

Stress in Manado Malay and Lampung Malay

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Aims of the study

- Describe pitch contours of Indonesian discourse data taken from Lampung residents and Manado Malay speakers
 - Word-level “stress” can be detected not only in the sentence-final position but also in other positions
- Argue Indonesian has features found in “pitch accent” languages by observing word level pitch contour
- The autosegmental analyses can be applied to explain prosodic features of Indonesian, but this does not exclude the possibility of Indonesian having word-level stress that is retained everywhere in the sentence

“Lexical stress” and “pitch accent” (Bolinger 1972)

- Bolinger 1972 makes distinction between “lexical stress” and “pitch accent”
- “(Pitch) Accent” refers to the syllable that is actually highlighted in a sentence.
- “Stress” refers to the syllable that gets the accent if the word is accented at all
- Stressed syllables are typically somewhat longer than unstressed ones

- To put it another way, not every content word gets stressed
- Information structure, such as “focus”, plays an important role in this view
- The above remark ignores the fact that a language has a lexically assigned stress, it should be retained in a larger unit such as “phonological phrase (PhP)” and “intonational phrase (IP)”

Lexically assigned “stress” and “pitch accent”

- Languages with “stress”
 - A stressed syllable tends to have more vowel variety
 - A stressed vowel has longer duration (Fry 1955)
 - Pitch height is important for the perception of a stressed syllable (Bolinger 1958)
 - Intensity plays less important role than duration and pitch height
- Languages with “pitch accent”
 - Pitch height is the most important feature in detecting the accent pattern
 - A syllable with a high pitch tends to have longer duration
 - Typically, high and low syllables share the same set of vowels

“Stress” in Indonesian

- Some varieties including Bahasa Baku are supposed to have a word-level stress on the penultimate syllable (Amran 1984, Alieva et al 1991, Teeuw 1978)
- Some researchers claim that Indonesian has a word-level stress on the ultimate syllable (van Ophuijsen 1915, Samsuri 1971)
- Others claim Indonesian has no word-level stress at all (Halim 1974)

Stress in Indonesian

- Not “phonemic” at least in many varieties
- Many speakers fail to point out the stressed syllable
 - Some speakers of phonemic pitch accent language fail to detect the pitch pattern, too
- Pitch height is the most important feature
- A stressed syllable is pronounced longer
- A schwa mostly appears in unaccented syllable, or a stress avoids a syllable with a schwa: this features is shared by most of the varieties

Previous work on stress in Indonesian

- Zanten and Heuven 2004 uses the notion of “stress” as found in West Germanic languages
- ...The exact timing of the rise seems more crucial than the timing of the fall
- ...the size of the pitch movement correlates with the perceived strength of the accent
- ...Van Heuven (1994) mentions a threshold excursion size for accent-lending rises of around 3 semitones for an average Dutch speaker
- ...We decided to present the listeners with a set of stimulus sentences with a 2.5 ST pitch rise...
- Conclusion: The results of the acceptability test indicate that, at least at the end of a sentence, accent-lending pitch movements are acceptable on any syllable in Indonesian.

Previous work on stress in Indonesian

- Many experiments on varieties of Indonesian speakers perception for stress show that they do not have high conformity in pointing the stressed syllable (Riesberg et al 2018)
- Himmelmann 2018 concludes there is little evidence for word-level lexical stress in Austronesian languages

Intonation and stress/pitch accent

- Intonation refers to the use of pitch for conveying meanings that apply to an utterance as a whole
- Intonation has various functions such as showing attitudes/emotion, differentiating statements from questions, conveying information status, etc.
- Intonation can override lexical stress/pitch accent so that the original lexical stress/pitch accent does not seem to appear

Points to be noted in analysis of stress/pitch accent

- Computational analysis is not always reliable
- In principle, perception by a trained researcher should be respected most
- Confusing phenomena such as “late fall” should be taken into consideration (cf. Sugito 2012)
 - “late fall” is found in certain environment in which an accented syllable is pronounced in lower pitch than the following syllable
 - Ex. *Nasake, yutaka, atari* in Japanese: the first syllable has a nasal, a slide, or a vowel, and the second syllable begins with a voiceless consonant
 - Syllables with an unvoiced vowel can also be perceived by a native speaker to have a high pitch: a fall in pitch in the following syllable does the trick

“Late fall” found in a combination of the 1st syllable with a sonorant onset and the 2nd syllable with an unvoiced onset:
Examples of HLL pitch pattern in Japanese

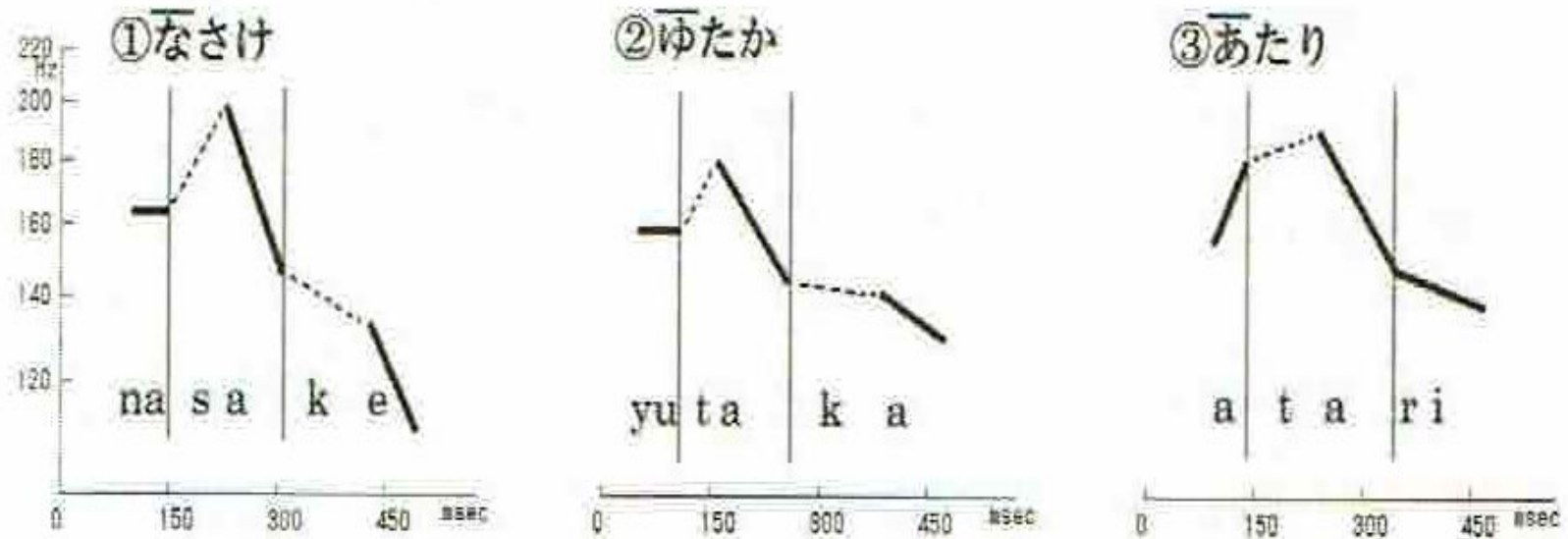
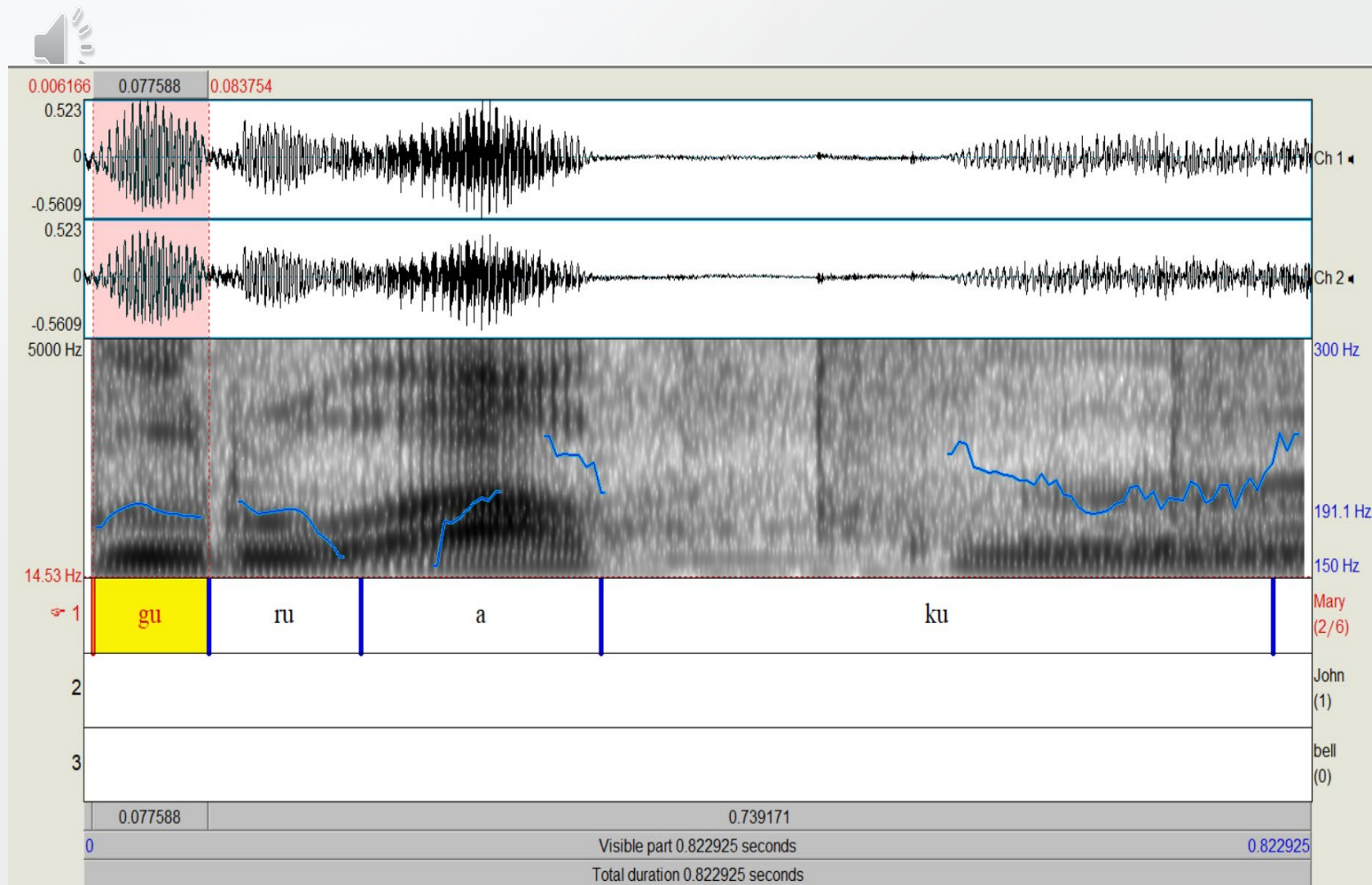


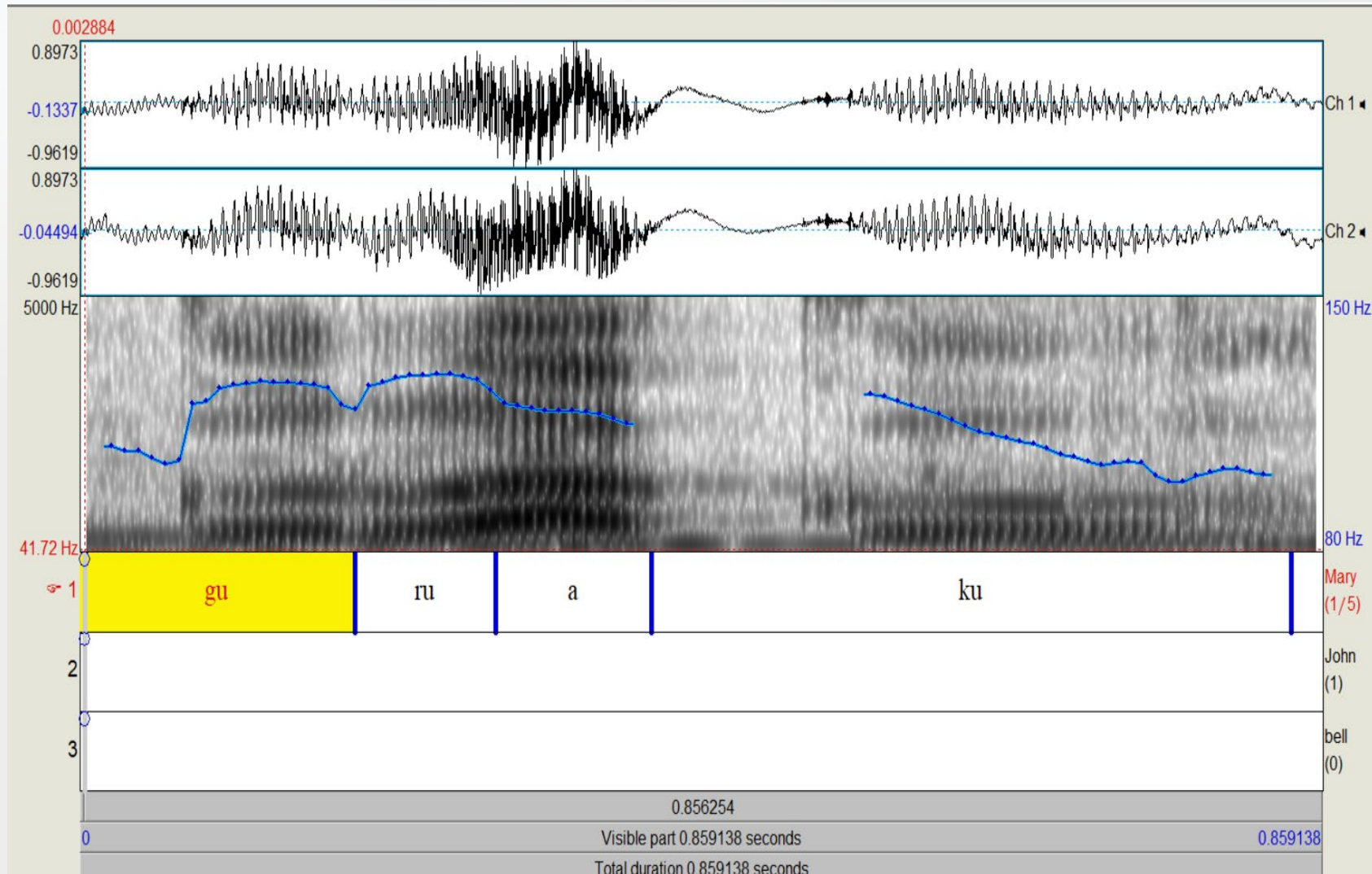
図 5-1 「おそ下がり」の例

①な・さけ ②ゆ・たか ③あ・たり

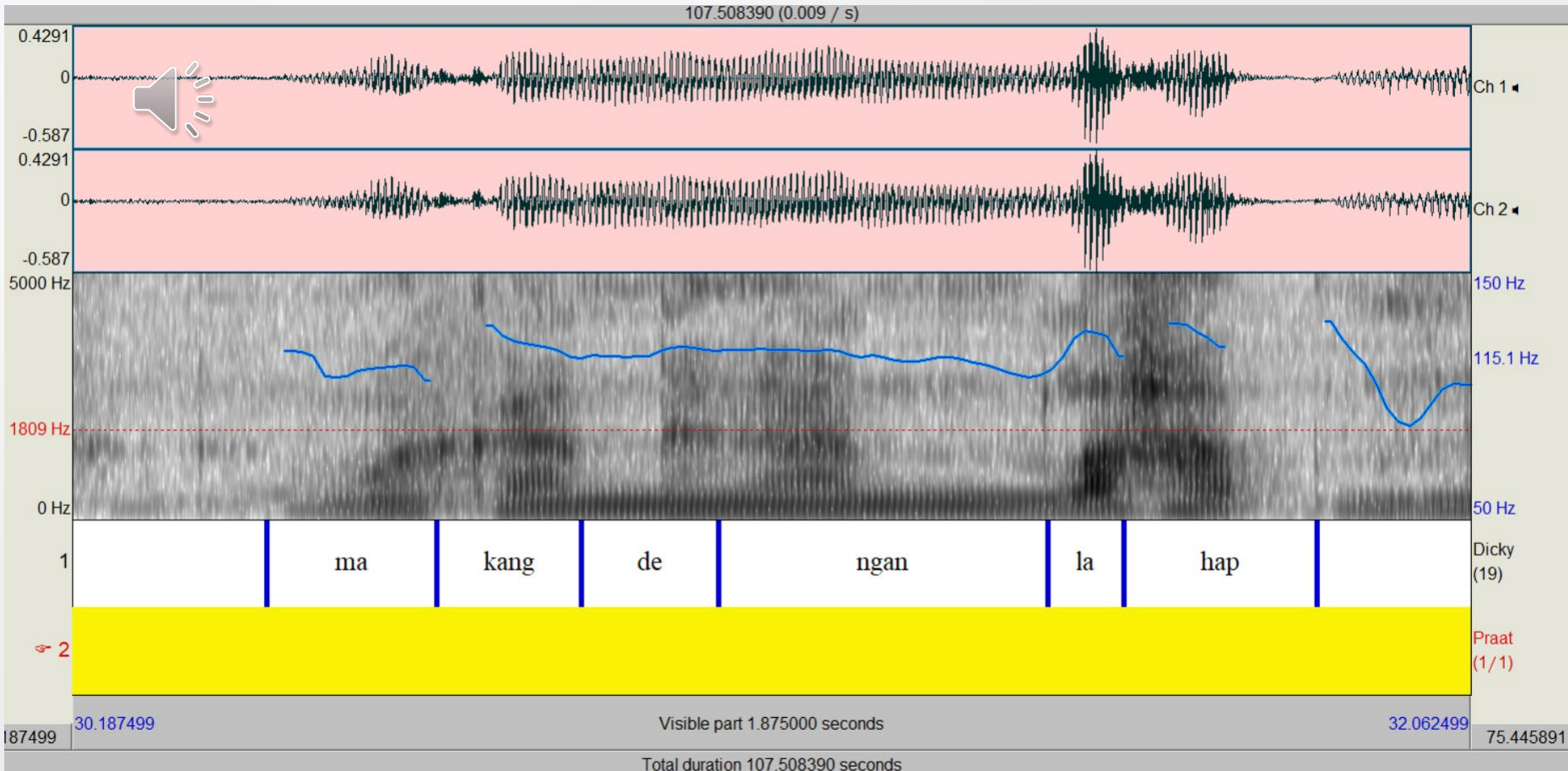
An example of “late fall”: 1st syllable with a sonorant onset, 2nd syllable with a voiceless onset Lampung speaker



An example of "late fall": 1st syllable with a sonorant onset, 2nd syllable with a voiceless onset Javanese in Lampung



Examples of “late fall”: 1st syllable with a sonorant onset, 2nd syllable with a voiceless onset (MM)



A syllable with an unvoiced vowel is also perceived to have a pitch

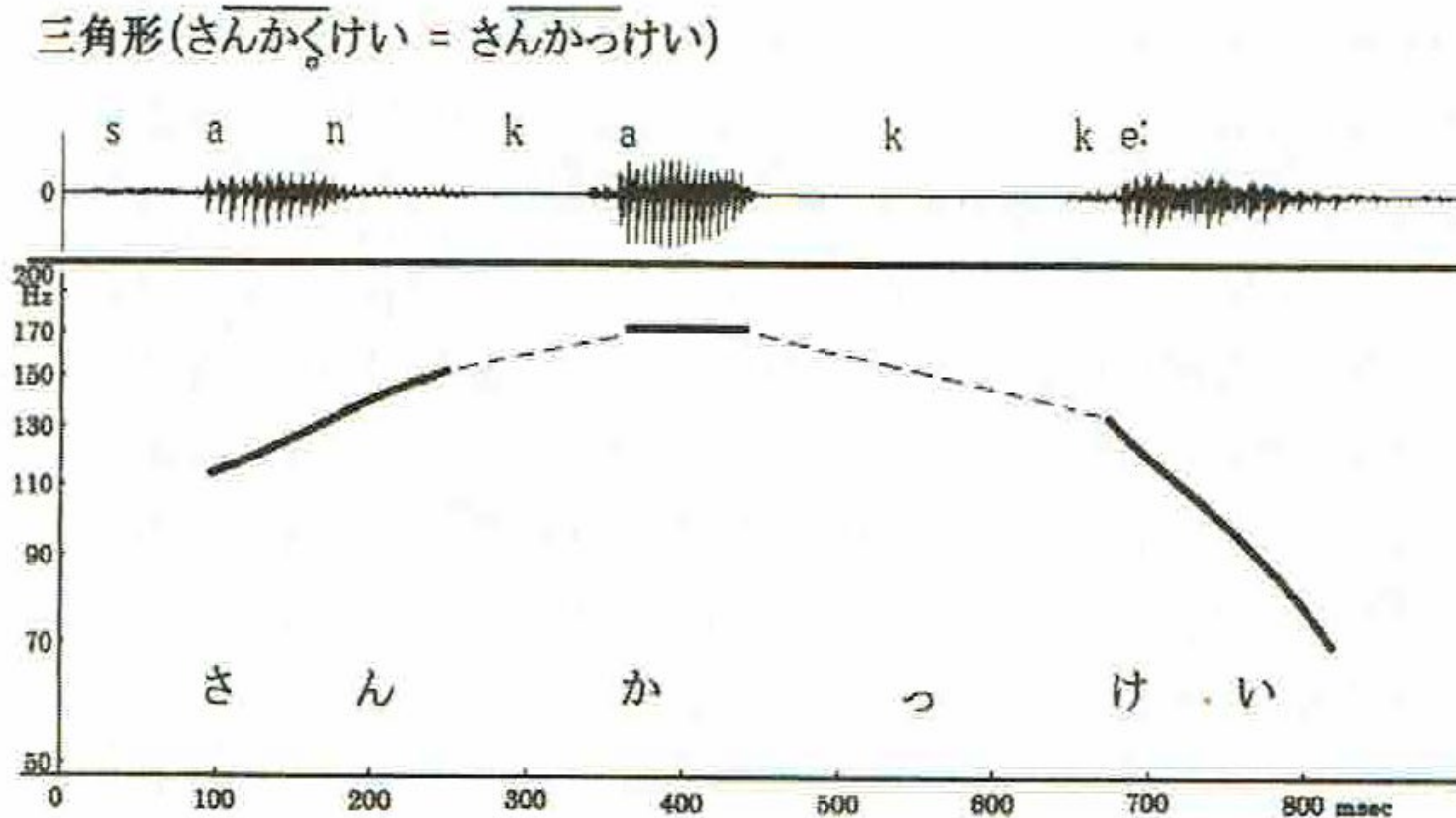


図 5-2 三角形(さんかくけい(さんかっけい))の音声波形とピッチ曲線

Pitch contour

- In an utterance, pitch gradually falls from the beginning toward the end
- When a high-pitched syllable precedes a low-pitched syllable, there is a sharp pitch fall. On the other hand, when a low-pitched syllable precedes a high-pitched syllable, the pitch rise is not so dramatic - pitch difference is not an absolute means to detect “stress” placement
- We cannot conclude world-level stress/pitch accent is absent just looking at the overall tendency of the pitch contour: we need a closer look on it
- So called “stress” accent languages such as English and “pitch” accent languages such as Japanese has essentially same mechanism in that pitch movement is the most crucial factor in detecting prominence in a word (Sugito 2012)

Pitch contour difference depending on the position of a high-pitched syllable

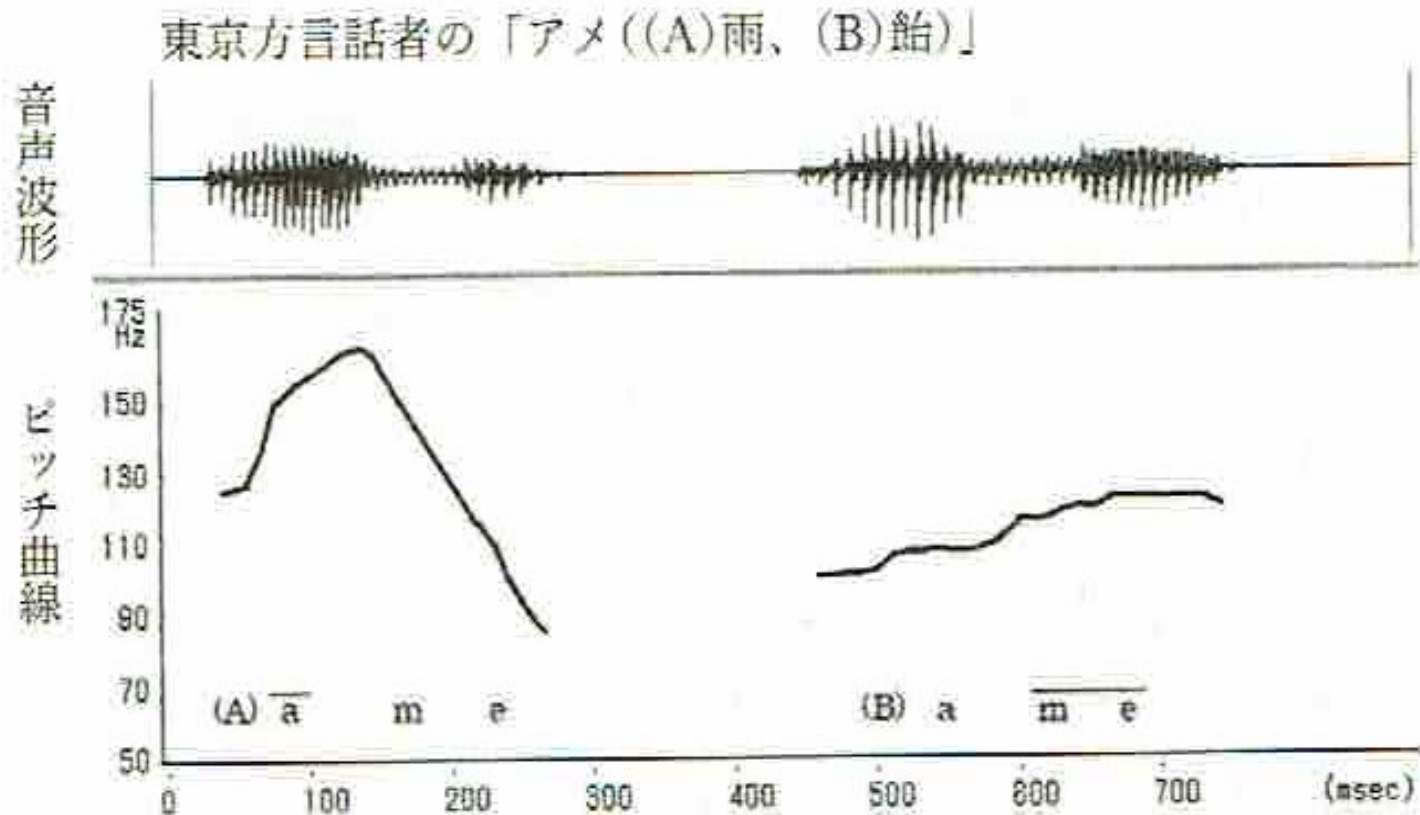


図 4-3 「アメ」 と 「アメ」 の音声波形とピッチ曲線

Stress in Manado Malay (Stoel 2005)

- Manado Malay is reported to have lexical stress (Stoel 2005)
- Uses definitions of “pitch accent” and “stress” found in Bolinger 1975
- Monosyllabic words with a schwa may also be stressed

Stress in Manado Malay (Stoel 2005, Prentice 1994)

- Words that contain a schwa in the penultimate syllable have final stress
 - *Bə'suk* (*besuk*), *sə'pi* (*sepi*)
- Words that originally contained a schwa in the penultimate syllable have final stress after the replacement of schwa by a copy of the final vowel (Prentice 1994)
 - *Ba'sar* (*besar*), *ju'mur* (*jemur*)
- Exceptions are found to the above rule
 - *'anam* (*enam*), *'puru* (*perut*), *kar'ja* (*kerja*)
- Many loan words from Dutch have penultimate stress (different from Bahasa Baku)
 - *Bi'oskop*, *'fabrik*

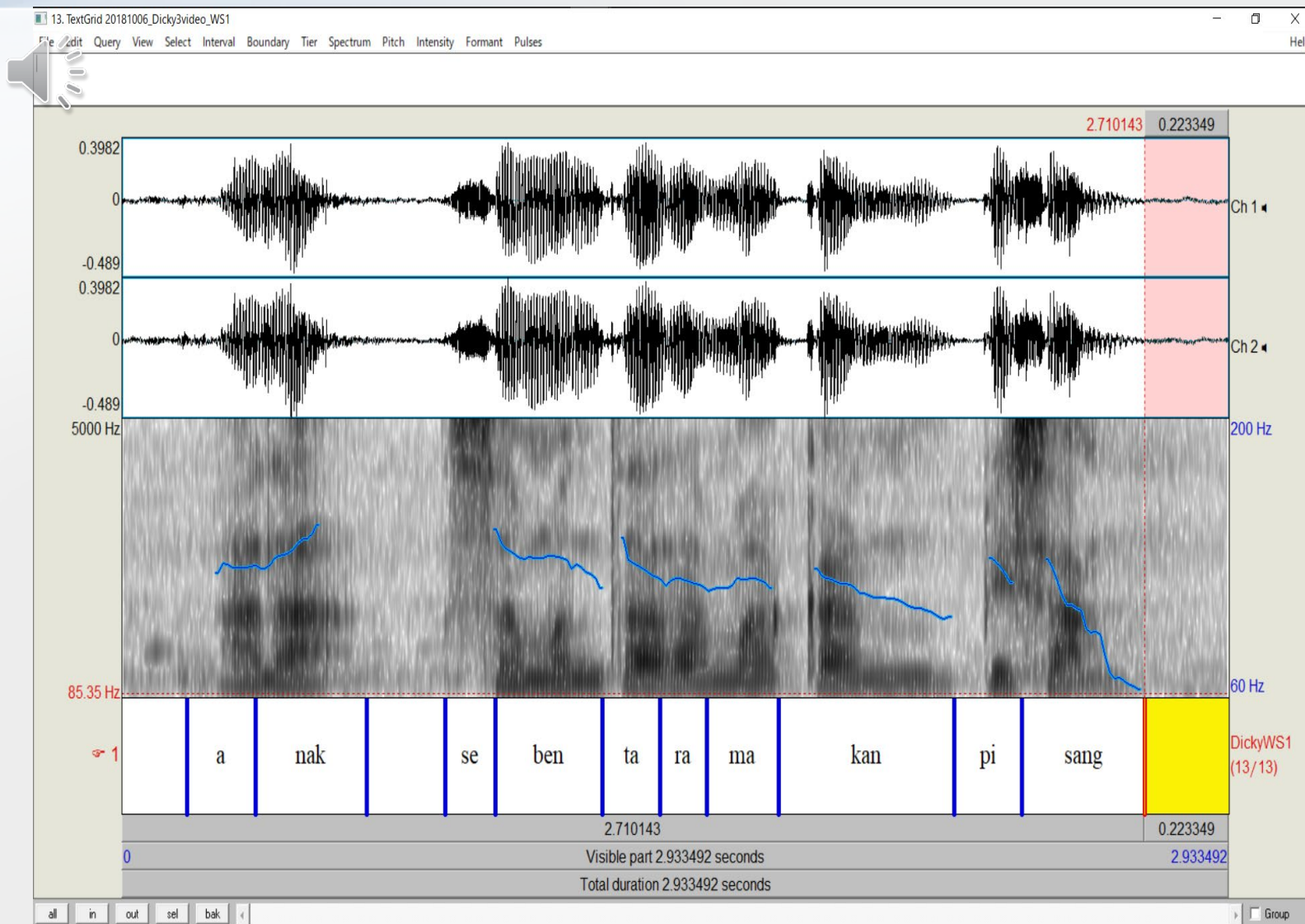
Data from Lampung

- The data was taken in August 2017
- Video and picture descriptions are somewhat formal in style
- Ethnic background of the consultants are:
 - Javanese
 - Lampungish
 - Tionghoa
- Video data
 - Three short video files were shown to the consultants who explained the events that occurred in them
 - A series of pictures were shown to the consultants and they told a story
- Preliminary survey of the stress placement
 - A list of words and sentences are shown to the consultants who were asked to pronounce them

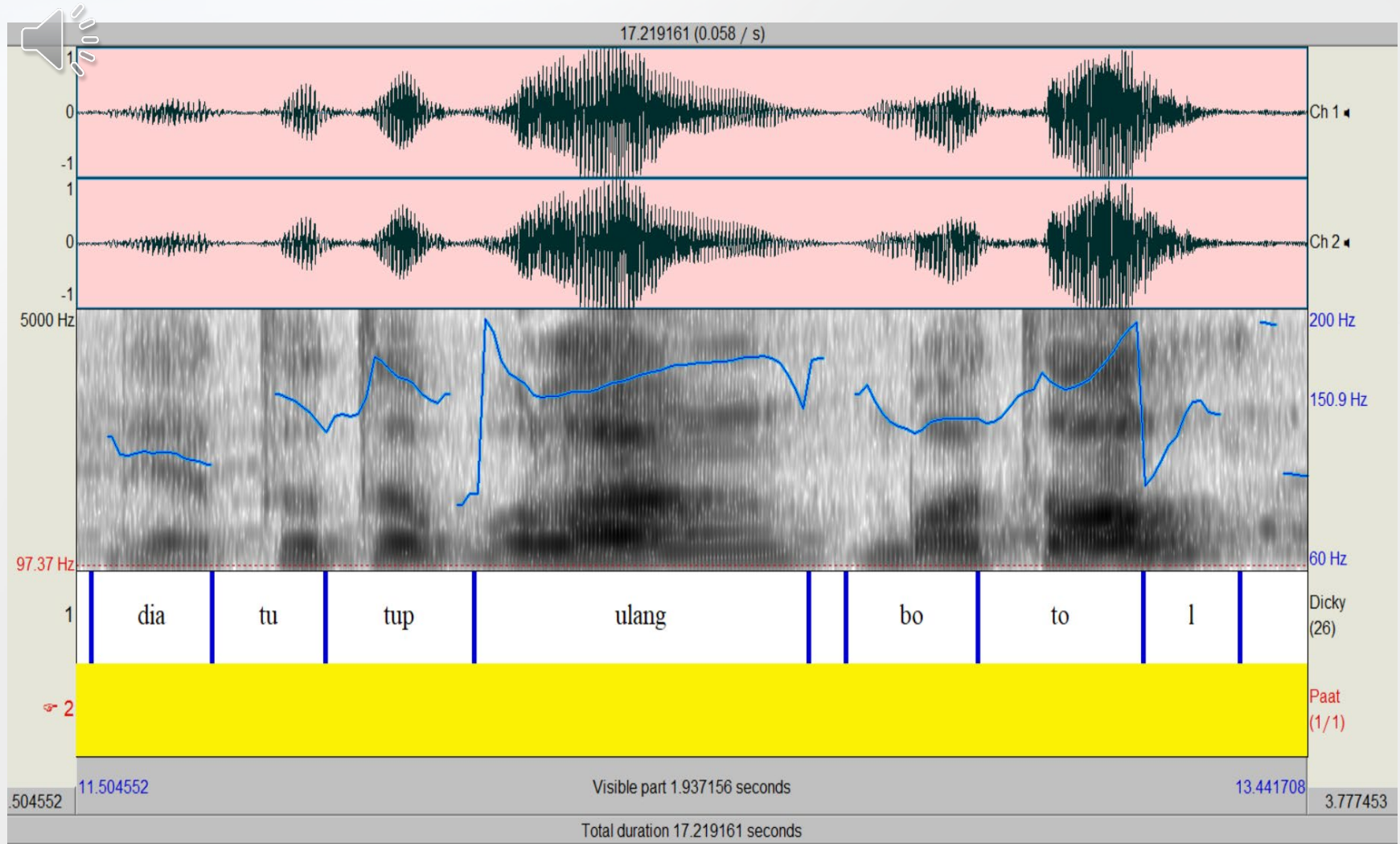
Data from Manado

- The data was taken in February 2018, in Oarai, Ibaraki, Japan
- Video and picture descriptions have somewhat foral style
- Manual labor workers and trainees
- They all came from Sulut, very limited usage of Japanese
- Ethnic background of the consultants are:
 - Talaud
 - Tonsea
 - Tontemboan
 - Manado and Tomohon city dwellers

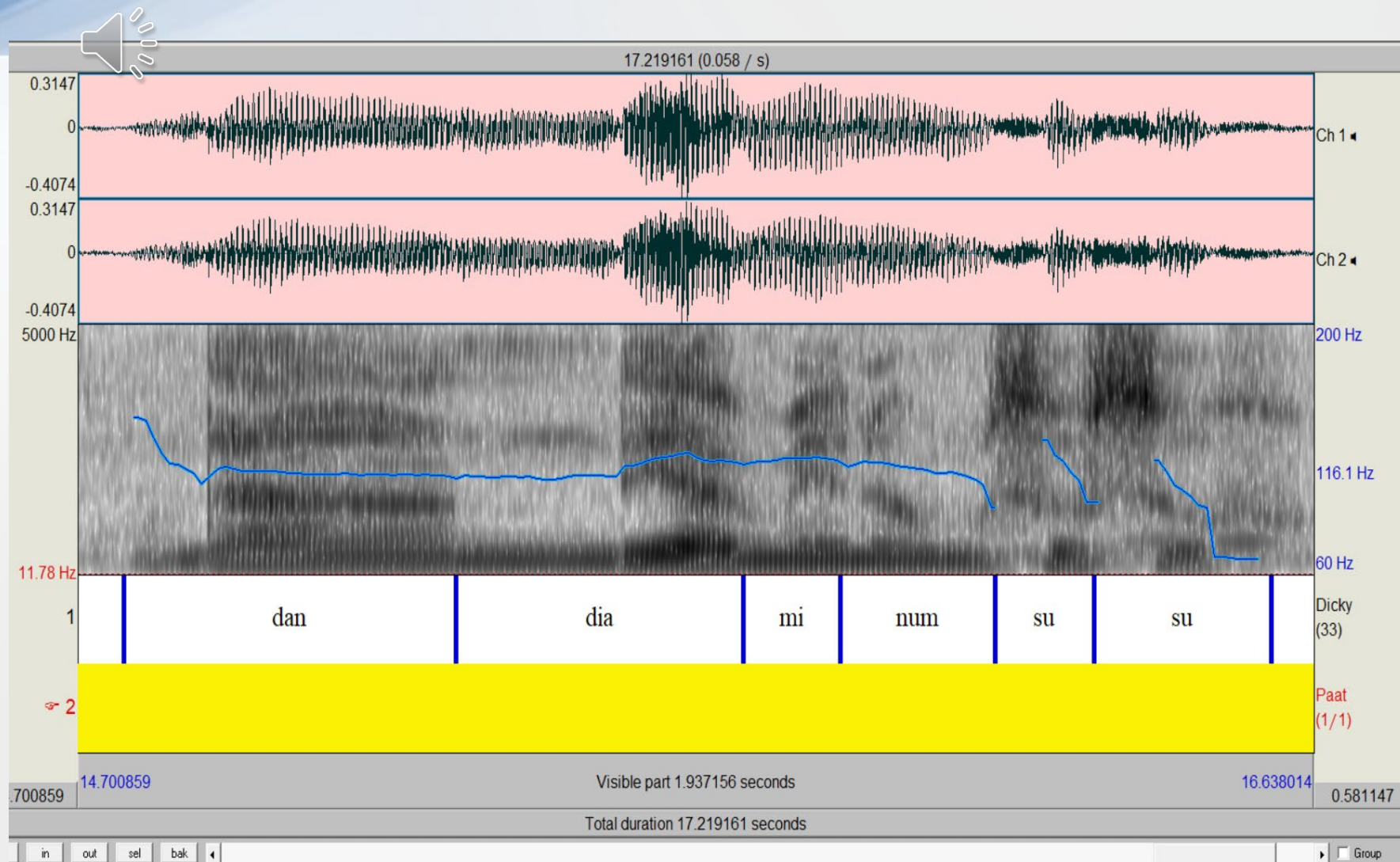
Pitch rise in the end of the topic NP, lexical pitch accents for other words appear elsewhere (MM)



Pitch rise in the phrase end, mid-sentence (MM)



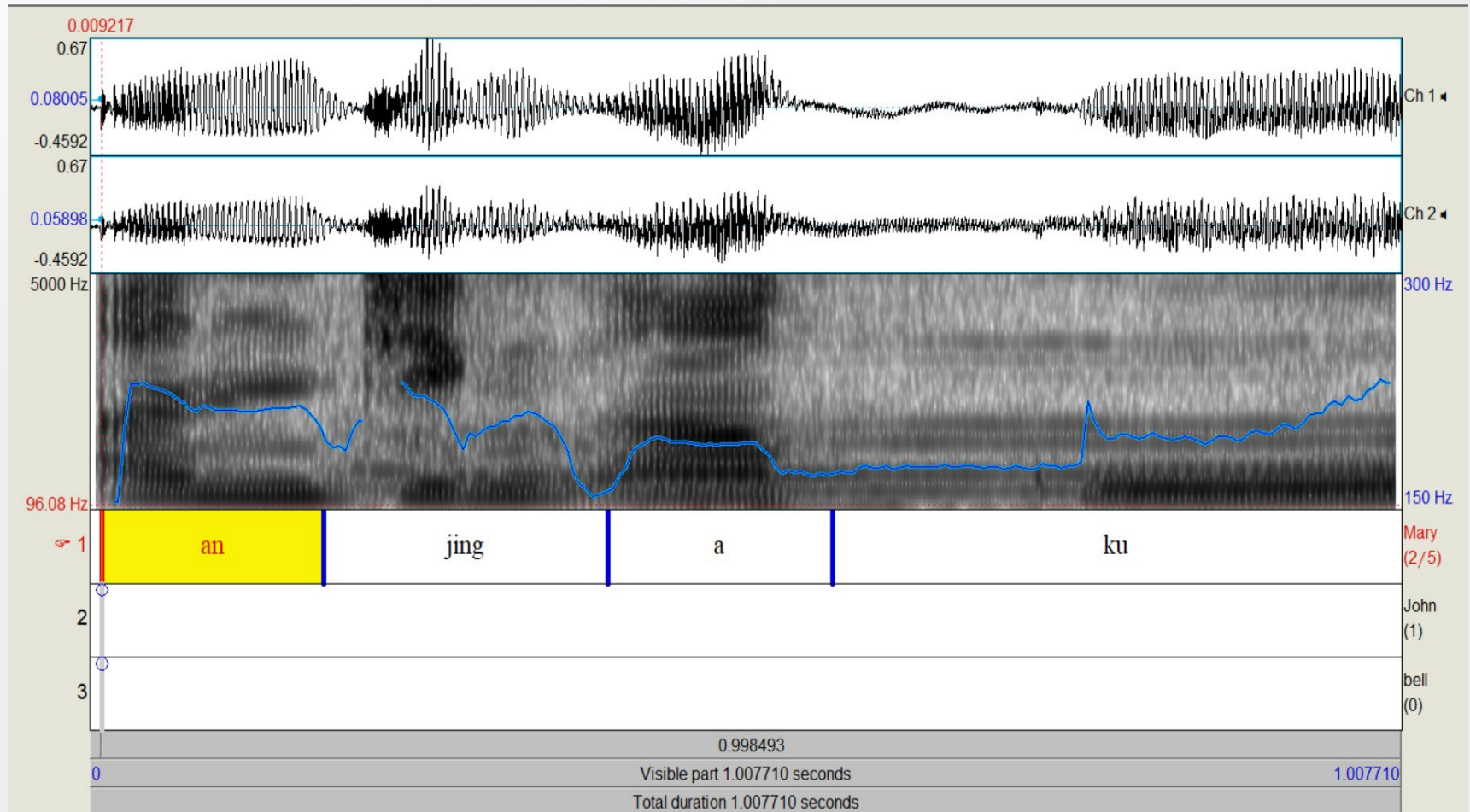
Pitch fall in the end of the sentence (MM)



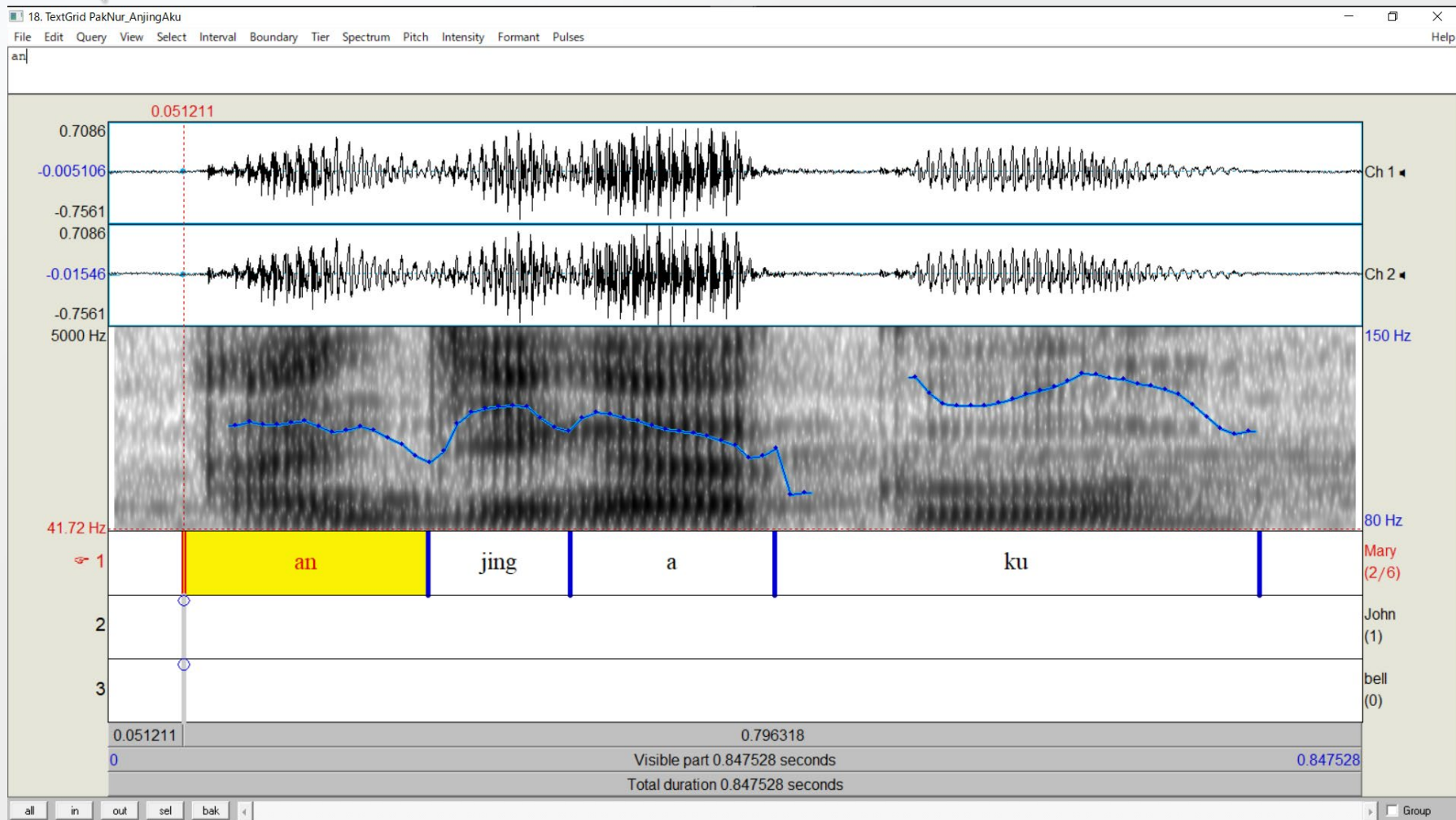
Intonation in Manado Malay

- Predominantly penultimate word-level stress
- A topic NP predominantly has a rising pitch contour
- Pitch tends to rise toward the end of a mid-sentential phrase

Lampung young speaker (born in 1980s), “anjing aku”



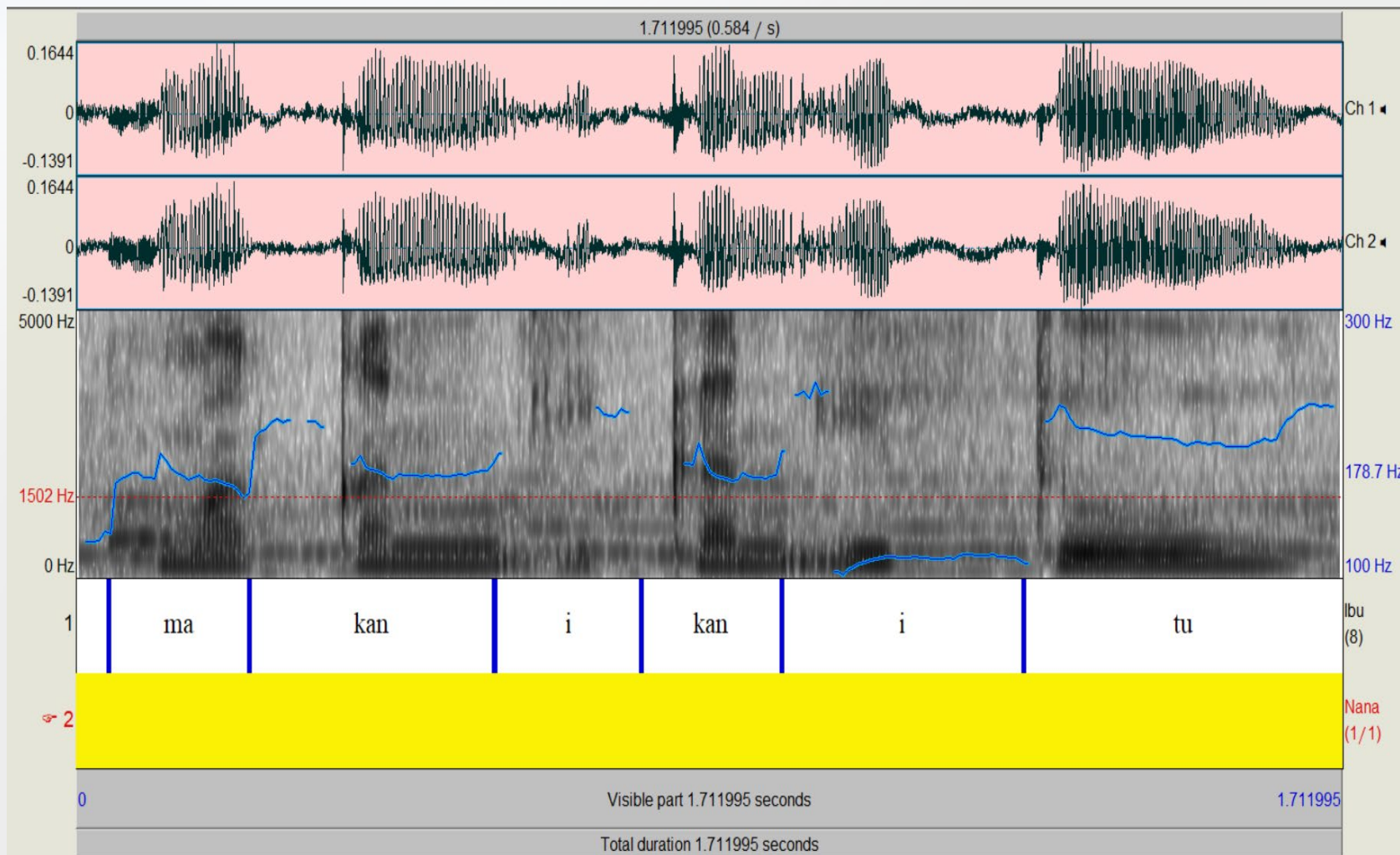
Javanese in Lampung, in his fifties, “anjing aku”





Ethnic Lampung, Born in 1980s

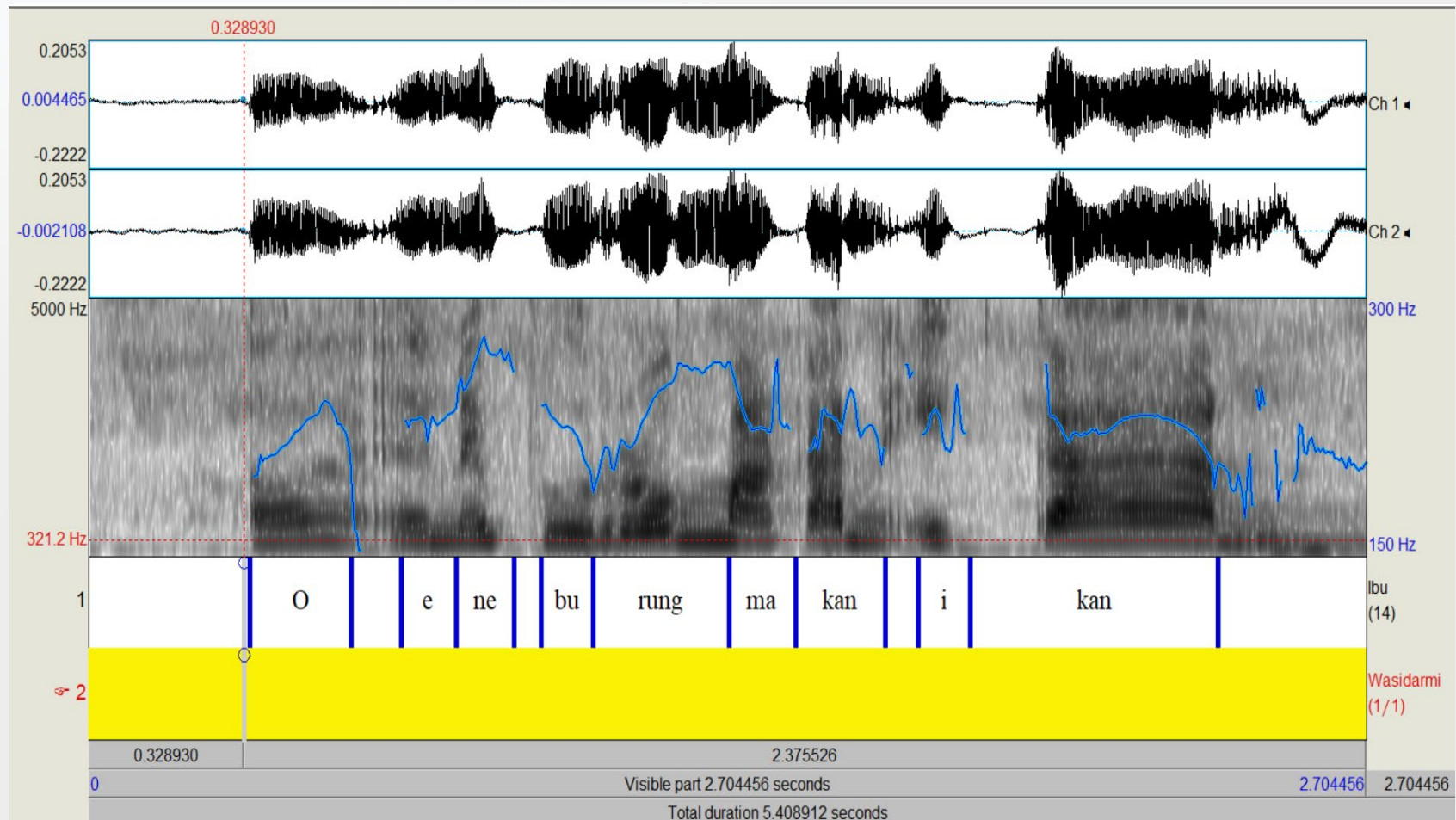
Exhibit ultimate stress placement



Lampung speaker (Age 69 in 2017)

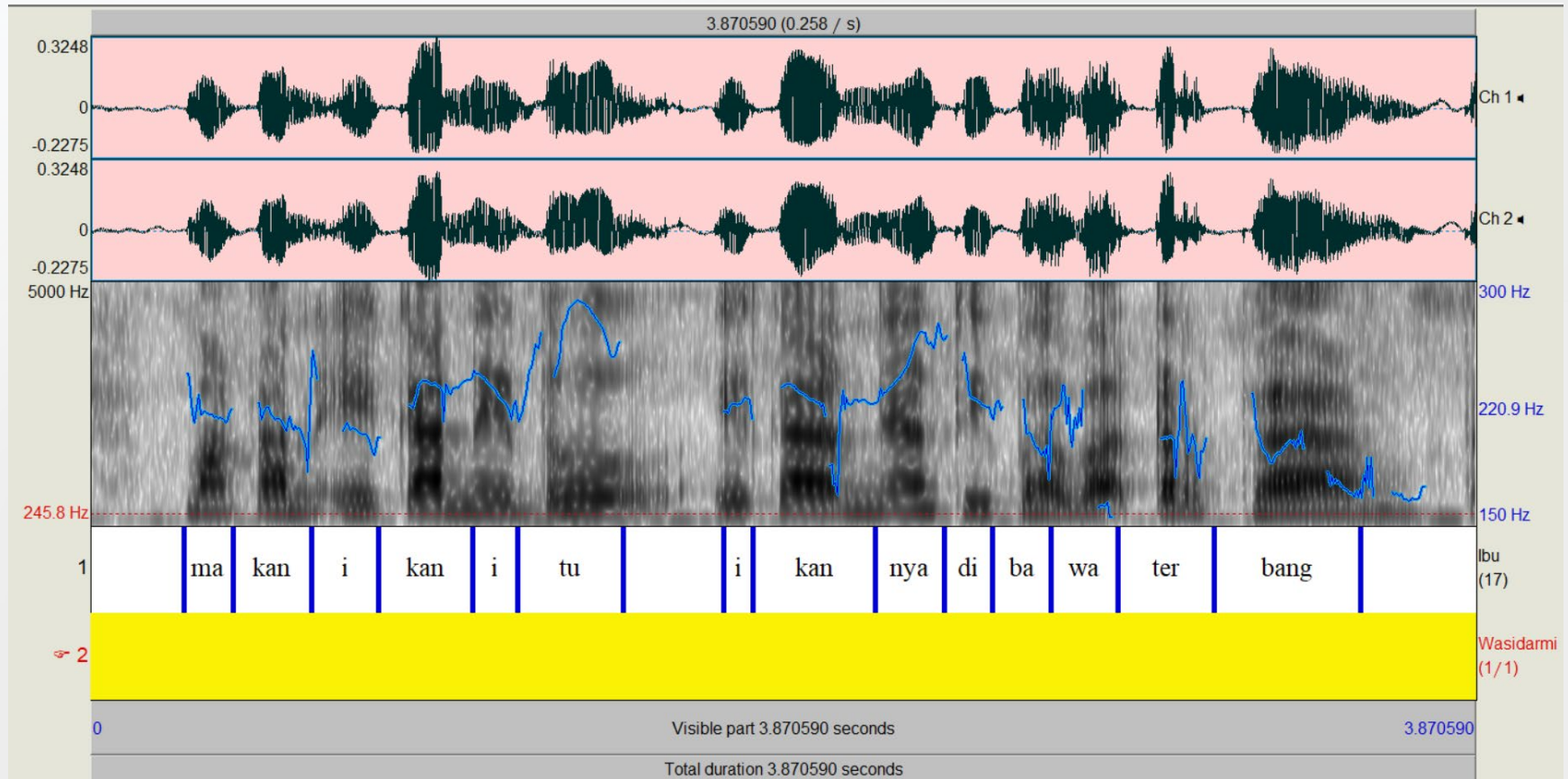
Exhibit Ultimate stress placement

More prominent pitch rise in the end of the phrase



Lampung Speaker (Age 69 in 2017)

Prominent falling pitch contour in sentence final position



Conclusion

- Indonesian exhibits features of a pitch accent language
- Narrative data which describes the stimuli was taken from speakers from two area in Indonesia were analyzed; the narratives are in a somewhat formal style
- The data shows pitch contours similar to those found in descriptions of pitch accent languages such as Japanese
- Manado Malay speakers prefer the penultimate syllable to be High
- Speakers in Lampung in show a pitch contour in which the ultimate syllable to be high and exhibit falling pitch contour in the end of the sentence, which is unique to Lampung speakers
- Word-level pitch accent exists but easily overridden by sentential intonation, but it can also be explained from pitch accent point of view

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