1. BACKGROUND & ISSUES

1.1. Dialects with Shiki system (Map 1)
- Shiki = Lexical contrast on F0 coexistent with pitch accent
- Definition in Japanese dialectological literature
  "Direction of pitch movement in a word" [1]

1.2. Variation in shiki systems studied
A: Central Kinki-system: Osaka, Kyoto, Kishiwada etc.
B: Sanuki-system: Mitoyo, Kanonji etc.
C: Ibusuki-system: Ibusuki (only)
- 3-shiki types: Falling vs. Level vs. Rising [6]

1.3. Word level shiki F0 patterns of Ibusiki dialect [7]
- Peak F0 value: Accented > Falling > Level
- Rate of F0 change: Level > Falling > Accented
- Both Rate of F0 change & Final F0 value depend on duration
- Weight on attributes discriminating shiki-accent categories
  - Rate of F0 change
  - Magnitude of F0 rise
- Initial F0 value
  - More consistent with dynamic definition of shiki in [1]

1.4. Research Questions: Sentence level F0 downtrend
(1) Do shiki types have different F0 downtrend when produced in sequence in an utterance?
(2) If yes, does it reveal differences between dialects?
  What does it suggest about phonological representation?

2. METHODS

2.1. Speakers (Age: 67-80)
A: Kishiwada 2 female
B: Mitoyo 1 female 2 male
C: Ibusuki 3 female

2.2. Speech corpus
- Accented words / Unaccented words with all shiki types
  - Sequence of 1-3 words
  - Spoken 4-6 times in a fixed frame sentence
  Examples:
  1-sequence korogowara mame-ga oo/ 2-sequence korogowara nori-no mame-ga oo/ 3-sequence korogowara nori-no nai-no mame-ga oo/
  (Nowadays we have many beans with flavor of leaver)
  For Ibusiki nori, nai, mame are Falling-shiki Unaccented, while for Kishiwada, they are Accented words.

2.3. Data analysis
- Time normalized to the mean of each word in each position
- F0 sampled as semitone (re 100Hz) and z-score transformed
- Time normalized to the mean of each word in each position

3. BASIC PATTERNS (1-word sequence)

4. DOWNTRENDS (2-word sequences)

5. MODELS OF F0 DOWNTRENDS

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References