interpretation of the correlation, Plotkin [Плоткин, 1976, pp. 67 ff.] analyses the relevant features as inherently phonematic, not prosodic (he calls them the features of abruptness). We accept Plotkin's interpretation, differing, however, from him on the further paradigmatic division of nonchecked ("abrupt") vowels [cf. Плоткин, 1976, p. 97 and the overall pattern of the Modern English vowels in this article, table 4].

Lithuanian consonantal phonemes and their DFs

Phonemes	Distinctive features									
	Modal						Local			
	Consonant	Obstruent	Stop	Fricative	Voiced	Nasal	Labial	Apical	Front	Palatal
b'	+	+	+	−	+	o	+	o	o	+
b	+	+	+	−	+	o	+	o	o	−
p'	+	+	+	−	−	o	+	o	o	+
p	+	+	+	−	−	o	+	o	o	−
d'	+	+	+	−	+	o	o	+	o	+
d	+	+	+	−	+	o	o	+	o	−
t'	+	+	+	−	−	o	o	+	o	+
t	+	+	+	−	−	o	o	+	o	−
g'	+	+	+	−	+	o	−	−	o	+
g	+	+	+	−	+	o	−	−	o	−
k'	+	+	+	−	−	o	−	−	o	+
k	+	+	+	−	−	o	−	−	o	−
dz'	+	+	+	+	+	o	−	+	+	+
dz	+	+	+	+	+	o	−	+	+	−
c'	+	+	+	+	−	o	−	+	+	+
c	+	+	+	+	−	o	−	+	+	−
dž'	+	+	+	+	+	o	−	+	−	+
dž	+	+	+	+	+	o	−	+	−	−
č'	+	+	+	+	−	o	−	+	−	+
č	+	+	+	+	−	o	−	+	−	−
v'	+	+	−	+	+	o	+	o	o	+
v	+	+	−	+	+	o	+	o	o	−

Phonemes	Distinctive features									
	Modal						Local			
	Consonant	Obstruent	Stop	Fricative	Voiced	Nasal	Labial	Apical	Front	Palatal
f'	+	+	−	+	−	o	+	o	o	+
f	+	+	−	+	−	o	+	o	o	−
z'	+	+	−	+	+	o	−	+	+	+
z	+	+	−	+	+	o	−	+	+	−
s'	+	+	−	+	−	o	−	+	+	+
s	+	+	−	+	−	o	−	+	+	−
ž'	+	+	−	+	+	o	−	+	−	+
ž	+	+	−	+	+	o	−	+	−	−
š'	+	+	−	+	−	o	−	+	−	+
š	+	+	−	+	−	o	−	+	−	−
h'	+	+	−	+	+	o	−	−	o	+
h	+	+	−	+	+	o	−	−	o	−
x'	+	+	−	+	−	o	−	−	o	+
x	+	+	−	+	−	o	−	−	o	−
m'	+	−	o	o	o	+	+	o	o	+
m	+	−	o	o	o	+	+	o	o	−
n'	+	−	o	o	o	+	−	+	o	+
n	+	−	o	o	o	+	−	+	o	−
l'	+	−	o	o	o	−	−	+	+	+
l	+	−	o	o	o	−	−	+	+	−
r'	+	−	o	o	o	−	−	+	−	+
r	+	−	o	o	o	−	−	+	−	−
j	+	−	o	o	o	−	−	−	o	+

Table 6

The overall pattern of the Lithuanian consonantal phonemes

b' b	d' d		g' g
p' p	t' t		k' k
	dz' dz	dž' dž	
	c' c	č' č	
v' v	z' z	ž' ž	h' h
f' f	s' s	š' š	x' x
m' m	n' n		
	l' l		j

Table 7

Lithuanian vowel phonemes and their DFs

Phonemes	Distinctive features				
	Consonant	Tense (Long)	High	Low	Front
i	–	–	+	–	+
e	–	–	–	o	+
u	–	–	+	–	–
o	–	–	–	–	–
a	–	–	–	+	–
i:	–	+	+	–	+
e:	–	+	–	–	+
ɛ:	–	+	–	+	+
u:	–	+	+	–	–
o:	–	+	–	–	–
a:	–	+	–	+	–

Table 8

The overall pattern of the Lithuanian vowel phonemes

i:	
e:⟨ė⟩	
ɛ:	

In addition to *falling* and *rising* types of diphthongs, distinguished on the basis of prosodic criteria (a diphthong is termed falling when its stronger element precedes the weaker one, and rising when the stronger element follows the weaker one), the main phonematic structural types of diphthongs are (1) *monoserial* diphthongs (when the elements of a diphthong are realized in the same series) and *diserial* diphthongs (when the elements are realized in different series), and (2) *level* diphthongs, on the one hand, and *closing* and *opening* diphthongs, on the other (in level diphthongs the degree of aperture for both elements is the same, in closing diphthongs the second element is higher than the first, and in opening diphthongs, on the contrary, the second element is lower). No additional features are necessary for the mutual contrasts of such diphthongs: just like monophthongs, diphthongs may be specified by means of the features /±front/, /±back/, /±central/, /±round/, and the features of aperture (cf. the description of the English nonchecked vowels in table 3).

ИЕРАРХИЯ ДИСТИНКТИВНЫХ ПРИЗНАКОВ

А. СТЕПОНАВИЧЮС

Резюме

В этой работе рассматривается иерархия дистинктивных признаков (ДП) и фонологических оппозиций как с точки зрения языковых универсалий, так и с точки зрения фонологических структур отдельных языков, в особенности английского и литовского. Иерархия противопоставлений должна устанавливаться таким образом, чтобы противопоставления высшего порядка включали противопоставления низшего порядка. Из этого следует, что подклассы разных классов фонем, даже при тождественности антропофонической природы их признаков, структурно не являются тождественными и должны устанавливаться самостоятельно. Основное противопоставление – это противопоставление гласных и согласных, при классификации плавных и глайдов как согласных. Данное универсально примарное противопоставление выражается с помощью двух пар признаков, „консонантный – неконсонантный" и „вокалический – невокалический". Практически, однако, в большинстве языков эти две пары признаков можно свести к одной, „консонантный – вокалический". Из консонантных модальных признаков первостепенное значение должно придаваться признакам „шумный – нешумный" и „сонант – несонант". Следующая пара модальных признаков, которые должны рассматриваться в числе универсальных и первичных, это – „смычный – несмычный" и „фрикативный – нефрикативный". Консонантные признаки „назальный – неназальный", хотя и представляют собой языковую универсалию, являются вторичными с точки зрения отдельных языков. При определении степени универсальности консонантных признаков по месту артикуляции необходимо четко разграничивать так называемые „активные" и „пассивные" органы речи. По участию активных органов речи могут быть выделены три основных локальных класса консонантных фонем: лабиальные, апикальные и дорсальные. Противопоставления данных классов выразимы посредством следующих универсальных (или близких к таковым) ДП: „апикальный – неапикальный", „лабиальный – нелабиальный" и „дорсальный – недорсальный". Конкретное же использование этих ДП скорее образует специфику того или иного языка. Еще более специфичными будут локальные признаки согласных по участию пассивных органов речи, таких как зубы, альвеолы, твердое нёбо, мягкое нёбо, язычок, гортань. Вокалические признаки раскрытия универсальны в том отношении, что во всех известных языках имеются гласные по крайней мере двух ступеней подъема. Противопоставления по ДП гласных „передний – непередний", „задний – незадний", „центральный – нецентральный" и „огубленный – неогубленный" являются специфическими для данного языка.

REFERENCES

Журавлев, 1966 – Журавлев В. К. Группофонема как основная фонологическая единица праславянского языка. – В кн.: Исследования по фонологии. М., 1966, с. 79–96.

Плоткин, 1970 – Плоткин В. Я. Система звуковых дистинкторов в современном английском языке. – В кн.: Вопросы германской и романской филологии. Новосибирск, 1970, с. 21–33.

Плоткин, 1976 – Плоткин В. Я. Очерк диахронической фонологии английского языка. – М., 1976.

Соссюр, 1977 – Соссюр Ф., де. Труды по языкознанию. – М., 1977.

Трубецкой, 1960 – Трубецкой Н. С. Основы фонологии. – М., 1960.
Якобсон, Фант и Халле, 1962 – Якобсон Р., Фант Г. М. и Халле М. Введение в анализ речи. – Новое в лингвистике. М., 1962, вып. 2, с. 173–230.
Якобсон и Халле, 1962 – Якобсон Р. и Халле М. Фонология и ее отношение к фонетике. – Новое в лингвистике, 1962, вып. 2, с. 231–278.
Chomsky and Halle, 1968 – Chomsky N. and Halle M. The Sound Pattern of English. – New York, 1968.
Fant, 1973 – Fant G. Speech Sounds and Features. – Cambridge (Mass.)–London, 1973.
Halle, 1957 – Halle M. In Defence of the Number Two. – In: Studies Presented to Joshua Whatmough/Ed. by E. Pulgram. The Hague, 1957.
Halle, 1964 – Halle M. On the Bases of Phonology. – In: Fodor J. A. and Katz J. J. The Structure of Language. Readings in the Philosophy of Language. Englewood Cliffs–New York, 1964.
Jakobson, 1962 – Jakobson R. Selected Writings. – The Hague, 1962, part 1.
Jakobson, 1971 – Jakobson R. Selected Writings. – The Hague, 1971, part 2.
Jakobson, Fant and Halle, 1963 – Jakobson R., Fant G. and Halle M. Preliminaries to Speech Analysis. – Cambridge (Mass.): Massachusetts Institute of Technology Press, 1963.
Jakobson and Halle, 1957 – Jakobson R. and Halle M. Phonology in Relation to Phonetics. – In: Manual of Phonetics / Ed. by L. Kaiser. Amsterdam, 1957, p. 215–251.
Kazlauskas, 1966 – Kazlauskas J. Lietuvių literatūrinės kalbos fonemų diferencinių elementų sistema. – Kalbotyra, 1966, Nr. 14, p. 73–81.
Saussure, 1922 – Saussure F., de. Cours de linguistique générale. – Paris, 1922.
Schmalstieg, 1958 – Schmalstieg W. R. A Descriptive Study of the Lithuanian Verbal System. – General Linguistics, 1958, Sup. 3(3).
Schmalstieg, 1972 – Schmalstieg W. R. Baltų ir slavų kalbų vokalizmo sistemų raidos chronologija. – Baltistica, 1972, 1 priedas.
Steponavičius, 1971 – Steponavičius A. The English Vowel System in the Period of the Oldest Written Records (VIII–X cc.). – Kalbotyra, 1971, Nr. 22(3).
Wang, 1968 – Wang W. S.-Y. Vowel Features, Paired Variables and the English Vowel Shift. – Language, 1968, vol. 44.

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