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ABSTRACT

The two papers in this booklet comprise part of the research in the Hungarian-English Contrastive Linguistics Project, which is concerned with investigating the differences and similarities between the two languages with implications for second language acquisition. The first paper compares the obstruent clusters in English and Hungarian, especially from a morphophonemic point of view; the second paper compares the glides or semivowels in English and Hungarian. (VM)

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THE HUNGARIAN-ENGLISH
CONTRASTIVE LINGUISTICS PROJECT

WORKING PAPERS

1

JOHN LOTZ

Two Papers on English-Hungarian Contrastive Phonology

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LINGUISTICS INSTITUTE OF THE HUNGARIAN ACADEMY OF SCIENCES
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THE HUNGARIAN-ENGLISH CONTRASTIVE LINGUISTICS PROJECT

Working Papers

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The Hungarian-English Contrastive Linguistics Project is jointly administered by the Linguistics Institute of the Hungarian Academy of Sciences and the Center for Applied Linguistics of Washington, D. C. The Project is jointly supported by the Ford Foundation and the Hungarian Academy of Sciences.

The major research objective of the Project is the systematic large-scale investigation of differences and similarities between the Hungarian and English languages with implications for the acquisition of English by Hungarians and the acquisition of Hungarian by speakers of English.

The Project publication, *Working Papers,* makes available research results, theoretical studies, progress reports, sample pedagogical materials and other materials relevant to Project objectives.

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CONTRASTIVE STUDY OF THE MORPHOPHONEMICS OF OBSTRUENT CLUSTERS IN ENGLISH AND HUNGARIAN

The purpose of this paper is to compare the obstruent clusters in English and Hungarian, especially from the point of view of their morphophonemic genesis.

1. INVENTORY OF OBSTRUENTS

Both English and Hungarian have a fairly large set of obstruents (stops, fricatives, and affricates) characterized by a binary opposition in both languages: in English by the opposition between *fortis-unvoiced* and *lenis-voiced,* and by a corresponding opposition between *voiced* and *unvoiced* in *Hungarian*[1]. The two sets are:

English:	fortis (unvoiced)	*p*	*t*	*k;*	—	*f*	*s*	*š,*	—	*č*
	lenis (voiced)	*b*	*d*	*g;*	—	*v*	*z*	*ž;*	—	*ǯ*
Hungarian:	unvoiced	*p*	*t*	*k;*	*ť;*	*f*	*s*	*š;*	*c*	*č*
	voiced	*b*	*d*	*g;*	*ď;*	*v*	*z*	*ž;*	*ʒ,*	*ǯ*

In addition to these phonemes which are characterized by glottal distinctiveness, there are additional phonemes with obstruent allophones where glottal action plays a role. Such sounds are more frequent in Hungarian. They include /h/ and /j/. (/w/ is semivocalic in both languages). The /h/ phoneme in English has a murmured quality between voiced sounds (this cannot be regarded as full voice), otherwise the glottis is stationary-voiceless. The same holds in Hungarian for the /h/, but the Hungarian phoneme has, in addition to the more common laryngal variant, an oral frictional allophone occurring before consonants and in word final position. In general, this allophone is unvoiced; however, in suffixation, a voiced fricative occurs, e.g. [sɔɣbɔn] 'in the *shah*'. The oral variants are infrequent.

The Hungarian /j/ phoneme is most often semivocalic as in English, but as a final element of a consonant cluster and in geminates it is realized as a prepalatal fricative, where the basic variant is voiced, but as final element of clusters before pause or before a voiceless initial sound in the following morpheme without juncture the /j/ is voiceless, e.g. /tēpj/[tēpç] 'tear!'[2].

In both cases the glottal action is predictable, i.e. phonetically, but not phonemically, distinct.

1. This has been experimentally tested in „The Perception of English Stops by Speakers of English, Spanish, Hungarian and Thai: A Tape Cutting Experiment" by John Lotz, Arthur S. Abramson, Louis J. Gerstman, Frances Ingemann, and William J. Nemser, in *Language and Speech,* vol. 3 (1960), pp. 71–77. / / indicates phonemic, [ ] phonetic transcription.
2. In English words like *c u b e* /kjub/ the */* is also often a fricative sound.

2. OBSTRUENT CLUSTERS

In obstruent clusters (i.e. coherent sequences of obstruents without intervening juncture or an intervening non-obstruent sound) the distribution is similar in English and Hungarian. Such a cluster may have two or three members; e.g. Hungarian /füsthöz/ 'to the smoke', /füzdbän/ 'in the smoke'; English /læsts/, /ribd/. In both languages, when there is a phonemic distinction between the two terms of the voicing correlation, such a cluster is homogenous as to voicing and is either *unvoiced* (fortis) or *voiced* (lenis) (*unvoicing* before pause) in its entirety, forming a long component throughout the cluster[3].

The /v/, however, can occur as a final element of a cluster both in Hungarian and in English following both voiced and voiceless phonemes[4].

In the case of Hungarian obstruents clusters whose members do not participate in a phonemic opposition between voiced and voiceless (though there is phonetic variation between two allophones) the situation is as follows: the /h/ as final element of an obstruent cluster is fully unvoiced only after oral voiceless obstruents, e.g. /nāthɔ/ 'head cold'; after voiced obstruents it does not occur (for reasons discussed below under 3); the /h/ as the initial element in a cluster – as shown above – is an oral fricative with voicing accommodated to the following obstruent.

The /j/ as initial element of a cluster is semivocalic (and voiced); as final element of an obstruent cluster, it is unvoiced after unvoiced obstruents (*p, k, f*), otherwise voiced. In final position the phonetic realization of the /j/ sound is actually one of devoicing.

Consonant clusters in both languages may include resonants (liquids and nasals) together with single obstruents or obstruent clusters; resonants, however, cannot interrupt an obstruent cluster, except in the case of a syllabic liquid and nasal, in English, e.g. /bɔtlz/, /bətnz/. Hungarian clusters, however, do not allow such an intervention, e.g. /földbän/ 'in the earth', /fölthöz/ 'to the earth' /füsträ/ 'to the smoke'.

In Hungarian the number of obstruent clusters is greater, due to suffixation; in English only compounding joins varied consonants together, but in this case juncture often intervenes.

3. MORPHOGENESIS OF CONSONANT CLUSTERS

If we analyze the morphophonemic genesis of situations in which the consonant cluster results from a combination of two morphemes, we find that the situation differs radically in English and Hungarian.

In Hungarian, where the string of morphemes is often longer and clearly additive (therefore one speaks of an agglutinative language), if two morphemes follow each other, three factors enter: (1) the first morpheme in the sequence makes the change from the basic alternant (the basic alternant being the form which occurs in non-conditioned environment, e.g. a form before a pause); (2) its final obstruent or obstruent cluster changes to the feature of distinctive voicing or unvoicing of the first consonant in the second morpheme, and, (3) the accommodation takes place only if the voicing is phonemically distinctive, i.e. in the case of an obstruent appearing in the list above. The selection here is anticipatory, regressive. Note that /v/ as the final member of an obstruent cluster does not induce change in the preceding obstruent, but it does assimilate as to voicing in the first member of a cluster, i.e. /v/ → /f/. When /h/ occurs as the last member of an obstruent cluster it effects a change and its first member is adjusted phonetically. E.g. /rēs/ 'part', /rēz/ 'copper', /rēstől/ 'from part, from copper', /rēzbän/ 'in part, in copper' but /rēsnäk/ 'to part', /rēznäk/ 'to copper'.

3. In English the final –θ– clusters behave erratically, e.g. in words such as *w i d t h* the final cluster varies as to homogeneous voicing.
4. *V-* clusters are common in Hungarian; the gerundival ending is *-vɔ ~ve*, which can be added to all verb stems, e.g. /lätvə/ 'seen', /ədvə/ 'given'.

In English, if there are phonemic alternants among the two morphemes, the selection is different: (1) it is the first morpheme which selects the appropriate alternant; and, (2) any phonetically voiced phoneme selects the voiced alternant of the following morpheme, e.g. /row/ – /rowz/, /bend/ – /bendz/, /rent/ – /rents/. Here the selection is progressive, lagging. (When the selection is morphemic, e.g. in /bent/, this morphophonemic principle is, of course, not operative).

If we compare the two systems as regards the behavior of obstruent alternations in the two languages, we find that there are differences between the two which could be summed up in the following chart..

	English	Hungarian
1. Criterion of selection	Phonetic (natural)	Phonemic (cultural)
2. Direction of selection	Progressive (lagging)	Regressive (anticipatory)

(The morphophonemic alternation of obstruents in English and Hungarian is a good example of the relevance of both „phonetic" and „phonemic" features for linguistic analysis. It implies, further, that a sharp separation of phonetics and phonemics is unwarranted, especially in contrastive studies, and may lead to obfuscation of facts.)

4. OUTLOOK

A comparison of this kind between corresponding segments of different languages or between different states of the „same" language (social, dialectical, historical, etc.) is *comparative* in the most general sense. However, since this term is generally used to denote genetic relationship among languages, the term *contrastive* has been proposed.

In earlier days of structuralism, when the individual structure was emphasized through the principle of linguistic and anthropological relativity, such a comparison would have been regarded as heretical and meaningless. It is obvious, however, that such comparisons are needed to understand the characteristics of language and speech in general, especially in its typological aspects.

Also, such contrastive analyses might be put to practical use: for instance, in the language learning situation. For language learning purposes, the differences described above would indicate that the obstruents may cause trouble to both Hungarian and English speakers. (The considerable differences in the pronunciation of the individual sounds is not within the scope of this paper). A Hungarian learner of English might tend to unvoice a preceding morpheme like [dɔks] instead of [dɔgz]; an English learner of Hungarian, on the other hand, might retain the basic variant and change suffixes wrongly in accordance with the English pattern[5], e.g. [*hāzdōl*], instead of [*hāstōl*] 'from the house'.

5. The productive morphophonemics of English inflection can be stated very simply: The suffixes *S* (plural in noun or present third person singular in verb) and *T* (past) are added to stems ending in S (*s, z, š, č,* and *ǰ*) and *T* (*t* and *d*) to a stem alternant with *i*, if the obstruction is similar (thus, ...*TiT* and ...*SiS*, but ... *TS* and ... ST), and to all the other stems by simple addition where the suffix alternant is selected by the glottal characteristic (voiced or unvoiced) of the last sound. Deviations are not productive and require lists.

This note has since been expanded and published in „Productive Inflectional Morphophonemics Selection in English", *Anthropological Linguistics*, vol. 8, No. 9 (1966) pp. 27–31; it was further revised in a paper, distributed at the English Verb Conference, held in April 1969, under the sponsorship of the Center for Applied Linguistics to appear in *Acta Linguistica Hungarica*.

COMPARISON OF THE GLIDES (SEMIVOWELS) IN ENGLISH AND HUNGARIAN

The purpose of this paper is to compare the *glides, (semivowels),* i.e. *h-, j-, w-* like sounds in English and Hungarian and to draw inferences from the comparison for the language learning situation in both directions.

In earlier, more orthodox and more innocent days of phonemic analysis, when one tried to include as little phonetic information in phonological description as possible and laid sole emphasis on the structural relations among the units, such a comparison would have been regarded as meaningless. It is clear, however, that the linguistic (social) evaluation of phonetic facts (articulation, sound and perception) which constitutes phonological analysis includes all aspects of speech transmission as integral parts of a linguistic description, not just structural relations among the established units.

Such a comparison among languages contributes to the understanding of the phonological structure of speech and language in general, primarily in its typological aspect. The results can also be applied practically in language teaching, and perhaps will have future use in machine processing of speech.

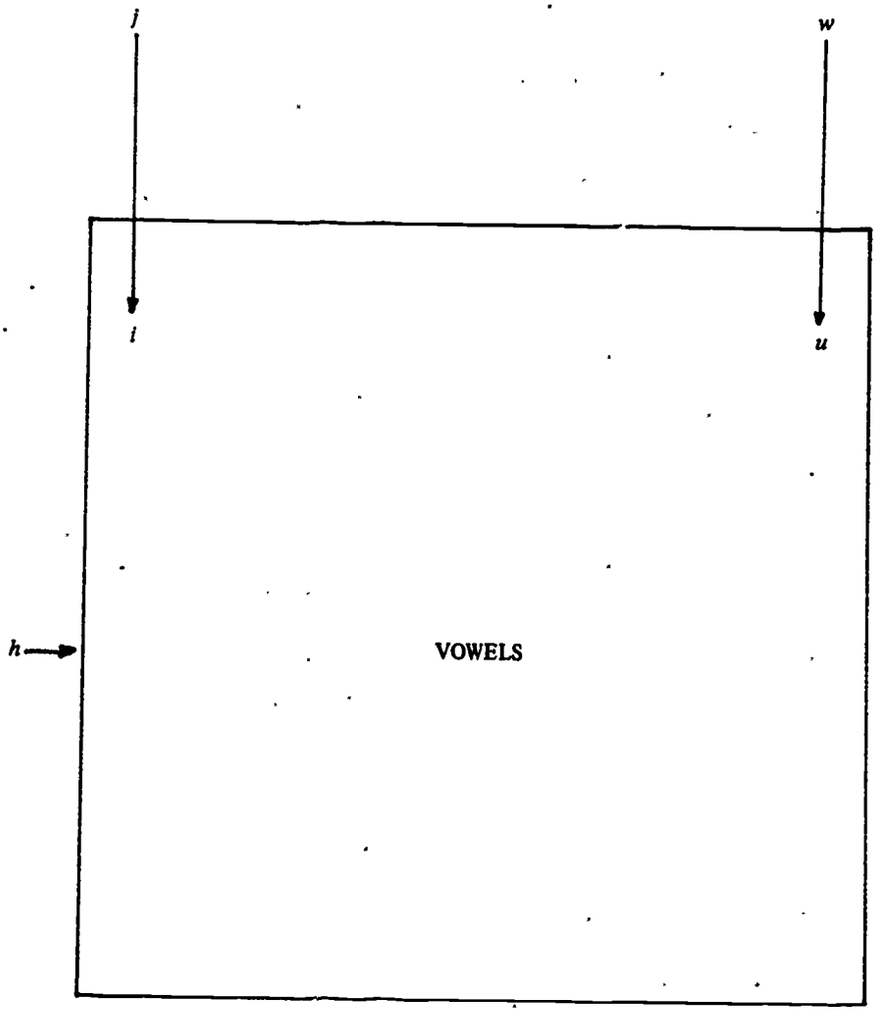
1. *Glide or Semivowel* is a phonetic category, comprising consonants whose articulation is closely associated with vowel articulation, but differing from them in that the excitation of excitation of the vocal folds is transitional. (A vowel is defined as a sound produced by sustained central oral excitation of a buccal filtering cavity.) The relationship of the semivowels to the vocalic system is depicted in the following chart (note that there are two kinds of associations: *h* is associated with all the timbres in the vowel system, whereas *j* and *w* are tied to high vowels, to the front-unrounded *i* in the case of *j* and to the back-rounded *u* in the case of *w*, both assuring maximal-optimal contrasts).

There are two kinds of such transient articulations:

a) The *h*-sounds are produced by *a transient glottal friction noise* which is filtered by the upper cavities. If the onset occurs initially after pause or after a voiceless sound the sound is generally voiceless: following a voiced sound it is murmured (i.e. not fully voiced). The filter determines the timbre of the sounds; it assumes the quality of the following vowels. If the friction is sustained the resulting sound is a whispered vowel, not a glide. (*is* and *his* cannot readily be differentiated in whisper; if a deliberate attempt is made to distinguish the two words, a sharp glottal stop marks the vowel onset or the glottal glide is replaced by friction at the constriction in the oral cavity for the consonant);

b) The *j(y)* and *w* sounds are produced by a *transient articulation* in the articulatory zone of the high (or narrow) vowels *i (ü)* and *u*. These sounds are often associated phonemically with fricatives produced at the same point of articulation in a somewhat narrowed passage and with friction as the sound source. The two can be subsumed under the term *constrictive.* Oral fricative allophones of both types occur as normal speech sounds in a wider range of distribution in Hungarian and they will be included in the discussion below.

The above sound types are defined by their phonetic nature and not by distribution. Claims to the contrary notwithstanding, their phonemic interpretation cannot be established


j
w
i
u
h
VOWELS

through distribution, relevant as it may be for the establishment of phonological categories through complementarity and in the utilization of the established units along the syntagmatic axis, i.e. in the sequence.

2. In *English* the following glides or semivowels occur:

/h/ a transitional glottal friction, murmured after a voiced sound, voiceless otherwise. Its position is restricted to occurrence before full vowels (and in some usages before *j*, as in *huge*), e.g. *he, boyhood.*

/j/ (/y/ in very commonly used American phonemic transcription) a transient unrounded palatal glide, voiced except in whispered speech. It occurs adjacent to a vowel both preceding and following it; e.g. *yes, boy.*

/w/ a slightly rounded velar glide, voiced except in whispered speech. It occurs adjacent to a vowel both preceding and following it, e.g. *we, how.*

/hw/ an aspirated counterpart of /w/; like /h/ it occurs only before a stressed full vowel. Its existence is restricted to a small number of dialects in English: e.g. *which* (*cf. huge*).

Phonetically all English semivowels are in general „true" glides, except perhaps in the type „huge", where the sound is frictional.

The question of whether or not the /j/ and /w/ following a vowel form a diphthongal/syllabic nucleus as opposed to the onset nature of the preceding /j/ and /w/ does not concern us here.

In *Hungarian* the following phonemes occur which have predominantly semivocalic (or glide) allophones:

/h/ has two principal „points", or better, zones of articulation: a) at the glottis, and b) at the narrowest constriction in the buccal cavity where glottal friction occurs simultaneously. The sound produced at the glottis is either a voiceless /h/ occurring after a pause or a voiceless consonant, or murmured (ĥ) occurring after a voiced sound. The buccally dominated fricative ranges from the *i* to the *u* position (ç ... *x*). The group of variants occurs finally, and in clusters, including the geminates (*xx*). It is also used in emotional exclamations; e.g. *hihetetlen* [hiççetetlɛn] 'unbelievable' (in English expressed by a changed ryhthmic and stress pattern).

The distribution of the /h/ phoneme parallels the wide distribution of other consonants, but the buccal fricative variant is very rare; e.g. (peçç) 'bad luck', (içlät) 'inspiration', (jɔxt) 'yacht'.

/j/ has two varieties of mode, or manner, of articulation: adjacent to a vowel, either preceding or following it, it is a semivocalic voiced prepalatal glide; in word final clusters, when /j/ is the last member, and in geminates, it is a prepalatal fricative with varying degrees of voicing dependent on the voicing of the environment; this allophone of /j/ is voiced if it is flanked by voiced consonants, unvoiced (or devoicing) if it occurs before pause or before a voiceless consonant in close juncture, and voiceless if the preceding sound is voiceless and it is followed by either pause or a voiceless sound in close juncture. [hɔjjɔl] 'with hair'; [vārj] 'wait', and [lēpç] 'step!'[1]

1. Note the following case of allophonic intersection between two phonemes in the following:

a) the /h/ after *i* before a consonant appears as (ç), the allophone being defined as a buccal fricative (unvoiced) with the timbre of the preceding vowel *i*, e.g (içlät) 'inspiration'.

b) the /j/ after a voiceless consonant before a pause or a voiceless consonant also appears as [ç] being defined as a prepalatal *i* colored fricative, unvoiced in the unvoiced environment, e.g. [lēpç] 'step!'.

Both phonemes have been defined intensively by their features, but note that the positions are distinguishable in the cluster.

Such an intersection is not permissible, if one conducts phonemic analysis – unjustly I think – as a pure reductive process starting from raw phonetic data toward higher and higher degrees of abstraction as was customary in an earlier phase of phonemic analysis practiced by some American Structuralists.

This problem has been treated extensively in my paper „The Corona-Prepalatal Voiceless Fricatives in Hungarian", *Beiträge zur Sprachwissenschaft, Volkskunde und Literaturforschung* (= Steinitz Festschrift), Berlin 1965, pp. 252–266.

/w/ is a rounded velar glide, voiced except in whispered speech. It occurs only after vowels. It is limited to a few words where a classical etymology is felt, giving a foreign impression though many of these words are common, e.g., [əutõ] 'automobile', [ɛurõpɔ] 'Europe', [əugustuš] 'August'.

3. If we compare the allophonic composition and the distribution of the semivowels of English and Hungarian, we find the following situation:

/h/, including buccal fricative allophones, in Hungarian has a wider allophonic range than in English and also a wider distribution since it occurs in consonant clusters as well.

/j/ in Hungarian has a more complex allophonic structure due to its fricative allophones, both voiced and unvoiced, and its distribution is wider, occurring also in consonant cluster finals.

/w/ has the same allophonic structure in both languages but the distribution in English is much wider and it occurs with greater frequency.

/hw/ occurs only in English.

4. For the language learning situation the following would be expected or „predicted", on the basis of the above comparison:

Hungarian learners of English should have no trouble with the English /h/. English learners of Hungarian, on the other hand, should have difficulty with the buccal variety of the Hungarian /h/. Since this variety, however, is rare in Hungarian, the difficulty will have few practical consequences.

Hungarian learners of English should have no difficulty with the English /j/. English learners of Hungarian, on the other hand, will have difficulty with the frictional allophones of /j/ in Hungarian.[2]

Hungarian learners of English would be expected to have little difficulty with the post vocalic *w*, but would experience great difficulties with prevocalic variants which do not occur in Hungarian. (Hungarians usually replace the *w* by the labialdental fricative *v*.) English learners of Hungarian should have no problem in this respect.

/hw/ can be ignored in the teaching of English to Hungarians because of its rarity in most commonly used varieties of Standard English.

2. If we unite / with / English – in Hungarian this is not possible, because they contrast, e.g. [kēri] 'he begs it', [kērj] 'beg!' – the situation would be the following (not counting the friction-like / in *cube*):

	friction	glide	vocalicity
English	–	/i/	
Hungarian	/j/		/i/

BIBLIOGRAPHICAL NOTE

These two papers on topics discussing problems in Hungarian-English contrastive phonology are reprinted, with stylistic changes, from the following relatively inaccessible articles:

1) „Contrastive Study o the Morphophonemics of Obstruent Clusters in English and Hungarian", in *Miscellanea di studi dedicati a Emerico Várady*, Modena Società Tipografica Editrice Modenese di C. Mucchi. 1966, pp. 197–201; and

2) „Comparison of Glides (Semivowels) in English and Hungarian", *Mélanges de linguistique offerts à Henri Frei -- II:* (= Cahiers Ferdinand de Saussure, vol. 26), Genève, Librairie Droz, 1969, pp. 43–48.