Unicode request for old-style IPA pitch and tonetic stress marks

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This request is for spacing accent marks and arrows that have been used as tone marks. They may be used as part of IPA phonetic transcription but are also used to mark prosody onto normal orthographic text, as illustrated in the figures.

Characters

◌̑   1DFC4 INVERTED BREVE.

◌̏   1DFC5 DOUBLE GRAVE ACCENT.

◌́   1DFC6 MODIFIER LETTER MIDDLE ACUTE ACCENT.

◌̀   1DFC7 MODIFIER LETTER SOUTH EAST ARROW.

↗   1DFC8 MODIFIER LETTER LOW NORTH EAST ARROW.

Properties

The mid-height letter is named per U+02F4 MODIFIER LETTER MIDDLE GRAVE ACCENT.

1DFC4;INVERTED BREVE;Sk;0;ON;<compat> 0020 0311;;;;N;;;;;

1DFC5;DOUBLE GRAVE ACCENT;Sk;0;ON;<compat> 0020 030F;;;;N;;;;;

1DFC6;MODIFIER LETTER MIDDLE ACUTE ACCENT;Sk;0;ON;;;;;N;;;;;

1DFC7;MODIFIER LETTER SOUTH EAST ARROW;Sk;0;ON;;;;;N;;;;;

1DFC8;MODIFIER LETTER LOW NORTH EAST ARROW;Sk;0;ON;;;;;N;;;;;

Annotations

The modifier arrows are distinct from the full-height arrows that are defined as having global scope in IPA and Lithuanian dialectology.

1DFC7 MODIFIER LETTER SOUTH EAST ARROW
       → 2197 ↘ south east arrow
       → 2B4F ↓ short backslanted south arrow
1DFC8 MODIFIER LETTER LOW NORTH EAST ARROW
       → 2197 ↗ north east arrow
       → 2B4E ↑ short slanted north arrow

Deferred

At the suggestion of the SEW, the middle macron has been split off into its own proposal.

- 1DF… MODIFIER LETTER MIDDLE MACRON.

Chart

1DF00   Latin Extended-G   **1DFFF**

	1DF0	1DF1	1DF2	1DF3	1DF4	1DF5	1DF6	1DF7	1DF8	1DF9	1DFA	1DFB	1DFC	1DFD	1DFE	1DFF
0	ﬀŋ	ʞ	ʤ	ɢ	A	ɟ	ω	ı	Ⱥ					ɣ	ʤ	ƚ
1	ʠ	ł	ʥ	ɣ	a	Ɐ	ɾ	ȷ	Ɇ					ᴘ	ʥ	ɳ
2	ɔ	ʣ	ʦ	ħ	ə	ʌ	ʃ	ɵ	ʍ					ƀ	ʃ	ŧ
3	ʞ	ʄ	ʧ	ɸ	E	ɵ	θ	ɵ	Ⱨ					đ	ʃ	ψ
4	ɫ	ŋ	θ	ʠ	ɛ	χ	θ	℧	ᵮ				ˆ	g	ʧ	ω
5	ʦ	ɟ	ʼd	ʁ	ɠ	ʏ	ʍ	℧	ʅ				˝	ł	ʧ	ɖ
6	ʄ	ʆ	ɬ	ʞ	ɦ	ʔ	ʐ	℧	ç				ˏ	ł	ʒ	ɧ
7	ɑ	ʧ	ᴎ	ʐ	ɦ	ɻ	ʣ	ω	X				ˎ	ɹ	ʒ	ŋ
8	ʝ	ʒ	ʏ	ʧ	K	ɔ	Ⱥ	Ⱨ	x				ˏ	ɥ	D	ʂ
9	ʄ	ʤ	ʂ	ʏ	k	ʉ	ɑ	θ	℧				ᷓ	ɟ	Ⱥ	ʒ
A	!	ɨ	ʈ	ʃ	ᴍ	a	A	Ʊ					ᷓ	ʊ	E	ƈ
B	ʄ	ʠ	ʤ	ß	ɱ	ʧ	ʙ	ɥ					᷑	ʍ	ɪ	ʞ
C	ʃ	ʧ	ʧ	θ	ɱ	ɛ	Ɛ	ɯ					᷒	ɲ	ɿ	ƀ
D	ʒ	ʗ	ʠ	ʞ	N	ɪe	ɛ	ɯ					ꟲ	r	ɥ	ʠ
E	ʒ	ʂ	ʣ	ɥ	ꞑ	ɔɪ	ɬ	℧					᷎	ꟙ	ɥ	ʄ
F	ɕ	�	ʤ	w	ꜧ	ɔu	ȷ	℧					᷍	φ	ɖ	ʄ

Background

Before the 1989 Kiel Convention, which formalized the current Chao tone letters, the IPA had somewhat different conventions for marking pitch and tone. The primary system was similar to the Chao letters but lacked the vertical stave. Thus high, mid and low level tone were ⟨˗a -a ˳a⟩, equivalent to modern ⟨a˥ a˧ a˩⟩; falling-tone ⟨ˋa ˎa ˎa⟩ and rising-tone ⟨ˊa ˏa ˏa⟩ were equivalent to modern ⟨a˥˩ a˧˩ a˩˩⟩ and ⟨a˥˩ a˧˩ a˩˧⟩.

(The pre-Kiel convention for placement of tone marks was before the syllable or word, as is still the case for stress marks. The current convention allows Chao tone letters to be placed either before or after the syllable or word, sometimes with a difference in meaning – for example, placed before to indicate prosodic intonation in the illustration of Portuguese in the *Handbook of the IPA*, and placed after to indicate lexical tone in the illustration of Cantonese – but they are most commonly placed after, as in the preceding paragraph.)

The old-style tone marks belong to the same graphic family as the IPA stress marks U+02C8 ⟨ˈ⟩ and U+02CC ⟨ˌ⟩, and harmonize with them as simple lines. Unicode does not treat staveless old-style tone marks such as ⟨ˋ⟩ as distinct characters from staved Chao tone letters such as ⟨˩⟩. Instead, an Open Type *character variant* option may be used to modify the appearance of the Chao characters. In the serif Gentium and sans-serif Andika fonts, for example, selecting cv92=1 sets "tone contour staves" to "hidden," and that is the remedy used to typeset the old-style tone marks in these paragraphs. See **Figure 1** for an example of text that would be best digitized as Chao tone letters with the stave suppressed.

Figure 1. Catford (1977: 205). Complex pitch lines such as this one in [hi ⌇dɪːːd] are best handled as Chao tone letters with the stave suppressed, an Open Type option available in some IPA fonts.

Graphic substitutes for the high and low rising and falling tones, when fonts with a stave-suppressing option are not available, include the "raised" and "low" omission brackets, U+2E0C ⟨⸌⟩, 2E0D ⟨⸍⟩, 2E1C ⟨⸜⟩ and 2E1D ⟨⸝⟩. Unicode does not have mid omission brackets *⟨˴⟩, *⟨˴⟩, though mid rising may be approximated instead with an oblique hyphen, U+2E5D ⟨⹝⟩. Because this is a matter of font support and such transcriptions are more properly encoded with the Chao tone letters already supplied by Unicode, we do not request mid brackets as a hack for tone marks.

Simple geometric lines are not the only way that pitch is marked in old-style IPA. Quite commonly, tone marks were typeset instead with spacing accent marks – macron, acute, grave, circumflex and caron – placed at three distinct heights in the letter space. Most of the possibilities are already supported by Unicode. The middle macron ⟨-⟩ and middle acute ⟨ˊ⟩ are missing, however. The middle macron we defer for now, as there are already multiple hyphen-like characters, but we request the middle acute.

In addition, there are several somewhat idiosyncratic but widespread old-style tonetic *stress* marks: marks used for the pitch specifically of stressed syllables. There are several gaps in their Unicode coverage. We illustrate the marks with the classic exposition by O'Connor & Arnold (1973). Cruttenden (1997) and Carley & Mees (2021) show old-style tone marking has continued since the 1989 Kiel convention. Similar examples could be multiplied from other publishers.

Tone marks typeset as spacing accent marks

Among the spacing accent marks used to indicate pitch, the high set ⟨ ˉ ´ ` ˆ ˇ ⟩ is the default, used when no further phonetic distinction needs to be made. The low set ⟨ ˍ ˏ ˎ ⟩ augments these for low pitch. That is, ⟨ ˉ ´ ` ˆ ˇ ⟩ when used alone mean pitch or tone that is simply *level*, *rising*, *falling*, *peaking*, and *dipping*; it is only when they contrast with the low set ⟨ ˍ ˏ ˎ ⟩ that they take on the implication of high pitch. The mid accent marks ⟨- ˈ ˌ⟩ are tertiary: They are typically used when a two-way high–low contrast is insufficient, and they are consequently less frequent in texts. A three-way contrast of ⟨ ˉ - ˍ ⟩ is routine for level pitch, even if only one or two needs to be used, and it is not uncommon for rising and falling pitch to also show a three-way contrast, but this is less likely for more complex pitch contours. We have been unable to find examples in the literature of a mid-height circumflex or caron used to transcribe mid-peaking or mid-dipping pitch, and we do not request them here.

Unicode coverage

The basic set of IPA spacing accent marks, illustrated to varying degrees of completeness in IPA publications prior to 1989, is presented in **Table 1**. The high and low sets have complete Unicode coverage, but there is only a single character in the middle set: U+02F4 MODIFIER LETTER MIDDLE GRAVE ACCENT. As noted above, a middle circumflex or caron is unlikely to be needed. That leaves the *middle macron* and *middle acute accent* lacking Unicode support.

Pitch contour:	*Level*	*Rising*	*Falling*	*Peaking*	*Dipping*
High pitch	U+02C9 ˉ	U+02CA ´	U+02CB `	U+02C6 ˆ	U+02C7 ˇ
Mid pitch	[deferred] -	[proposed] ˈ	U+02F4 ˋ	*(not attested)*	
Low pitch	U+02CD ˍ	U+02CF ˏ	U+20CE ˎ	U+A788 ˛	U+02EC ˬ

Table 1. The spacing accent marks used as tone marks in old-style IPA, and the Unicode characters that can be used for them. Mid-level and mid-rising are not supported.

Other tone marks

Various other tone marks that are not semantically equivalent to combinations of Chao tone letters have been used in IPA notation. They may conflate pitch and stress or indicate other patterns of intonation. For example, the double accent marks U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT ⟨˵⟩ and U+02F6 MODIFIER LETTER MIDDLE DOUBLE ACUTE ACCENT ⟨˶⟩ have been used for emphatic falling and rising intonation.

Arrows are also found. Two common ones, low rising ⟨˽⟩ and high falling ⟨˴⟩, are requested. These differ semantically from the IPA arrows for global changes in pitch, U+2197 NORTH EAST ARROW ⟨↗⟩ and U+2198 SOUTH EAST ARROW ⟨↘⟩, in that they are *tonic* marks that also indicate that a syllable is stressed, so markup is insufficient (see for example Figure 7); similarly with the steeper Lithuanian

dialectological arrows U+2B4E ꜱʜᴏʀᴛ ꜱʟᴀɴᴛᴇᴅ ɴᴏʀᴛʜ ᴀʀʀᴏᴡ ⟨↗⟩ and U+2B4F ꜱʜᴏʀᴛ ʙᴀᴄᴋꜱʟᴀɴᴛᴇᴅ ꜱᴏᴜᴛʜ ᴀʀʀᴏᴡ ⟨↘⟩ that form a graphic set with U+2B5A..2B5F ⟨↗↗↗↘↘↘⟩. It is our experience in teaching (British) English intonation that the low or high positioning of the arrow has mnemonic significance, because the low or high starting point is crucial: The low rising arrow ⟨↗⟩ means specifically a low pitch from which a rise begins, and the high falling arrow ⟨↘⟩ similarly means a jump to a high pitch followed by a fall (**Figure 9**). The global arrows instead indicate a simple rise or fall in pitch without indicating that it starts low or high or that the syllable is stressed.

Also needed is a spacing double grave accent ⟨˵⟩ for floating extra-low tone, which would complete the set of spacing IPA tone diacritics commonly used to transcribe floating tone (**Table 2**).

Pitch contour:	Extra high	High	Mid	Low	Extra low
Combining mark	U+030B ̋	U+0301 ́	U+0304 ̄	U+0300 ̀	U+030F ̏
Floating tone	U+02DD ˝	U+02CA ˊ	U+02C9 ˉ	U+02CB ˋ	[proposed] ˵

Table 2. The spacing accent marks used for floating tones in modern IPA, and the Unicode characters that can be used for them. Double grave is not supported.

Double grave ⟨˵⟩ is also needed for Serbo-Croatian, along with an inverted breve ⟨̑⟩. These tone diacritics, standard in dictionaries, are used as standalone characters for abstract tone (Figure 12 *ff*). Theoretically these spacing diacritics could be handled by attaching U+030F ᴄᴏᴍʙɪɴɪɴɢ ᴅᴏᴜʙʟᴇ ɢʀᴀᴠᴇ ᴀᴄᴄᴇɴᴛ and U+0311 ᴄᴏᴍʙɪɴɪɴɢ ɪɴᴠᴇʀᴛᴇᴅ ʙʀᴇᴠᴇ to a whitespace character, but that approach is generally a poor solution: Applications could replace it with their own whitespace handling, and in addition line breaking and word selection could be affected.

References

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Figures

> En transcription *pratique* on a rarement besoin d'employer des signes pour des tons moyens; lorsqu'on tient à les indiquer, on peut employer les signes suivants:
>
> ꞈa moyen montant   -a moyen uniforme   ꜜa moyen descendant

Figure 2. Passy & Jones (1921). Old IPA transcription of mid pitch. Translation:

> *In* practical *transcription, we rarely need to use signs for mid tones; when we have to indicate them, we can use the following signs:*
> ꞈ*a mid rising*   -*a mid level*   ꜜ*a mid falling*

Only the last, *mid falling*, is currently supported by Unicode.

> taim stres-gruˑps, spiˑtʃ-gruˑps, ən pɔˑziz. ðiːz ə ðə stres-maˑks, toun-maˑks, gruˑp-maˑks, itsetrə tentətivli tə bi implɔid: ꞌ ˌ ¯ - ˌ ˋ ꞌ ↑ ↓ ˰ ǀ ǁ; siː ɔˑlsou **m.f.**, no. 106 (ʒɥijɛ-desãːbr, 1956), pp. 31–33. ðə spesimin iz ən ædæpteiʃn frəm P. Passy et H. N. Coustenoble, *Conversations françaises*, pp. 9 f.
>
> 1. -Let↓tre d'Henri ¯Smith | à -Jean Le franc. ǁ
>   -lɛ↓trədãri¯smit | a-ʒãlə ˌfrã ǁ
>   Liver¯pool, | le 7 a'vril, | 1950 (dix-neuf -cent cin ˌquante). ǁ
>   livər¯puːl | ləsɛtaꞌvril | diznœ-sãsæˌkãːt ǁ
>   Mon-cher a ˌmi, |
>   mõ-ʃɛɾa ˌmi, |

> 11. Au conꞌtraire, | je pense ¯surtout à ce que je pour ˌrai _ap¯prendre, |
>   okõꞌtrɛːr | ʒəpãs-syrtuaskəʒpu ˌre_a¯prãːdr |
>   et à Ꞌperↄ↓dre le moins de -temps pos ˌsible. ǁ
>   eaꞋpɛr↓drə _ ləmwæ̃d-tãpɔ ˌsibl ǁ

Figure 3. Dietrich (1970: 4–5). In line 1, a mid-height macron ⟨-⟩ (red) contrasts with both a high macron ⟨¯⟩ (blue) and a shorter orthographic hyphen ⟨-⟩ in *dix-neuf* (green). In line 11, mid-height macron ⟨-⟩ contrasts with both high and low macron ⟨¯ _⟩. (In the 'corrections' section on p. 40 of the next issue of the journal, orthographic ¯*surtout* is corrected to -*surtout* to match the IPA transcription above.)

Figure 4. Forrest (1947: 13). Contrast of mid ⟨-⟩ with high ⟨‾⟩ and low ⟨_⟩.

Figure 5. Elderkin (1982: 3, 4). High falling ⟨ˋ⟩ in the transcription of Sandawe. Loss of markup with existing Unicode characters would result in this becoming *global fall* ⟨↘⟩ in the intonation of the phrase, rather than falling pitch in the lexical tone.

the dog ran into the bush

Figure 6. Kelly & Local (1989: 120). High falling ⟨ˋ⟩ for delimitation of intonation in Igbo.

Figure 7. O'Connor & Arnold (1973: 285). The modifier arrows ⟨ˋ⟩ and ⟨ˌ⟩ in orthographic

text, where they mark prosodic emphatic stress with falling and rising pitch, not a global rise and fall in intonation. The text is:

eˌxactly my ˋpoint. ‖ If ˋthings go °on as they ˇare | ‾we
ˌshan't even °know we're ˋbeing perˌsuaded. ‖ It ˋwon't be an
ap°peal to ˇreason | or ˇsense. ‖ It'll be a diˈrect °influencing

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The ˅essence of the problem | is that we 'hear the sounds of a new ͵language | in 'terms of the sounds of our ͵first language. || ˅That's why it's ˅difficult | to 'get them ˈright, | and ˘that's why we can't ˅hear | when we're 'getting them ˈwrong. || So ˘when I tell ˅learners | that the ˅difficulty they're having | is the 'cumulative e͵ffect | of the 'dozens and dozens of little ͵ways | in which their ˘consonants and ˅vowels | are ˘mispro˅nounced, | and ˘not caused by a mys-terious phe˅nomenon | called ˘into˅nation, | they 'don't beˈlieve me. || If they ˘can't ˅hear something, | they 'don't believe it's ͵there. || It's 'human ˈnature,

2) Our system of in-text intonation marks requires only a small number of additions to the basic text, namely <u>underlining</u> and ['], [˘], [ˈ], [͵], [ˊ], [͵], [˅].

Figure 8. Carley & Mees (2021: 113). High falling ⟨˘⟩ for intonation in English. Again, the scope of the arrows is minimally the syllable, not global rise and fall in pitch as the baseline arrows ⟨↘⟩ and ⟨↗⟩ would. Also seen are ⟨ˈ⟩ ⟨ˊ⟩ ⟨͵⟩ ⟨ˊ⟩ ⟨͵⟩ and ⟨˅⟩.

steeper it is. When there's only one syllable in the head, the fall takes place on that syllable. The symbol for the falling head is [˘]

But I ˘only did what I thought was ˅best.   ˘Not a˅gain.   ˘Hold ˅on!
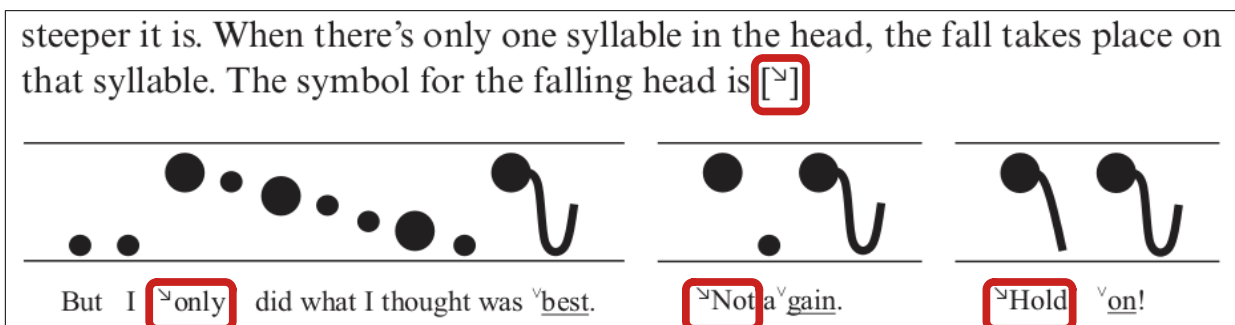
Figure 9. Carley & Mees (2021: 124). Note the pitch-reset in the first instance, where the unmarked low pitch in the pre-tonic syllables *But I* jumps to the high end of the speaker's range on ˘*only*, only to descend thereafter. There is a similar pitch-reset on ˅*best*, but the subsequent prosody differs.
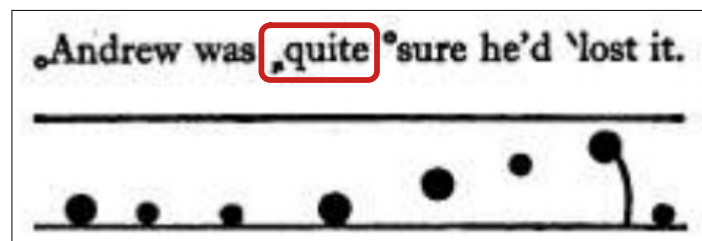
˳Andrew was ͵quite °sure he'd ˈlost it.

Figure 10. O'Connor & Arnold (1973: 35). A similar illustration of the low arrow on ͵*quite.*

Tone Marks

Position in tune		Pitch	Diagram on page
['] all positions		Relatively high level with any following pre-nuclear syllable(s) forming pitch scale descending to medium-low.	20
[,] all positions		Very low level with any following pre-nuclear syllable(s) forming pitch scale rising to pitch slightly lower than beginning of following ['].	21
[°]	after [']	Relatively high level, same pitch as preceding [''].	20
	after ['] [,]	Level, varying from relatively high to quite low and forming part of descending pitch scale indicated by ['] or of ascending pitch scale indicated by [,].	20, 21
	after [,]	Level, varying from quite low to medium and always higher than [,] or [°] immediately preceding.	17
	after [']	Level, varying from medium high to very high and always higher than ['] or [°] immediately preceding.	17
	otherwise	Relatively high level.	27
[.]	last syllable after [ˇ]	Very low rising to medium.	17
	before ['] [']	Level, varying from low to medium.	24
	otherwise	Very low level.	16, 24
[¯]		All syllables following this tone-mark and preceding a head or, in its absence, a nuclear tone, have the same high level pitch.	
[	]		Indicates the end of a word group and its accompanying tune, after which there is little or no pause.	
[‖]		Indicates the end of a word group and its accompanying tune, after which there is an appreciable pause.	

Except for [¯], [|] and [‖], all tone marks indicate a stressed syllable.

Except for [¯], [|], [‖], and for [°] and [.] when occurring in pre-heads and tails, all tone marks indicate an accented word.

For the pitch of ['], ['] and [,] in emphatic word groups, see Chapter I, pp. 36–38.

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Figure 11. O'Connor & Arnold (1973: 289). The arrows ⟨'⟩ and ⟨,⟩ (red) explained, including their identity as tonic pitch marks on stressed syllables (blue).

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Table 2.1
Number of times each accent type occurred with each syllable nucleus in the test words produced by P. I. (After 1963:33.)

Vowel	/˵/		/ˋ/		/ˆ/		/ˊ/	
	Words	Tokens	Words	Tokens	Words	Tokens	Words	Tokens
i	9	17	11	19	6	13	14	26
e	29	54	22	45	7	14	7	15

Figure 12. Lehiste & Ivić (1986: 37). ⟨˵⟩ and ⟨ˆ⟩ used as phonemic tone letters in the Serbo-Croatian tradition.

word types. The most curious case is that of speaker E13. In her pronunciation the vowel under ˵ had a rising F_0 contour, and the vowel under ˋ a falling contour (Ivić and Lehiste 1965:86). In no case did the direction of

Figure 13. Lehiste & Ivić (1986: 55). ⟨˵⟩ as a spacing character representing its tone.

Maretić's terminology (fast, slow, etc.). On the basis of five kymographic recordings, he tries to prove that the two long accents ˆ and ´ are pronounced differently in the genitive plural of nouns than in other instances.
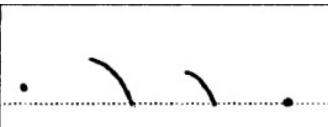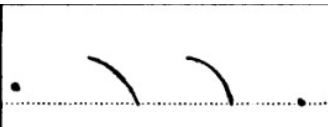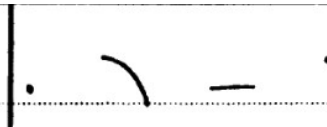
Figure 14. Lehiste & Ivić (1986: 33). ⟨ˆ⟩ as a spacing character representing its tone.

accents. Belić (1935b) mentions the rising character of the syllables under ˋ and ´ and the falling nature of the syllables under ˵ and ˆ, but adds that in words with ˋ and ´ the tone overflows into the following syllable, whereas with ˵ and ˆ "accent seems to detach the stressed syllable from other syllables, as if there were a pause after it" (p. 165). Belić states that falling

Figure 15. Lehiste & Ivić (1986: 30).

in a new way: ` is pronounced "oštro" (sharply), with ⌐ "glas (se) kao okrugao razlazi" (the voice goes out roundly), but with ´ "se glas upravo proteže" (the voice stretches in a straight line). Karadžić retains the unfortunate "accent" ^, but introduces ", stating that it is pronounced "oštrije" (more sharply) than `. Thus, we find here for the first time the complete inventory of four symbols that are still used to designate the four Neoštokavian accents. Meanwhile, Karadžić continues to use the symbol `

Figure 16. Lehiste & Ivić (1986: 5). The inverted breve ⟨ˆ⟩ (red) is historically distinct from the circumflex ⟨ˆ⟩ (blue) in Serbo-Croatian dictionaries, and this is reflected in Unicode characters such as U+0213 ȓ LATIN SMALL LETTER R WITH INVERTED BREVE. As in IPA, the graphic doubling of grave ⟨ˋ⟩ to form ⟨ˮ⟩ is motivated by an iconic doubling of its meaning.

Figure 17. Langston (2015: 75, 76, 79). Use of ⟨ˮ⟩ and ⟨ˆ⟩ for Serbo-Croatian prosody (along with ⟨˜⟩, ⟨ˋ⟩, ⟨´⟩ and ⟨˘⟩), analogous to ⟨ˉ⟩ and ⟨˘⟩ for Latin prosody.

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ˈ fɔːliŋ stres əv nɔːml pitʃ-reindʒ. ðis iz əv kɔːs ðə njuːkliəs toun əv ə nɔːml tjuːn 1.

\`\` fɔːliŋ stres əv imfætik pitʃ-reindʒ (tjuːn broukn ʌpwədz wen nɔt in iniʃl pəziʃn).

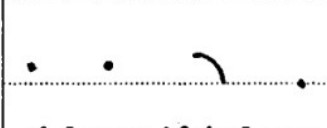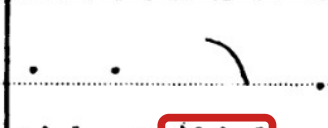| 4.			
imfætik	ai ˮkɑːnt ˈfaind wʌn	ai ˮkɑːnt ˮfaind wʌn	ai ˮkɑːnt ˈfaind wʌn

ai kɑːnt ˈfaind wʌn	ai kɑːnt ˮfaind wʌn

Figure 18. Kingdon (1939: 61, 62b). Once again, doubling the grave accent is iconic.

fræŋk.—ˮpliːz gou ˈɔn tɔm. ˈðis ˈræbit hæd ə ˮfain teil.
tɔm.—ˈjes, i ˈhæd—ə ˈfain ˈbuʃi ˈteil, ənd ˈæz i wəz ˈgoiŋ əˈlɔŋ i ˈsɔː mistə ˈfɔks.
fræŋk.—ən i ˈræn əˈwei veri ˮkwikli, ˈdidnt i ?

Figure 19. Kingdon (1939: 63).

The "čakavian acute" accent is always indicated by a tilde (˜), although a number of sources use an acute accent mark (´) instead. The short (falling) and long falling accents are indicated by the double grave (ˮ) and rounded circumflex (ˆ), respectively, as in standard Croatian/Serbian. The latter two symbols are also conventionally used to mark short and long accented

Traditional dialectological studies describe most čakavian dialects as possessing a "three-accent" system, which consists of a short falling accent (ˮ), a long falling accent (ˆ) and a long rising accent (˜), also referred to as the čakavian acute. Pitch distinctions occur only in long accented (stressed) syl-

Figure 20, Langston (2006: 21, 25).

The four word accents of the Vukovian system are represented, when necessary, by the diacritics ``, ˆ, ` , and ´ . These are categorized along two dimensions: whether

have become uniformly falling. A few examples illustrate how this shift transformed an older three-accent system (``, ˆ, ˜ ), attested across Štokavian, Kajkavian, and Čakavian alike, into the canonical Neo-Štokavian system of four accents ( ``, ˆ, ` , ´):

Figure 21. Werle (2009: 39, 44).

long rising (/ ˝ /): *dắti 'to give', *lípa 'linden', *vőrna 'crow', *zę́tъ 'son-in-law'
long falling (/ˆ/): *mę̂so 'meat', *gôlvy 'heads' (nom.-acc. pl.), *zîmǫ 'win-
ter' (acc.), *sŷnъ 'son'
short falling (/``/): *vèdǫ 'I lead', *drèvo 'tree', *nòsъ 'nose', *bь̀ralъ 'having
taken' (ptcp.)

the standard Lithuanian acute is taken by the "broken tone," marked by a glot-
tal catch (/ˆ/; cf. standard Lith. káulas 'bone' = Kr. kâ·uls). When the accent is
retracted from a non-acute final onto the root syllable, however, the contour
of the retracted accent is not identical with either of the two inherited into-
nations. The realization of the retracted accent depends on whether the root
is marked for acuteness. If the root is [+acute], it receives the "rising acute"
intonation (/´/), as, e.g., in á·rklĩs 'horse' for standard Lith. arklỹs (acc. árklį). If
it is not acute, it receives the "middle tone" (/ˆ/), as in rộ·nkà for standard rankà

Figure 22. Jasanoff (2017: 43, 41). ⟨ˆ⟩ and ⟨``⟩ used as phonemes. Note that the breve ⟨``⟩ contrasts with the circumflex ⟨ˆ⟩ (blue).

maintained and elaborated. The left-marginal accent continued to be ex-
pressed by a tonal fall, both on short nuclei (gen. sg. *dòmu; /``/ = short falling)

and on acute and non-acute long nuclei (acc. sg. *gôlvǫ = *zîmǫ; /ˆ/ = long fall-
ing). The loss of acuteness under the left-marginal accent is known as Meillet's

Figure 23. Jasanoff (2017: 233–234).

ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[1]
Please fill all the sections A, B and C below.
Please read Principles and Procedures Document (P & P) from std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html for guidelines and details before filling this form.
Please ensure you are using the latest Form from std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html.
See also std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html for latest *Roadmaps*.

A. Administrative

1. **Title:** *Old IPA tone and tonetic stress marks*
2. Requester's name: *Kirk Miller, Michael Ashby*
3. Requester type (Member body/Liaison/Individual contribution): *individual*
4. Submission date: *2025 June 06*
5. Requester's reference (if applicable):
6. Choose one of the following:
   This is a complete proposal: *yes*
   (or) More information will be provided later:

B. Technical – General

1. Choose one of the following:
   a. This proposal is for a new script (set of characters):
   Proposed name of script:
   b. The proposal is for addition of character(s) to an existing block: *yes*
   Name of the existing block: *Latin Extended G*
2. Number of characters in proposal: *5*
3. Proposed category (select one from below - see section 2.2 of P&P document):
   A-Contemporary   x   B.1-Specialized (small collection)   B.2-Specialized (large collection)
   C-Major extinct   D-Attested extinct   E-Minor extinct
   F-Archaic Hieroglyphic or Ideographic   G-Obscure or questionable usage symbols
4. Is a repertoire including character names provided? *yes*
   a. If YES, are the names in accordance with the "character naming guidelines"
   in Annex L of P&P document? yes
   b. Are the character shapes attached in a legible form suitable for review? *yes*
5. Fonts related:
   a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?
   Kirk Miller
   b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):
   SIL (Gentium Release)
6. References:
   a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? *yes*
   b. Are published examples of use (such as samples from newspapers, magazines, or other sources)
   of proposed characters attached? *yes*
7. Special encoding issues:
   Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? *yes*

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at www.unicode.org for such information on other scripts. Also see Unicode Character Database (www.unicode.org/reports/tr44/) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

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[1] Form number: N4502-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before? *no*
   If YES explain

2. Has contact been made to members of the user community (for example: National Body,
   user groups of the script or characters, other experts, etc.)? *yes*
   If YES, with whom? *The authors are members of the user community.*
   If YES, available relevant documents:

3. Information on the user community for the proposed characters (for example:
   size, demographics, information technology use, or publishing use) is included?
   Reference:

4. The context of use for the proposed characters (type of use; common or rare) *phonetic*
   Reference:

5. Are the proposed characters in current use by the user community? *yes*
   If YES, where? Reference: *see illustrations*

6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely
   in the BMP? *no*
   If YES, is a rationale provided?
   If YES, reference:

7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? *no*

8. Can any of the proposed characters be considered a presentation form of an existing
   character or character sequence? *no*
   If YES, is a rationale for its inclusion provided?
   If YES, reference:

9. Can any of the proposed characters be encoded using a composed character sequence of either
   existing characters or other proposed characters? *no*
   If YES, is a rationale for its inclusion provided?
   If YES, reference:

10. Can any of the proposed character(s) be considered to be similar (in appearance or function)
    to, or could be confused with, an existing character? *no*
    If YES, is a rationale for its inclusion provided?
    If YES, reference:

11. Does the proposal include use of combining characters and/or use of composite sequences? *no*
    If YES, is a rationale for such use provided?
    If YES, reference:
    Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? *no*
    If YES, reference:

12. Does the proposal contain characters with any special properties such as
    control function or similar semantics? *no*
    If YES, describe in detail (include attachment if necessary)

13. Does the proposal contain any Ideographic compatibility characters? *no*
    If YES, are the equivalent corresponding unified ideographic characters identified?
    If YES, reference: