



# Phonetic Transcription of Tone in the IPA

Hugh Paterson III

1

## The IPA provides five tone levels for transcription.

TONES AND WORD ACCENTS

LEVEL CONTOUR

ě or ǃ Extra high

é or ǂ High

ē or ǁ Mid

è or ǀ Low

ẽ or Ǆ Extra low

↓ Downstep

↑ Upstep

ǃ or ǂ Rising

ǂ or ǁ Falling

ǁ or ǀ High rising

ǀ or Ǆ Low rising

Ǆ or ǃ Rising-falling

↗ Global rise

↘ Global fall

Other contours are not explicitly accounted for in the IPA.

Ligatures are used to create contours rather than actual Unicode characters.

Tone letters and diacritics are not equivalent. [IPA Handbook p.14]

Should we have one Unicode character per symbol?

2

## Phonological or phonetic transcription?

The tone letter system presumes that there are only five pitch heights within the human production spectrum.

Are *tonal contrasts* contrasting with *segments*, or with other *pitches* in the prosodic unit?

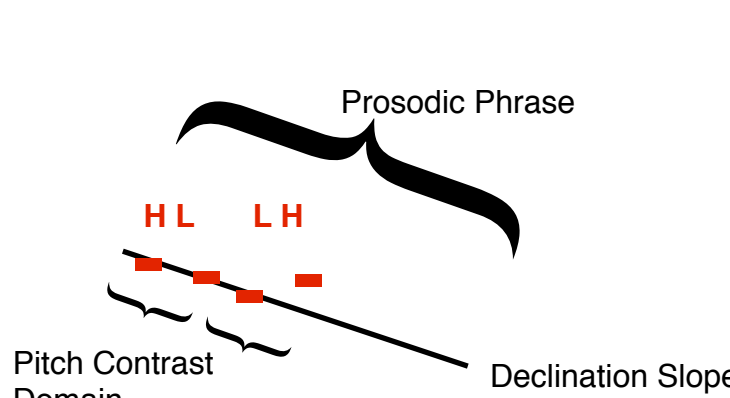
*Upstep* and *downstep* are considered to be phonological processes.

Do these predefined categories presume phonological analysis before phonetic description can be transcribed?

< [ ] > or < / / > can apply to transcriptions, but does our choice of representative symbol already presume an analysis?

How should we best transcribe the phonetic correlates to phonological processes?

Does a phonetic pitch height determine a phonological category?



What is the background point of comparison when we evaluate pitch?

- Other tones in the phrase?
- Absolute pitch?
- Tone patterns within the phonological system?

4

## Bar notation

The bar notation allows for:

- More detailed *hight options*
- Is not representative of absolute acoustic space
- Is not directly attached to segments

Bar notation consists of:

- A series of dashes produced relative to the pitch height of the previous pitch unit
- Dashes may be horizontal to indicate level pitches
- Dashes may be diagonal to indicate contour pitches

yiká bè mîtè → yika bè mite 'to press against'

/ ò gbò vò / → [ ò ˈgbò ˈvò ]

2SG cut(PERF) finish

'You already cut.'

jō-ō pēē-n- 'white man'

man-NC white-NC-BT

[ jō pēēn ]

5

## Conclusions

Where and how has it ben used. Why is it more fitting?  
22 Authors have used the notation, in a variety of contexts (professional publications).

Chart Goes in this section

When to Use it...

	Phonetic pitch height	2+ contours	Iconic pitch height	Segmental attachment
Tone letter	-	+	+	-
Diacritic	-	-	-	+
Bar notation	+	+	+	-/+

3

## Pitch heights: Are five levels of enough?



### Six levels of pitch

Languages with six levels of *level pitch*

Chorí [cry] - Africa

Benč' non' (Gimira) [bcq] - Africa

Languages with *contours* establishing six levels of pitch

Cantonese [yue] - Asia

San Juan Quiahije Chatino [cpt] - Mexico

Itunyoso Trique [urh] - Mexico

Languages with *Upstep* or *Downstep* creating six levels of pitch

Southern Puebla Mixtec (Upstep) [mit] - Mexico

Engenni (Upstep) [enn] - Africa

Coatzacoapan Mixtec (Downstep) [cpt] - Mexico

Some languages are claimed to have six pitch levels.

### Limited contours in the IPA

Languages with three or more *rising* contours

San Juan Quiahije Chatino [cpt] - Mexico

Western Highland Chatino [ctp] - Mexico

San Juan Copala Trique [trc] - Mexico

Languages with three or more *falling* contours

Western Highland Chatino [ctp] - Mexico

Itunyoso Trique [urh] - Mexico

连云港 Lian-Yun-Gang Dialect [und] - Asia

Jalapa Mazatec [maj] - Mexico

How are we to describe the pitch contours in languages with more than three contours?

Which diacritics are we to use when we need to indicate more than three pitch contours in a single direction?

The IPA diacritic system has insufficient distinctions to cover the demonstrated need for describing contours across the world's languages.

6

## Interact and comment

Read the paper!

Extensive references and citations in the version published in the conference proceedings.

Discuss on Reddit: <http://redd.it/3fkgid>

Email: [hugh.paterson@sil.org](mailto:hugh.paterson@sil.org)

Contact via twitter: @thejourneyler

