

RDL Lecture 1 Notes: THEORIES OF LANGUAGE ACQUISITION

Language acquisition is the process by which humans acquire the capacity to perceive and produce language – **to use words to communicate**. This process involves learning the various psycho-physical structures of language used around them (the sounds, word-meanings, and how to ‘put them together in a sentence’ in order to communicate their needs) – an enormous task by any standard! Yet, learning a first language is something that every normal child does successfully without any formal instruction. Language development is a complex and unique human quality - and yet, children seem to acquire language at a very rapid rate with most children's speech, as we have seen, being relatively grammatical by the age of three.

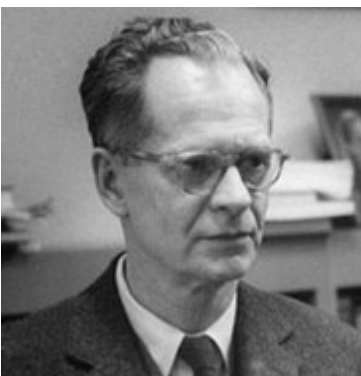
“**Grammar**, which is **a set of mental rules that characterizes all of the sentences of a language** must be mastered in order to learn a language. Most children in a linguistic community seem to succeed in converging on a grammatical system equivalent to everyone else in the community with few wrong turns, which is quite remarkable, considering the pitfalls and complexity of the system. By the time a child utters a first word, according to the Linguistic Society of America, he or she has already spent many months playing around with the sounds and intonations of language, but there is still no one point at which all children learn to talk. Children acquire language in stages and different children reach various stages at different times, although they have one thing in common and that is that typically developing children learning the same language will follow an **almost identical pattern in the sequence of stages** they go through. The stages usually consist of:

- **Cooing** - 6 months - use phonemes from every language
- **Babbling** - 9 months - selectively use phonemes from their native language
- **One-word utterances** - 12 months- start using single words
- **Telegraphic speech** - 2 years- multi-word utterances that lack in function
- **Normal speech** - 5 years- almost normal developed speech”

https://en.wikiversity.org/wiki/Psycholinguistics/Theories_and_Models_of_Language_Acquisition

This amazing ability babies have, to ‘soak up’ the sounds and structures of languages spoken around them, has challenged human understanding for millennia. “Language acquisition is a complex and unique human quality for which there is still no theory that is able to completely explain how language is attained” (Ibid.). However, in the past 100 years or so, several theories of language development (ranging from ‘nature’ to ‘nurture’) have competed in attempting to explain it:

- **Behaviourist** Theory (‘nurture’)
- **Innateness** Theory (‘nature’)
- **Cognitive** Theory
- **Social Interactionist** Theory.



Behaviourist Theory

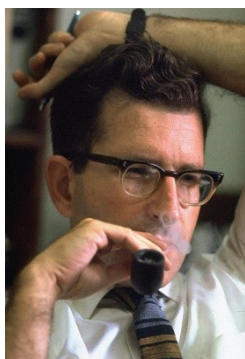
B.F Skinner 1950

Burrhus Frederic Skinner (1904–1990), commonly known as **B. F. Skinner**, was an American psychologist, behaviorist, author, inventor, and social philosopher. His **Verbal Behaviour** (1957) greatly influenced our views on language, human behaviour and language learning. Skinner analysed language behaviours in terms of their natural occurrence in response to environmental stimuli and social circumstances, involving the **development of conditioned reflexes/responses** (i.e., *operational conditioning*). Operational conditioning refers to a method of learning that occurs

through rewards and punishments for behaviour.

“Behaviour operates on the environment to bring about favourable consequences or avoid adverse ones. These same ideas of operant conditioning can also be applied to language acquisition because Skinner believed that language could be treated like any other kind of cognitive behaviour. According to the behaviourist theory, language

learning is a process of habit formation that involves a period of trial and error where the child tries and fails to use correct language until it succeeds. Infants also have human role models in their environment that provide the **stimuli and rewards required for operant conditioning**. For example, if a child starts babbling, which resembles appropriate words, then his or her babbling will be rewarded by a parent or loved one by positive reinforcement such as a smile or clap. Since the babblings were rewarded, this reward reinforces further articulations of the same sort into groupings of syllables and words in a similar situation. Children also utter words because they cause adults to give them the things they want and they will only be given what they want once the adult has trained or shaped the child through reinforcement and rewards speech close to that of adult speech. Before long children will take on the imitation or modelling component of Skinner's theory of language acquisition in which children learn to speak by copying the utterances heard around them and by having their responses strengthened by the repetitions, corrections and other reactions that adults provide. However, before a child can begin to speak, they first start by listening to the sounds in their environment for the first years of their life. Gradually, the child learns to associate certain sounds with certain situations such as the sound of endearment a mother produces when feeding her child. These sounds then become pleasurable for the child on their own without being accompanied by food and eventually the child will attempt to imitate these sounds to invite the attention of his mother or another adult. If these sounds resemble that of adult language, the mother will respond with reward and the operant conditioning process begins" (Ibid.).



Innateness Theory

Noam Chomsky (1960)

"Noam Chomsky's **innateness** theory (or nativist theory) proposes that children have an inborn or innate faculty for language acquisition that is biologically determined. ... Nativists view language as a fundamental part of the human genome, as a trait that makes humans human, and its acquisition as a natural part of maturation. It seems that the human species has evolved **a brain whose neural circuits contain linguistic information at birth**. The natural human

predisposition to learn language is triggered by hearing speech. The child's brain is then able to interpret what she or he hears according to the underlying principles or structures it already contains. Chomsky has determined that being biologically prepared to acquire language regardless of setting is due to the child's language acquisition device (LAD), which is used as a mechanism for working out the rules of language. Chomsky believed that **all human languages share common principles**, such as all languages have verbs and nouns, and it was the child's task to establish how the specific language she or he hears expresses these underlying principles. For example, the **LAD already contains the concept of verb tense** and so, by listening to word forms such as "worked" or "played", the child will then form a hypothesis that the past tense of verbs are formed by adding the sound /d/, /t/ or /id/ to the base form.

According to Chomsky, **infants acquire grammar because it is a universal property of language**, an inborn development, and has coined these fundamental grammatical ideas that all humans have as universal grammar (**UG**). Children under the age of three usually don't speak in full sentences and instead say things like "want cookie" but yet you would still not hear them say things like "want my" or "I cookie" because statements like this would break the **syntactic structure of the phrase, a component of universal grammar**. Another argument of the nativist or innate theory is that there is a critical period for language acquisition, which is a time frame during which environmental exposure is needed to stimulate an innate trait. Linguist **Eric Lenneberg** in 1964 postulated that the critical period of language acquisition ends around the age of 12 years. He believed that if no language was learned before then, it could never be learned in a normal and functional sense. It was termed the **critical period hypothesis (CPH)**; since then, there have been a few cases of individuals deprived of social interaction (Genie, 'Maugli', etc).



Jean Piaget (1896-1980)

Cognitive Theory

Jean Piaget was a Swiss psychologist that was famous for his four stages of cognitive development for children, which included the development of language. However, children do not think like adults and so before they can begin to develop language they must first actively construct their own understanding of the world through their interactions with their environment. **A child has to**

understand a concept before he or she can acquire the particular language which expresses that concept (emphasis mine – OT). For example, a child first becomes aware of a concept such as relative size and only afterward do they acquire the words and patterns to convey that concept. Essentially, **it is impossible for a young child to voice concepts that are unknown to them and, therefore, once a child learns about their environment then they can map language onto their prior experience**: An infant's experience of a cat is that it meows, is furry and eats from a bowl in the kitchen; hence they develop the concept of cat first and then learn to map the word "kitty" onto that concept. Language is only one of the many human mental or cognitive activities and many **cognitivists believe that language emerges within the context of other general cognitive abilities like memory, attention and problem solving because it is a part of their broader intellectual development**. However, once language does emerge, it is usually within certain stages and children go through these stages in a fixed order that is universal in all children. There is a consistent order of mastery of the most common function morphemes in a language and simple ideas are expressed earlier than more complex ones, even if they are more grammatically complicated. Piaget's cognitive theory states that, children's language reflects the development of their logical thinking and reasoning skills in stages, with each period having a specific name and age reference. There are four stages of Piaget's cognitive development theory, each involving a different aspect of language acquisition:

1. **Sensory-Motor Period**- (birth to 2 years) Children are born with "action schemas" to "assimilate" information about the world such as sucking or grasping. During the sensory-motor period, children's language is "egocentric" and they talk either for themselves or for the pleasure of associating anyone who happens to be there with the activity of the moment
2. **Pre-Operational Period**- (2 years to 7) Children's language makes rapid progress and the development of their "mental schema" lets them quickly "accommodate" new words and situations. Children's language becomes "symbolic" allowing them to talk beyond the "here and now" and to talk about things such as the past, future and feelings.
3. **Egocentrism**- Involves "animism" which refers to young children's tendency to consider everything, including inanimate objects, as being alive. Language is considered egocentric because they see things purely from their own perspective.
4. **Operational Period**:
 - a. **Concrete operations** (7 to 11 years), and
 - b. **Formal operations** (11 years to adulthood)

Language at this stage reveals the movement of their thinking from immature to mature and from illogical to logical. They are also able to "de-center" (i.e., view things from a perspective other than their own).



Social Interactionist Theory

Lev Vygotsky (1896 – 1934)

Vygotsky's social interaction theory incorporates nurture arguments in that children can be influenced by their environment as well as the language input children receive from their care-givers. Although the theories of Skinner, Chomsky and Piaget are all very different and very important in their own contexts, they don't necessarily take into account the fact that children don't encounter language in isolation. The interaction theory proposes that language exists for the purpose of communication and can only be learned in the context of interaction with adults and older children. It stresses the importance of the environment and culture in which the language is being learned during early childhood development because this social interaction is what first provides the child with the means of making sense of their own behaviour and how they think about the surrounding world. Vygotsky developed the concepts of 'private' speech which is when children must speak to themselves in a self-guiding and directing way- initially out loud and later internally.

To better understand Vygotsky's ideas, please revise Sutra 3 of Genesutra and summarise Chapter 7 of his book "Thought & Language".