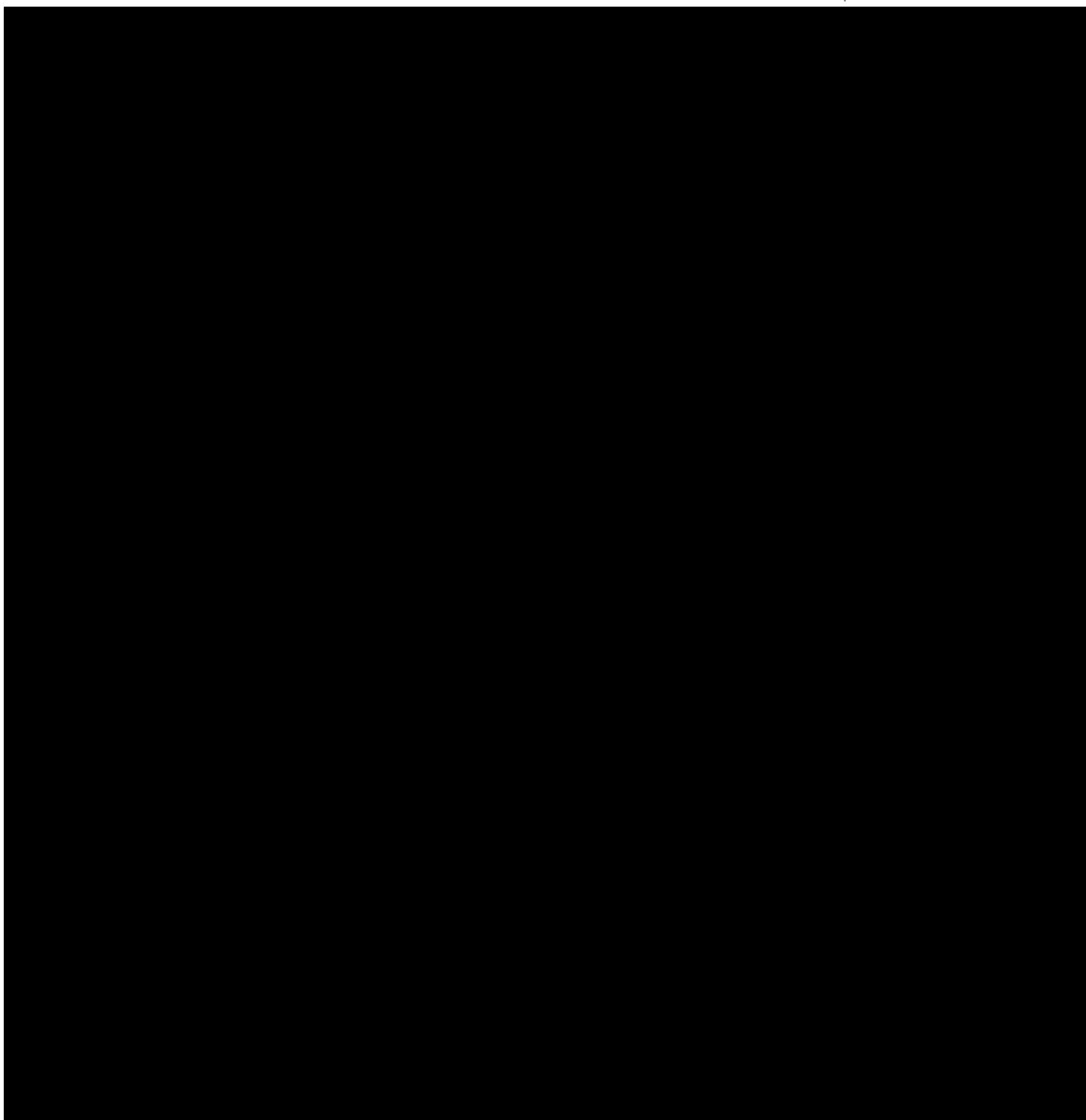# The Real Story of Child Language Acquisition
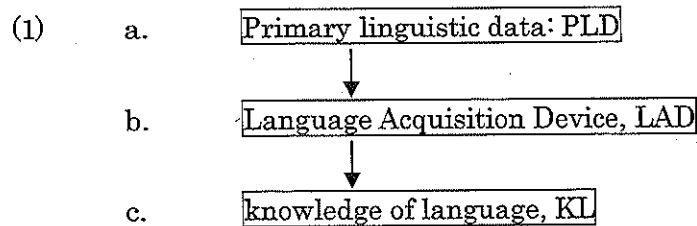
Day 10

0.   Questions

- In my opinion, the situation in which we have to use "which" is not rare. From our early and young stage, we would encounter the situation like we have to choose something among move than two specific things. Therefore, I am still confused why children are stuck at mastering "which" in their language learning. █████████

HW Review: Good examples

<Language Acquisition Model>

(1)   a. | Primary linguistic data: PLD |

        ↓

      b. | Language Acquisition Device, LAD |

        ↓

      c. | knowledge of language, KL |

(2)   Children acquire:

      a.   words

      b.   meaning of words

      c.   how to build a sentence (using words they know)

      d.   <u>how to compute the meaning of a sentence</u>

      e.   speech sounds

Today's topic: (2d) How children know how to compute the meaning of a sentence

            (part 1 of 2)

(3)   Class Work 10-1

Think of a "one-word" (or one-phrase) utterance which functions as a full sentence in English (and in your native language).

Example:

         situation: someone asks "who came to the office first?"

         one word utterance: "John"

         function as a full sentence: "John came to the office first."

1.   A "sentence" with one word (pp.114 - 117)

1.1   Production

(4)   Children can express many things by their single-word utterances, "holophrases," (p.114) (probably because of their limited working memory)

(5)   See some examples on the chart (p.115).

Why one word?

Which word?

(6)   a   Limited processing capacity (working memory)

      b.   *Informativeness Principle*[1]

         Try to make your utterance most informative (put away everything else). → focusing on what is novel, changing, and uncertain.[2]

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[1] Greenfield, Patricia, et al. 1985. The structural and functional status of single-word utterances and their relationship to early multi-word speech. In M. Barrett (ed.), *Children's single-word speech.* Wiley, 233-67.

[2] Bates, Elizabeth and Brian MacWhinney. 1979. The functionalists approach to the acquisition of grammar. In E. Ochs and B.Schieffelin (eds.) *Developmental Pragmatics.* Academic Press, 167-211.

(7)   A study of Hebrew-speaking children and their mother:[3]
        97% of one-word utterances (kids) ≒ one-word utterances of their mother's.
                ← PLD (and/or LAD: both children and adults follow (6b) innately).

1.2   Comprehension

(8)   Preferential looking experiments (pp.116 - 117) → HW9(C)[4]

(9)   Children in one-word stage of their own production seem to understand more
        complex sentences.

(10)   Note: it is not very clear what the result of the experiment really indicates.

        a.   longer attention = understanding?

        b.   understanding in the adult way?

2.   A "sentence" with two word (pp.117 - 119)

2.1   Production

(11)   Some examples → See chart on p.117.

(12)   Some patterns (e.g. possessor + thing (*Daddy shoe*)) are common [possessive
        marker drop], while some patterns (e.g. doer + undergoer (*Daddy cookie*)) are
        rare [verb drop].[5]

2.2   Comprehension

(13)   Act out task: Given relevant toys, children are asked to act out the meaning
        of sentences: e.g., *The truck bumped the car.*[6]

(14)   Before three year old:
        Not yet recognize the function of word order and its relation to the meaning.

(15)   After three year old (±a few month):
        Start to do well on reversible sentences in act-out experiments.

(16)   Question

        a.   Do they know the *big rule*?
                "doer + V + undergoer" is the general order, no matter what the
                verbs are.

        b.   Do they use the little rule strategy?
                Learning word order pattern in a "verb by verb fashion."

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[3] Ninio, Anat. 1991. The relation of children's single word utterances to single word
utterances in the input. *Journal of Child Language* 19, 87-110.
[4] Hirch-Pasek, Kathryn and Roberta Golinkoff. 1991. Language comprehension: A
new look at old themes. In N. Krasnegor, et al. (eds.) *Biological and behavioral
determinants of language development.* Erlbaum, 301-20.
[5] Brown, Roger. 1973. *A first language: The early stages.* Harvard University Press.
[6] Thal, Donna and Melanie Flores. 2001. Development of sentence interpretation
strategies by typically developing and late-talking toddlers. *Journal of Child
Language* 28, 675-700.

(17)   Experiment to answer this question

   → HW10(A)

3.   Passive sentences (pp.120 – 124)

(18)   General characters of passive sentences

   a.   The "undergoer" (the direct object in the usual active sentences) is the grammatical subject.

   b.   The light verb (e.g. *be* or *get*) is necessary.

   c.   The "doer" is either not mentioned or expressed by "*by* phrase".

   The car was bumped (by the truck).

3.1   Production

(19)   See children's passive production and some "over-production" on pp.120-121.[7]

   a.   Is it all needled?   (3;2)

   b.   It was bandaided.   (3;4)

3.2   Comprehension

(20)   Quiz.

   (i) Think of some possible reason(s) why many small children do not understand the correct meaning of *The dog was bitten by the cat?*

   (ii) Think of some possible reason(s) why the same children do a lot better to understand the correct meaning of *The carrot was eaten by the rabbit?*

- Why are passives difficult?

(21)   Fewer than 5% of the sentences children hear are passives.[8]   ← PLD

(22)   *The Canonical Sentence Strategy* (p.123)[9]   ← LAD

   Expect the first noun to be the doer and the second noun to be undergoer.

(23)   correct interpretation of passives

   a.   Three-year olds: 20%

   b.   older preschoolers: 30 – 70%

      (cf. for active sentences, over 90% correct)

   c.   Japanese children in preschool year: 75%

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[7] Pinker, Steven, David Lebeaux, and Loren Frost. 1987. Productivity and constraints in the acquisition of the passive. *Cognition* 26, 195-267.

[8] Gordon, Peter and Jill Chafetz. 1990. Verb-based versus class-based accounts of actionality effects in children's comprehension of passives. *Cognition* 36, 227-54.

[9] Bever, Thomas. 1970. The cognitive basis for linguistic structures. In J. R. Hayes

4.   Understanding something invisible/inaudible (pp.124 - 130)

Class Work 10-2

(24)   Who the "singer" in the following sentences?

      a.   John wants Mary to sing a song.

      b.   John wants to sing a song.

      c.   John tells Mary what to sing.

      d.   John promises Mary to sing a song.

(25)   Who is the "seer" in the following sentences?

      e.   John is eager to see.

      f.   John is easy to see.

- Children have to acquire how to interpret invisible elements in a sentence!

(ed.) *Cognition and the development of language*. Wiley, 274-353.

(26)   *The Minimal Distance Principle* (p.125)[10]

   To find a missing subject, look for the nearest previous noun.

(27)   a.   John wants [Mary to sing a song]   (nothing is invisible)

   b.   John wants [. to sing a song]   (the subject of 'to sing' is missing)

   c.   John tells Mary [what . to sing]

               (the subject of 'to sing' is missing)

(28)   The Principle (26) correctly tells us the identity of the missing subject in (27b) and (27c): John is the closest NP in (27b) and Mary is the closest NP in (27c).

· However,

(29)   *Promise* is an exception to this principle.

   John promised Mary [. to sing a song].

(30)   It is found that children are not good at identifying the understood subject in the *promise*-type sentences.[11]

   ➔ HW10(B)

(31)   Harder case

   The doll is easy to see.

   The doll is easy [. to see __].

(32)   a.   * It is easy for the doll to see (something).

   b.   It is easy (for everyone) to see the doll.

   Cf.   The doll is eager to see.

       ➔ The doll is eager (for her) to see (something)

(33)   Easy test:

   Showing a blindfolded doll as on p.129, the experimenter asks:

   "Is the doll easy to see?"

(34)   Result · 40 children of 5 to 10 years old:

   a.   Nearly two-thirds of them responded correctly.   See p. 129.

     (older children)

   b.   But more than one-third of them responded wrong. See p. 130.

     (younger children)

(35)   Possible reason for (34b):

   Applying the *Minimal Distance Principle* (26) to (31).

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[10] Rosenbaum, Peter. 1967. *The grammar of English predicate complement constructions*. MIT Press.

[11] Chomsky, Carol. 1969. *The acquisition of syntax in children from 5 to 10*. MIT Press.

5.   Summary

- The meaning of a sentence is not just a random addition of the meanings of the constituent words.

(36)   Children can acquire how to compute the meaning of the sentence,

      a.   quite well if it matches *The Canonical Sentence Strategy*;

      b.   taking sometime if it does not (typically passives).

(37)   Children can acquire how to identify the meaning of a missing element in a sentence,

      a.   quite well if it matches *The Minimal Distance Principle*;

      b.   taking sometime if it does not (e.g., *promise*-type).

- But

(38)   All children eventually acquire:

      a.   how to use grammatical items to compute the sentence meaning (e.g., passive morpheme)

      b.   how to obtain the correct interpretation of sentences with non-canonical word order

      c.   how to identify the correct interpretation of invisible elements (the interpretation of "understood" null subjects and null objects)

(39)   Children acquire all of these by simple exposure to examples!

Next week

How children acquire how to calculate sentence meaning: Part 2

      How to identify the meanings of pronouns

      How to interpret a sentence with quantifiers

HW10

Post Class Work

Homework Assignment 10

1. Turn in by Tuesday 12:30
   via Email (MSWord file attached to email)
   Make the name of the file as [ID_your name_hw10]

███████████████████████

███████████████████████████████████

*If you have trouble sending your files attached via Email, let me know.

2. Write as <u>concisely</u> as possible. Write the number of words at the end of each Q.

3. Restrict yourself to A4 paper one page long.

A.   Read the text p.119 and summarize (i) how the experiment is done and (ii) what the result is. Be concise. Write the number of the words. (use about 120 words)

B.   Read the text from *In the late 1960s* (p.126) to *Bozo promised Donald [. to hop up and down]* (p.128), and summarize the point. What did the experiment try to test? What was the result? (use about 100 words)

C.   Suppose that there are 8 students in the class.
What is the minimum number of the books read to make the following sentence true?
What is the maximum number of the books read to make the following sentence true?

        Every student in this class read two books last week.

(Also discuss whether the same applies in your native language)

D.   Any comments/questions on this homework assignment and/or the last class discussion.

E.   Read the text up to page 142.

Some feedback on Qs

＊There are always a couple of questions about the experiments discussed in the class and/or in the text. Please look at the actual papers listed in the References p.218ff in the text, most of which are easily available.

- For the president exercise, given the way the question is presented, it is actually possible to use wh words to ask for an answer.

　e.g., If Washington is the first president of the US, and Obama is the 44th president, then ...

What about Kennedy?

Which was Kennedy?

Where does Kennedy place?　etc.

＊Good point! It is true that every language can express the idea expressed by another language somehow, even if there happens to be no directly translatable word in that language.

- The researchers are very careful when asking children questions, as it is so easy to influence the children's answer by asking in a not appropriate way. Is it especially hard as they are working with children, or do they have to be careful to the same extent when working with adults?

＊This is a very important point. In an ideal case, even in experiments/surveys with adults, it is desirable to control the conditions as much as possible. It is well-known that in any kind of questionnaire, people tend to answer (unconsciously) in a way that they look socially and morally good. Therefore, such crude data itself do not necessarily reveal what people really think about the issue. A good survey sets questions very carefully so that people really do not notice what is actually being asked and thus give very natural responses.

- Do children ask like "Is X happy?" or they just use intonation to ask like "X happy?" at the early stage?

＊In the first two word stage, children often drop auxiliary verbs and thus yes/no questions without Aux can be frequently observed.

- In my opinion, the situation in which we have to use "which" is not rare. From our early and young stage, we would encounter the situation like we have to choose something among move than two specific things. Therefore, I am still confused why children are stuck at mastering "which" in their language learning.

＊This is a very important point. We have to distinguish comprehension and production.

It might be the case that parents often use "which" -questions and small children usually understand them. Notice, however, in order to produce which-questions, we have to keep clear candidates (two or more) in mind and ask questions. It seems to be conceivable that keeping a clear candidate set in mind on one hand as the background situation, and asking the relevant question at the same time, would be too much burden on children's small working memory. We can say that "which" -questions are tough for the speaker but are listener-friendly, because the speaker has to provide a specific set of candidate while the listener only choose one out of the provided candidates.

- What language is simplest in the world? █████████

*In terms of first language acquisition, every human language is the simplest for human children because every normal child acquires their native language naturally without any conscious efforts or specific training. This is rather natural actually. Every human language has been developed, carried, and transferred from generation to generation, which means that all the properties observed in current human languages are biologically restricted to what human brain (language faculty) can handle.

In terms of foreign language learning, on the other hand, various "distances" between your native language and the target foreign language influence the difficulty/easiness of learning. Distance of grammatical properties, geographical distances, the psychological distances the learn has toward the target language, and so on and so forth.

- Object wh-questions are harder for English speaking children to use than subject wh-questions. This maybe because in English object wh-phrases appear not in their original position but in the sentence initial position, and also the form is the same for subject and object. In either case, what or who, etc. Then, a question is whether it is similarly difficult or easier for Japanese speaking children to acquire Japanese subject wh-questions and object Japanese questions. Because the position does not change, and also there are clear markers such as -ga, or -o, it would be expected that Japanese speaking children have no difference in the acquisition order between subject wh-questions and object wh-questions? ████████

*This is an excellent question. It has to be shown whether Japanese speaking children have the similar contrast between subject wh-question formation and object wh-question formation in Japanese. If we get the similar result to the English case, the problem is not just changing of the position of the object wh-phrase in English, and it suggests something more is going on. If there is no contrast in the Japanese case, the problem in the English case is plausibly the change of the position of the object wh-phrase. In either way, the result of such experiments gives us a deeper understanding of child language acquisition.