

Lecture 7 THE LOGICAL PROBLEM OF LANGUAGE LEARNING

The plan:

- Children's knowledge of language

- Constraints and principles

- Universal patterns of development

The “problem” as it has been formulated by linguists relates most importantly to syntactic phenomena. As noted in the preceding section, most linguists and psychologists assume this achievement must be attributed to innate and spontaneous language-learning constructs and/or processes. The notion that innate linguistic knowledge must underlie language acquisition was prominently espoused by Noam Chomsky (1957 , 1965), who subsequently formulated a theory of Universal Grammar which has been very influential in SLA theory and research. This view has been supported by arguments such as the following:

Children's knowledge of language goes beyond what could be learned from the input they receive. This is essentially the poverty-of-the-stimulus argument. According to this argument, children often hear incomplete or ungrammatical utterances along with grammatical input, and yet they are somehow able to filter the language they hear so that the ungrammatical input is not incorporated into their L1 system. Further, children are commonly recipients of simplified input from adults, which does not include data for all of the complexities which are within their linguistic competence. In addition, children hear only a finite subset of possible grammatical sentences, and yet they are able to abstract general principles and constraints which allow them to interpret and produce an infinite number of sentences which they have never heard before. Even more remarkable, children's linguistic competence includes knowledge of which sentences are not possible, although input does not provide them with this information: i.e. input “underdetermines” the grammar that develops. Almost all L1 linguistic input to children is positive evidence , or actual utterances by other speakers which the children are able to at least partially comprehend. Unlike many L2 learners, children almost never receive any explicit instruction in L1 during the early years when acquisition takes place, and they seldom receive any negative evidence , or correction (and often fail to recognize it when they do).

For a long time, people thought that children learned language by imitating those around them. More recent points of view claim that children have an innate language ability. There are three major arguments supporting this notion. First of all, children often say things that adults do not. This is especially true of children's tendency to use regular patterns to form plurals or past tenses on words that would have irregular formation. Children frequently say things like goed, mans, mouses , and sheeps , even

though it is highly unlikely that any adult around them ever produced such forms in front of them. We also know that children do not learn language simply by imitation because they do not imitate adult language well when asked to do so. For example (adapted from Crystal 1997b :236): CHILD: MOTHER: CHILD: He taked my toy! No, say "he took my toy." He taked my toy! (Dialogue repeated seven times.) MOTHER: CHILD: No, now listen carefully: say "He took my toy." Oh! He taked my toy! Next, children use language in accordance with general universal rules of language even though they have not yet developed the cognitive ability necessary to understand these rules. Therefore, we know that these rules are not learned from deduction or imitation. Constraints and principles cannot be learned Children's access to general constraints and principles which govern language could account for the relatively short time it takes for the L1 grammar to emerge, and for the fact that it does so systematically and without any "wild" divergences.

This could be so because innate principles lead children to organize the input they receive only in certain ways and not others. In addition to the lack of negative evidence mentioned above, constraints and principles cannot be learned in part because children acquire a first language at an age when such abstractions are beyond their comprehension; constraints and principles are thus outside the realm of learning processes which are related to general intelligence. Jackendoff (1997) approaches this capacity in children as a "paradox of language acquisition".

If we extend the logical problem from L1 acquisition to SLA, we need to explain how it is possible for individuals to achieve multilingual competence when that also involves knowledge which transcends what could be learned from the input they receive. In other words, L2 learners also develop an underlying system of knowledge about that language which they are not taught, and which they could not infer directly from anything they hear (see White 1996). As we have already seen, however, in several important respects L1 and L2 acquisition are fundamentally different; the arguments put forth for the existence of an innate, languagespecific faculty in young children do not all apply to L2 learners since they are not uniformly successful, they are typically more cognitively advanced than young children, they may receive and profit from instruction and negative evidence, and they are influenced by many factors which seem irrelevant to acquisition of L1. It is widely accepted that there is an innate capacity involved in L1 acquisition by young children (although many do not agree with Chomsky's particular formulation of its nature), but there is less certainty about the continued availability of that capacity for acquiring an L2.

Still, we do need to explain how multilingual competence transcends input, and why there are such widely differential outcomes of SLA – ranging from L2 performance which may be perceived as native to far more limited L2 proficiency. This will be an important question to keep in mind as we review theories and findings on SLA from

different perspectives, since it has provided a topic of inquiry for much of the history of this field. Most of what we now know about L1 versus L2 learning is based on study of L1 learning by young children and L2 learning by older children or adults. It is therefore sometimes difficult to isolate differential factors and results that can be attributed to age versus multiple language learning. Many of us believe that children who begin to receive multiple language input between birth and about three years of age can acquire more than one language simultaneously by essentially the same processes and with the same results (see my own claim to this effect in Chapter 1). While this belief is probably true, it ignores the fact that many such children do not reach the same final state in each language. Understanding differential levels of multilingual achievement in young children will require more attention to facilitating conditions for language development,

Universal patterns of development cannot be explained by language-specific input. Linguistic input always consists of the sounds, words, phrases, sentences, and other surface-level units of a specific human language. However, in spite of the surface differences in input (to the point that people who are speaking different languages can't understand one another), there are similar patterns in child acquisition of any language in the world. The extent of this similarity suggests that language universals are not only constructs derived from sophisticated theories and analyses by linguists, but also innate representations in every young child's mind.

Interest in second language learning and use dates back many centuries (see e.g. McCarthy 2001), but it is only since the 1960s that scholars have formulated systematic theories and models to address the basic questions in the field of SLA which were listed in Chapter 1 : (1) What exactly does the L2 learner know? (2) How does the learner acquire this knowledge? (3) Why are some learners more successful than others? As I noted earlier, different approaches to the study of SLA can be categorized as primarily based on linguistic , psychological , and social frameworks. Each of these perspectives will be the subject of a separate chapter, although we should keep in mind that there are extensive interrelationships among them. Important theoretical frameworks that have influenced the SLA approaches which we will consider are listed in Table 2.3 , arranged by the discipline with which they are primarily associated, and sequenced according to the decade(s) in which they achieved relevant academic prominence. Prior to the 1960s, interest in L2 learning was tied almost exclusively to foreign language teaching concerns.

The dominant linguistic model through the 1950s was Structuralism (e.g. Bloomfield 1933), which emphasized the description of different levels of production in speech: phonology (sound systems), morphology (composition of words), syntax (grammatical relationships of words within sentences, such as ordering and agreement), semantics (meaning), and lexicon (vocabulary). The most influential cognitive model

of learning that was applied to language acquisition at that time was Behaviorism (Skinner 1957), which stressed the notion of habit formation resulting from S-R-R : stimuli from the environment (such as linguistic input), responses to those stimuli, and reinforcement if the responses resulted in some desired outcome. Repeated S-R-R sequences are “learned” (i.e. strong stimulus-response pairings become “habits”).

The intersection of these two models formed the disciplinary framework for the Audiolingual Method, an approach to language teaching which emphasized repetition and habit formation that was widely practiced in much of the world at least until the 1980s. Although it had not yet been applied to second language concerns, Vygotsky’s Sociocultural Theory (1962 in English translation) was also widely accepted as a learning theory by mid-century, emphasizing interaction with other people as critical to the learning process. This view is still influential in SLA approaches which are concerned with the role of input and interaction. Linguistic There have been two foci for the study of SLA from a linguistic perspective since 1960: internal and external. The internal focus has been based primarily on the work of Noam Chomsky and his followers. It sets the goal of study as accounting for speakers’ internalized, underlying knowledge of language (linguistic competence), rather than the description of surface forms as in earlier Structuralism. The external focus for the study of SLA has emphasized language use, including the functions of language which are realized in learners’ production at different stages of development.

The first linguistic framework with an internal focus is TransformationalGenerative Grammar (Chomsky 1957, 1965). The appearance of this work revolutionized linguistic theory and had a profound effect on the study of both first and second languages. Chomsky argued convincingly that the behaviorist theory of language acquisition is wrong because it cannot explain the creative aspects of our linguistic ability. He called attention to the “logical problem of language acquisition,” which we discussed earlier in this chapter, and claimed the necessity of assuming that children begin with an innate capacity which is biologically endowed. These views have dominated most linguistic perspectives on SLA to the present day. This framework was followed by the Principles and Parameters Model and the Minimalist Program, also formulated by Chomsky. Specification of what constitutes “innate capacity” in language acquisition has been revised to include more abstract notions of general principles and constraints that are common to all human languages as part of Universal Grammar. The most important linguistic frameworks contributing to an external focus on SLA are categorized within Functionalism, which dates back to the early twentieth century and has its roots in the Prague School of Eastern Europe. They differ from the Chomskyan frameworks in emphasizing the information content of utterances, and in considering language primarily as a system of communication. Some of them emphasize similarities and differences among the world’s languages and relate these to

sequence and relative difficulty of learning; some emphasize acquisition as largely a process of mapping relations between linguistic functions and forms, motivated by communicative need; and some emphasize the means learners have of structuring information in L2 production and how this relates to acquisition. Approaches based on functional frameworks have dominated European study of SLA and are widely followed elsewhere in the world.

Children's knowledge of language develops through a combination of innate principles and environmental input. Universal patterns of development, such as the stages of babbling, word formation, and sentence construction, reveal that all children follow a similar path regardless of their native language. Constraints and principles, as proposed in linguistic theories like Universal Grammar, guide children in understanding and applying the rules of language naturally. Overall, language acquisition reflects the remarkable balance between biological predisposition and social interaction, highlighting both the universality and diversity of human communication.

Questions for discussion

1. What evidence supports the idea that children are born with an innate knowledge of language (Universal Grammar)?
2. How do constraints and principles guide children in forming grammatical rules during language acquisition?
3. In what ways do universal patterns of language development appear across different linguistic and cultural contexts?
4. Why do children make similar types of grammatical errors (e.g., overgeneralization) regardless of the language they learn?
5. How do environmental factors interact with innate principles to influence children's linguistic development?