- **(Un)predictable information in a grammar model**
- **Pitch accent phonetics**
- **Pitch accent phonology**
- **Working with OJAD**

Background:

- *Backhouse (1994), Ch 4 excerpts*

0. Today's plan

- Review — HW #1; phonemes and allophones

- Modeling predictable / unpredictable information

- Pitch accent in Japanese
  - A phonetic description of pitch accent
  - Aspects of the phonology of pitch accent
  - Using OJAD

1. Review and discussion

- HW #1
  - **Use course resources** when you are working on an assignment!
    - Assignments are *designed* to get you working with course content
  - Please pay attention to **instructions** :)

- Any questions on HW #1?

1. Review and discussion

Consider this…

- How can we determine whether [d] and [ɾ] belong to **separate phonemes** in Japanese?
  - What kind of **evidence** do we need to collect to answer this question?

Work groups

- How can we determine whether [d] and [ɾ] belong to **separate phonemes** in Japanese?
    - Can we **predict**, on the basis of their environments, which sound will appear?
    - What kind of **language data** is evidence?

Debriefing

- How can we determine whether [d] and [ɾ] belong to **separate phonemes** in Japanese?
  - Can we **predict**, on the basis of their environments, which sound will appear?
  - What kind of **language data** is evidence?
  - Do we get the same answer when we consider…
    - Native Japanese words
    - Sino-Japanese words
    - "Foreign" loanwords

1. Review and discussion

- Any questions from last time?

    - Phonemes and their allophones?

    - Comparing environments?

    - Phonological rules, in general?

    - HW #2?

- Is it absolutely necessary for a child acquiring Japanese to memorize...

    - Which words have short [o] vs. long [oː]

    - Which words have voiceless high vowels

    Why?

- Is it absolutely necessary for a child learning Japanese to memorize...

  - Which words have short [o] vs. long [oː]
  - Which words have voiceless high vowels

- A fundamental distinction in linguistic theory:

  - **Unpredictable** information *must* be **memorized**
    - By definition!
  - **Predictable** information *can* be enforced by the mental grammar
    - So, is it? → Look for supporting evidence

2. Modeling predictable / unpredictable info

- Compare our approach to phonemes/allophones

    - Distribution is **unpredictable**
        → *must* be **memorized**/stored case by case
        → **contrastive**

    - Distribution is **predictable**
        → *proposal:* the **grammar** takes care of it
        → **allophones** of same phoneme

2. Modeling predictable / unpredictable info

- Next, we will take a similar approach to aspects of **prosodic phonology**

    - <u>Segmental phonology</u>: Phenomena involving individual segments (consonants and vowels) and their properties/features

    - <u>Prosodic phonology</u>: Phenomena involving domains larger than single segments

        Some examples:

        - Pitch/tone

        - (Stress — not found in Japanese)

        - Syllable/word structure

3. Pitch accent: Phonetics

Work groups

- Based on the Backhouse (1994), Ch 4 reading:
  - What is **pitch accent** in Japanese?
  - How is it different from **(word) stress** in English?

Debriefing

- Based on the Backhouse (1994), Ch 4 reading, what is **pitch accent** in Japanese?

    - p 29: "when there is a **drop in pitch** from higher to lower...the **last mora before the drop**...is heard as (lightly) accented..."

- How is it different from **word stress** in English?

Debriefing

- What is **pitch accent** in Japanese?
  - A **drop in pitch** from high to low

- How is it different from **word stress** in English?
  - English word stress is indicated mainly by **duration** and **vowel quality** (full vs. reduced)
  - These attributes are *not* part of the Japanese pitch-accent system
    - Vowel length is independent of accent
    - Japanese vowels are never reduced to schwa

- Genki I textbook (1 ed.), p 22:

  > "Japanese has a pitch accent: all syllables are pronounced basically either in high or low pitch. Unlike the English stress accent in which stressed syllables tend to be pronounced longer and louder, in Japanese each syllable* is pronounced approximately in equal length and stress. The pitch patterns in Japanese vary greatly, depending on the region of the country."

  a͞sa 'morning'   na͞mae 'name' ta͞ka͟i 'high'

THAT IS ALL THEY SAY IN THE WHOLE BOOK.

*Really 'syllable'? We'll discuss this next time.

Work groups

- Which of the following words have an audible pitch accent? Where is it?

1	*siro*	'white'
2	*kiiro*	'yellow'
3	*iro*	'color'
4	*momoiro*	'peach (color)'
5	*murasaki*	'purple'

- Available in Canvas "Modules", in "Pitch accent — sound files"

3. Pitch accent: Phonetics

Debriefing

- Which of the following words have an audible pitch accent? Where is it?

1	**_si_**_ro_	'white'
2	_kiiro_	'yellow'
3	_iro_	'color'
4	_momoiro_	'peach (color)'
5	_mu_**_ra_**_saki_	'purple'

4. Pitch accent: Phonology

- Other characteristics of Standard Japanese pitch accent as described by Backhouse (1994)
    - with additional comments by me
    - Only **two levels** of pitch, low and high
        - Sentence-final intonational contours are separate

    - The **first two moras** (loosely, vowels) of the word are always at different pitch levels
        - This is actually true not of words, but of **phrases**
        - "Always" is an overstatement — more on this later

    - There is **at most one** pitch accent in a word

4. Pitch accent: Phonology

- Here are some more examples (sound files on Canvas)

makura	'pillow'
tamago	'egg'
takara	'treasure'
sakana	'fish'

makura desu	'pillow COPULA.NONPAST.FORMAL'
tamago desu	'egg COPULA.NONPAST.FORMAL'
takara desu	'treasure COPULA.NONPAST.FORMAL'
sakana desu	'fish COPULA.NONPAST.FORMAL'

4. Pitch accent: Phonology

- Here are some more examples (sound files on Canvas)

ma*kura*	'pillow'
*ta****ma****go*	'egg'
*taka****ra***	'treasure'
*saka****na***	'fish'

ma*kura desu*	'pillow COPULA.NONPAST.FORMAL'
*ta****ma****go desu*	'egg COPULA.NONPAST.FORMAL'
*taka****ra*** *desu*	'treasure COPULA.NONPAST.FORMAL'
*saka****na de****su*	'fish COPULA.NONPAST.FORMAL'

4. Pitch accent: Phonology

- Here are some more examples (sound files on Canvas)

hasi	'chopsticks'
hasi	'bridge'
hasi	'edge'
hasi-wa	'chopsticks-TOPIC'
hasi-wa	'bridge-TOPIC'
hasi-wa	'edge-TOPIC'

- Here are some more examples (sound files on Canvas)

    _ha__si_   'chopsticks'

    _ha_**_si_**   'bridge'

    _ha_**_si_**   'edge'

    _ha__si-wa_   'chopsticks-TOPIC'

    _ha_**_si_**_-wa_   'bridge-TOPIC'

    _ha_**_si-wa_**   'edge-TOPIC'

4. Pitch accent: Phonology

Group discussion

- A fundamental distinction in linguistic theory:
    - **unpredictable** → **memorized** (stored in **lexicon**)
    - **predictable** → assigned by **mental grammar**

- Thinking back over
    - Backhouse's description of pitch accent
    - The examples we have just considered

    Identify something about Japanese pitch accent that is **unpredictable** and something that is **predictable**

4. Pitch accent: Phonology

Debriefing

- What aspects of Japanese pitch accent are unpredictable? Predictable?

For discussion, see:

- Handout - "[Pitch accent]()"

5. Using OJAD

- **OJAD** = **Online Japanese Accent Dictionary**
  - Found at: http://www.gavo.t.u-tokyo.ac.jp/ojad/

- Note that input must be in Japanese orthography
  - Hiragana works — you can use the class kana charts for most types of hiragana input
  - You can also use the JDIC dictionary to find a Japanese word from its English translation and then copy/paste it into OJAD

5. Using OJAD

- Some things to try using "Word Search"
  - Input *hasi* はし in Word Search box
    - Can you interpret the output? If not, what can help?

  - Input *taberu* 'to eat' たべる in Word Search box
    - Can you interpret the output?
    - We'll be talking more about verb forms later

  - Specify the textbook *Genki* (and clear the Word Search box) — what happens?

5. Using OJAD

- Some things to try using "Prosody Tutor Suzuki-kun"

  - Paste in this sentence (Japanese orthography only)
    好きな色は、何ですか？

suki-na	*iro-wa,*	*nan*	*desu*	*ka?*
like	color-TOPIC,	what	COPULA.NONPAST.POLITE	QUESTION

    'What is [your] favorite color?'

  - What happens? How can we interpret this?

  - Compare the computer-generated output to the recording of a human (sound file on Canvas)