

- **American English vowels:
Symbols and properties to know**

Background reading:

- CL Ch 2, sec 6
- CL Ch 2, Table 2.17 (p 44)

0. Check-in and review

- I am glad to have you back here today
 - Last week's events were tragic and frightening for many people
 - **If you need someone to talk to**, please reach out to campus organizations and resources
 - [CAPS](#) (Counseling and Psychological Services)
 - [Heels Care Network](#)

0. Check-in and review

- For Fri, you worked on self-paced information and practice for learning **consonant phonetics**
- Reminder: For consonants, you need to know:
 - The **consonant symbols** in Table 2.12, *CL* p 38 (but not [ʌ] or [ʔ])
 - The **phonetic properties** of these sounds that we can use to describe them

0. Check-in and review

- Try it: What is this speech sound? [g]

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- What **four properties** describe this sound?

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- What **four properties** describe this sound?
 - voicing =
 - place of articulation =
 - oral/nasal =
 - constriction type =

0. Check-in and review

- Try it: What is this speech sound? [g]
- What **four properties** describe this sound?
 - voicing = *voiceless or voiced?*
 - place of articulation = *which place?*
 - oral/nasal = *oral or nasal?*
 - constriction type = *stop, fricative, affricate, liquid, or glide?*

0. Check-in and review

- Try it: What is this speech sound? [g]
- What four properties describe this sound?
 - **voiced**
 - **oral**
 - **velar**
 - **stop**
- Need more practice?
 - Slides from last time, with links to audio/video
 - [Quizlet deck](#)

1. Vowels: Overview and learning guide

Today's focus is the **phonetics of vowels**

- The reading you have done in *CL* Ch 2, sec 6, contains a lot of information and detail
- Here is what you **need to learn** from this reading
→ *These slides and links will help you!*
 - The vowel **symbols** in Table 2.11, p 42
 - The **phonetic properties** of these sounds that we can use to describe them
- Other details and charts in the reading are there to help you understand this central information

2. How to describe a vowel

- Goal: Know all of the symbols and descriptions for the vowels in **Figure 2.11** (*CL* p 42)
- We will **describe** vowels using the following four **phonetic properties**:
 - **height**
 - **backness**
 - **rounding**
 - **tense/lax**
 - vowel (corresponds to “constriction type” in consonants)

3. About vowels in varieties of English

- Vowels are where **varieties** (dialects) of English **differ** the most in their pronunciation
 - There are differences between the “standard” Englishes of different parts of the world
 - There are differences between “standard” and other varieties of English within each region

3. About vowels in varieties of English

- In this course, we will use online sound files representing “standard” or “mainstream” American English, and the corresponding IPA symbols, as a way to **learn about how to describe vowels**
 - The examples below come from the clickable [American English vowel chart](#) on the web site for the book *A Course in Phonetics*
 - If you are interested, there are sample British English vowels on the same web page

3. About vowels in varieties of English

- You, personally, may not have the exact same vowel quality in an individual word as demonstrated here
 - Practice **recognizing** the vowel sounds in the recordings and **matching** them to symbols
 - *For fun:* Try to analyze whether your own vowels are different from the models — and if so, how! (using phonetic properties)
- Later in the course, we will talk more about linguistic differences between some of the varieties of English

4. Height and backness

- Consider these vowels

To hear them, click on the matching symbol in [this chart](#)

Note: You do not need to let the web site access your microphone

[ɪ] as in *bid*

[ε] as in *bed*

[æ] as in *bad*

- These vowels illustrate the three **height** categories:
high, mid, low
 - Refers to vertical position of tongue body

4. Height and backness

- Consider these vowels

To hear them, click on the matching symbol in [this chart](#)

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[ɪ] as in *bid* | high

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[æ] as in *bad* | low

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[æ] as in *bad*

[ʌ] as in *bud*

[ɑ] as in *bod*

- These vowels illustrate the three **backness** categories: **front**, **central**, **back**
 - Refers to horizontal position of tongue body

4. Height and backness

- Consider these vowels

To hear them, click on the matching symbol in [this chart](#)

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[æ] as in *bad* | front

[ʌ] as in *bud* | central

[ɑ] as in *bod* | back

- These vowels illustrate the three **backness** categories: **front**, **central**, **back**
 - Refers to horizontal position of tongue body

4. Height and backness

- Using height and backness, we can represent vowels in a two-dimensional diagram:

	<i>front</i>	<i>central</i>	<i>back</i>
<i>high</i>	ɪ		
<i>mid</i>	ɛ	ʌ	
<i>low</i>	æ		ɑ

- Be careful not to confuse **mid** and **central**!

5. Rounding

- Consider these vowels

To hear them, click on the matching symbol in [this chart](#)

Note: You do not need to let the web site access your microphone

[i] as in *bead* (shown as [i:] on chart)

[u] as in *booed* (shown as [u:] on chart)

[ɪ] as in *bid*

[ʊ] as in *hood*

- These vowels illustrate the **rounding** categories:
are they round or unrounded?

5. Rounding

- Consider these vowels

To hear them, click on the matching symbol in [this chart](#)

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[i] as in *bead* (shown as [i:] on chart)

[u] as in *booed* (shown as [u:] on chart)

[ɪ] as in *bid*

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- These vowels illustrate the **rounding** categories:
are they round or unrounded?

[i] [ɪ] | unrounded [u] [ʊ] | round

5. Rounding

- See vowel height, backness, and rounding for [i e a o u] on this [X-ray video](#)

From: Peter Ladefoged's *Vowels & Consonants* textbook, via YouTube

6. The tense/lax distinction

- Many languages have small vowel inventories, so *only* **height**, **backness**, and **rounding** are needed to distinguish all vowel categories
- But some languages—including English—need to make a further distinction between **tense** and **lax** vowels

6. The tense/lax distinction

- Consider these pairs of vowels

To hear them, click on the matching symbol in [this chart](#)

Note: You do not need to let the web site access your microphone

[i] as in *bead* vs. [ɪ] as in *bid*

[u] as in *booed* vs. [ʊ] as in *hood*

6. The tense/lax distinction

- Consider these pairs of vowels

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[i] as in *bead* vs. [ɪ] as in *bid*

[u] as in *booed* vs. [ʊ] as in *hood*

- These comparisons illustrate **tense** and **lax** vowels
 - Tense vowels tend to be longer and have a more extreme (less central) tongue position than their nearest lax counterparts
 - The web site we are using for audio examples actually transcribes the tense vowels [i] [u] as *long* with the [:] symbol

6. The tense/lax distinction

- A **diagnostic** for tense/lax in English:
 - In English, only **tense** vowels can come at the end of a one-syllable word
 - With one exception: [ɔ] (*if you have it!—see below*) is **lax** but can appear in this position (for historical reasons)

7. Mid vowels in American English

- The **mid tense vowels** are seen in these words:
 - bayed* (mid front tense vowel)
 - bode* (mid back tense vowel)
- Do you notice anything special about these vowel sounds in American English?
(Hint: Try saying them slowly.)

7. Mid vowels in American English

- These vowels are **diphthongs** — complex vowel categories that start with one vowel quality and end with another
- We reflect this in a two-part phonetic transcription:
[ej] as in *bayed* [ow] as in *bode*

To hear them, click on the matching symbol in [this chart](#);
note that diphthongs are **arrows** (not circles) on the chart

Note: You do not need to let the web site access your microphone

- An alternative transcription convention uses lax vowels instead of glides in diphthongs: [eɪ] [oʊ]—as seen on the clickable chart we're using for audio examples

7. Mid vowels in American English

- Most languages have mid (tense) vowels that are *not* diphthongs
 - For such languages, we would simply transcribe the vowels [e], [o] (no glides)
- Using a diphthong pronunciation for mid vowels is one common characteristic of an American **accent** in foreign-language learning!

7. Mid vowels in American English

- Here is a vowel category that some American varieties have, and some do not: [ɔ]
- If you have a **different** vowel in *thought* and *lot*, then you probably have *thought* [ɔ] and *lot* [ɑ]
 - If you have the **same** vowel in *thought* and *lot*, then the vowel you have is probably [ɑ]
- Another test: [ɔ] is **round**, [ɑ] is **unrounded**
- Hear the contrast: [ɔ] *bawd* vs. [ɑ] *bod*
Click on the matching symbol in [this chart](#)
Note: You do not need to let the web site access your microphone

8. Remembering vowel symbols

- Easy to learn: **Tense vowel** symbols
 - These match the expected pronunciation of the corresponding alphabet letter *in many non-English languages* (example: Spanish)

	<i>front</i>	<i>back</i>
<i>high</i>	[i]	[u]
<i>mid</i>	[e] (Eng. [ej])	[o] (Eng. [ow])
<i>low</i>		[a]

8. Remembering vowel symbols

- Think of these **lax vowels** as similar to the tense vowels with **related** symbols

	<i>front</i>	<i>back</i>
<i>high</i>	[ɪ]	[ʊ]
<i>mid</i>	[ε]	[ɔ]
<i>low</i>	[æ]	

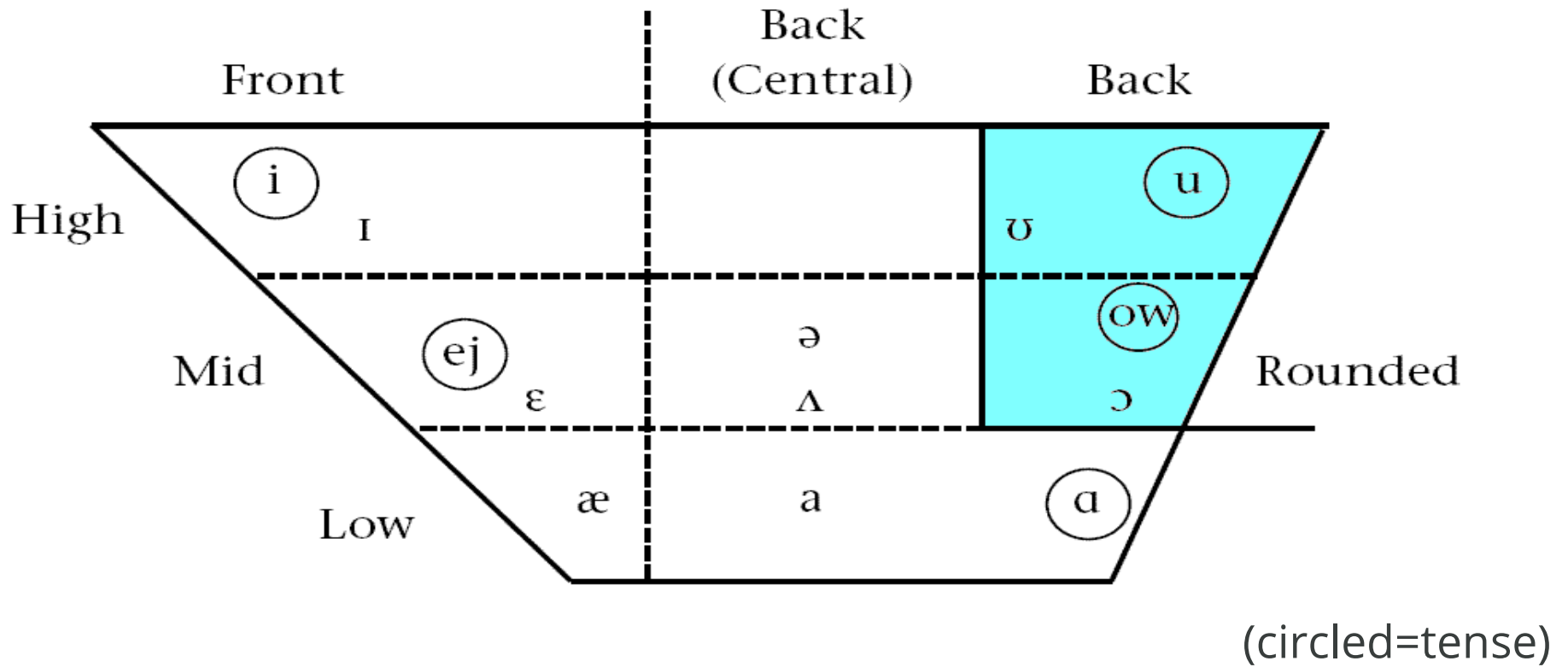
8. Remembering vowel symbols

- Two mid central lax unrounded vowels:
[ə] “schwa” vs. [ʌ] “wedge”
 - [ʌ] is used for a stressed sound: *cup*
 - [ə] is used for an unstressed sound: *sofa*
- In this course, you won't be asked to distinguish these two symbols by sound or by properties (we will treat them as interchangeable)
- Hear [ʌ] *bud*
Click on the matching symbol in [this chart](#)
Note: You do not need to let the web site access your microphone

8. Remembering vowel symbols

- Two similar low vowels: [a] vs. [ɑ]
 - [a] is central; [ɑ] is back
 - In “standard” American English, [a] is used **only** as part of the diphthongs [aj] *bite*, [aw] *loud*
 - Some other varieties of American English do use [a] in additional contexts
 - Boston: *p[a]k your c[a](r) in H[a]vard Y[a]d*
 - Some SE US varieties: *time, tide* have [a]
 - You won't be asked to distinguish these two vowels by sound (but do know their properties!)

9. Summary so far



10. More diphthongs

- We've seen these diphthongs: [ej], [ow]
 - We simply classify them as mid front unrounded tense vowel and mid back round tense vowel — just like simple vowels — because their transitions are minor

10. More diphthongs

- In “standard” American English, these words have more extreme (major) **diphthongs**:

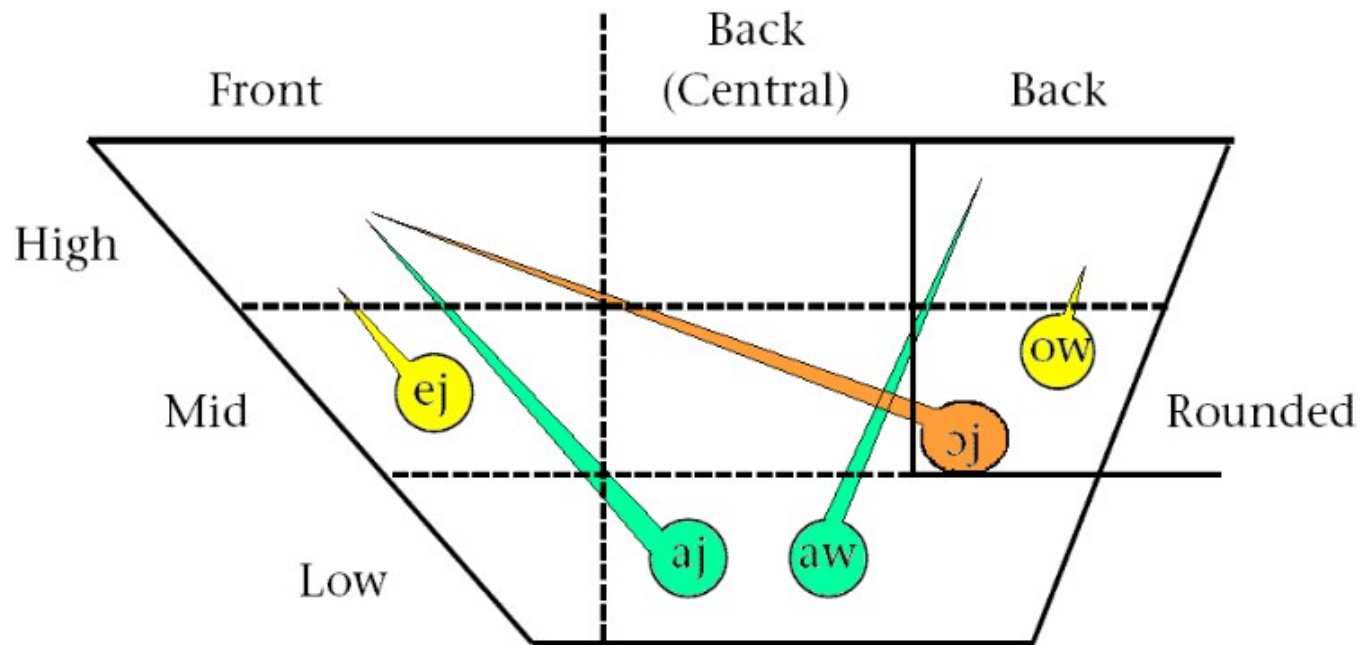
[aj] as in *bite* → Do you have [aj] in *bide*?

[aw] as in *loud*

[ɔj] as in *boy*

10. More diphthongs

- For the three major diphthongs, we can just describe their starting and ending points



Diphthongs as transitions between vowel qualities

- All five diphthongs in “standard” American English are **tense** (yes, even [ɔj]!)

11. Mastering the phonetics of vowels

- **Get physical!**
 - Learn these new terms while paying attention to your own articulations: what does *front* or *low* or *round* **feel** like?
- **Use the links!**
 - This lecture outline has multiple links to **media examples** of sounds for you to listen to or watch
- **Practice, practice, practice!**
 - Use the [LING 101 Quizlet vowel flash cards](#), or make **flash cards** and **charts** of your own

12. What's next

- **Recitation** on F Sept 8
 - Practice with IPA symbols, transcribing words
 - Practice with consonant and vowel properties
- **HW #2** is due M Sept 11
- **Lecture** next week: phonology — the mental grammar of speech sounds
 - Data = human language behavior (how do sounds pattern and form classes?)
 - Model = how we propose the mental grammar represents and organizes speech sounds