Today’s objectives:
• Review phonetics concepts
• Describe sound classes

Background preparation:
• Phonetics review handout
• PP — Finnish segment inventory
0. Quick check-in

• Any Zoom or other technology issues?
  - Everyone please take a minute this week to confirm that you are able to access class Zoom videos on Sakai (in “Panopto” tool)
  - In general, please email me to report tech problems so that I can fix them or help you troubleshoot

- Any other questions or problems?
0. Quick check-in

• Does anyone have clarification questions about the phonetics material you have been reviewing?
0. Quick check-in

• Reminder:
  - Are you feeling rusty on phonetics terms and the assigned symbols for consonants and vowels?
  - Does it take you a long time to identify the properties of individual consonants and vowels?

→ If so, plan to spend **15 minutes every day** reviewing this material until it feels comfortable (remember there are Quizlet card decks!)
1. Finnish vowels

**Group discussion | PP - “Finnish segment inventory”**

- What to do:
  - Someone open and share this blank vowel chart
  - Everyone work together to put “V1”–“V8” from the Finnish exercise on the chart
  - Also indicate which vowels are round
  - Be ready to show your chart to the class
  - If extra time: Propose IPA symbols for these Finnish vowels, based on your vowel chart (Some will not be symbols assigned for memorizing!)
1. Finnish vowels

Debriefing | PP - “Finnish segment inventory”

• What can we conclude about the vowel inventory of Finnish?
1. Finnish vowels

• Practice: How can we **uniquely specify** the vowels and vowel classes of Finnish?
  - We have been practicing **fully describing** each segment so we can remember its properties
  - **However!** In phonology, we most often need to classify or describe segments in the context of **distinguishing** certain segments from others in an insightful or efficient way
  - How we describe a set of sounds partly depends on what sounds we need to exclude from the set
2. Describing sound classes

• How are US coins different from one another?

(Images from Wikipedia)
2. Describing sound classes

- How are US coins different from one another?

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- How could we **find out** which of these differences are **used by humans**?
2. Describing sound classes

• We can also ask this question for speech sounds!
  - We can measure how segments are physically (phonetically) different from one another
  - But which of those potential differences are used by the mental grammar — and how can we tell?
2. Describing sound classes

• We need evidence about...
  - **Natural classes:** What properties are needed to account for which segments pattern together in languages?
  - **Categories:** What properties are needed to distinguish all segments that are treated as distinct mental sound categories in languages?
3. Example: Arabic consonant groups

Group discussion | DE - “Arabic consonants”
- Can each of these sets of consonants be uniquely described in terms of the traditional phonetic properties that we’ve been reviewing?

• What to do:
  - There are 5 discussion groups
  - Each group please work on the corresponding set of sounds (group 1 = sound set A, etc.)
  - If you finish early, try some of the other sound sets for extra practice
Debriefing | DE - “Arabic consonants”

• What do we conclude for each consonant set?
  - Can each of these sets of consonants be uniquely described in terms of the traditional phonetic properties that we started with?

• What we need to consider:
  - Does the set have shared properties?
  - Are these shared properties unique to the set in question?
Debriefing | DE - “Arabic consonants”

• These “sets” are examples of **natural classes**
  - Can each of these sets of consonants be uniquely described in terms of the traditional phonetic properties that we started with?
  - If not, then **this is not the inventory of properties actually used by the mental grammar**!

• To consider: What **additional properties** should we propose, based on the Arabic data set?
4. Building a phonological model

- What is a model of the phonological grammar? Why do we want to build one?
4. Building a phonological model

- A **model** is an abstract device designed to **account for** facts that we observe about the world (**data**)
  - ‘Abstract’ because it is in the explainers’ minds
4. Building a phonological model

• A **model** is an abstract device designed to **account for** facts that we observe about the world (**data**)

• What does having a model allow us to do?
  - **Describe** what we observe
  - **Predict** what else should happen
  - (Attempt to) **explain** why phenomena occur

• If we can get our model to be a **good match** with how the world works, we **conclude** that properties of the world are like properties of our model
4. Building a phonological model

• When we propose a model, what are some of the characteristics we have to give it?
  - We have to propose **entities** that exist in the model
  - We have to propose ways in which those entities **behave** or **interact**
  - We have to **carefully define** those elements or entities and their relations, so that it is clear what the model allows, or requires, them to do
4. Building a phonological model

• **Feature theory** — part of our model of the phonological grammar
  - This is the set of **phonological properties** that we propose to be **relevant** for the **mental grammar**
  - Subject to revision based on new evidence! (Does our model’s behavior match the real world well?)

• For next time: Read through “Phonological features” handout; practice with feature-charts worksheet