

(1) Terms/concepts to know: morpheme, free morpheme, bound morpheme, inflectional morphology, derivational morphology, morphologically rich, morphologically poor, recursion, embedded sentence, complementizer, determiner, imperative, declarative, question, negation, preposition, auxiliary verb, telegraphic speech, Zipfian distribution, passive sentences, reversible passives, non-finite clause, pronouns, reflexive pronouns, quantifiers, quantifier scope, surface scope, inverse scope, isomorphic interpretation, non-isomorphic interpretation

(2) Does English have a rich morphological system compared to other languages? (Hint: Think about languages like Hungarian and Turkish.) What does it mean to have a rich morphological system?

(3) What does it mean for a language's morphology system to be predictable? Does having a predictable system mean a language is likely to be easier to learn? Does it seem to matter how rich the morphological system of the language is? (Hint: Think what matters more: having more morphology to learn or having predictable morphology to learn.)

(4) How would you argue against someone who claims that the order words are put in is determined solely by what they mean?

(5) Why does being able to generate sentences of infinite length indicate that adults must have an underlying system for generating sentences?

(6) Here are some rules Sigmund has discovered about the syntactic structure of Guin:

$S \rightarrow NP VP$	$NP \rightarrow Det N$	$NP \rightarrow N$
$VP \rightarrow V NP$	$VP \rightarrow V S$	$VP \rightarrow V$

Here are some words Sigmund has also discovered:

plong = "the", Det(eterminer)

nerket = "cat", N(oun)

fleptur = "chased", V(erb)

vind = "see", V(erb)

ong = "a", Det(eterminer)

bant = "dog", N(oun)

vinder = "saw", V(erb)

flept = "chase", V(erb)

margon = "goblin", N(oun)

margoni = "goblins", N(oun)

For each of the sentences below, decide if the sentence can be generated by these rules. If so, show the derivation, and if not, show where the derivation fails and explain what sequence has no rule to match it.

(i) ong margon vinder plong nerket.

(ii) margoni vind.

- (iii) ong margon vinder fleptur plong nerket.
- (iv) margoni vind ong nerket flept ong margon.
- (v) bant ong vinder margoni fleptur ong nerket.
- (vi) margoni fleptur margoni.
- (vii) ong bant vinder ong nerket vind ong margon flept ong margon.
- (viii) plong nerket vinder margoni vind ong bant ong nerket flept.
- (ix) margoni plong vinder ong bant.
- (x) plong nerket vinder flept margoni.

(7) Describe the nature of children's early syntactic productions. That is, what kinds of words do they use and what kinds of words do they leave out? What kinds of clauses do they produce earlier, and what kinds of clauses do they produce later?

(8) One strategy children use to interpret sentences is the mentioned order of the words. Give one example where this strategy would work, and one example where this strategy would fail. Make sure to explain why the strategy would work for the first example you give, but not the second.

(9) Another strategy children use to interpret sentences is world knowledge. Give one example where this strategy would work, and one example where this strategy would fail. Make sure to explain why the strategy would work for the first example you give, but not the second.

(10) What evidence is there that children who do not use grammatical morphemes (like determiners and auxiliary verbs) are still sensitive to these morphemes when they listen to other people speak?

(11) The language data children hear have a Zipfian distribution. Why does this mean that children's task of learning language is harder than we might have previously thought? (Hint: Do children hear the same number of examples of everything? Does this make learning about all the different grammatical forms of a language harder or easier?)

(12) What is one reason why passive sentences are so difficult for young children to understand? (Hint: Think of the strategies children may fall back on when they don't quite understand the syntax of a passive sentence.)

(13) What is a reversible passive? How does it relate to interpretation strategies children might fall back on when they don't understand passive morphology?

(14) What are some indicators of a passive sentence? (Hint: Think about both morphology and what words/phrases appear.)

(15) Does the meaning of the verb seem to matter for children's interpretation of passives? (Hint: Think about whether semantic features matter.)

(16) What evidence do we have that young children’s misinterpretation of implied (or silent) subjects may be due to developing processing abilities, rather than a lack of adult-like knowledge about how these implied subjects should be interpreted? (Hint: Think about the Gerard et al. 2018 study, and how performance difference between tasks that had lower cognitive demand vs. higher cognitive demand.) Is there any evidence this issue of developing processing impacts other linguistic structures? (Hint: Think about the passive.)

(17) What is one common way for young children to misinterpret sentences like “The doll is easy to see”? How does this differ from the way adults interpret this sentence? What is a cue that children heed in order to figure out the implied subject and implied object for unfamiliar constructions?

(18) Sigmund was surprised to learn that some sentences may have silent subjects or silent objects that are understood, but *not* explicitly mentioned. He wanted to try his hand out at identifying some of these in actual sentences. Help Sigmund out by identifying whether each of the examples below has a silent subject, a silent object, both, or neither. Make sure to indicate what the silent subject and/or silent object is if the example has one.

- (a) Jareth is difficult to deceive.
- (b) It is difficult to deceive Jareth.
- (c) Sarah asked Ludo to help her solve the Labyrinth.
- (d) Sarah asked Ludo if he would help her solve the Labyrinth.
- (e) Sarah asked Ludo if it would be easy to solve the Labyrinth.
- (f) Sarah asked Ludo if it would be easy for her to solve the Labyrinth.
- (g) Sarah asked Ludo if the Labyrinth would be easy for her to solve.
- (h) Sarah asked Jareth to let her solve the Labyrinth.
- (i) Sarah asked Jareth if he would let her solve the Labyrinth.
- (j) Sarah asked if Hoggle would open the doors to the Labyrinth.
- (k) Sarah wanted to ask Hoggle to open the doors to the Labyrinth.
- (l) Hoggle promised that he would help her.
- (m) Hoggle promised Sarah that he would help her.
- (n) Hoggle promised to help Sarah solve the Labyrinth.
- (o) The dwarf is tricky.
- (p) The dwarf is tricky to convince.
- (q) The dwarf is tricky to convince to help anyone but himself.
- (r) The dwarf is easy to convince if properly bribed.
- (s) The dwarf is easy to convince to help you solve the Labyrinth if properly bribed.
- (t) Hoggle wanted to help Sarah become too smart to run the Labyrinth.
- (u) Sarah didn’t want to become too smart to run the Labyrinth.
- (v) Sarah was unwilling to give up on Toby.
- (w) Sarah told Hoggle she forgave him.
- (x) Sarah told Hoggle to forgive himself.
- (y) Hoggle appeared to forgive himself.
- (z) It seemed that Hoggle wanted to forgive himself.

- (aa) Hoggle tried to convince Sarah to leave him alone.
- (ab) Hoggle tried to forgive himself.
- (ac) Hoggle thought it would be easy to convince Sarah to give up.

(19) Chien & Wexler (1990) found that children between the ages of 3 and 5 often make mistakes interpreting certain kinds of pronouns. Give an example of an utterance that they found children of this age would misinterpret. (Hint: Think about the difference between reflexive pronouns and “plain” pronouns.) Do children have trouble using reflexive and plain pronouns correctly in their own productions? Is there any evidence that children younger than 3 have some knowledge about how to interpret plain pronouns when another name is present?

(20) Do children seem to acquire quantifiers in the same order across different languages? If so, which ones seem to be learned earlier? (Hint: Think about quantifiers like *all*, *none*, *some*, and *most*.)

(21) Why could it be more difficult to interpret a sentence that has more than one quantifier? (Hint: Think about how multiple quantifiers interact with respect to their scope.)

(22) Sigmund was amazed to learn about how quantifiers can interact in utterances. Help him figure out the answers to the questions below, which involve quantifier interaction.

(a) A girl, Sarah, is helping three goblins, Stinkwort, Grappler, and Fungmunger, out of the Bog of Eternal Stench. Indicate whether the following statements (and their specific interpretations) are compatible with this situation (**yes or no**).

(i) “Someone is helping *every* goblin out of the Bog of Eternal Stench.”
where scope = *some* >> *every*

(ii) “Someone is helping *every* goblin out of the Bog of Eternal Stench.”
where scope = *every* >> *some*

(b) Three girls, Sarah, Attia, and Circe, are helping three goblins, Stinkwort, Grappler, and Fungmunger, out of the Bog of Eternal Stench, with each girl helping one goblin (Sarah helping Stinkwort, Attia helping Grappler, and Circe helping Fungmunger). Indicate whether the following statements are compatible with this situation (**yes or no**).

(i) “Someone is helping *every* goblin out of the Bog of Eternal Stench.”
where scope = *some* >> *every*

(ii) “Someone is helping *every* goblin out of the Bog of Eternal Stench.”
where scope = *every* >> *some*

(c) Three goblins, Stinkwort, Grappler, and Fungmunger, decided to jump over a puddle. However, at the last minute, Grappler chickened out and didn’t actually jump over it,

while the other two goblins did. Indicate whether the following statements are compatible with this situation (**yes or no**).

(i) “*Every goblin didn’t jump over the puddle.*”
where scope = *every* >> *n’t* (*short for not*)

(ii) “*Every goblin didn’t jump over the puddle.*”
where scope = *n’t* (*short for not*) >> *every*

(23) According to Lidz & Musolino (2002), children find some sentences with multiple quantifiers easier to interpret than others. Which sentences are easier to interpret? (Hint: What’s the difference between isomorphic/surface and non-isomorphic/inverse interpretations?) Give an example of one sentence with multiple quantifiers, and indicate which interpretation would be easier to interpret for children and which interpretation would be more difficult to interpret for children. Is there any way to change children’s scope interpretation preferences?

(24) What are two possible factors that affect children’s ability to accept an utterance where only the inverse scope interpretation is true? (Hint: Think about Savinelli, Scontras, & Pearl 2017.) Which factor seems to have more of an effect?

Extra material (which you’re not responsible for):

(E1) How long does it take some children to overcome quantifier spreading? Are children better at overcoming that (mis)interpretation in certain contexts?