The Intonational Phrase and Secondary Intonational Phrase Formation in Hungarian

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1 The Hungarian Intonational Phrase (IP)

In Varga 1996 I described the system of Hungarian intonation in terms of 11 meaningful character contours, a meaningful appended contour, and a meaningless preparatory contour. The meaningful contours were derived from three basic contours. Here is a brief summary of all the contours:

(1)

	Contour	**Notational symbol**	**Autosegmental representation**[1]
a.	full fall	ˋx	H*.L.L↓$
b.	half fall	ˈx	H*.L$
c.	fall-rise	ˇx	H*.L.H$
d.	rise	ˊx	L*.H$
e.	high monotone	¯x	H*$
f.	descent	↪x	H*.H↓$
g.	rise-fall	ˆx	L*.H.L$
h.	monotone-fall	¬x	H*.H.L$
i.	descent-fall	¬̇x	H*.H↓.L$
j.	2nd type descent	↪x	H*.L↑$
k.	stylized fall	¯‾x	H*.§.L$
l.	appended contour	$_{\rightarrow}$x	L↓$
m.	preparatory contour	$_{\perp}$x	T (unspecified but not L↓)

[1] For a description of how the representations of these contours are actually arrived at, and for the schematic pitch curves showing the realisations of these contours, see Varga 1996. In the autosegmental representations of Varga (*ibid.*) the vertical arrows standing for tone raising and lowering were placed before the actual tone symbols, e.g., ↑L. This has now changed: all diacritics within the autosegmental representations are placed *after* the tone to which they apply, e.g., L↑. Besides, the tones are separated from each other by dots: H*.L↑$. A further change: the symbol of the melody-breaker inside the autosegmental representation of the stylised fall is now §, as in: H*.§.L$.

The meaningful contours (1a–l) constitute the intonational lexicon of Hungarian. Contours (1a–k) are character contours. Each primary stressed syllable carries or initiates a character contour (i.e., a contour whose autosegmental representation has a starred first tone), and each string of syllables that carries a character contour starts with or consists of a primary stressed syllable. Consequently, primary stressed syllables are regarded as equal and are not distinguished according to prominence. From this it follows that postulating an Intonational Phrase (IP) for Hungarian is less necessary than it is for English, where IPs (tone-groups) are organised around a stressed syllable of outstanding prominence (the nucleus or tonic), which may or may not be preceded by stressed syllables of less prominence (in the head). As a matter of fact, even English intonation can be analysed successfully without establishing IPs with a nucleus and head (cf. Bolinger 1986, 1989). Nevertheless, the general view is that the nucleus should be assigned theoretical status among the English pitch accents and, consequently, that IPs are in fact necessary in English (cf. Ladd 1986, 1996).

In Hungarian, too, one can choose to describe intonation with or without IPs. In Varga 1996 I chose the "non-IP" approach. In this approach the unit of intonation was rather atomistic: it was either a character contour (with or without a preparatory contour before it) or the appended contour, and these units were not brought together to form a higher ranking prosodic constituent. This approach simplified transcription considerably because no IP boundaries had to be indicated, but it had a price: a special symbol had to be introduced to indicate the beginning of a preparatory contour ($_\perp$). This was necessary because the presence of a preparatory contour signals the end of the preceding character or appended contour:

(2) a. \`Gyere! $_\perp$Ide \`ne firkálj!
    'Come. Don't scribble here.'
  b. \`Gyere ide! \`Ne firkálj!
    'Come here. Don't scribble.'

Now I am examining the other alternative, the "IP" approach (for an early version of which see Varga 1987). We can postulate IPs for Hungarian because certain character contours can be picked out as having an analogous role to the English nuclear contours. They stand out not by their extra prominence but by their shape (or in the case of the half fall, by the accompanying pause, which is indicated in the transcript by '⌑'). Under this analysis, the unit of Hungarian intonation is the INTONATIONAL PHRASE or IP. The IP boundary is indicated by '|', but this symbol is necessary only *between* IPs.

The obligatory part of a Hungarian IP is filled by any of the meaningful intonation contours that we have seen in (1a–l), i.e., by either a character contour or an appended contour. A Hungarian IP, therefore, is either a character-based (primary stressed) IP or an appended IP.

An APPENDED IP contains nothing but an appended contour.

In a CHARACTER-BASED IP there is at least one character contour. If there is more than one such contour in the IP, the non-last (non-rightmost) character contours are half falling contours that do not end in a pause. These constitute the SCALE of the IP and can be called scale contours. So the Scale is an optional part of the IP, which starts with a half falling character contour that does not end in a pause and may contain more than one such contour. The last (or only) character contour in the IP will be called the terminal contour of the IP: it constitutes the TERMINAL PART of the IP. All the character contours that we have seen in (1a–k) are always terminal contours apart from the half fall, which is a terminal contour only if it ends in an audible pause. The other terminal contours, i.e., the terminal contours other than the half fall, may or may not end in a pause. So a character-based IP may end in an audible pause, but this is obligatory only when its Terminal Part is a half falling contour. The Scale may be preceded by an optional PREPARATORY PART, which contains a preparatory contour, with unstressed or maximally secondary stressed syllables.

The two types of Hungarian IPs then have the following internal structure:

(3) **Hungarian IPs**
  a. APPENDED IP: Appended Part
  b. CHARACTER-BASED IP: (Preparatory Part)+(Scale)+Terminal Part
    N B The parenthesised elements are optional.

The structure shown in (3b) clearly reminds us of the (Prehead) + (Head) + Nuclear Part division of English tone-groups in traditional British descriptions. The reason why I use different terms for the constituents of the Hungarian IP is that the English terminology suggests that the Nuclear Part is more prominent than the Head. (In an English tone-group or IP there is only one primary stress, viz., on the syllable at the beginning of the Nuclear Part, and the Head contains secondary and unstressed syllables.) In a Hungarian IP, however, where all primary stressed syllables are regarded as equal, the Scale and the Terminal Part both contain primary stressed syllables, and so the Terminal Part is not more prominent than the Scale. Nevertheless, the Hungarian IP, with its internal structure as defined here, is still a legitimate prosodic constituent because the terminal characters are different from the scalar characters and so they provide natural IP-endings. The possibilities we have discussed are illustrated in (4).

(4)	És	ha	levették	a	könyveket	a	polcokról?—	kérdezte.
	and	if	off-took-3pl.	the	books-acc.	the	shelves-from	asked-3sg.

‘And [what] if they took the books off the shelves?—he asked.’

És ha ˈlevették a ˈkönyveket a ´polcokról? | □ $_{\rightarrow}$kérdezte.

Prep. Scale Terminal Append.

IP IP

There are two IPs in (4): the first IP is character-based, the second is appended. The first contains three primary stressed syllables and concomitantly three character contours; two in the Scale and one in the Terminal Part.

An advantage of the “IP” framework is that we can dispense with the symbol of the preparatory contour. Its job is now done by the IP boundary:

(5) a. \`Gyere! | Ide \`ne firkálj!
‘Come. Don’t scribble here.’

b. \`Gyere ide! | \`Ne firkálj!
‘Come here. Don’t scribble.’

Another advantage of the “IP” framework is that it is capable of showing the internal unity of certain syntactic constituents as well as their separation from other syntactic constituents along the syntagmatic axis. For instance, in (6a) each of the first two IPs contains a topic constituent, and the third IP corresponds to the comment of the sentence. By contrast, the “non-IP” approach, not recognising IPs, is unable to show such syntactic divisions, cf. (6b).

(6) E jelenlegi magyar úthálózat közlekedésbiztonság
this present Hungarian road-network traffic-safety

szempontjából nagy tömegében nem felel meg a követelményeknek.
point-of-view-from large mass-in not answers the requirements-to

'The present Hungarian road-system in its majority does not meet the requirements of traffic safety.'

a. E ˈjelenlegi ˈmagyar ˊúthálózat | ˈközlekedésbiztonság ˊszempontjából | ˈnagy tömegében ˈnem felel meg a ˋkövetelményeknek.

b. E ˈjelenlegi ˈmagyar ˊúthálózat ˈközlekedésbiztonság ˊszempontjából ˈnagy tömegében ˈnem felel meg a ˋkövetelményeknek.

The melodic segmentation of the utterance, i.e., the process whereby the character contours following each other in the utterance are established, is related to the syntactic surface structure and also to the last character contour of the entire utterance. Some of the rules regulating this process have been described in Varga 1994. The intonational segmentation of the utterance means dividing the sentence into IPs on the basis of the melodic segmentation (and thus indirectly on the basis of syntactic surface structure). Since melodic segmentation may assign a pauseless half fall to the end of a syntactic constituent, syntactic constituents do not necessarily end in IP boundaries, but the IPs are nevertheless related to syntactic constituents.

Division of the Hungarian utterance into IPs is in accordance with the Strict Layer Hypothesis, i.e., utterances are divided into IPs exhaustively and no IP can contain another IP (cf. Selkirk 1984 : 26). Although this has been challenged by Ladd (1986), I can see no compelling reason for dismissing the Strict Layer Hypothesis in Hungarian. It is true that we can sometimes insert an alien utterance ("functional sentence") in the middle of a larger utterance ("functional sentence") and it is also true that after the insertion the larger utterance continues as if it had not been interrupted, nevertheless, such discontinuous utterances can be analysed perfectly well in terms of IPs linearly following each other (cf. Varga 1994 : 521).

(7) Találkoztam — jól ülsz? — az Angélával!
met-1sg. well sit-2sg. the Angela-with

'I've met — are you sitting well? — Angela.'

ˈ*Találkoztam* | □ — ˆjól ülsz? — | □ *az* ˋ*Angélával!*[2]

IP IP IP

Utterance

But the advantage of the "IP" approach that it can signal syntactic constituents is lost when the IP-boundaries do not coincide with syntactic constituents at all, as e.g., in (8). In such cases the "non-IP" framework (8a) may seem preferable to the "IP" analysis (8b), because it does not suggest any division into syntactic constituents.

(8) Megmutatták a francia barátaiknak.
showed-3pl-it the French friends-their-to

'They showed it to their French friends.'

a. ˈMegmutatták a ¯francia ˋbarátaiknak.

b. ˈMegmutatták a ¯francia | ˋbarátaiknak.

However, cases like (8) are relatively rare, and can be looked upon as being derived from a more basic intonational segmentation of the sentence in which IPs are related to syntactic constituents. I find that examples like (8b) do not provide sufficient evidence against the "IP" approach. They are cases of "Secondary IP Formation", to which I will return in section **2** below.

The "IP" approach outlined here has been found well-applicable in a large amount of practical intonational analysis (Varga 1987, Németh 1996).

The two approaches are convertible: the "IP" approach is implicitly present in the "non-IP" approach, and vice versa. This is how we can "translate" facts of a "non-IP" analysis into "IP" analysis. We shall insert an IP boundary in the following cases:

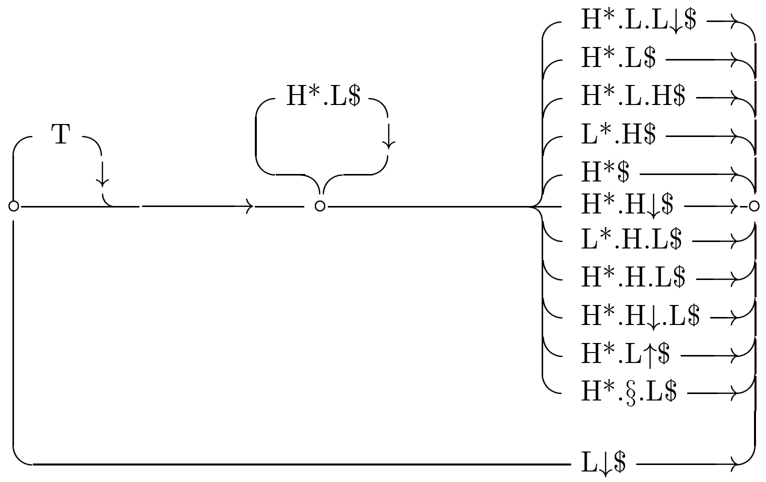
[2] The phrase *Jól ülsz?* 'Are you sitting well?', with the rising-falling contour of yes-or-no questions, is often inserted in informal style in a sentence before a surprising constituent. It probably goes back to 'Unless you are sitting firmly in your seat, you will fall down with surprise when you hear this.'

(9) a. before a preparatory contour symbol,
b. before an appended contour symbol,
c. after a half falling character contour if it ends in a pause,
d. between two adjacent character contours if the first one is not a scalar (pauseless) half falling character.

Still, the IP boundaries are not redundant, for two reasons. First, they replace the symbol of the preparatory contour and so it becomes their job to signal such contours. Second, they unambiguously signal that the analysis is being done in the "IP" framework. The "non-IP" approach is ambiguous in this respect. On the one hand it allows interpretation in terms of IPs, by applying the algorithm in (9), even if it does not show the IPs explicitly. On the other hand, it also allows interpretation in terms of the much more atomisic intonational units which are composed of individual character contours (with an occasional preparatory contour before them) or appended contours.

Let us now see how we can account for the internal structure and tonal possibilities of Hungarian IPs in autosegmental terms. All the legitimate contour combinations (tunes) within Hungarian IPs are generated by the following finite-state grammar:

(10) **Preparatory Part** **Scale** **Terminal/Appended Part**



If the IP has a half falling terminal (i.e., the contour H*.L$ in the terminal position), it must end in an audible pause, in all other cases the final audible pause is possible but not obligatory.

The terminal contours in this framework are not combinations of pitch accent + phrase accent + boundary tone as they would be in Pierrehumbert's framework (cf. Pierrehumbert 1980 : 29). This follows from our viewing the Hungarian terminal contours as meaningful wholes. But even for English, as Ladd (1994 : 490) points out, at least the contour H*L could be analysed as a whole, rather than a combination of a pitch accent and a separate phrase accent. Similar conclusions have been reached for German by Féry (1993).

2 Secondary Intonational Phrase Formation in Hungarian

It can happen that an originally single Hungarian IP is divided into two IPs for attitudinal reasons. This is what I call SECONDARY IP FORMATION. Secondary IP Formation can happen in two ways: (a) by character insertion, and (b) by character change.

CHARACTER INSERTION can happen in an IP which has a fully falling terminal contour preceded by a half falling scalar contour, and there are three or more unstressed syllables between the last two primary stressed syllables, as in (11). In this case we may create a new primary stress between them, which will initiate a high monotone character (symbol: '¯').[3] Since the high monotone is a terminal contour (in the "IP" framework), this means dividing the original single IP into two IPs.

If there are more than three unstressed syllables between the original two primary stressed syllables, the new primary stress will appear on the unstressed syllable that has two unstressed syllables after it:

(11) ˈσ…σ σ σ σ ˋσ → ˈσ…σ ¯σ σ σ | ˋσ
1 2

> (The Greek letter σ stands for syllable, and the numbers below the syllables mark the unstressed syllables between the last two primary stresses. The section marked '…' may contain any number of unstressed syllables, including zero.)

Consequently, (12a) may become (12b). The words are: *csak* 'only', *azt* 'that-acc.' dem. pron., *kérdeztem* 'asked-1sg.', *hogy* 'that' conj. and *mikor* 'when'.

[3] This high monotone character in the middle can be replaced by a descending or rising character, too, but these possibilities of replacement are irrelevant from the point of view of the present discussion. The high monotone, the descent and the rise all correspond to Bolinger's Profile B; 1989 : 3.

(12) a. Csak ˈazt kérdeztem, hogy `mikor.
1 2 3 4

b. Csak ˈazt kér¯deztem, hogy | `mikor.
1 2

‘I only asked when.’

Similarly, (13a) may become (13b). The following words are used: *hát* ‘well’, *például* ‘for example’, *kísérletezhetnétek* ‘experiment-could-2pl.’, *egy* ‘a, an’, *másikkal* ‘other-with’).

(13) a. Hát például ˈkísérletezhetnétek egy `másikkal.
1 2 3 4 5 6 7

b. Hát például ˈkísérletezhet¯nétek egy | `másikkal.
1 2

‘Well, for instance you could experiment with another one.’

There are no other places for the new primary stress: (13c), (13d), (13e) and (13f) are all impossible.

(13) c. *Hát például ˈkísér¯letezhetnétek egy | `másikkal.
1 2 3 4 5

d. *Hát például ˈkísérle¯tezhetnétek egy | `másikkal.
1 2 3 4

e. *Hát például ˈkísérletez¯hetnétek egy | `másikkal.
1 2 3

f. *Hát például ˈkísérletezhetné¯tek egy | `másikkal.
1

If there are only three unstressed syllables between the last two primary stresses, as in (14) and (15a), then the unstressed syllable in the middle will become primary stressed, initiating the high monotone, so that it will be followed by one unstressed syllable before the final fall, cf. (15b).

(14) ˈσ σ σ σ `σ → ˈσ σ ¯σ σ | `σ
1

So (15a) may become (15b). *Elmegyek* can be glossed as ‘away-go-1sg.’, *a* as ‘the’, *könyvtárba* as ‘library-to’.

(15) a. ˈElmegyek a `könyvtárba.
1 2 3
b. ˈElme¯gyek a | `könyvtárba.
1
'I am going to the library.'

The new primary stressed syllable here cannot be followed by two unstressed syllables because then it would have to fall on the syllable immediately after the first primary stress, and that would create a stress clash. (15c) is unacceptable.

(15) c. * ˈEl¯megyek a | `könyvtárba.
1 2

Character insertion may produce primary stress not only on a word-internal unstressed syllable, but also on the first syllable of a word that would not otherwise take primary stress. The words in (16a–b) are: *elmentem* 'away-went-1sg.', *volna* 'would be', *az* 'the', *állatkertbe* 'zoo-to'. The first syllable of the word *volna* is normally unstressed, cf. (16a), but through character insertion it becomes primary stressed in (16b).

(16) a. ˈElmentem volna az `állatkertbe.
1 2 3 4 5
b. ˈElmentem ¯volna az | `állatkertbe.
1 2
'I would have gone to the zoo.'

We can set up the following rule of character insertion:

(17) **Character Insertion Rule:**
When the last two primary-stressed syllables of an IP initiate a half fall and a full fall, respectively, and there are three or more unstressed syllables between them, then a new primary stress with a high monotone character may appear on the third syllable counting backwards from the final primary-stressed syllable, unless this new primary stressed syllable is adjacent to the first primary-stressed syllable. In the latter case the new primary stress will appear on the second syllable counting backwards from the final primary-stressed one, so that a stress clash with the first primary stressed syllable should be avoided.

Character insertion is an optional process, chosen to produce an attitudinally marked stress and intonation pattern, consisting of a half fall, a high monotone and a full fall (in Bolinger's terms: Profiles A + B + A). If we regard the high monotone and the full fall as terminal contours (i.e., if we adopt the "IP" analysis of Hungarian intonation), then the appearance of the high monotone cuts the original IP into two.

This combination of half fall, high monotone and full fall at the end of the utterance signals that the speaker considers the contents of the sentence self-evident (obvious, natural, easy to guess or easy to understand), usually with an implication of the speaker's intellectual superiority or official authority and it sounds patronising and categoric at the same time. Consequently it is especially common in lecturing and explanations given to children by teachers (especially women teachers), but also occurs in self-defence and protests.

Character insertion, however, is not the only device whereby this "self-evident" attitude can be expressed. Processes of CHARACTER CHANGE can have results with the same meaning.

(18) **Character Changing Rule:**
When the last three primary stressed syllables of an IP initiate two half falls followed by a full fall, the half fall starting on the medial primary stressed syllable may be replaced by a high monotone character.

In other words, Bolinger's A + A + A becomes A + B + A. This is not character insertion (there are three primary stresses already in the initial version) but character change (the originally half-falling contour initiated by the second primary stressed syllable becomes a high monotone). Nevertheless, in the "IP" framework, where the high monotone is a terminal contour, replacing the medial half falling character with a high monotone means dividing the original single IP into two, just as in the case of character insertion. Thus (19a), which is "non-attitudinal", can be replaced by the attitudinally marked (19b). The words can be glossed as follows: *mert* 'because', *nem* 'not', *volt* 'was-3sg.', *elegendő* 'enough', *bizonyítékom* 'proof-my'.

(19) a. Mert ˈnem volt ˈelegendő ˋbizonyítékom.
b. Mert ˈnem volt ˉelegendő | ˋbizonyítékom.
'Because I did not have sufficient evidence.'

The kind of character change illustrated in (19b) is another device whereby the meaningful combination of half fall, high monotone and full fall can be achieved, and thus the "self-evident" attitude expressed.

The same attitudinal meaning can also be expressed by character insertion, as is shown in (19c):

(19) c. ?Mert ˈnem volt ˈele¯gendő | `bizonyítékom.

But the appearance of a fourth primary stress in (19c), viz., on the syllable *-gen-,* would create a staccato effect which the speaker might find unpleasant, and so (19c) seems to be a less likely realisation.

When the sentence has only two primary stressed syllables, introducing a half fall and a full fall, and they have fewer than three unstressed syllables between them, character insertion cannot take place, but the "self-evident" attitude described can still be expressed by turning the first character into falling-rising, symbolised as 'ˇ'. This is a kind of character change again.

Thus (20a) may become (20b), and (21a) may become (21b). The words are: *írt* 'wrote-3sg.', *egy* 'a, an', *néhány* 'a few', *levelet* 'letter-acc.'.

(20) a. ˈÍrt egy `levelet.
b. ˇÍrt egy | `levelet.
'He wrote a letter.'

(21) a. ˈÍrt néhány `levelet.
b. ˇÍrt néhány | `levelet.
'He wrote a few letters.'

This kind of character change is a device which can be used when the conditions for character insertion are not met but the speaker wishes to convey the "self-evident" meaning attached to character insertion.

To sum up, in the first part of this article I explored the possibility of analysing Hungarian intonation in terms of IPs consisting of Preparatory Part, Scale and Terminal Part, and found that such an analysis, though not strictly necessary, has more advantages than the analysis without IPs. Then in the second part I examined the processes of Secondary IP Formation, i.e., character insertion and character change, by which we split an originally syntax-related IP into two IPs, for attitudinal reasons. Secondary IP Formation is not a real counter-argument against the "IP" approach to Hungarian intonation.

REFERENCES

Bolinger, Dwight. 1986. Intonation and Its Parts. London: Edward Arnold.

Bolinger, Dwight. 1989. Intonation and Its Uses. London: Edward Arnold.

Féry, Caroline. 1993. German Intonational Patterns (Linguistische Arbeiten 285). Tübingen: Max Niemeyer Verlag.

Ladd, D. Robert. 1986. Intonational phrasing: the case for recursive prosodic structure. Phonology Yearbook 3 : 311–340.

Ladd, D. Robert. 1994. Review of German intonational patterns, by Caroline Féry. Linguistische Berichte 154 : 489–492.

Ladd, D. Robert. 1996. Intonational Phonology. Cambridge: Cambridge University Press.

Németh T. Enikő. 1996. A szóbeli diskurzusok megnyilatkozáspéldányokra tagolása [Division of oral discourse into utterance-tokens] (Nyelvtudományi Értekezések 142). Budapest: Akadémiai Kiadó.

Pierrehumbert, Janet B. 1980. The phonetics and phonology of English intonation. PhD dissertation, Massachusetts Institute of Technology.

Selkirk, Elisabeth O. 1984. Phonology and Syntax: The Relation between Sound and Structure. Cambridge, Mass.: MIT Press.

Varga László. 1987. Prozodémák a magyar beszédben és jelölésük az intonációs átiratban [Prosodemes in Hungarian speech, and their notation in intonational transcripts] (Műhelymunkák a nyelvészet és társtudományai köréből III). Budapest: MTA Nyelvtudományi Intézete. 91–119.

Varga, László. 1994. A hanglejtés [Intonation]. In: Kiefer Ferenc (ed.) Strukturális magyar nyelvtan 2: Fonológia [A structural grammar of Hungarian 2: Phonology]. Budapest: Akadémiai Kiadó. 468–549.

Varga, László. 1996. Hungarian intonation contours. The Even Yearbook 2 : 111-144.