

THE INTONATION OF MONOSYLLABIC HUNGARIAN YES-NO QUESTIONS

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Abstract

The paper examines the intonation of monosyllabic Hungarian yes-no questions, which, according to the literature, is different from the intonation of polysyllabic Hungarian yes-no questions. The paper's conclusion is that the difference is only phonetic, not phonological. From a phonological point of view, such questions carry a rising-falling intonation pattern, just like their polysyllabic counterparts. This is proved by the facts of contour concord, which we can observe between the melodies of so called equivalent blocks in Hungarian sentences (Varga 2002, 100-2). From a phonetic point of view, however, the falling part of the abstract rising-falling pattern is normally truncated, leaving only a rise. The final fall (in the form of a downglide) is optionally preserved in surprised monosyllabic yes-no questions, when the syllable has a long vowel in it, able to accommodate the downglide.

1. Introduction

It has been alleged that there are "four kinds of questioning intonation" in Hungarian yes-no questions (Bartók 1978). These are the following:

- (i) The melody of yes-no questions with a final stress group containing one syllable, e.g., **Víz?** ('Water?'), or **Délutánra lesz?** ('Will there be any by the afternoon?').¹
- (ii) The melody of yes-no questions with a final stress group containing two syllables, e.g., **Este?** ('In the evening?'), or **Szombaton itt vagy?** ('Are you here on Saturday?').
- (iii) The melody of yes-no questions with two stress groups, where the final stress group contains three or more syllables, e.g., **Holnap indulunk?** ('Are we leaving tomorrow?').

¹ The syllables set bold in the examples are stressed. Accent marks over certain vowel letters, as in e.g., *víz* or *délutánra*, indicate vowel length in Hungarian orthography and have nothing to do with stress.

- (iv) The melody of yes-no questions with one stress group, where this stress group consists of three or more syllables, e.g., *Felment a hegyekbe?* ('Did he go up to the hills?').

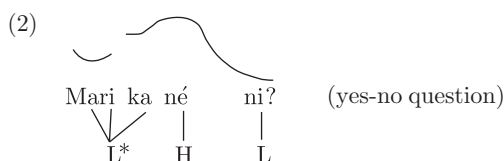
Bartók (ibid.) claims that these are distinct melodies. This may be so from a strictly **phonetic** point of view, but certainly not from a **phonological** point of view. Phonology looks for the systematic aspects of sound phenomena (including intonational phenomena) that are involved in meaning distinctions in a particular language. Phonologically, the four kinds of melody are actually just predictable variations of a **single intonation pattern**, conditioned by the number of syllables on which the pattern is realized (Varga 1983; 1993; 1996). This pattern is the Hungarian **rising-falling intonation contour**, one of the abstract intonation contours (so called "character contours") that constitute the Hungarian intonational lexicon.

As a matter of fact, two of the four melodies distinguished by Bartók, viz. (iii) and (iv), can be conflated even under a strictly phonetic approach because the melody of the relevant final stress group, which expresses questionhood, is identical in both. So the number of the phonetic variants can be reduced to three. These three are the (a) one-syllable, (b) two-syllable, and (c) three-or-more-syllable versions of the same intonation pattern. These varieties are interesting inasmuch as they are the phonetically identified positional alternants ("allo-contours") of the abstract rising-falling intonation contour of Hungarian (cf. Varga 1983, 124; Fónagy 1998, 334). A simplified autosegmental representation of this abstract contour is (1):²

- (1) L*HL

For instance, the utterance *Marika néni?* ('Aunt Mary?'), used as a yes-no question, is realized as is shown in the intonational diagram of (2), in which the associations of the syllables with the tones of the autosegmental representation are also displayed.

² Different schools offer slightly different autosegmental representations for this contour, e.g., L*HL% (Ladd 1996, 116ff), L*H-L% (Grice et al. 2000), L*.H.L\$ (Varga 2002). These are due to differences in conventions and theory-internal considerations that should not concern us in the present study.



There is considerable consensus as to the phonetic content of version (c), i.e., the three-or-more-syllable realization, illustrated in (2). In this, there is a significant drop of pitch between the penultimate syllable and the ult., and the syllables before the penult form either a gradually rising sequence or a level sequence but then the penult steps up.³ As for the disyllabic realization, version (b), the second syllable steps up and has a downglide, although this downglide may be less conspicuous if the second syllable is short and ends in a voiceless consonant. It is the monosyllabic realization, version (a), in connection with which judgments differ and which I wish to examine in this paper.

2. The problem of monosyllabic variants

According to some views, in its monosyllabic realizations the contour simply rises and there is no downglide at the end (cf. Deme 1962, 506; Fónagy–Magdics 1967, 40; Fónagy 1998, 334).⁴ Deme (ibid.) adds that this monosyllabic rise is not to be regarded as a truncation of the polysyllabic rise-fall, and that it has most probably emerged as the direct opposite of the fall of monosyllabic statements. Interestingly, however, Deme (1962, 513) recognizes the possibility of the downglide in a surprised (repeated) monosyllabic question such as *Nincs?* ('Is there really none?'). Other researchers claim that the downglide is part of yes-no question intonation even in monosyllabic realizations (Molnár 1954, 29; Gårding–Szende 1974, 339). In Varga (1996, 117) I tried to follow a middle course by saying that "[t]his contour goes up and down in the syllable when it appears on a monosyllabic utterance [...], but the falling part may be physically missing, especially if the syllable is short or

³ In a third subvariety the second syllable steps up and the pitch remains at that height until the penult is reached and then there is a drop between the penult and the ult. According to Grice et al. (2000), this is typical of Transylvanian Hungarian.

⁴ According to more detailed descriptions, the physical rise itself is not steady but consists of a gentle initial and a steep final part, cf. Olaszy–Koutny (2001, 187). I shall refer to this realization as "gentle rise plus steep rise".

ends in a voiceless consonant.” Grice et al. (2000) conclude that the rising-falling contour may be truncated, leaving only the rise.

Since the opinions cited have primarily been based on auditory impression, the following questions have to be answered using instrumental evidence.

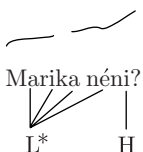
(3) RESEARCH QUESTIONS

- (a) Is there a downglide at the end of the contour in ordinary (non-surprised) monosyllabic yes-no questions if the syllable has a long vowel with no consonant or a voiced consonant in the coda?
- (b) Is there a downglide at the end of the contour in ordinary (non-surprised) monosyllabic yes-no questions if the syllable has a short vowel and ends in a voiceless consonant?
- (c) Is there such a downglide in surprised (repeated) monosyllabic yes-no questions?
- (d) In those instances where there is no downglide, (how) does the phonetically rising contour of the yes-no question differ from the (both phonologically and phonetically) rising contour of complementary questions?

Points (3a) and (3b) have been distinguished to enable us to test the hypothesis that a longer tone-carrying part (voiced stretch) within the rhyme of the syllable can accommodate the final downglide better than a short tone-carrying part.

The last point (3d) is important because there exists a truly rising intonation pattern in Hungarian, quite independently of yes-no questions. This appears on so called **complementary questions** (the term is from Bolinger 1957).⁵ A complementary question is the initial part of a sentence (typically the topic or a conjunction) which remains if we elipt the final part (the comment or the post-conjunction part of the sentence), offered as a question to be considered by the listener, with a rising intonation, suiting different pragmatic contexts. These pragmatic contexts or situations may be of various kinds, e.g., personal data checking (e.g., *Neve?* ‘Your name?’), polite offering (e.g., *Kávét?* ‘Coffee?’), initiation of new topic (e.g., *És a nagymama?* ‘And grandma?’), encouragement to continue (e.g., *És?* ‘And?’), etc., as in (4).

⁵ It also appears on certain non-final sentence constituents, but here we shall restrict our attention to complementary questions.

- (4)  (complementary question)

Such questions have an undisputable rise in all the three phonetic contexts we distinguished, i.e. in the one-syllable, two-syllable and the three-or-more-syllable versions alike, and the simplified autosegmental representation of this abstract contour in all three cases is L*H. Therefore the rising intonation of monosyllabic complementary questions offers a basis for comparison with the alleged phonetic rise of monosyllabic yes-no questions.

3. A pilot experiment

In order to obtain data for my research I have compiled six mini-dialogues (5)–(10):

- (5) A: Valaki megkapja. ('Someone will get it.')
- B: Én? ('Me?', literally: 'I?')
- (6) A: Hat óra van. ('It is 6 o'clock.')
- B: Hat? ('Six?')
- (7) A: Ők holnap kapják. ('They will get it tomorrow.')
- B: És én? ('And I?')
- (8) A: Mit gondolsz, mennyi marad? ('How many do you think will remain?')
- B: Hat? ('Six?')
- (9) A: Te fogod megkapni. ('You'll get it.')
- B: Én? ('Me?', literally: 'I?')
- (10) A: Öt nem lesz elég. ('Five will not be enough.')
- B: És hat? ('And six?')

The (B) utterances (responses) in the above exchanges are the questions to be examined. (5B) represents an ordinary (non-surprised) monosyllabic yes-no question which has a long vowel followed by a voiced consonant (*Én?*). (6B) is a surprised (repeated) monosyllabic yes-no question which has a short vowel followed by a voiceless consonant (*Hat?*). (7B) is a monosyllabic complementary question which has a long vowel followed by a voiced consonant

(*És én?*, with *én?* being the relevant part). (8B) realizes an ordinary (non-surprised) monosyllabic yes-no question containing a short vowel followed by a voiceless consonant (*Hat?*). Then in (9B) we have a surprised (repeated) monosyllabic yes-no question which has a long vowel followed by a voiced consonant (*Én?*). Finally, (10B) exemplifies a monosyllabic complementary question with a short vowel followed by a voiceless consonant (*És hat?*, with *hat?* being the relevant part).

The exchanges were deliberately arranged in this order, (5) to (10), so that similar types should not be adjacent, and the prosodic solutions of adjacent exchanges should not affect each other. The exchanges were written down and submitted to five (young and middle-aged) native speakers of Hungarian. Three of them were female (MH, KSz, and ÉB) and two male (CsCs and GB). In the course of the experiment I sat down with each of the participants separately and playacted all the exchanges with them in such a way that I read the A part and the participant read the B part, and all the exchanges so produced were taperecorded. The participants were allowed to rehearse their part and they did not hear the other participants' solutions. The taperecorded five renderings of each of the six B responses, i.e., 30 renderings in all, constituted the corpus of the investigation. This corpus was then submitted to simultaneous visual and acoustic analysis by means of a CSL 4300B digital processor at the Phonetic Department of the Research Institute for Linguistics of the Hungarian Academy of Sciences. The analysis established the duration of the last (or only) syllable of each utterance in milliseconds, and the fundamental frequency values at the beginning (Point I), at the middle (Point II), and at the end (Point III) of that syllable.

4. The data obtained

The results of the experiment will now be presented in the following order:

(11) ORDER OF PRESENTATION

- (a) Ordinary (non-surprised) monosyllabic yes-no question containing a long vowel followed by a voiced consonant (5B).
- (b) Ordinary (non-surprised) monosyllabic yes-no question which has a short vowel followed by a voiceless consonant (8B).
- (c) Surprised (repeated) monosyllabic yes-no question containing a long vowel and a voiced consonant (9B).
- (d) Surprised (repeated) monosyllabic yes-no question which has a short vowel followed by a voiceless consonant (6B).

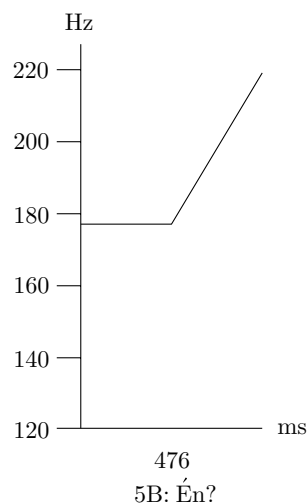
- (e) Monosyllabic complementary question which has a long vowel followed by a voiced consonant (7B).
- (f) Monosyllabic complementary question which has a short vowel followed by a voiceless consonant (10B).

This order of presentation groups the similar types together and makes comparison easier than the original order in which the recordings were made. The data are presented in six tables, each of these has five rows for the data obtained from the five participants, and a sixth row (shaded) for the average values. Each table is followed by a schematic intonational diagram constructed on the basis of the average values. In these diagrams the horizontal scale represents the average duration of the syllable (1mm = 20ms), while the vertical scale represents the average fundamental frequency values of the responses measured at the beginning, middle, and end of the syllable (1mm = 2Hz). By connecting the fundamental frequency values with straight lines we obtain the average schematic pitch curve for each question type.

(12) DATA FOR (5B): *Én?*

An ordinary (non-surprised) monosyllabic yes-no question containing a long vowel followed by a voiced consonant:

Participant	Duration (ms)	Fo (Hz) I.	Fo (Hz) II.	Fo (Hz) III.
1	557	224	185	263
2	477	115	126	141
3	397	188	190	229
4	491	165	185	238
5	459	180	182	200
Average	476	174	174	214



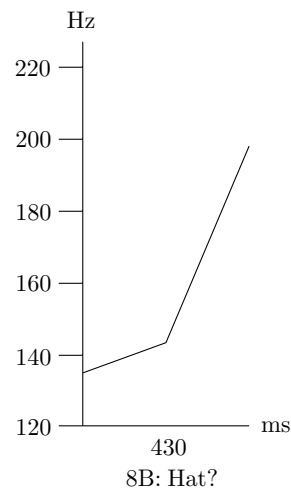
In (5B) the fundamental frequency does not glide down in the final portion. Instead, it rises steeply in the final portion, whereas it stagnates or descends or rises gently in the first half of the syllable. The average values display stagnation at about 174 Hz in the first half of the syllable and a substantial

rise of 40 Hz in the second half, with an average peak of 214 Hz at the end of the contour.

(13) DATA FOR (8B): *Hat?*

An ordinary (non-surprised) monosyllabic yes-no question which has a short vowel followed by a voiceless consonant:

Participant	Duration (ms)	F ₀ (Hz) I.	F ₀ (Hz) II.	F ₀ (Hz) III.
1	491	173	170	294
2	477	80	103	119
3	366	128	136	227
4	360	181	196	219
5	459	112	100	114
Average	430	135	141	195



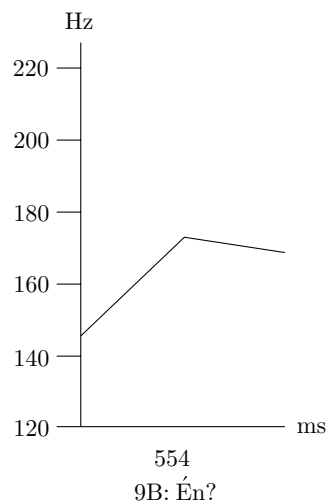
In (8B) the fundamental frequency does not glide down in the final portion. But instead of stagnating in the first half of the syllable, as in (5B), the fundamental frequency either descends slightly (in two cases) or rises slightly, and then rises steeply in the second half of the syllable. On an average, the rise in the first half is merely 6 Hz, whereas the rise in the second half is 54 Hz and it culminates in a final peak of 195 Hz. The average duration is somewhat shorter than in the case of (5B), where we had a long vowel and a voiced consonant in the rhyme of the syllable.

In (9B) (see data on facing page), the fundamental frequency may glide down in the final portion of the syllable. In one case it rises 97 Hz in the first half to a peak of 312 Hz and falls back 140 Hz in the second half. In other cases it rises gently or stagnates in the first half, and rises more radically in the second. The average shows a rise of 29 Hz in the first half to reach a peak of 174 Hz in the middle, to be followed by a descent of 2 Hz in the second half. The average duration is considerably longer than that of its non-surprised counterpart, (5B).

(14) DATA FOR (9B): *Én?*

A surprised (repeated) monosyllabic yes-no question containing a long vowel and a voiced consonant:

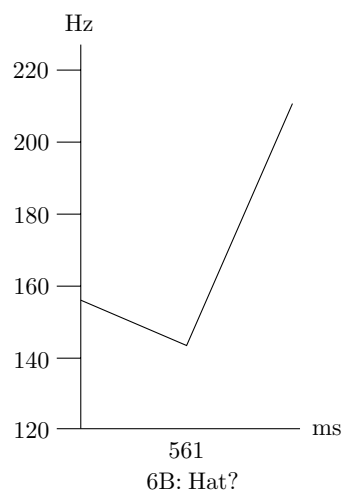
Participant	Duration (ms)	Fo (Hz) I.	Fo (Hz) II.	Fo (Hz) III.
1	655	178	196	240
2	477	108	106	130
3	549	120	138	192
4	655	215	312	172
5	436	102	118	126
Average	554	145	174	172



(15) DATA FOR (6B): *Hat?*

A surprised (repeated) monosyllabic yes-no question which has a short vowel followed by a voiceless consonant:

Participant	Duration (ms)	Fo (Hz) I.	Fo (Hz) II.	Fo (Hz) III.
1	459	238	161	259
2	637	117	121	150
3	397	188	190	229
4	721	125	135	253
5	590	92	96	136
Average	561	152	141	205



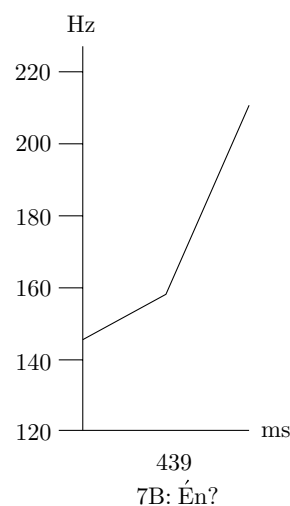
In (6B), in most cases there is a gentle rise in the first half and a radical rise in the second half of the syllable. However, in one case there is a very substantial drop between the beginning and the middle, followed by a considerable rise between the middle and the end. This causes the average curve to scoop in

the middle, there is an 11 Hz descent in the first half and a 64 Hz rise in the second half of the syllable. The average peak is 205 Hz at the end of the contour. The average duration is the longest of all, despite the fact that the syllable has a short vowel and a voiceless consonant in its rhyme.

(16) DATA FOR THE FINAL SYLLABLE IN (7B): (*És*) *én?*

A monosyllabic complementary question which has a long vowel followed by a voiced consonant:

Participant	Duration (ms)	F ₀ (Hz) I.	F ₀ (Hz) II.	F ₀ (Hz) III.
1	396	198	222	281
2	350	103	111	129
3	366	138	145	253
4	524	185	208	250
5	557	96	101	121
Average	439	144	157	207



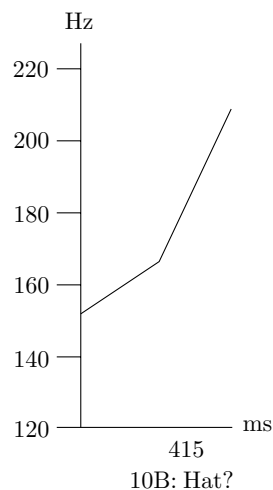
In (7B), in all cases we have a gentle rise in the first half of the syllable, and a more radical rise in the second. On the average, the rise in the first half is 13 Hz, while the rise in the second is 50 Hz, and the peak, reached at the end, is 207 Hz. The average duration of this type is shorter than that of its ordinary yes-no question counterpart, (5B), and much shorter than that of its surprised yes-no question counterpart, (9B).

In (10B) (see data on facing page), the pattern is very similar to the previous one: we can observe a gentle rise followed by a steeper rise in the two halves of the syllable. The average frequency values rise 13 Hz during the first half and 40 Hz during the second half of the syllable, to a final peak of 204 Hz. The average duration of this type is somewhat shorter than that of its ordinary yes-no question counterpart in (8B), and again much shorter than that of its surprised yes-no question counterpart, (6B).

(17) DATA FOR THE FINAL SYLLABLE IN (10B): (*És*) *hat?*

A monosyllabic complementary question which has a short vowel followed by a voiceless consonant:

Participant	Duration (ms)	F ₀ (Hz) I.	F ₀ (Hz) II.	F ₀ (Hz) III.
1	459	172	176	259
2	466	114	125	138
3	310	149	168	212
4	380	196	217	238
5	459	122	132	172
Average	415	151	164	204



5. Conclusions

By an analysis of the data obtained we can draw the following conclusions:

- (i) In ordinary (non-surprised) yes-no questions there is no downglide in the second half of the syllable.
- (ii) In surprised (repeated) yes-no questions there may be a final downglide.
- (iii) The downglide in monosyllabic surprised yes-no questions appears only when the syllable has a long vowel followed by a voiced consonant and not when the syllable has a short vowel followed by a voiceless consonant.
- (iv) The surprised yes-no questions have a considerably longer duration than the corresponding ordinary yes-no questions and a somewhat longer duration than the corresponding complementary questions.
- (v) The rising realizations of the monosyllabic yes-no questions (both ordinary and surprised ones, but especially the latter) show considerably more melodic variation than just always being sequences of “gentle rise plus steep rise”, recognized in the literature. In addition to the “gentle rise plus steep rise”, we also have combinations of “level plus rise” and “descent plus rise”.

- (vi) Monosyllabic complementary questions have the shortest average duration and a constant pattern of “gentle rise plus steep rise” during the syllable.

It seems, then, that Deme (1962) was right in observing that the falling part of the rise-fall, which does not usually appear in ordinary monosyllabic yes-no questions, may appear in surprised monosyllabic yes-no questions. The second part of his view, however, namely that the rise of ordinary monosyllabic yes-no questions emerged as the direct opposite of the fall of monosyllabic statements, is **phonologically** irrelevant (even if **historically** possible).

From a phonological point of view, the **physically rising** version of ordinary monosyllabic yes-no questions is not a separate melody but an instance of the same rise-fall as the polysyllabic (and **physically rising-falling**) version. This is confirmed, among other things, by the facts of **contour concord**, which we can observe, for example, between the melodies of so called **equivalent blocks** (Varga 2002, 100–2). The sentences of (18) have two intonational phrases each. The first contains the noun phrase *a papagáj* ‘the parrot’, which has been preposed from F position.⁶ The second contains the rest of the sentence: *az csiripel* ‘that one twitters’, and its F position is occupied by a demonstrative *az* (‘that one’), referring to the constituent preposed from F position (*a papagáj*). There is contour concord between the two units: fall and fall in (18a), where the symbol of the fall is [\backslash]; rise and rise in (18b), where the symbol of the rise is [\prime]; fall-rise and fall-rise in (18c), where the symbol of the fall-rise is [\vee]; and rise-fall and rise-fall in (18d), where the symbol of the rise-fall is [\wedge]. The vertical bar [|] indicates the boundary between the two intonational phrases.

- (18) (a) A \backslash papagáj, | \backslash az csiripel.
 ‘It is the parrot that is twittering.’
 (Literally: ‘It is the parrot, that’s what is twittering.’)
- (b) És ha a \prime papagáj, | \prime az csiripel?
 ‘And [what] if it is the parrot that is twittering?’
- (c) A \vee papagáj, | \vee az csiripel.
 ‘It is the parrot that is twittering.’
- (d) A \wedge papagáj, | \wedge az csiripel?
 ‘Is it the parrot that is twittering?’

⁶ The F (or focus) position is one of the structural positions of the Hungarian sentence, cf. É. Kiss (1994).

If, in a sentence of similar structure, the second unit is a polysyllabic (i.e., three-or-more syllable) realization of the rise-fall and so obviously rising-falling, **then the monosyllabic initial unit, which physically may be just rising, must also be a realization of the rise-fall**, cf. (19). The word *pinty* means ‘chaffinch’.

- (19) A [^]pinty, | [^]az csiripel?
‘Is it the chaffinch that is twittering?’

Therefore the best way of phonologically accounting for the melody of the monosyllabic version is to assume, with Grice et al. (2000), that it is the result of truncation. We can offer a truncation rule like (20):

- (20) TRUNCATION OF MONOSYLLABIC RISE-FALLS (OPTIONAL)



Rule (20) optionally cuts off the association line of the final L in L*HL, if it is associated with the same syllable as the initial L. As a result, the monosyllabic realization of the rising-falling intonation contour may sound like a rise.

References

- Bartók, János 1978. A négyféle kérdő hanglejtés [The four kinds of questioning intonation]. In: Magyar Fonetikai Füzetek 1:97–103.
- Bolinger, Dwight 1957. Interrogative structures of American English (The direct question). Publication of the American Dialect Society 28. University of Alabama Press, University of Alabama.
- Deme, László 1962. Hangsúly, szórend, hanglejtés, szünet [Stress, word order, intonation, pause]. In: József Tompa (ed.) A mai magyar nyelv rendszere [The system of present-day Hungarian], 457–522. Akadémiai Kiadó, Budapest.
- É. Kiss, Katalin 1994. Sentence structure and word order. In: Ferenc Kiefer – Katalin É. Kiss (eds) The syntactic structure of Hungarian, 1–90. Academic Press, San Diego & New York.
- Fónagy, Iván 1998. Intonation in Hungarian. In: Daniel Hirst – Albert Di Cristo (eds) Intonation systems. A survey of twenty languages, 328–4. Cambridge University Press, Cambridge.
- Fónagy, Iván – Klára Magdics 1967. A magyar beszéd dallama [The melody of Hungarian speech]. Akadémiai Kiadó, Budapest.

- Gärding, Eva – Tanás Szende 1974. A kérdés és a kérdezés [Questions and questioning]. In: Magyar Nyelvőr 98:333–41.
- Grice, Martine – D. Robert Ladd – Amalia Arvaniti 2000. On the place of phrase accents in intonational phonology. In: Phonology 17:143–85.
- Ladd, Robert 1996. Intonational phonology. Cambridge University Press, Cambridge.
- Molnár, Imre 1954. A magyar hanglejtés rendszere — A magyar énekbeszéd recitativóban és ariozóban [The system of Hungarian intonation — Hungarian song-speech in recitative and arioso]. Zeneműkiadó, Budapest.
- Olaszy, Gábor – Iлона Koutny 2001. Intonation of Hungarian questions and their prediction from text. In: Stanisław Puppel – Grażina Demenko (eds) Prosody 2000, 179–96. Faculty of Modern Languages and Literature, Adam Mickiewicz University, Poznań.
- Varga, László 1983. Hungarian sentence prosody: an outline. In: Folia Linguistica 17:117–51.
- Varga, László 1993. A magyar beszéddallamok fonológiai, szemantikai és szintaktikai vonatkozásai [The phonological, semantic and syntactic aspects of Hungarian speech melodies]. Nyelvtudományi Értekezések 135. Akadémiai Kiadó, Budapest.
- Varga, László 1996. Hungarian intonation contours. In: The Even Yearbook 2:111–44.
- Varga, László 2002. Intonation and stress: evidence from Hungarian. Palgrave, Houndmills, Basingstoke.

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