

In: *Americana* (e-journal), vol. 7 special linguistic issue,
<http://americanajournal.hu/vol7ling/fenyvesi-zsigri>

**The adaptation of English initial unstressed syllables
in American Hungarian loans: Theoretical implications**

Anna Fenyvesi
(fenyvesi@lit.u-szeged.hu)

Gyula Zsigri
(zsigri@hung.u-szeged.hu)

University of Szeged

1. Introduction

In a language like Hungarian, where primary word stress always falls on the first syllable, phonetic content before the stressed syllable may not be interpreted as part of the prosodic word. In loanwords whose stress in the source language falls on a non-initial (usually the second) syllable, all varieties of Hungarian invariably re-integrate pretonic syllables by moving the stress onto them. In addition to this strategy, American Hungarian, however, uses another strategy as well, namely, deleting the unstressed initial syllable. This phenomenon, which also occurs in American Finnish, was discussed for both languages in Fenyvesi and Zsigri (2006). It is also similar to what is observed in early stages of English first language acquisition (cf. [dʒɪrɪf] and [dɑt^h] for *giraffe*, Bernhardt and Stemberger 1998: 418).

In this paper we provide two accounts of this phenomenon using the framework of Optimality Theory (cf. Prince and Smolensky 2004), a syllable-based analysis and one with folk etymology related morphological split, both using perceptually motivated constraints and constraint hierarchies (cf. Kenstowicz 2001, Peperkamp and Dupoux 2003, Steriade 2001, Kenstowicz and Atiwong 2006).

The syllable-based analysis, originally proposed in Fenyvesi and Zsigri (2006) and substantially revised in this paper, follows the modular tradition of classical generative phonology (in the line of Chomsky and Halle (1968)) where a strictly phonological analysis is considered more elegant than one that relies on both phonological and non-phonological (e.g. morphosemantic or syntactic) categories in the description. The alternative analysis proposed here and encouraged by recent trends in phonological theory, including mainstream Optimality Theory, gives up strict modularity to offer a simpler, unified explanation of both phonological and morphosemantic phenomena rather than maximally striving at simplicity within the subsystems and, at the same time, ignoring the complexity of the interactions between them.

2. Background

Just like most other Uralic languages, Hungarian has initial word stress, which is considered one of the most salient phonological features of this language family (Austerlitz 1987: 574). Stress is word initial in all varieties of Hungarian used in Hungary (HH) or in the countries neighboring Hungary. When loanwords with non-initial stress in the source language enter Hungarian, they fully adapt to the Hungarian native pattern as far as their stress placement is concerned: the non-initial stress is moved to the initial syllable (e.g. *'apostol* 'apostle' < Latin *a'póstolus*, *'croissant* 'croissant' < French *croi'ssant*, *l'óvé* 'money' (slang) < Romani *lo've* 'money,' *'piac* 'market' < Italian *pi'azza*, *'dízájn* 'design' < English *de'sign*, *'radíroz* 'to erase' < German *ra'dieren*, *'peresztrojka* 'perestroika' < Russian *pere'strojka*).

In contact varieties of Hungarian used in countries neighboring Hungary such as Ukraine, Romania, Austria, Serbia and Slovenia, no contact-induced change in word stress has been reported (see papers by Csernicskó, Benő and Szilágyi, Bodó, and Göncz and Vörös, respectively, in Fenyvesi 2005), although in all of these places Hungarian is in contact with languages where stress is phonemic (i.e. not constant, definitely non-initial). (In the variety of Hungarian used in Vojvodina, the placement of the stress on the second parts of compounds has been reported by Molnár Csikós 1993, but no stress change has been observed elsewhere.) Word stress is initial in Slovak (Short 1987: 372) just as it is in Hungarian, so in the contact variety of Hungarian used in Slovakia no contact induced effect of non-initial stress could be expected.) Examples of loanwords with non-initial stress in the source language that in these contact varieties of Hungarian receive initial stress are the following:

(1) Hungarian used in Ukraine (István Csernicskó, personal communication, 2004):

(1a) 'szosziszki 'Wieners' < Russian *so'siski*

(1b) 'nakáz 'decree' < Ukrainian *na'kaz*

Hungarian used in Vojvodina, Serbia (Ágnes Ódry, personal communication, 2004):

(1c) 'szindikát 'union' < Serbian *sin'dikat*

Hungarian used in Romania (Attila Benő, personal communication, 2004):

(1d) 'kopil 'premature baby' < Romanian *co'pil* 'child'

In American Hungarian (AH), a contact variety used by Hungarian immigrants and their descendents in the United States, word stress is predominantly initial, although some exceptions have been reported in studies of this variety. (Such non-initial stress in American Hungarian is usually identical with the stress pattern of the corresponding English words – e.g. AH *an'tena* 'antenna,' *a'merikai* 'American,' *sta'tisztikus* 'statistical,' *eksz'pensem* 'my expense' Kontra 1990: 55–56; *pepe'róni* 'pepperoni,' *ok'tóber* 'October,' Fenyvesi 1995: 28–29. Or, in case of verbs with preverbs, the stress pattern of prefixed English words, such as *re'write*, in stressing the stem – *vissza'beszélni* *vissza+beszélni* back+to.talk 'to talk back,' Fenyvesi 1995: 29.) Examples like this are, however, extremely rare: in corpora of American Hungarian, such examples constitute isolated variants occurring in only some speakers' speech, alongside with variants with HH-like word initial stress.

Loanwords from English that occur in American Hungarian have initial stress. But, in contrast with other varieties of Hungarian, loans into American Hungarian achieve this in one of two ways: on the one hand, with the strategy used in all other varieties of Hungarian, i.e. by moving primary stress to the initial syllable; or, on the other hand, by deleting the initial unstressed syllable. It is the presence of these two competing strategies that we seek to explain in this paper, employing Optimality Theory as a general framework, with reference to accounts that involve the role of perception, in which the behavior of loans can be understood.

3. American Hungarian

Hungarian has been spoken in the United States as an immigrant language since the last decades of the 19th century. Mass immigration of Hungarian speakers into the US started in the 1880s, and by the 1920s there were about 400 thousand immigrants and another half a

million US-born Hungarians there (*1960 Census*). Immigration continued throughout the 20th century with varying intensity: after the 1924 introduction of the Quota System, limiting the number of immigrants from Southern and Eastern Europe, it abated significantly, increasing again in the years of and following World War II as well as after the 1956 Hungarian Revolution. The early 20th century immigrants were almost exclusively of peasant and working class origin and became employed by the industries and mines of the then industrial region south of the Great Lakes, from Chicago to New York City. Post-WWII immigrants were mostly educated professionals and members of the upper classes, while those fleeing the collapse of the anti-Communist revolution of 1956 were of various social backgrounds, including working class people, university students, and professionals. The immigrants of the second half of the 20th century did not all settle in the existing Hungarian-American communities, only those of them who were of working class background did, the others tended to settle dispersed, throughout the US. This resulted in the traditional communities remaining socially homogeneous.

Comprehensive studies describing American Hungarian were carried out in the 1980s and 1990s in long-established, traditional, working-class Hungarian-American communities of South Bend, Indiana (Kontra 1990), Detroit, Michigan (Bartha 1993), and McKeesport, Pennsylvania (Fenyvesi 1995). By this time the investigated communities were comprised of a quickly diminishing group of early 20th century immigrants, 1956 immigrants of working class background, and the US-born children of both groups. By the late 20th century these communities had undergone the typical 3-generation pattern of language shift characteristic of many US immigrant groups, with the children of immigrants being bilingual but dominant in English, and the grandchildren being monolingual English-speakers. The studies have shown the extensive influence of English on the Hungarian variety used in the Hungarian-American communities in all sub-systems of language, in the lexicon, phonology, morphology, syntax, and pragmatics.

4. The data

The loanwords analyzed in the present paper are from several sources on American Hungarian: two transcribed corpuses of data gathered in Hungarian-American communities, those of South Bend, IN,¹ and McKeesport, PA; the description of Detroit Hungarian (Bartha 1993); as well as a dictionary of American Hungarian Vázsonyi (1995), the data for which was collected in the 1960s in the Calumet region (east of Chicago), in a working class community similar to the communities described in Kontra (1990), Bartha (1993) and Fenyvesi (1995). Because the four Hungarian-American communities are socially and linguistically very similar, we treat the linguistic data from them as samples of the same unified variety.

Altogether the four sources yielded approximately 1,400 loanwords, of which about 150 occurred in more than one source. (In this total, alternative forms of the same loanword, like *afic* ~ *ofic* ~ *ofisz* ‘office,’ characteristic of immigrant language varieties, were only counted once.) As a lot of these 1,400 loanwords are one-syllable borrowings or polysyllabic words with word initial stress in English as well, among them there are altogether 70 where in the English source form word stress is non-initial and the initial syllable is unstressed in the Hungarian form. In 54 of these words the same adaptation strategy is used in American Hungarian as far as their stress placement is concerned: the word stress is moved to the initial syllable. In Table 1 we present the list of these words.

¹ We would like to thank Miklós Kontra for providing access to his South Bend corpus.

INSERT TABLE 1 ABOUT HERE

Of the 70 words whose American English source word has non-initial stress, 18 get adapted into American Hungarian through the deletion of the unstressed syllable – here, then, the Hungarian-like initial word stress is achieved in a different way, via a strategy not used either in varieties spoken in Hungary or in any other contact variety of Hungarian. The list of these words is given in Table 2.

INSERT TABLE 2 ABOUT HERE

The last three words in Table 2, *arrest*, *engage* and *involve*, get borrowed into American Hungarian through a deletion of the unstressed initial syllable and an addition of a Hungarian preverb. As we can see, in two cases, in the borrowing of AmE *apartment* and *emergency room*, doublets result from the employment of both strategies of adaptation: one form preserves the originally unstressed syllable and becomes stressed (AH *apartment* and *emördzsönszi rúm*), while the other form undergoes deletion of the unstressed syllable (AH *partment* and *mördzsenszi rúm*).

In addition to these borrowings, 18 American English phrases get lexicalized with initial stress as American Hungarian words, see Table 3. Of these, all but one achieve initial stress by moving the non-initial stress of the American English source phrase to initial POSITION, while one, *kjúzmi* ‘excuse me,’ RESULTS FROM deleting the originally unstressed syllable.

INSERT TABLE 3 ABOUT HERE

5. Analyses

Optimality Theory, which has become the mainstream theory in phonology in the past decades,² does not formulate rules to map underlying representations to surface forms or explain historical change, sociolinguistic variation or contact phenomena. It assumes that linguistic forms are infinitely changeable but only a few of the imaginable mutations may reach realization. The imaginable mutations or faithful reproductions of an underlying form are called *candidates*. Candidates are evaluated by a series of hierarchically ranked *constraints*. The two main types of constraints are *faithfulness* constraints and *well-formedness* or *markedness* constraints. Faithfulness constraints require that the output be identical to the input either completely or partially. Well-formedness or markedness constraints express typological and language specific generalizations. Constraints are in conflict with each other, consequently no candidate can satisfy all constraints. The winning candidate, the one that reaches realization, is not perfect, it is only *optimal*. Hence the name of the theory.

First, we will provide a syllable-based analysis that uses strictly phonological constraints to account for the different strategies of Hungary Hungarian and American Hungarian loanword adaptation. The second proposal will introduce morpho-semantic constraints and will analyze the detachment of the initial unstressed syllables as a morphological split rather than deletion.

5.1. Syllable-based analysis

² See Gilbers and de Hoop (1998) for a concise overview and Kager (1999) for an introductory textbook.

The majority of both Hungary Hungarian and American Hungarian data may be accounted for by using the following three constraints, of which Align-Left is a well-formedness constraint and the other two are faithfulness constraints:

- (2) (a) **Align-Wd-L: Align (PrWd, Left, Foot, Left)**
The left edge of a prosodic word coincides with the left edge of a foot (i.e. primary stress is placed on the first syllable).
- (b) **Max- σ**
A syllable in the input has a correspondent in the output. (Do not delete syllables.)
- (c) **IDentity-Stress (ID-Stress)**
A stressed syllable in the input should be a stressed syllable in the output.

The ranking of constraints varies between languages, dialects or even lexical strata. In Hungary Hungarian, Align-L and Max- σ are ranked above ID-Stress to avoid deletion:

- (3) **Align-L, Max- σ >> ID-Stress**

The interaction of constraints is illustrated in so-called *tableaux*. The first column of the tableau lists the input form in the top cell and a theoretically *infinite* number of candidates below it (but in actual tableaux only a few likely candidates are considered). The subsequent columns list the constraints in hierarchical order. A solid line between the constraints expresses domination while a broken or dotted line expresses that the constraints are equally ranked. An asterisk in a cell expresses that the constraint is violated and an empty cell expresses that it is not. An exclamation point expresses *fatal* violation: if a candidate violates a constraint which is satisfied by at least one other candidate then the violation is fatal and the candidate is *out*. The *pointing finger* marks the winning candidate, which, if the analysis is correct, is identical to the attested form.

Tableau 1 shows how English *Alaska* [ə'læskə] becomes *Alaszka* ['ɒlskə] in Hungary Hungarian:

INSERT TABLEAU 1 HERE

The first candidate, [ɒ'lskə], is as faithful to the input form as possible: none of its syllables are deleted and the stress is on the same syllable as in the input. Nevertheless, it may not surface because it violates an undominated constraint, AlignL, which is satisfied by both the second and the third candidates so [ɒ'lskə] is out. Likewise, the third candidate, ['lskə], violates the other undominated constraint, Max- σ , which is satisfied by both the first and the second candidates. The second candidate, [ɒlskə], violates a lower-ranked constraint ID-Stress, but, nevertheless, it wins because all the other candidates have already dropped out. Cells where a constraint no longer matters are grayed out.

In American Hungarian, AlignL dominates Max- σ and ID-Stress but Max- σ and ID-Stress are not ranked with respect to each other:

- (4) **AlignL >> Max- σ , ID-Stress**

The following three tableaux illustrate how American Hungarian applies both stress movement and deletion. Tableau 2 shows two attested winners, while 3 and 4 give attested winners with unattested alternative winners.

INSERT TABLEUX 2, 3, AND 4 HERE

The choice between stress movement and deletion is not completely unpredictable. A syllable with an onset is never deleted in our corpus, which might be attributed to perceptual factors: a syllable with an onset such as *tin* is more salient than one without such as *in*. An observation that might be related to the higher perceptibility of syllables with an onset as opposed to those without is that non-lexical hesitations tend to lack an onset as in British English [ɜ:] or American English [ʌm]. Lexical hesitations such as English *well* or Hungarian *hát* might begin with a consonant but note that both [w] and [h] lack supra-glottal consonantal features.

It does not matter whether an onsetless syllable has a coda or not: English *en'gagement* or *in'terpreter* as easily loses its initial unstressed syllable as *A'merican* or *a'luminum*: *en'gagement* → ['ge:dʒmənt], *in'terpreter* → ['trɒpɛndɛr]; *A'merican* → ['mɛrɪkən], *a'luminum* → ['lʌmɪnəm].

The following faithfulness constraint is motivated by the typological unmarkedness of CV syllables:

- (5) Max-CV
A consonant-vowel sequence in the input has a correspondent in the output.

Max-CV has to be ranked above ID-Stress to take effect and also above Max-σ to allow for cases when syllables with an onset are not deleted but syllables without are:

- (6) AlignL, Max-CV >> Max-σ, ID-Stress

Tableau 5 shows how English *police* [pə'li:s] becomes *polic* ['polits] in American Hungarian:

INSERT TABLEAU 5 HERE

Tableau 2, repeated here with an extra column as Tableau 6, shows that the deletion of a syllable without an onset does not violate Max-CV.

INSERT TABLEAU 6 HERE

Note that a simpler constraint of Max-Onset, in place of Max-CV, would not yield the desired result because it would not prefer retaining the whole syllable to retaining only an onset:

While the deletion of an unstressed vowel without deleting the whole syllable is quite frequent in casual English (e.g. *p'lice* [p^h'li:s] or *s'pose* [s'p^houz]), it has not been found in our American Hungarian data:

INSERT TABLEAU 7 HERE

5.2. Morphosemantic analysis

It is a common observation that decomposing utterances of a foreign language into strings of words is not a trivial task. Uncertainties may even arise in one's native tongue as exemplified by historical reanalyses such as *a norange* → *an orange*, *a napron* → *an apron*, *a nadder* → *an adder* (Akmajian 2001: 17) or folk etymologies such as *asparagus* → *sparrow-grass* (Jeffers and Lehiste 1980: 66).

The detachment of initial unstressed syllables in American Hungarian loans may all be recognized as folk-etymological re-interpretations of the original lexemes into complex forms. The phonetic shape of the detached syllable may be identical to an indefinite article as in *appointment* → *a pointment* or *electric* → *a lectric*, a preposition as in *engagement* → *in gagement* or a prefix as in *excuse me* → *ex-cuseme*. Thus, the initial unstressed syllable is not deleted but re-interpreted as a separate morpheme. Unlike the strictly phonological syllable-based analysis presented above, this analysis sheds light on the emergence of semi-calques in which English prefixes or prefix-shaped syllables are translated to Hungarian prefixes as in *engage* → *le-gédzsol* or *involve* → *bele-volvál*.

Three constraints of this analysis are identical to those of the previous, syllable-based analysis:

- (7) (a) **Align-Wd-L: Align (PrWd, Left, Foot, Left)**
The left edge of a prosodic word coincides with the left edge of a foot.
- (c) **Max- σ**
A syllable in the input has a correspondent in the output. (Do not delete syllables.)
- (c) **ID-Stress: Identity-Stress**
A stressed syllable in the input should be a stressed syllable in the output.

And these two are new:

- (8) (d) **Meaning**
The output only contains meaningful units.
- (e) ***FE: no folk etymology**
Every meaningful unit in the output has a correspondent in the input.

In this analysis, the initial unstressed syllables are not deleted but re-interpreted as separate morphemes. Max- σ and Align-Left are equally ranked, dominating all other constraints in American Hungarian:

- (9) **AlignL, Max- σ >> ID-Stress, Meaning, *FE**

The initial unstressed syllable is not deleted in *engagement* → *gédzsmen*t but re-interpreted as a preposition:

INSERT TABLEAU 8 HERE

The candidate with the stress on the second syllable [ɪŋ'ge:dʒmənt] and the one which loses its initial unstressed syllable ['ge:dʒmənt] fail to satisfy the highest ranked constraints and, thus, they are eliminated. Each of the surviving candidates violates one of the lower-ranked constraints. The one with stress shift ['ɪŋge:dʒmənt] violates ID-Stress and the one split into [ɪn] and ['ge:dʒmənt] violates the prohibition of folk etymology. Since ID-Stress and *FE are equally ranked the actual winner is unpredictable.

No candidate violates Meaning. In [ɪn 'ge:dʒmənt], ['ge:dʒmənt] inherits the meaning of *engagement* and [ɪn] is a folk etymological preposition.

Folk etymology does not work with *police*: while ['lɪts] could inherit the meaning of *police*, [pɒ] would mean nothing. Phonetic content may only be detached if its phonetic shape coincides with an existing meaningful item, which is not true for [pɒ].

INSERT TABLEAU 9 HERE

While both analyses can handle most of the data, they make different predictions. The morphophonological claim that a syllable may only be detached from a word if its shape coincides with an existing meaningful item could possibly be falsified by an adaptation process like English *obnoxious* → American Hungarian *noxious*. On the other hand, the syllable-based analysis, which disallows the deletion of syllables with an onset, could be possibly falsified by hypothetical data such as English *preposterous* → American Hungarian *posterous*. We have not found any data in our American Hungarian corpora that would falsify either analysis but since Optimality Theory constraints are meant to be universal,³ we must examine the loan word adaptation strategies of other languages, too. Virtaranta's (1992) American Finnish dictionary records the results of the following adaptation process: English *refinery* → American Finnish *faineri*, English *republican* → American Finnish *puplikaani*. *Re-* is a syllable with an onset, which should not be deleted according to the syllable-based analysis but may be folk-etymologically detached according to the morpho-phonological analysis since its phonetic shape coincides with that of a prefix. The syllable-based analysis that properly accounts for the Hungarian data must be amended to account for the Finnish data, too. One such amendment is proposed in Fenyvesi and Zsigri (2006: 141–143) claiming that the English approximant [ɹ] whose acoustic realization is very similar to a shwa may not be perceived as a full-fledged consonant in contrast with Finnish rolled [r], but a perception-based claim like this requires experimental evidence.

6. Conclusion

The different adaptation strategies of American Hungarians and Hungary Hungarians may be related to how they acquire the language. Hungarians living in Hungary learn English from textbooks or other written material and have less auditory input than American Hungarians living among native speakers of English. Without overwhelming auditory input, they rarely need to guess where one word begins or ends: the spaces in written texts delimit the words clearly. Non-prosodic faithfulness constraints such as Max or *FE become undominated. All

³ Even if they are ranked very low in some languages.

syllables remain intact and stress is invariably shifted to the initial unstressed syllable in Hungary Hungarian loans.

American Hungarians hear English continuously and unless they have a job that requires a lot of reading and writing, which most of the subjects serving as sources for the corpora used by us did/do not, then the auditory input will be overwhelming. Prosodic faithfulness constraints such as ID-Stress may be promoted and the prohibition of folk etymology may be demoted. Initial unstressed syllables may be deleted (syllable-based analysis) or folk-etymologically re-interpreted as separate morphemes (morpho-semantic analysis). Since lexical borrowings in American Hungarian typically originate in the first, immigrant generation for whom Hungarian is the first and dominant language and whose Hungarian proficiency is native-like, it is not surprising that such a prominent feature of Hungarian as word-initial stress proves to be such a strong factor in shaping the phonological form of loans.

References

- Akmajian, Adrian. 2001. *Linguistics: an introduction to language and communication*. Cambridge, MA: The MIT Press.
- Austerlitz, Robert. 1987. Uralic languages. In: Bernard Comrie, ed. *The major languages of Eastern Europe*. London: Croom Helm, 177–184.
- Bartha, Csilla. 1993. *Egy amerikai magyar közösség nyelvhasználatának szociolingvisztikai megközelítései* [Sociolinguistic approaches to the language use of a Hungarian American community]. Budapest: *Kandidátusi* dissertation.
- Benő, Attila, and Sándor Szilágyi N. 2005. Hungarian in Romania. In: Anna Fenyvesi, ed. 2005. *Hungarian language contact outside Hungary: Studies in Hungarian as a minority language*. Amsterdam: John Benjamins, 133–162.
- Bernhardt, Barbara H., és Joseph P. Stemberger. 1998. *Handbook of phonological development from the perspective of constraint-based nonlinear phonology*. San Diego: Academic Press.
- Bodó, Csanád. 2005. Hungarian in Austria. In: Anna Fenyvesi, ed. 2005. *Hungarian language contact outside Hungary: Studies in Hungarian as a minority language*. Amsterdam: John Benjamins, 241–264.
- Chomsky, Noam and Morris Halle. 1968. *The sound pattern of English*. New York: Harper and Row.
- Csernicskó, István. 2005. Hungarian in Ukraine. In: Anna Fenyvesi, ed. 2005. *Hungarian language contact outside Hungary: Studies in Hungarian as a minority language*. Amsterdam: John Benjamins, 89–132.
- Fenyvesi, Anna. 1995. Language contact and language death in an immigrant language: The case of Hungarian. *University of Pittsburgh Working Papers in Linguistics* 3: 1-117.
- Fenyvesi, Anna, ed. 2005. *Hungarian language contact outside Hungary: Studies in Hungarian as a minority language*. Amsterdam: John Benjamins.
- Fenyvesi, Anna, and Gyula Zsigri. 2006. The role of perception in loanword adaptation: The fate of initial unstressed syllables in American Finnish and American Hungarian. *SKY Journal of Linguistics*, 19:131–146.
- Gilbers, Dicky and Helen de Hoop. 1998. Conflicting constraints: An introduction to Optimality Theory. *Lingua* 104: 1–12.
- Göncz, Lajos, and Ottó Vörös. 2005. Hungarian in the former Yugoslavia. In: Anna Fenyvesi, ed. 2005. *Hungarian language contact outside Hungary: Studies in Hungarian as a minority language*. Amsterdam: John Benjamins, 187–240.
- Jeffers, Robert J. and Ilse Lehiste. 1980. *Principles and methods for historical linguistics*. 2nd printing. Cambridge, MA: The MIT Press.

- Kager, René. 1999. *Optimality Theory*. Cambridge: Cambridge University Press.
- Kenstowicz, Michael. 2001. The role of perception in loanword phonology. *Linguistique africaine* 20.
- Kenstowicz, Michael and Atiwong Suchato. 2006. Issues in loanword adaptation: a case study from Thai. *Lingua* 116(7): 921–949.
- Kontra, Miklós. 1990. *Fejezetek a South Bend-i magyar nyelvhasználatból* [The Hungarian language as spoken in South Bend, Indiana]. Budapest: MTA Nyelvtudományi Intézete.
- Molnár Csikós, László. 1989. “A magyar nyelv helyzete Jugoszláviában [The situation of the Hungarian language in Yugoslavia].” *Magyar Nyelvőr* 113: 162-175.
- Peperkamp, Sharon and Emmanuel Dupoux. 2003. Reinterpreting loanword adaptations: the role of perception. *Proceedings of the 15th International Congress of Phonetic Sciences*, 367–370.
- Prince, Alan and Paul Smolensky. 2004. *Optimality Theory: constraint interaction in generative grammar*. Blackwell.
<http://roa.rutgers.edu/files/537-0802/537-0802-PRINCE-0-0.PDF>
- Short, David. 1987. Czech and Slovak. In: Bernard Comrie, ed. *The world's major languages*. New York: Oxford University Press, 367–390.
- Steriade, Donca. 2001. Directional asymmetries in place assimilation: A perceptual account. In: Elizabeth Hume and Keith Johnson eds. *The role of speech perception in phonology*. San Diego: Academic Press. 219–50.
- Vázsonyi, Endre. 1995. *Túl a Kecegárdán: Calumet-vidéki amerikai magyar szótár* [Beyond Castle Garden: An American Hungarian dictionary of the Calumet region]. Budapest: Teleki László Alapítvány.
- Virtaranta, Pertti. 1992. *Amerikansuomen sanakirja: A dictionary of American Finnish*. Turku: Institute of Migration.