

PITCH AND TONE IN ENGLISH AND SLOVENE*

O'Connor and Arnold's model of British English intonation (O'Connor, Arnold, 1973), which was the basis of my comparison of English and Slovene sentence intonation*) consists of the following types of pitch and tone:

1. low and high (emphatic) prehead,
2. high, low, rising, and falling head (unemphatic); and stepping, sliding, and climbing head (emphatic),
3. seven nuclear tones, i.e. low fall, high fall, rise-fall, low rise, high rise, fall-rise, and mid-level.

Depending on the nuclear tone, the syllables of the tail may be low (falling nuclear tones), gradually rising (rising nuclear tones), first low and then rising (fall-rise nuclear tone), all syllables low or first syllable high, the others low (rise-fall nuclear tone), and mid-level (mid-level nuclear tone).

The pitch levels, the basic types of head, and the nuclear tones are marked as:

- (relatively) low stressed syllable: \circ (e.g. I \circ know you can \circ do it.)
- (relatively) high stressed syllable: $\overset{\circ}{\circ}$ (e.g. I $\overset{\circ}{\circ}$ know you can $\overset{\circ}{\circ}$ do it.)
- low prehead: unmarked (e.g. I \circ know.)
- high prehead: $\overset{\circ}{\circ}$ (e.g. $\overset{\circ}{\circ}$ I \circ know.)
- high head: $\overset{\circ}{\circ}$ (e.g. $\overset{\circ}{\circ}$ I \circ know.)
- low head: \circ (e.g. I \circ know.)
- rising head: \nearrow (e.g. I \nearrow know you can \circ do it.)
- falling head: \searrow (e.g. I \searrow know you can \circ do it.)
- low fall: \circ (e.g. I \circ know.)
- high fall: $\overset{\circ}{\circ}$ (e.g. I $\overset{\circ}{\circ}$ know.)
- rise-fall: $\overset{\circ}{\circ}$ (e.g. I $\overset{\circ}{\circ}$ know.)
- low rise: \circ (e.g. I \circ know.)
- high rise: $\overset{\circ}{\circ}$ (e.g. I $\overset{\circ}{\circ}$ know.)
- fall-rise: $\overset{\circ}{\circ}$ (e.g. I $\overset{\circ}{\circ}$ know.)
- mid-level: $>$ (e.g. I $>$ know.)

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As for standard Slovene, there is unfortunately no detailed description of pitch and tone. In his description of Slovene sentence intonation, Toporišič (1984) gives a very general outline of three basic pitch movements, which he terms as 'cadent', 'anti-cadent', and 'semi-cadent'. The first two terms refer to falling and rising nuclear tones, while the third is, according to Toporišič, 'usually similar to anti-cadent, but may also be cadent' (Toporišič 1984:455), and obviously refers to different tonal realizations in non-final word groups.

After analysing an extensive corpus of short dialogues in Slovene, based on examples in O'Connor and Arnold (1973), I can conclude that Slovene intonation is by no means restricted to falling and rising nuclear tones, but has practically the same variety in terms of pitch and tone, in particular in the number of nuclear tones, as any other intonation language. In addition, of course, sentence intonation in Slovene is influenced by the tonemicity (word intonation) of those speakers who distinguish between the 'acute' and the 'circumflex' realizations of individual lexical items. This aspect of Slovene intonation will only be marginally described here, in particular with regard to its parallel with the pitch distribution of one particular nuclear tone in English, i.e. the rise-fall.

Let us now examine the main differences between English and Slovene in pitch levels, tones, and combinations of the two in constituent elements of the word-group, i.e. the prehead, the head, the nucleus, and the tail.

1 Comparison of pitch levels in the prehead

English intonation analysts hardly pay any attention to the pitch of the prehead. They mostly seem to agree that regardless of the pitch level or tone of the segment that follows, the prehead is prevalingly relatively low, consisting of a small number (in most cases 1-3) of usually unstressed syllables. It should be noted, however, that some authors underline the interdependence of the pitch level of the prehead and that of the following part of the word group, explaining it as the occurrence of 'tonal sandhi' (see Couper-Kuhlen, 1986:86). We would therefore expect that the high prehead occurs in particular in those word groups in which it is followed by a high pitch of the head or the nucleus. This approach seems to be in accordance with Brazil's explanation of interdependence of 'register' and 'termination' (Brazil, 1985:181), but it does not explain the occurrence of the opposite phenomenon, i.e. of considerable differences in the pitch levels of the prehead and the first syllable of the head or the nucleus, as exemplified and described by O'Connor and Arnold.

When the two pitch levels are the same or similar, we can easily find examples where realizations in English and Slovene overlap, both in the case of the low and the high prehead. The examples below are from O'Connor and Arnold (1973), the Slovene equivalents are my own:

I'm a ,painter.

Sli ,kar sem.

In ,which ,drawer?

V ka ,terem pre ,dalū?

˘So ˘this is your ,house!

˘A ˘to je ,tvoja ,hiša!

˘Good ˘morning!

˘Dobro ˘jutro!

This could be exemplified also for combinations of the low/high prehead with the low/high head and with the low/high rising or the mid-level nuclear tone.

According to O'Connor and Arnold (1973:36), the high prehead is used to make the whole word group more 'emphatic', in particular when the prehead is followed by a low syllable of the head or the nuclear tone. This was previously pointed out by Kingdon (1958:47-49), who is more convincing in that he does not consider other combinations of the high prehead and the head or the nucleus as emphatic at all, but sees emphasis also in combinations of the low prehead and the high pitch of the segment following it. It should be mentioned, nevertheless, that also in O'Connor and Arnold, the high prehead is mostly used in combinations with a low onset of what follows, and it is precisely here that we find an important difference between English and Slovene.

The examples in the dialogues (number of dialogue in brackets) at the end of their book can be divided into five combinations of the high prehead and the head or the nuclear tone, i.e.:

1. high prehead + rising head, e.g.

˘Why ˘ever ˘not? (10)

2. high prehead + low head, e.g.

˘You could have ,spared us one of ,those | ... (10)

3. high prehead + low fall nuclear tone, e.g.

˘It's de ,lightful. (3)

4. high prehead + low rise nuclear tone, e.g.

˘Ex ,aggerate? (6)

5. high prehead + rise-fall nuclear tone, e.g.

˘I can i ^magine! (3)

There is considerable difference in the pitch levels of the two segments discussed in these examples, although slightly smaller in combinations 3. and 5., where the nucleus is in mid-level rather than high position.

Except for number 3, which I actually found in several realizations of examples in the Slovene corpus, these combinations would sound most unusual in Slovene. The

most common intonational patterns of the equivalents of the examples above, if we retain the selected heads and nuclear tones wherever possible, would be:

1. Za 'kaj pa `ne?
2. Lah ,ko bi nam nak ˆlonil ˆnega od `tistih.
3. Čudo ,vito je.
4. Da preti ,ravam?
5. Si pred ^stavljam.

As has been confirmed by the majority of realizations in the corpus of Slovene dialogues, by far the prevailing patterns are those of the low prehead with a low onset of the head or nuclear tone. In the Slovene equivalents above, however, I have replaced the rising head in the first example and the low rise nuclear tone in the second, because the rising head is very seldom used in Slovene, and the low rise is hardly ever used in statements, except for what O'Connor and Arnold refer to in English as 'calm, casual acknowledgement' (1973:62), as in e.g. 'Good. Thank you.' etc.

In Slovene, the high prehead is therefore commonly used only before a high onset, and expresses in most cases a strongly emotional, exclamatory attitude, in combination with either the high head or one of the high-onset nuclear tones (high fall, high rise, high rise-fall), e.g.:

1. ^Za kaj pa `ne?
2. ^Čudo `vito je.
4. ^Da preti ´ravam?
5. ^Si pred ^stavljam.

(Note that in some examples the intonation mark ^ is also used (at 3 different levels) to show the relative pitch level of the syllable following it; thus the mark ^ above is used for 'high rise-fall', to distinguish it from the English rise-fall with medial, rather than high onset.)

2 Comparison of pitch levels in the head

Since O'Connor and Arnold mostly deal only with unemphatic types of head (i.e. high, low, rising, and falling), the emphatic subtypes (stepping, sliding, and climbing head) will not be discussed here. It should be mentioned, however, that one of these, namely the stepping head (with each stressed syllable of the head a step lower than the preceding one), does occur in Slovene, with the same 'weighty' effect, e.g.:

'What the ^-hell are they ,waiting for?

What the
 hell are they w
 aiting for ?

'Kaj za '-vraga zdaj ,čakajo?

Kaj za

vraga zdaj č

akajo?

In the corpus of Slovene dialogues, I found no realization of the other two subtypes, i.e. the sliding and the climbing head.

The rising head in O'Connor and Arnold is only used in combination with the high fall nuclear tone. Some realizations in the Slovene corpus seem to be comparable with their English equivalents, but on closer examination it becomes obvious that this is merely coincidental, resulting from the Slovene interplay of word and sentence intonation. The 'equivalence' occurs when the head contains a word with the acute word intonation, i.e. a combination of low stressed and high unstressed syllable, as in:

'-Da 'la bom od `poved.

(I will hand in my resignation.)

Were this actually a realization of the rising head, each syllable of the head, not only the second one, should be higher than the preceding one, which is not the case. This becomes more obvious with longer heads, where we can find several words with the acute toneme, and consequently several rises of the pitch. One such example, with two rises, is:

'-Vi`dela sem °-tisti °-no `vi `film.

(I've seen that new film.)

dela sem f

tisti vi i

Vi no l

m.

There is a similar superficial resemblance between the English falling head (combining in O'Connor and Arnold always with the fall-rise nuclear tone) and pre-nuclear falls of pitch in a number of Slovene examples, in which the nuclear tone is prevailingly a fall or a rise-fall. I do not, however, consider such falls as realizations of a falling head, but as a series of nuclear tones within the same word group. The main differences between the English falling head and these seemingly equivalent Slovene realizations are the following:

1. along with falling intonation of the pre-nuclear segment, there are realizations in Slovene with a rise-fall, either on a single syllable or as a divided rise-fall (word intonation), e.g.:

Ne `bodi ^smešna. (Don't be ridiculous.)

Ne `bo`di pre °več pre`pričan. (Don't be too sure.)

2. the first stressed syllable of the falling segment in Slovene examples is not always the stressed syllable of the first accented word; this segment is therefore not the head of the word group, e.g.:

'Kje pa `hodiš ta ɔko `dolgo? (Where have you been so long?)

3. in Slovene, a word group may contain several accented words with falling intonation, whereas the combination falling head + nucleus may in principle only have two, e.g.:

`Ta pres `neta `ura! (Oh this wretched clock!)

All examples of this type are consequently not considered as combinations falling head + rise-fall/high fall but as word groups with two or more nuclei. It is sometimes difficult to work out from such realizations which nucleus should be considered as primary, and which secondary or tertiary, but suffice it to say at this point that at least in standard Slovene, just as in standard English, word groups with more than one nucleus are relatively rare and used only in highly emotional utterances, but they are quite frequent in certain regional dialects.

The two remaining types of head (high and low) are both often used in Slovene. In O'Connor and Arnold's intonation model, the high head seems to be by far the most frequent type of head in English, used in combination with all nuclear tones except for the fall-rise, while the low head is only used with the low rise.

On the basis of analysis of the Slovene corpus, it can be claimed that the high head is also the 'typical' head in Slovene; it is prevalingly falling gradually when it is relatively long, but by no means as sharply as the English falling head. If we take into account some other views on the actual shape of the high head in English, it is questionable if there is any significant difference in this respect between the two languages. According to Kingdon, for example (1958:3), the typical head in English consists of 'a slowly descending series of level tones', and according to Roach (1991:155) 'there is usually a slight change in pitch (...) in the direction of the beginning pitch of the tone on the tonic syllable.' Some English authors also disclaim O'Connor and Arnold's limitations in combining certain head types with certain tones, pointing out that 'one can conceivably find any type head with any type nucleus' (Couper-Kuhlen, 1986:85).

If we accept O'Connor and Arnold's view, however, at least as a presentation of the most common combinations of heads and nuclear tones, we can conclude that Slovene is different from English in that there are no typical combinations. Both the high and the low head combine with a number of different nuclear tones, but there are limitations of the same type as explained above in examining the high prehead. In the majority of realizations in the Slovene corpus, the pitch difference between the head and the nucleus is relatively small, so that one seldom finds combinations e.g. of the high head and the low rise (the Low Bounce tone group in O'Connor-Arnold), or of the low head and the high fall/rise, which seems to be untypical also in English. When such combinations do

occur, however, the head is usually shifted towards the initial pitch of the nuclear tone, so that a kind of 'mid-level' type of head is applied. Compare for example:

But 'can we af ,ford it?

Si lah ' -ko to pri ,voščimo?

3 Comparison of nuclear tones

In the corpus of Slovene dialogues, I have identified all types of nuclear tone which are more or less generally accepted for English sentence intonation, i.e. the low/high fall, the rise-fall, the low/high rise, the fall rise, and the mid-level. In addition, I came across a number of realizations that led to further subtypes in Slovene, giving an additional mid-fall nuclear tone, a long rise, a high-level tone, and different types of the rise-fall and fall-rise tones.

To illustrate the variety of realizations in some Slovene examples, let us take the following word group from the corpus (the number in brackets gives the number of realizations out of a total of 55 speakers):

Je stala? (Was she standing?)

Je ,stala? (22)

Je ,sta`la? (6) (long rise)

Je ~stala? (1)

Je ^sta-la? (2) (rise-fall-rise; subtype of fall-rise)

Je >stala? (3)

Je ´stala? (3)

Je ,stala? (1)

Je `stala? (1) (mid-fall)

Je `stala? (6)

Je ,sta`la? (5) (long divided rise-fall - word intonation influence)

Je ´sta`la? (1) (high divided rise-fall - word intonation influence)

Je ^stala? (4)

In order to make the comparison between the two languages clearer, I will try to avoid as much as possible discussing these different sub-type realizations in Slovene. It is clear, however, that this variety in Slovene, in comparison with relatively few possibilities in English, is mainly due to the fact that we are comparing actual realizations in Slovene with an admittedly foreign-learner oriented, and therefore simplified model of English intonation.

3.1 Falling nuclear tones

In comparison with Crystal's typology of falling tones (1969:211-213), O'Connor and Arnold's classification into the low and the high fall is also undoubtedly a simplification. In Slovene, however, it seems to be difficult to avoid the above mentioned division into the low, the high, and the intermediate mid-fall, which makes the comparison with the selected English model rather problematic. From the point of view of expression of attitudes, which will not be discussed here, one has to establish whether the mid-fall in Slovene is closer in this respect to the high (which, incidentally, I believe to be the case) or to the low fall. Here, however, we are only concerned with different realizations in terms of pitch levels and changes, so the question is irrelevant.

Concerning the initial pitch of the falling tone, we should bear in mind that in Slovene the first syllable (i.e. the nucleus) is lower than the second (i.e. the first syllable of the tail) when the nuclear word carries the acute word intonation, the result of which is (on the surface) a divided rise-fall nuclear tone. Such realizations will be discussed in the section on the rise-fall, but one should be careful not to confuse them with the only 'true', i.e. the undivided rise-fall in Slovene, because the two intonations are by no means two variants of the same tone as they are in English (see below).

An important difference between the two languages concerns the pitch level of the tail when this is not influenced by tonemicity. According to O'Connor and Arnold, all the syllables of the tail following a falling tone are low, which is generally not the case in Slovene when the selected tone is other than the low fall. As is explained by Toporišič (1984:453), it is typical of Slovene to have gradual lowering of the pitch from the first to the last syllable of the tail. There seems to be no such difference with the low fall because the pitch of the nucleus itself moves from mid-high to low, and the tail stays at the lowest level. Let us compare for example the following word groups from the English/Slovene contrastive corpus of dialogues:

˘Nobody can ˚come.

N

o

body can come.

Nih ˘če ne more ˚priti.

č

Nih e

ne

more

priti.

Well ,take it, .then.

Well t ake it then.

„Vzemi jo .torej.

Vz
emi jo torej.

Another difference between the two languages concerns the occasional slight step-up of the pitch at a certain point in the tail, which occurs in some Slovene realizations in the corpus. Generally, this takes place on the last stressed syllable of the tail, with the remaining syllables, if any, staying at this mid-level position. The examples in which such realizations were above 10% (i.e. with at least 6 speakers out of 55), are given below:

Ne `hodi -_odaleč. (7)

(Don't be long.)

Mar `res ne _o moreš biti _omalo _obolj popus -_otljiva?

Mar `res ne _o moreš biti _omalo -_obolj popus -_otljiva?

Mar `res ne _o moreš biti -_omalo _o-bolj popus -_otljiva? (total 15)

(Must you be so obstinate?)

Us `mili se me _o-vendar. (7)

(Have a heart, man.)

The rising of the tail can mainly be observed in questions, commands and exclamations, very seldom in statements. Since the sequence of pitches in such word groups is a fall from high pitch + low pitch + mid-level pitch, this intonation pattern can best be interpreted as a variant form of the fall + rise sequence of nuclear tones (i.e. as a near equivalent to the High Dive tone group in O'Connor and Arnold rather than to the Switchback with the fall-rise nuclear tone; see 'Fall-rise and fall + rise nuclear tones' below). Such an interpretation is supported by the fact that in the examples in which it can be found there are several realizations of the actual fall + rise combination, e.g.:

Ne `hodi ,daleč. (7)

Mar `res ne _o moreš biti _omalo _obolj popus ,tljiva? (6)

Us `mili se me ,vendar. (1)

3.2 Rise-fall nuclear tones

As I have already indicated, both the undivided form of the English rise-fall (with the rise and the fall on the nucleus) and its variant (the divided rise-fall with the approximate sequence: nucleus at medial pitch + high post-nuclear syllable + low pitch of the rest of the tail) as explained by O'Connor and Arnold, occur in Slovene in a number of variant forms, but only the undivided rise-fall can be interpreted as a true equivalent of the English counterpart. The divided rise-fall is merely the result of intonation of a word with the 'acute' in nuclear position, reflecting the realization of Slovene tonemicity. Non-tonemic speakers would generally use a simple fall instead.

The Slovene undivided fall-rise generally lacks the extensive pitch range from medial to high and back to very low, as attributed to English by O'Connor and Arnold, but can be carried out on two different levels. Compare:

Of [^]course.

 u
 o r
 c s
 Of
 e.

Se _^veda. Se [^]veda.

 e
 e Sev da.
 Se v da.

There is more variety in Slovene also for the tonemic variant of falling intonation, i.e. for the divided rise-fall, as illustrated below:

It's [^]beautiful. (to show the difference between the divided and the undivided forms, we can apply the marking 'It's -'beau`tiful' for divided rise-fall. In this case, the mark `` only indicates the pitch change, not accentuation)

 ti
 beau
 It's
 ful.

 ‚Le `pa je. ‚Le ‚pa je. ‘Le `pa je.

				pa
	pa		Le	
		pa		je.
Le	je.	Le	je.	

It is not quite clear from O'Connor and Arnold's explanation and their examples on the tape when one is expected to use the divided, and when the undivided variant. According to Kingdon (1958:133-137) the choice basically depends on the prominence of individual syllables following the nucleus, which, however, does not fully correspond to the realizations of the examples of O'Connor and Arnold on the tape, such as the following (with undivided rise-fall):

˘You ˙pay for it.

˙Nobody seems at ˘all ˙keen.

It's e ˙nough to make a ˘saint ˙angry.

It is interesting to note that in these examples, the nucleus is followed immediately by a stressed syllable; when it is followed by an unstressed syllable, the divided rise-fall is used in most examples on the tape. This may not be a general rule for the choice of the one or the other type of the tone, but the usage seems to correspond with that in Slovene, where it actually depends on the stress of the first syllable of the tail. The divided rise-fall (the acute toneme) can only occur if the word requiring such word intonation is followed by an unstressed syllable. Compare for example:

Na ˙prej ˘po ˙glej. (Take a look ahead.)

(with unstressed syllable 'po-')

But:

Na ˘prej ˙glej. (Keep looking ahead.)

˙Dol ˘so ˙šli. (They went down.)

But:

˘Dol ˙pojdi. (Go down.)

It is also interesting to note that when the sequence of the first two post-nuclear syllables is unstressed + stressed or unstressed, some speakers tend to have the fall on the second, rather than the first syllable of the tail, even if the second syllable is stressed. This may not be relevant in terms of comparison with English, but seems to be important from the point of view of Slovene tonemicity, e.g.:

Pa bo ˙res ig ˘ral? (Will he really play?) (the syllable 'ral' is stressed)

Ali ˙res no ˘misliš? (Do you really mean it?) (the syllable 'mis-' is stressed)

Ne ˙bo di ˘pre ˙več pre ˙pričan. (Don't be too sure.) (the syllable 'pre-' is unstressed)

3.2 Rising and level nuclear tones

I have decided to treat the two types of tone together because, functionally, level tones are closest to rising tones, since they are both often used in non-final word groups and because, in addition, level tones often occur in Slovene along with rising tones in final word groups, in particular in questions. In Slovene, level intonation in questions and non-final word groups can in my opinion in most cases actually be considered as a variant of rising intonation, the exception being the above mentioned questions with a falling tone followed by mid-level pitch of (a part of) the tail, which I treat as a variant of the fall + rise nuclear tone.

Surprisingly, O'Connor and Arnold make no mention of a 'full rise' nuclear tone, which I refer to as the 'long rise' and which is briefly discussed, for example, by Cruttenden (1986:60). Discussing its relation to the other two types of rise, Cruttenden states that in his particular example (given below with my tone mark for this type of rise), the fullrise is 'closer semantically to the highrise':

'Are you °going a /way?

This is probably the case also in Slovene, but we are primarily concerned here with its surface structure rather than its function, so we shall leave it at that. Although such intonation often occurs in my corpus of dialogues, it is only used in word groups with a tail, so that instead of a truly 'long' or 'full' rise we get a long step-up from the nuclear syllable to the only or the last syllable of the tail, e.g.:

Si 'šla z o .če ˘tom?

Let us now consider the two types of the rising tone, dealt with by O'Connor and Arnold, i.e. the low rise and the high rise. According to their model, the tail in both cases is gradually rising, so that each syllable of the tail is slightly higher than the preceding one, which is also the prevailing pattern in my corpus of Slovene dialogues. In addition, however, Crystal (1969:224) explains the occasional occurrence of 'flattening' in English, i.e. the levelling out of the tail, when (in the case of rising tones) 'one is near the top of one's voice range' before reaching the end of the tail, or 'when the tone is narrowed', the result of which is a sequence of tail syllables on the same pitch, e.g.(with my marking):

.When did you -°say that he was ˘°coming?

According to Crystal, this is a rare phenomenon in English, but considering the number of realizations in my corpus, quite frequent in Slovene, where the tail in all types of rising tone can even drop to a lower pitch, e.g.:

Si lah .ko -°to pri -°voščimo? (Can we afford it?)

Si lah .ko ˘to pri -°voščimo?

This, of course, can only take place in Slovene if there are at least two syllables in the tail; if there is only one, the tail may be on the same pitch as the nucleus, and if there is no post-nuclear syllable, the nucleus may be level rather than rising. In both cases,

the result is either a mid-level or a high-level nuclear tone. In Slovene, level nuclear tones also occur quite frequently in word groups with polysyllabic tails. In this case, just as with rising tones, we can find realizations with a step-down of part of the tail, e.g.:

Bi ˘šlo v -torek? (Would it be possible on Tuesday?)
 Si lah ˘ko to pri -voščimo? (Can we afford it?)

Level intonation apparently plays a minor role in English, since a number of analysts do not even include it in their systems. Even O'Connor and Arnold only introduced the mid-level tone in the second edition of their most important publication (1973:IX), claiming that it is commonly used only in non-final word groups (1973:88). In their model, this nuclear tone is on medial pitch level and combines with a preceding high head, so that there is a step-down in pitch from the head to the nucleus. In Slovene, on the other hand, this is usually the other way round; there is generally either a low head followed by a mid-level tone, or a mid-to-high head followed by a higher level tone. Compare e.g. the following non-final word groups in English and Slovene:

No it would 'probably be >wiser | to 'wait till ,Saturday.
 Ver -'jet no bi bilo ˘bolj °pametno | po 'ča kati do so ,bote.

3.3. Fall-rise and fall + rise nuclear tones

In O'Connor and Arnold's model the fall-rise (the Switchback tone group) and the fall + rise (the High Dive) are both combinations of a relatively high fall and a low rise, either as a single nuclear tone or as a combination of two. In Slovene, on the other hand, the initial pitch change is either a (high, mid or low) fall or a divided / undivided rise-fall, and the second change is either an actual rise or a step-up of a part of the tail, which gives a considerable number of different realizations, e.g.:

Mi boš po ,maga ,la? (Will you help me?)
 Mi boš po-˘maga ,la?
 Mi boš po-˘maga ,la?
 Mi boš po ,ma ,ga ,la?
 Mi boš po ,ma`ga ,la?
 Mi boš po ´ma`ga ,la?
 Mi boš po ,maga ,la?
 Mi boš po^maga ,la?
 Mi boš po-˘maga-la?
 Mi boš po-˘maga-la?

For the Slovene examples below, I will simply use the following notation for these different realizations of what I consider as variants of the fall + rise tone:

Mi boš po`maga ,la?

Concerning the pitch of the syllables between the falling and the rising nuclear syllables, the difference between the two languages is in principle the same as in the case of falling tones, i.e. low pitch in English and gradually falling in Slovene, e.g.:

˘When will you be ˙back?

 W
 h
 e
 n ack?
 will you be b

˘Kdaj se boš vr ˙nila?

 K
 daj
 se boš a?
 vr l
 ni

The fall-rise nuclear tone hardly ever occurs in my corpus of Slovene dialogues in word groups without the tail, i.e. with both pitch changes on the nuclear syllable. It can therefore be argued that Slovene realizations of this tone can more convincingly be interpreted in most cases as equivalent to the English fall+rise combination, and not as a single fall-rise nuclear tone. This, in addition to what I have said in 3.1 above, is confirmed by a considerable overlap of examples of the English High Dive tone group with equivalent Slovene examples in the corpus (and the lack of this in examples for the Switchback), e.g.:

How ˘can you be ˙so hard ˙hearted, °Father?

Ka˘ko ˙moreš biti ˙takšen, °oče?

˘When will you be ˙back?

˘Kdaj se boš vr ˙nila?

˘Must you ˙be so ˙obstinate?

Mar ˘res ne ˙moreš biti ˙malo ˙bolj popus ˙tljiva?

˘Have a ˙heart, man.

U˘smili se me ˙vendar.

˘Poor old ˙Peter!

U˘bogi ˙Peter!

Conclusion

Let me finally try to summarize the results of the above analysis of differences between English and Slovene with regard to pitch and tone in sentence intonation, in particular from the point of view of their relevance for non-native learners of English prosody:

1. The pitch difference between constituent parts of the word group is often smaller in Slovene than in English.

2. Slovene has less variety in types of the head, and there are no typical combinations of heads and nuclear tones as postulated for English by O'Connor and Arnold; the low head, however, is more commonly used in Slovene with low or medial onset of the nuclear tone, and vice-versa.

3. Slovene nuclear tones, if compared with the selected English model, show considerably greater variety in terms of pitch levels and pitch changes on the nucleus and within the tail. The only exception in this respect is the English fall-rise in word groups without a tail, which very seldom occurs in the corpus of Slovene dialogues.

4. The divided rise-fall only occurs in Slovene in tonemic realizations of falling intonation, and should therefore be considered as a tonemic variant of a falling nuclear tone.

5. The mid-level nuclear tone, which is considered as common only in non-final word groups in English, is often used in Slovene in all types of word group as a variant of rising intonation.

6. There is considerable overlap of pitch and tone in the two languages, which makes it easier for Slovene learners of English not only to become fully sensitive to the varieties of English intonation, but also to master it to the near-native level of 'instinctive command of the intonation patterns' (O'Connor and Arnold, 1973:vii).

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Povzetek

TONSKA VIŠINA IN TONSKI POTEK V ANGLEŠČINI IN SLOVENŠČINI

V slovenščini je višinska razlika med končnim delom enega in začetkom drugega segmenta intonacijske enote pogosto manjša kot v angleščini, kjer so povsem običajne zveze visokega izhodišča z nizkim prvim zlogom glave ali z nizkim rastočim jedrom. V slovenščini je opazna večja medsebojna odvisnost tonske višine posameznih segmentov, tako da je npr. nizka glava pogostejša pred razmeroma nizkim, visoka pa pred razmeroma visokim jedrom. V primerjavi z izbranim angleškim modelom ugotovimo v slovenščini večje število različic tonskih potekov jedra in repa. Deljena rastoče-padajoča intonacije, ki je v angleščini različica nedeljene, je v slovenščini le odraz tonemske uresničitve padajočega tonskega poteka. Ravna intonacija jedra in repa je v angleščini v končnih intonacijskih enotah redka, v slovenščini, kjer jo moramo obravnavati kot različico rastoče intonacije, pa pogosto nastopa tako v končnih, kot nekončnih intonacijskih enotah.