- **Morphological analysis: What we can learn from plural nouns in English**

- A **morpheme**

    - shows a **systematic sound-meaning correspondence**

        restandardizing   →   *re-standard-iz(e)-ing*

    - **cannot be further divided** without losing this sound-meaning correspondence

        cinnamon   'a spice' → no meaningful parts

1. Review — Morpheme: sound+meaning

- Remember: We are looking for the **rules** of the **mental grammar**
  - Always use **language data** to look for linguistic rules, even in your own language
  - Use the principle of **systematic sound-meaning correspondence** when looking for morphemes

- The Quizlet flash-card set "How many morphemes" gave you a chance to practice thinking about systematic sound-meaning correspondence in English

2. Morphological analysis: English plurals

Here is another example of looking for **patterns** in language data to determine **when a morpheme is present**

- Which of the underlined English words have a **plural morpheme**?

    (a)   *We saw a lot of <u>cats</u>.*

    (b)   *We saw a lot of <u>oxen</u>.*

    (c)   *We saw a lot of <u>geese</u>.*

    (d)   *We saw a lot of <u>sheep</u>.*

    (e)   *We saw a lot of <u>sand</u>.*

- Do any of these words include **sounds** that could **correspond** to the **meaning** of *plural*?

  (a) *cats*

  (b) *oxen*

  (c) *geese*

  (d) *sheep*

  (e) *sand*

- Do any of these words include **sounds** that could **correspond** to the **meaning** of *plural*?

		plural(?)		*singular*
(a)	*cats*	[kæt**s**]	vs.	[kæt]
(b)	*oxen*	[ɑks**ən**]	vs.	[ɑks]
(c)	*geese*	[g**i**s]	vs.	[gus]
(d)	*sheep*	[ʃip]	vs.	[ʃip]
(e)	*sand*	[sænd]	vs.	[sænd]

6

- Do any of these words include **sounds** that could **correspond** to the **meaning** of *plural*?

		plural(?)		*singular*	
(a)	*cats*	[kæt**s**]	vs.	[kæt]	*add [-s]*
(b)	*oxen*	[ɑks**ən**]	vs.	[ɑks]	*add [-ən]*
(c)	*geese*	[g**i**s]	vs.	[gus]	*change vowel*
(d)	*sheep*	[ʃip]	vs.	[ʃip]	*no change*
(e)	*sand*	[sænd]	vs.	[sænd]	*no change*

2. Morphological analysis: English plurals

- Any sound-meaning correspondence for *plural*?

		plural		**singular**	
(a)	*cats*	[kæt**s**]	vs.	[kæt]	*add [-s]*
(b)	*oxen*	[ɑks**ən**]	vs.	[ɑks]	*add [-ən]*

- These two nouns seem to add a sound shape that corresponds to the meaning of plural

- **Many** nouns add **[-s]** (see below for more on this) → this is the **regular** plural morpheme

- **Very few** nouns add **[-ən]** → this is a different plural morpheme that is **irregular**

- Any sound-meaning correspondence for *plural*?

	plural	**singular**
(c) *geese*	[g<u>i</u>s]	vs. [gus] ***change vowel***

- Sound structure is being added here, too: new vowel properties ***front, unrounded*** replace the original vowel properties *back, round*

- These sound properties are also a morpheme, although they are smaller than a speech sound!

- This kind of sound-property change is another **irregular** plural morpheme in English

- Any sound-meaning correspondence for *plural*?

	plural(?)			*singular*	
(d) *sheep*	[ʃip]	vs.	[ʃip]	*no change*
(e) *sand*	[sænd]	vs.	[sænd]	*no change*

- Here, we don't see any sound structure that differs from the singular

- But that doesn't necessarily mean that there is no plural **meaning** here!

2. Morphological analysis: English plurals

- Can we find **evidence** from *that/those* and verbs?
  - Do *sheep* and *sand* **behave like** the words we know are plurals?

  (a) *Those* cats *are* *scary.* (plural)
  (a') *That* cat *is* *scary.* (singular)

  (b) *Those* oxen *are* *scary.*
  (c) *Those* geese *are* *scary.*
  (d) ___ **sheep** _ ***scary.***
  (e) ___ **sand** _ ***scary.***

2. Morphological analysis: English plurals

- Can we find **evidence** from *that/those* and verbs?

(a)	*Those*	cats	*are*	scary. (plural)
(a')	*That*	cat	*is*	scary. (singular)

(d)	**Those**	**sheep**	**are**	**scary.** |	**plural!**
(d')	*That*	sheep	*is*	scary. |	singular too, hmm
(e)	****Those***	**sand**	**are**	**scary.** |	**not plural!**
(e')	***That***	**sand**	***is***	**scary.** |	it's singular
(e")	***Those***	**sand<u>s</u>**	***are***	**scary.** |	here's the plural

- Data shows: *sheep* can be a plural; *sand* cannot
  (Remember that * means 'is ungrammatical')

- Which of the underlined English words have a **plural morpheme**?

  (a)   *We saw a lot of <u>cats</u>.*   [kæt-**s**]

  (b)   *We saw a lot of <u>oxen</u>.*   [ɑks-**ən**]

  (c)   *We saw a lot of <u>geese</u>.*   [gus] + **front, unrounded**

  (d)   *We saw a lot of <u>sheep</u>.*   [ʃip-**Ø**]

  (e)   *We saw a lot of <u>sand</u>.*   (no plural morpheme here)

- If a morpheme is a **systematic sound-meaning correspondence**, what do we say about all this?

- Sound-meaning correspondences seen here:

  (a)   meaning: *plural* <=> sound: [**-s**] (regular pl.)

  (b)   meaning: *plural* <=> sound: [**-ən**]

  (c)   meaning: *plural* <=> sound: **front, unrounded**

  (d)   meaning: *plural* <=> sound: [**Ø**] (silent)

- These are **four different plural morphemes**, because they have different sound shapes

  - Nouns take the regular plural unless their entry in the mental lexicon specifies otherwise

14

3. Some general points to note

- Two forms are the same morpheme only if they have the same meaning **and** the same sound

  - More than one morpheme can have the same meaning (English has multiple plural morphemes)

- Some morphemes are **zero morphemes**

  - Their sound shape contains no speech sounds (singular *sheep*, plural *sheep*+Ø)

  - But they still have a meaning: *the sheep <u>are</u>...* shows that a plural meaning is present in *sheep*+Ø

- How are the **plurals** of these nouns **pronounced**?

cat [kat-_] bird [bɹd-_] horse [howrs-_]
duck [dʌk-_] pig [pɪg-_] pooch [putʃ-_]
giraffe [ʤəɹæf-_] ram [ɹæm-_] thrush [θɹʌʃ-_]
sloth [slɔθ-_] doe [dow-_]

4. English plurals again

- How are the **plurals** of these nouns **pronounced**?

cat [kat-**s**] bird [bɹd-**z**] horse [howrs-**əz**]
duck [dʌk-**s**] pig [pɪg-**z**] pooch [putʃ-**əz**]
giraffe [ʤəɹæf-**s**] ram [ɹæm-**z**] thrush [θɹʌʃ-**əz**]
sloth [slɔθ-**s**] doe [dow-**z**]

- They are not all the same!

- Does this mean there are three different morphemes here, too?

→ No: Look at the phonological **environments**

- The phonological environments are **predictable**!

cat [ka**t-s**] bird [bɹ**d-z**] horse [howr**s-əz**]
duck [dʌ**k-s**] pig [pɪ**g-z**] pooch [pu**tʃ-əz**]
giraffe [dʒəɹæ**f-s**] ram [ɹæ**m-z**] thrush [θɹʌ**ʃ-əz**]
sloth [slɔ**θ-s**] doe [d**ow-z**]

- The [-əz] form occurs after [s z ʃ ʒ tʃ dʒ], which share a sound property known as sibilant (they are "noisy fricatives/affricates")
- **What property** distinguishes the [-s] and [-z] environments?

4. English plurals again

- The phonological environments are **predictable**!

cat   [ka**t-s**]   bird   [bɹ**d-z**]   horse   [howr**s-əz**]

duck   [dʌ**k-s**]   pig   [pɪ**g-z**]   pooch   [pu**tʃ-əz**]

giraffe   [ʤəɹæ**f-s**]   ram   [ɹæ**m-z**]   thrush   [θɹʌ**ʃ-əz**]

sloth   [slɔ**θ-s**]   doe   [d**ow-z**]

- The [-əz] form occurs after [s z ʃ ʒ tʃ ʤ], which share a sound property known as sibilant (they are "noisy fricatives/affricates")

- **What property** distinguishes the [-s] and [-z] environments? | **Voicing:** voiceless vs. voiced

4. English plurals again

- How are the **plurals** of these nouns **pronounced**?

cat	[ka**t-s**]	bird	[bɹ**d-z**]	horse	[howr**s-əz**]
duck	[dʌ**k-s**]	pig	[pɪ**g-z**]	pooch	[pu**ʧ-əz**]
giraffe	[ʤəɹæ**f-s**]	ram	[ɹæ**m-z**]	thrush	[θɹʌ**ʃ-əz**]
sloth	[slɔ**θ-s**]	doe	[d**ow-z**]		

- They are not all the same!

- Does this mean three different morphemes?

→ No: When the phonological **environments** are **predictable**, we analyze this as **one morpheme** being affected by **phonological rule(s)**

20

- A **morpheme** shows a **systematic sound-meaning correspondence**

  - Both the sound and the meaning have to **match** if two forms are the same morpheme

  - Are *-er* in *bigger* and *-er* in *runner* the same morpheme?

5. Summary

- A **morpheme** shows a **systematic sound-meaning correspondence**

    - Both the sound and the meaning have to **match** if two forms are the same morpheme

    - Are *-er* in *bigger* and *-er* in *runner* the same morpheme?

    No!

5. Summary

- But: We can analyze something as one single morpheme with multiple different surface forms if their phonological **environments** are **predictable**

  - This is evidence for a **phonological** rule affecting the morpheme

  - Are (plural) [-s], [-z], and [-əz] the same morpheme?

5. Summary

- But: We can analyze something as one single morpheme with multiple different surface forms if their phonological **environments** are **predictable**

    - This is evidence for a **phonological** rule affecting the morpheme

    - Are (plural) [-s], [-z], and [-əz] the same morpheme?

    Yes!