Class 1: Introduction, overview, SPE review

0. Write down one thing you know/remember about phonology on an index card for me

- It can be anything! A fact, a term, a concept, a phenomenon in a language, a rule…
- 1-2 lines is plenty

1. Icebreaker #1 (got this one from Reddit)

See Kavanagh, Clark-Murphy & Wood 2011 for why we're doing icebreakers

- First, work individually to answer the following. Go with whatever pops into your head first!
    - If phonology were an animal, it would be _____
    - If phonology were a type of weather, it would be _____
    - If phonology were a food, it would be _____
    - If phonology were a TV show or movie, it would be _____
- Next, get in groups of 3-ish, introduce yourselves, and pick one answer to each question for your group. Coin toss, consensus, each person choose one—doesn't matter
    - animal:
    - weather:
    - food:
    - TV/movie:
- Now, let's collate the groups' responses

	Group 1	Group 2	Group 3	Group 4	Group 5	anything they have in common?
animal						
weather						
food						
movie						

2. Icebreaker #2 (also from Reddit)

- Everyone introduce yourself, and say who is the one person who most pushed you to be here (you can't say me)

3. Phonology warm-up: the Tongva language

- UCLA is located on the traditional, ancestral, and unceded lands of the Tongva people, who are the traditional land caretakers of Tovaangar (aka Los Angeles basin and Southern Channel Islands)
  - other terms used for the language and people include Gabrielino and Kizh[1]
  - 'unceded' means that this land was never ceded to Europeans through treaty
  - The Gabrielino/Tongva people are the traditional land caretakers of Tovaangar (aka Los Angeles basin and Southern Channel Islands)
- The Tongva language is not currently used as a language of daily life, but the Gabrielino-Tongva Language Committee (with assistance from our department's own Pam Munro) works to reawaken and reclaim the language.

- Many Indigenous people have been arguing that land acknowledgments need to include a call to action, in order to be meaningful.
  - Since this is a course, the action I encourage you to take is **learning**
  - If you're not already knowledgeable, take some time this week to learn about Tongva culture, geography, history, and politics, including the history behind why the language is no longer spoken, which includes enslavement and land theft under Spanish rule, and continued forced labor under U.S. rule
  - Wikipedia: en.wikipedia.org/wiki/Tongva
  - Digital story-map about "Tongva placemaking, landscapes, and cultural history": www.arcgis.com/apps/MapJournal/index.html?appid=4942348fa8bd427fae02f7e020e98764 (explore the additional resources there)
  - UCLA Newsroom article about contemporary Tongva educators: newsroom.ucla.edu/stories/ucla-project-reveals-invisible-presence-of-the-tongva
  - Multimedia LA Times story about Tongva language, culture, geography, and history. Won the LSA journalism award: www.latimes.com/projects/la-me-col1-tongva-language-native-american-tribe/

- Tongva is a Uto-Aztecan language—this family spans a large area of the Western U.S. and Mexico. Well-known family members include Shoshoni, Comanche, Hopi, and Nahuatl.

- Some local place names that come from the Tongva language (or a closely related language—it's not always possible to tell): Azusa, Cahuenga, Topanga, Tujunga, Pacoima, Cucamonga
  - *-nga* means 'place'

- Where does information about the Tongva language come from?
  - Written transcriptions, mostly of individual words and short phrases, made by Tongva speakers and non-Tongva linguists working together, in the 1930s and earlier
  - Comparison with closely related languages

- **Indigenous data sovereignty**: who has been given the right to know or use this information?
  - In the cases of older records like these, there is not yet good infrastructure for determining this

[1] All these names are used and combined, with different spellings. Multiple organizations represent the Indigenous people of this place and use somewhat different names—I'm not intending to support any one organization over the others by the choice of how to write the language name!

Tongva education conference at Kuruvungna Springs in West L.A.: Theresa Stewart-Ambo, Craig Torres, Barbara Drake, Julia Bogany, Paulina Sahagun, Desiree Martinez, Kelly Stewart—photo from UCLA Newsroom

- Out of respect for Tongva language reclamation work, let's learn something basic about the Tongva language: how to form plural nouns
    - Examples are on next page
    - Start with the first group of words and see how far you get—things get more and more complex as you go down the page
    - You can ignore all the *suffixes* for today's purposes
    - In the singulars, it's not predictable which syllable gets stressed. In the plurals, the stress is always on the second syllable. You can assume that stress has already been put in the correct place at the beginning of your derivations.

Break into groups of 2-3. Your job:

a. Some Tongva plurals are marked by **"reduplication"**—repeating the first consonant and vowel. Don't worry about explaining the suffixes (what comes after the last hyphen in each word).
b. Assume there's rule in Tongva that puts **stress** on the second syllable of a word, and don't worry about explaining the exceptions.
c. In **#1-#12**, explain why the vowel of the copied first syllable is different from the vowel of the root. If you know how, you can write a rule.
d. If you finish that, keep going, one block at a time…

You have 15 minutes; wave me over if you want any input.

	singular	*plural*		*IPA reminders*
1.	ˈnaavo-t	na-ˈnaavo-t	‘tuna cactus’	ˈ means the syllable *after* the mark is stressed
2.	ˈʃoo-t	ʃo-ˈʃoo-t-am	‘rattlesnake’	**ʃ** is the sound in English sh<u>sh</u>ip
3.	ˈtoomʃa-ɾ	to-ˈtoomʃa-ɾ	‘(type of) oak’	**ɾ** is the sound in American English *ci<u>t</u>y*
4.	ˈxaa-ɾ	xa-ˈxaa-ɾ-am	‘rat’	**x** is the sound in Spanish ***j****alapeño* (voiceless velar fricative)
5.	ˈxaajj	xa-ˈxaajj	‘mountain’	**j** is the sound in English *<u>y</u>es*
6.	ˈpee-t	pe-ˈpee-t	‘road’	
7.	ˈnaaxova-r	na-ˈnaaxova-ɾ	‘cane’	
8.	ˈtaaxo-ɾ	ta-ˈtaaxo-ɾ-om	‘gopher snake’	
9.	ˈʔaaʔaɾo-t	ʔa-ˈʔaaʔaɾo-t-om	‘cow, bull’	**ʔ** is the sound in English *uh-<u>o</u>h*
10.	ˈmaane-t	ma-ˈmaane-t-am	‘toloache’	
11.	ˈwaaʔa-t	wa-ˈwaaʔa-t	‘guata, juniper’	
12.	ˈtoove-t	to-ˈtoove-t-am	‘brush rabbit’	
13.	ˈhuuna-ɾ	ho-ˈhuuna-ɾ	‘bear’	
14.	ˈpiino-ɾ	pe-ˈpiino-ɾ-am	‘hummingbird’	
15.	ˈmuuho-t	mo-ˈmuuho-t	‘owl’	
16.	ˈkii-j	ke-ˈkii-j	‘house’	
17.	ˈʔiita-ɾ	ʔe-ˈʔiita-ɾ-om	‘coyote’	
18.	ˈʃiiʃo-ʔ	ʃe-ˈʃiiʃo-ʔ-am	‘devil’	
19.	ʃaˈxaa-t	ʃa-ˈʃaaxa-t	‘willow’	
20.	ʃeˈvee-ɾ	ʃe-ˈʃeeve-ɾ	‘sycamore’	
21.	ʃoˈʔii-t	ʃo-ˈʃooʔe-t-am	‘jackrabbit’	
22.	ʃaˈŋaa-ɾ	ʃa-ˈʃaana-ɾ-om	‘yellow jacket’	
23.	woˈʃii-ʔ	wo-ˈwooʃe-ʔ-am	‘dog’	
24.	kaˈvaajo-ʔ	ka-ˈkaavajo-ʔ-am	‘horse’	This word comes from Spanish
25.	koˈʔaa-ɾ	ko-ˈkooʔa-ɾ-om	‘worm’	
26.	toˈnaa-ɾ	to-ˈtoona-ɾ-om	‘antelope, pronghorn’	
27.	t͡ʃeˈveeve-ʔ	t͡ʃe-ˈt͡ʃeeveve-ʔ-am	‘gopher snake’	**t͡ʃ** is the sound in English *<u>ch</u>ip*
28.	t͡ʃaˈmee-ɾ	t͡ʃa-ˈt͡ʃaame-ɾ-am	‘owl’	
29.	noˈvoo-ɾ	no-ˈnoovo-ɾ	‘tray basket’	
30.	ʃoˈkaa-t	ʃo-ˈʃuuka-t	‘deer’	**k**^{w} is like **k** but with rounded lips
31.	peˈkʷaa-ɾ	pe-ˈpiikʷa-ɾ	‘blackberry’	
32.	xoˈŋii-t	xo-ˈxooŋe-t-am	‘squirrel’	
33.	moˈkaa-t	mo-ˈmuuka-t	‘song’	
34.	ˈʃwaa-ɾ	ʃo-ˈʃwaa-ɾ	‘reed’	
35.	ˈt͡ʃwii-t	t͡ʃo-ˈt͡ʃwii-t	‘lazy one’	
36.	ˈkjuu-ɾ	ke-ˈkjuu-ɾ-am	‘fish’	
37.	ˈʃjoo-t	ʃe-ˈʃjoo-t	‘star’	

from Munro 1983, 2014; and in progress

4. Before or after the break: review emergency info

- Nearest fire exits?
- Nearest fire extinguisher?
- How to lock door?
- What to do in earthquake? (drop, cover, hold on)

Big picture: what are we trying to do?

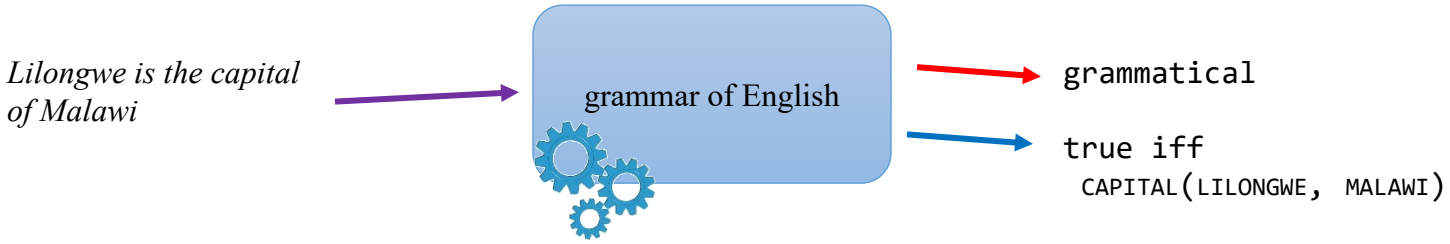
5. What is our job as phonologists? There are various answers out there...

- To describe phonologies (bullets from Goldsmith 1995):
  - What are the legal/possible words of the language?
    - phone inventory (set of basic units—sounds in spoken languages, gestures in sign languages)
    - phonotactics (set of legal sequences of units)
  - What alternations occur (changes that units undergo when placed in different contexts)?
  - Which phonetic differences are contrastive?
- To explain why phonologies are the way they are by constructing…
  - a theory of what people's knowledge of linguistic sound/gesture patterns is and how they learn, store, and use that knowledge
  - plus a theory of how linguistic sound/gesture patterns change over time, which ought to follow from the above

This will be our focus

6. Chomskyan basics[2]

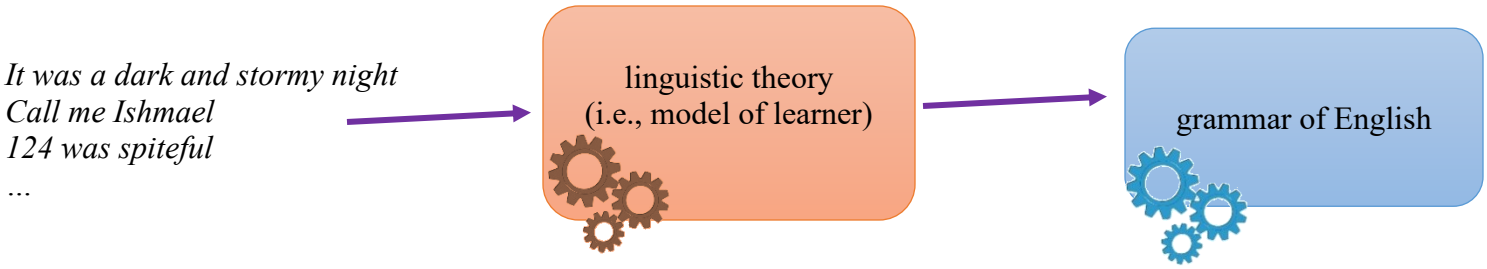
- Let a **grammar** consist of (at least)[3]
  - a function that labels any utterance as **grammatical** or **ungrammatical**.
  - a function that assigns truth conditions to any utterance
    - might be implemented as a lexicon and list of rules, or a set of constraints, or something else



[2] Chomsky 1965 pp. 25-27, Chomsky 1964 p. 29, and Chomsky 1995 p. 3, simplified, and filtered, I admit, through my own views.

[3] We probably want the grammar to do much more! (Chomsky also requires a grammar to assign a structural description to an utterance, but I wonder if this is begging the question: the structural description can be used to explain more-observable properties of a sentence like its truth-conditions, but do we know *a priori* that it's necessary?)

- Let a **linguistic theory** be a function that, given a (finite) set of utterances (the **learning data**), produces a grammar.[4]



7. Adequacy of grammars and theories

- a descriptively adequate grammar captures the significant, psychologically real generalizations—this is a lot to ask!
- the real prize, an explanatorily adequate theory (i.e., learner), will, given typical learning data, return a descriptively adequate grammar

? How do these definitions compare to definitions or uses of 'adequacy' that you've seen elsewhere in linguistics?

But how do we even know what the significant/psychologically real generalizations are?????

8. Case study: English noun plurals

cat	kʰæt	kʰæts	*pea*	pʰi	pʰi**z**
sack	sæk	sæks	*cow*	kʰaʊ	kʰaʊ**z**
dog	dɑg	dɑgz	*man*	mæn	m**ɛ**n
grub	gɹʌb	gɹʌb**z**	*foot*	fʊt	f**i**t
dish	dɪʃ	dɪʃ**ɨz**	*wife*	waɪf	waɪ**v**z
fudge	fʌd͡ʒ	fʌd͡ʒ**ɨz**	*whiff*	wɪf	wɪf**s**
			…		

[4] Chomsky sometimes breaks this into a **linguistic theory**, which defines the set of possible grammars, and a **strategy** for selecting a grammar out of that set, given the learning data.

We're going to do a "**gallery walk**" now

a. I'm putting you into 5 groups. Each group is designated to be the **advocate** of one of the five grammars for English below
b. First 5 minutes: Discuss and understand your group's grammar. Think of at least one advantage that your group's grammar has, and write that on your group's sheet
c. Next 5 minutes: Shuffle sheets, discuss and understand the other group's grammar, and reply to what's been written on the next sheet from a pro-your-grammar standpoint
d. Next 5 minutes: Repeat step (c)
e. Last 5 minutes: Circle back to your original sheet, read the replies, and see if you have any refutation to make

You have 20 minutes.

A. ***No rules.*** *Just list every word you know, as though everything were an exception*

kʰæt	kʰæts	pʰi	pʰi**z**
sæk	sæks	kʰaʊ	kʰaʊ**z**
dɑg	dɑgz	mæn	m**ɛ**n
gɹʌb	gɹʌb**z**	fʊt	f**i**t
dɪʃ	dɪʃ**ɨz**	waɪf	waɪ**vz**
fʌd͡ʒ	fʌd͡ʒ**ɨz**	wɪf	wɪf**s**

- How does this work as a grammar?
  - E.g., to determine if *I like cats* is true, grammar looks up the singular of *cats*. It's *cat,* so the sentence is true iff I like members of the set CAT: $\forall x\, x \in$ **CAT** $\rightarrow$ LIKE(I,x)
  - The sentence's truth has nothing to do with whether I like members of the set DOG.

B. ***Add –s*** *to everything, except for these exceptions:*

dɑg	dɑgz	kʰaʊ	kʰaʊ**z**
gɹʌb	gɹʌb**z**	mæn	m**ɛ**n
dɪʃ	dɪʃ**ɨz**	fʊt	f**i**t
fʌd͡ʒ	fʌd͡ʒ**ɨz**	waɪf	waɪ**vz**
pʰi	pʰi**z**	...	...

C. ***Add –z*** *to everything, except for these exceptions:*

kʰæt	kʰæts	mæn	m**ɛ**n
sæk	sæks	fʊt	f**i**t
dɪʃ	dɪʃ**ɨz**	waɪf	waɪ**vz**
fʌd͡ʒ	fʌd͡ʒ**ɨz**	wɪf	wɪf**s**
		...	...

D1. ***Add –ɨz*** *after "sibilant" sounds,* ***–s*** *after non-sibilant [–voice] sounds, and* ***–z*** *otherwise, except for these exceptions:*

mæn	m**ɛ**n
fʊt	f**i**t
waɪf	waɪ**vz**

phonetics tip: "sibilants" are the fricatives and affricates made extra-noisy by shooting the already-turbulent airstream against the back of the front teeth

D2. ***Change final /f/ to [v]****, and then add –iz after sibilants, –s after non-sibilant [–voice] sounds, and –z otherwise, except for these exceptions:*

mæn	mɛn	...	...
fʊt	fi**t**		
wɪf	wɪf**s**		

Which generalizations are real? How about a wug test.

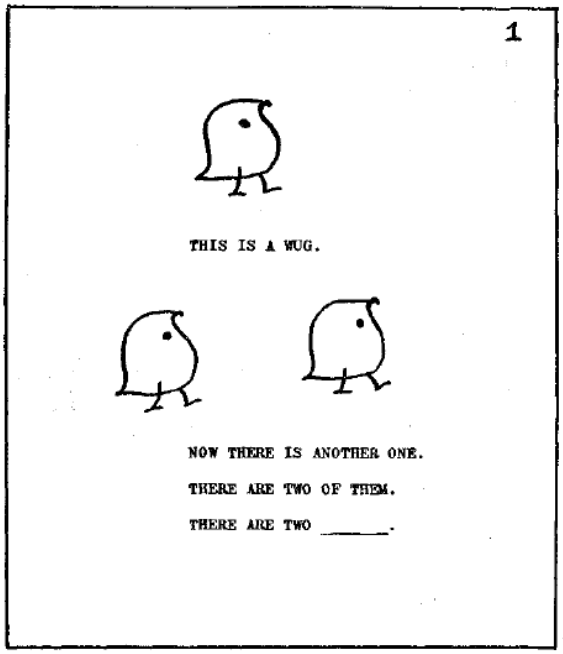


Figure 1. The plural allomorph in /-z/.

(Berko 1958, p. 154)

- Berko found that English-speaking adults (all highly educated, in her sample, FWIW) consistently give the following plurals when presented with invented words (pp. 155-158):

wʌg͡	wʌg͡**z**	lʌn	lʌn**z**
gʌt͡ʃ	gʌt͡ʃ**ɪz**	nɪz	nɪz**ɪz**
kæʒ	kæʒ**ɪz**	kɹa	kɹa**z**
toɹ	toɹ**z**	tæs	tæs**ɪz**

? For each of the grammars above, would anyone like to make the case for its descriptively adequacy, given these data?

? The adults disagreed about this word—what might we conclude?

hif	hif**s**, hiv**z**

9. Why is it hard to develop a descriptively adequate grammar in phonology?

- If a speaker already knows a word, it's uninformative to us!
  - Known words don't tell us anything about what generalizations the speaker has learned—they may have simply memorized those words
- Constructing novel phonological situations to put speakers in is a challenge.
  - Contrast this with syntax, where it's easier to construct sentences that—presumably—the speaker has not encountered before.
- We often can't be sure that these novel situations really test what we want them to test.
- In 200A, we'll mostly ignore this problem and proceed as though generalizations that we notice in the data are real to speakers.
  - In 201A there will probably be a more emphasis on methods for determining which generalizations are real.

10. Why is it hard to develop an explanatorily adequate theory?

- Suppose we could magically achieve description adequacy for all real languages.
  - That only tells us which generalizations people have extracted for existing sets of data
  - We don't know what people *would do* if faced with a language with different generalizations

- In the English example…
  - Suppose we're convinced by the wug test that English speakers' grammar includes the rule "use the [ɨ**z**] form of the plural after sibilants".

  → Exposed to the English data, learners choose a grammar with that rule

  - But we still know nothing about the learnability of "use the [ɨ**z**] form of the plural after **non-**sibilants".
    - If the data had somehow reflected this rule instead, would children be able to learn it just as well?

- To build our linguistic theory, we need to know which generalizations people can extract or tend to extract from all kinds of learning data, not just attested learning data.
  - Are some generalizations preferred to others?
  - Are there hard limits on learnability?

- Again, this won't be our focus this quarter, but some interesting things you could read:
  - Becker, Ketrez & Nevins 2011 and Becker, Nevins & Levine 2012 tackle this problem in a very interesting way, by comparing potential generalizations that exist within the same language—Turkish and English, here.




- Bowers 2012 argues that a sudden, one-generation change in Odawa happened because the data changed into something that children couldn't learn.

11. Wrapping up

- Let's look at the syllabus, BruinLearn, and Perusall
- What we did today
  - Situate the enterprise of phonological theory: we're working on a model of how to get from language experience to a plausible mental grammar
- What's next
  - We will go into excruciating detail about how one model, "SPE" works
  - Our goal is to understand precisely the predictions of that theory, so that we can compare it to other theories ("OT", in particular, which we will also go into excruciating detail on)
- The course overall
  - Starting from a very explicit base of how the two theories, and some of their variants, work, we'll look for conflicting predictions to help us decide
  - Preview: there mostly hasn't been enough work done on the crucial cases! So there is plenty for new phonologists to work on—the squib will give you some practice

12. One last thing: now's a good time to make your "basic week" schedule

- Increasing emphasis in graduate education on "professionalization"
  - Explicitly teaching abstract-writing, project planning, conference-going …
  - Mazak's podcast often talks about how faculty need to "pull back the curtain" by showing how we manage our own work
- So, here's something you should do now: plan out your basic week, which will then get adjusted every actual week
  - I like to make everything a repeating even in Google Calendar
- The point is not to turn yourself into a joyless productivity robot! Rather, the point is to…
  - make sure you have (more than) enough time for all your commitments—not just the scheduled ones, like class time, but the **unscheduled commitments**, like doing the work for each class
    - if not, drop something! try to get some blank space in your schedule
    - make sure you've scheduled not just time for lectures and sections, but also for the work that goes with each course
  - feel calm when not doing schoolwork, knowing that it has its scheduled time
  - not have to start from scratch when planning each week/day

- Pro tips to take your schedule to the next level
    - Pick a special location or other ritual for each activity: YRL for your syntax reading, Powell for your phonology assignment, tea in your special mug for semantics reading, etc.
        - Helps your mind get in gear faster
    - Schedule thirty minutes of **free time *after* each meeting that generates to-do items for you**—e.g., advising meetings with faculty
        - Use this time to take the notes you made during the meeting on things you need to do or follow up on, and process them into your task-management system
    - Schedule a **back-up slot** for anything important to you that tends to get pushed off your schedule by the unexpected
        - Especially fun stuff, like swimming laps
    - Don't forget a slot every day to **process your e-mail** and other in-boxes.
        - Otherwise you'll feel like you have to do it in each free moment, or even interrupt working to do it

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