Introduction to Language Acquisition

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Course goals

Break down language acquisition mechanism into parts
  input vs. intake
  perceptual & conceptual encoding
  inductive bias / innate structure

Gain familiarity with methods of research

Gain familiarity with current issues/debates in field
Readings

Readings (ling.umd.edu/~jlidz):


Responsibilities

Be in class and be engaged

Write 2 reaction papers (~2 pages) to anything that happens in class or that you read related to this class.

- an objection to a line of argument,
- an expression of your struggle to understand something,
- an idea for an experiment to test an idea/hypothesis that came up in class.

Reaction paper 1: before the end of week 2.

Reaction paper 2: before the end of week 4.
Rough Schedule

Day 1: Learning and Grammar
Day 2: Poverty of the Stimulus and Effects of Input
Day 3-4: Input, Intake and Statistical Learning
Day 5: Associationism vs. Propose & Verify
Day 6: Cross-domain Inference
Day 7: Parsing and Learning
Day 8: Grammar and Extralinguistic Cognition
Day 1

What is a grammar?

What is learning?

What’s so hard about learning a grammar?
Encoding differs by problem

Garcia & Koelling 1966
Encoding differs by problem

Magical changing flower
    approach = blue
    feeding = yellow
    departure = red

if flower = food source
    bees later choose yellow flower

if flower = landmark
    bees later choose red flower

Menzel 1968; Gould & Gould 1988
Asymmetries in inference

Gould 1984

odor > color > shape

if target = landmark
then shape > color
Innate hypotheses

von Frisch 1953
Lindauer 1959
Dyer & Dickinson 1994
Linguistic learning problems

each of the men likes the others
the men like each other

each of the men expects John to like the others
*the men expect john to like each other

each of the men was surprised at John’s hatred of the others
*the men were surprised at John’s hatred of each other

- Identify end-state knowledge
- apportion explanatory force to learner vs. environment
  perceptual space
  hypothesis space
  inference mechanisms
Linguistic learning problems

Kim is mean and Chris is too
Kim is meaner than Chris is

- Identify end-state knowledge
- Apportion explanatory force to learner vs. environment
  perceptual space
  hypothesis space
  inference mechanisms
More generally

*A learning theory has to say*

what gets into the learning mechanism

how that information is put to use

how generalization is constrained (deductive consequences)
a projection beyond their experience. Moreover, one can imagine many ways to project beyond experience in these cases. It might have turned out that both examples 1c and 1d were ambiguous or that neither was. Leddon & Lidz (2006) go on to show experimentally that by age 4 years, knowledge of this asymmetry is in place. The uniform acquisition of this pattern, despite the lack of directly relevant evidence, calls for explanation.

The poverty of the stimulus resides in the mismatch between experience and the acquired grammar. The argument is an invitation for future research that aims to explain that mismatch. The typical response to this invitation is to define the innate representations from which the observed interaction could follow. For example, Huang (1993) relates the predicate–argument asymmetry in examples 1c and 1d to the nature of the subject–predicate relation, claiming that predicates carry information about their subjects with them in the syntax. Other responses to this invitation might focus less on the innateness of the representations but rather on general learning mechanisms that could give rise to the relevant interactions, although we are aware of no proposals from outside the knowledge-driven tradition.

UG represents one possible response to the invitation from the poverty of the stimulus, linking diverse sets of facts to a small set of highly abstract representations. These abstract representations drive the language learner’s capacity to project beyond experience in highly specific ways. The emphasis of most work in generative linguistics has been the specification of these representations, with less focus on how learners use their experience. But this emphasis should not be confused with a claim that experience is irrelevant to language acquisition.

2.2. Beyond a Specification of Possible Grammars

UG is thus taken to be one component of a knowledge-driven learning mechanism. It defines the character of the acquired representations, which in turn allows the learner to have knowledge of the structure and interpretation of sentences that fall outside of their experience. Importantly, UG must also be embedded in an architecture that allows learners to extract information from the input. This information is used to identify which of the resources defined by UG is applicable to any given sentence or sentence type. Such a model is illustrated in Figure 1.

![Figure 1](https://www.annualreviews.org}"