

**Subject name: Language and Society**  
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**Lecture number: Module -06**  
**Lecture title: Languages – How do children learn language?**

We are trying to understand the relationship between language and society and how language works in society. We have looked at some of the components and discussed them in some details. At this stage we want to understand how children learn language. A clear understanding and a clear theoretical position on how children understand language, how children learn language is going to be very significant in understanding the relationship between language and society.

We have been trying to emphasise the role of human mind and the rules of grammar that are part of the rules of the society as well and certain rules of language that children learn from the society. At the same time, we have seen rather briefly mentioned that the role of society, role of immediate environment is vital and crucially significant for learning of language and also for learning the roles of the use of language in society. So how this works both ways is very important for us to understand and therefore a little bit more detailed understanding of how children learn language is going to be crucial.

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## Patterns in Mind

- Jackendoff's (Stages in Learning Language)
  - Cooing
  - Babbling
  - One word stage
  - Two words stage
  - Grammar



I will try to put this in the background of Plato's problem. The Plato's problem, in simple words, means how does it happen that given so little we understand so much. This has been foundation

in learning about language and learning about how we learn language. There are lots of different types of questions about language and language learning. Some of them are stereotypical and some of them are founded in scientific investigations.

Today we are going to be looking at the idea of language learning and how it works, particularly in the light of Plato's problem and will keep coming in back and forth. In a book on patterns in mind Ray Jackendoff talks about some of the stages in learning language. A terminological clarification first: the two terms 'learning' and 'acquisition' - as long as we are talking about first language acquisition and we are talking about children learning language can be interchangeably used. So the two terms mean different things only when we are talking about learning of language by grown up people. In that sense learning becomes strikingly different from acquisition. At this stage we will be using the two terms learning and acquisition interchangeably, the difference between the two.

Jackendoff in a chapter in the book on patterns in mind, the heading of the chapter is "How Do Children Learn Language?". And in that chapter, he talks about different stages of language learning. These stages are crucial for us to understand the processing and to understand how children become linguistically adult at the age of four. Let us go through these stages in little bit detail.

The first stage that Jackendoff mentions is 'cooing'. This is too early and I have not given the corresponding age to these stages for a simple reason that these numbers in terms of ages are, could change depending upon the child. They don't change strikingly though. So we will be talking about those numbers corresponding to these stages. So cooing is prior to 'babbling' and all of these things probably happen between zero to six months of the timing for a child in the process of language learning.

Jackendoff mentions these two as different stages in language learning for a simple reason. To the best of my understanding, when a child becomes linguistically adult in the sense that a child could produce grammatical sentences at the age of 4 to four and a half, some learning of language happens that fast must begin better pretty early as well. And then also probably the idea was to see whether whatever socialization babies go through at this stage, before six months of their stage, do those types of socialization for infants have any meaning for learning of language or not.

In the chapter Jackendoff has gone through experiment and important for us to talk about that experiment here for understanding the point. Jackendoff has gone through an experiment which is the following. There are three mothers and three babies, rather three infants. Mothers are on one side and the babies are on the other side. Mothers do not know the order of the babies and they don't see the babies. When the babies make some sounds of cooing or babbling, depending upon what the stage was, the mothers are asked to identify their babies. All the three mothers, where first one is American English speaker, the other is Spanish speaker and the third is Arabic speaker. All three mothers without any difficulty could identify their babies. This helps Jackendoff establish, this helps researcher and the planner of the experiment establish that there is some corresponding sound in cooing and babbling which helped mothers identify their babies.

However, any one of the three could not identify the rest of the two. So an American English speaking mother could not identify which one is the baby of Spanish speaking mother and which one of the two is the baby of Arabic speaking mother. This was not clear to American English speaking mother and this worked for all three of them in the same way. Now this establishes even further that there are some corresponding sounds without knowing the details of that, there are some sounds which the babies are making at this stage of cooing and babbling mothers could identify. Therefore the learning of language begins from that stage.

Soon after these two stages of cooing and babbling children reach one word stage between the age of 7 months to 10 months. At this stage, babies can handle simpler words like papa, mama, baba or are in the process of moving beyond like table, chairs, birds, water, ball, doll etc. When they reach one word stage it is important for us to keep in mind that they have figured out the underlying pattern in the formation of word.

That is they have figured out that for the formation of a word we need a consonant and a vowel. And a word is not possible without a vowel sound. Therefore at the stage of one word no child comes out with a word which does not have a vowel sound in it. Such a crucial and abstract generalization has taken place at one word stage. In fact without the knowledge of the formation of word a word is not possible. This is a crucial thing to understand in one word stage.

Between one words and two words stage probably children have the vocabulary of under twenty five. When they reach two words stage probably the vocabulary is somewhere between sixty to

seventy five. And at the two word stage, children know the order of the words, if the two words are nouns and the verbs, or adjectives and the nouns, then children know where to put adjectives, whether adjectives comes before the verb, or the verb precedes the noun or follows the noun.

These generalizations are pretty clear to a child at two words stage. Once again in understanding the language learning and the process underlying language learning , the importance of these stages is very significant. They give us stage wise development of what has happened and what children have gone through. Keep in mind at the two words stage, children have almost no grammar. And I mean it verbatim. They do have some grammar so that they are familiar with the, they have derived generalisation of the order of words, and they have also derived the generalization of order between nouns and adjectives, nouns and verbs. However they do not have a fully developed grammar. And when they move from the two word stage they reach the stage where they can come up with a grammatical sentence somewhere between three and a half to four and a half, and by the 5 years they are considered linguistically grown up - adult and matured.

So if one word stage is somewhere between 7 to 10 months of the age, then the 2 words stage is between a year to 18 months, and between 18 months to 36 months is the time when Jackendoff finds children figuring out intricate rules of grammar, complex patterns of grammar for them to be able to form a grammatical sentence. This is what happens for a child in language learning.

On the basis of this let's talk about couple of more crucial points. What is the meaning of a grammatical sentence? Let's take for example a child could say a sentence like 'I am hungry' or 'I want a ball'. These sentences are perfectly grammatical sentences from English speaking babies who grew up with English around them in the environment where they socialized with English speaking people. And these sentences are frequent sentences from children – they are fully grammatical and they can speak any sentence of this type.

Knowing very well that a child may not sustain a meaningful conversation on a complex topic but a 5 year old child could categorically and meaningfully sustain a conversation of simple sentences. We are not making a distinction between simple sentence and a complex sentence at this stage, keeping in mind that a simple sentence and the grammaticality involved in simple sentence is pretty complex for a child to have come up with and that is the grammaticality we are talking about and with that grammaticality a child is considered linguistically adult at that stage.

A 5 year old child may handle way make more complex sentences than we have mentioned but we will stick to these two sentences. A 5 year old child can also come up with sentences like 'please sit down' and 'sit down'. For English speaking child the difference between these two sentences as 'please sit down' and 'sit down' is immense, is very important. Now, what makes the distinction between these two sentences we want to count that as part of the grammar, as part of the knowledge of language that a child has figured out in its socialization in the real world. That is also part of the grammar. That is also part of the learning. And that is also what helps us say that this learning that has happened at the stage of 4 and a half to 5 years is effortless and without instruction. It is that stage, it is these types of learning which help us say without instruction.

Please see the distinction between what we mean by 'without instruction' when we say 'learning takes place without instruction'. In the socialization in real world children do come across words where people tell them 'look at the bird', and then the child looks at, try to establish connection between what is been pointed to and the real object, bird. At this stage the child clearly doesn't know about the types of birds and whether all birds really fly or not. However the child could have established the connection between what is called bird and what is the real entity referring to that word. It works for lot of words.

However this could be part of teaching. This could be part of instruction if we may say so. However this is not what we mean when we say 'without instruction'. What we mean is the capability of a child to find out whether the two sentences are distinct or not - the two sentences like 'sit down' and 'please sit down', the sentences like 'I want water', the sentences like 'give me a ball', the sentences like 'I am hungry'. The functional parts that are underlying and not so visible in the formation of sentence, in the computation between a lexical category and a functional category is what is referred to as 'language learning', and is what happens, is what takes place without instruction. Nobody would disagree with the point that a child can come up with sentence in present tense and past tense without probably even hearing the word 'tense'. Imagine for a moment, if they have come across the word 'tense' in one place or the other before the age of 30 months or 36 months the child definitely doesn't know what the tense means and

what the present tense and past tense or future tense would probably mean in making of a sentence.

Nonetheless a sentence is perfectly grammatical with regard to the uses of tense. This happens without instruction. We can interact with the child and we can find children being instructed by saying 'say please', 'say thank you' but the actual uses of the word please. Did you see the difference between the sentence with the one and without the one and also the differences between sentences 'like give me a glass of water' and what the society plays a role in it, what the context plays a role in it, whether a child should say 'thank you' in a particular context or not - all these things have figured out by a child in learning the language much before they could have even instructed them about all of them.

Therefore it is not too difficult to establish that learning takes place without instruction and particularly after 2 words stage is what Jackendoff is talking about. Now we will come back to this stage when we look at little bit more in terms of language learning. So what we want to look at is the role of human mind in learning of language. Imagine the discussion on language learning

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## Language Acquisition/Learning

- Behaviorism
  - Stimulus - Response
  - Input = Output
  - Language Learning is a matter of habit formation
- Innateness Hypothesis
  - Poverty of stimulus
  - **Imperfect** stimulus, but **perfect** learning
  - Language computation is part of Generative Mechanism



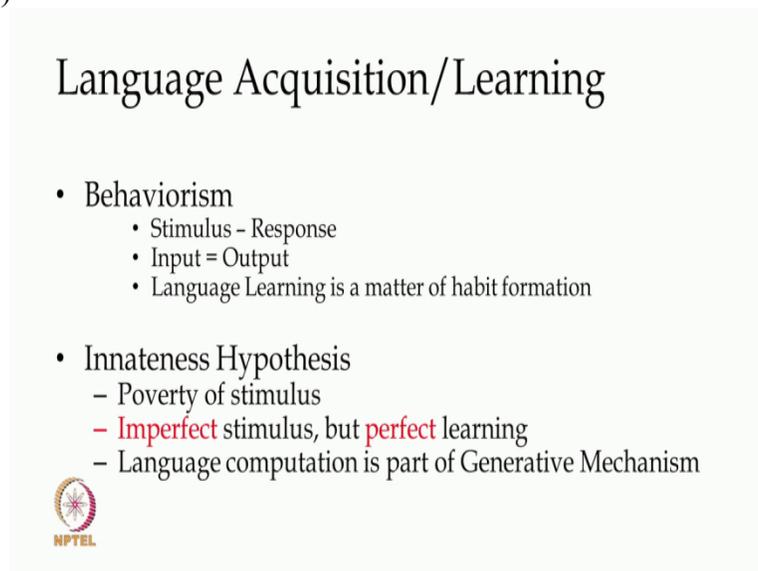
From here now we want to analyse what Jackendoff's stages in language learning for a child indicates to us. It categorically establishes the supremacy of human mind in learning the language. In learning the fundamentals of language. What we say 'without instruction'. We will

come back to this again. And what is the meaning of supremacy of human mind is what we want to describe now.

Until 1950s, late 50's, the learning of language was argued to have gone through the notions of 'behaviorism', what was possible what was called 'stimulus' and 'response'.

So the way to describe language learning was part of behaviorism prior to late 50's. Let us look at two terms in language learning - two terms are 'behaviorism' and 'mentalism'. Behaviorism is much bigger part where language is one of the components and it was argued that language is behavior - language is human behavior, and the way we learn a language is on the basis of a stimulus and response. There is some sort of a stimulus and then we have response to the stimulus and the practice between the two gives us language.

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The slide is titled "Language Acquisition/Learning" in a large, black, serif font. Below the title, there are two main bullet points. The first is "Behaviorism", which has three sub-bullets: "Stimulus - Response", "Input = Output", and "Language Learning is a matter of habit formation". The second is "Innateness Hypothesis", which has three sub-bullets: "Poverty of stimulus", "Imperfect stimulus, but perfect learning" (with "Imperfect" in red and "perfect" in black), and "Language computation is part of Generative Mechanism". At the bottom left of the slide is the NPTEL logo, which consists of a circular emblem with a star and the text "NPTEL" below it.

The part of behaviorism that we need is stimulus forms somebody in the sense that we learn a language by looking at others, by listening to others, it is still relevant in the domains of mentalism. However what mentalism rejected is the notion of the stimulus and response as far as the learning of language is concerned. And when we try to look at both together what we see, that stimulus is equivalent to input and response is equivalent to output. And what behaviorism actually missed out in articulating and what mentalism has brought into the discussion in understanding of language learning is the role of human mind. So the the picture is pretty clear that between input and output we have human mind and when we examine the nature of input and when we examine the nature of output the role of human mind becomes clearer and one can only emphasise the role of human mind in understanding language.

Not necessary but it is important for us to underline that there was no change in the process of language learning in late 50's. The only difference that took place in 50's was the way we understood language learning and the way we describe learning of language for children changed and there came an emphasis on the role of human mind in learning of language. Which was pretty apparent when if we examine the nature of input and output. We will look at it in some details.

When we look at the nature of input for the purpose of learning language there are some of the words that have been used for this and we will need to understand those words in their exact meaning. The words are: input - the nature of input is totally fuzzy. It means the purpose of input is not directed towards learning language. People in the society simply interact with the child and based on whatever interactions the child receives, interprets that and derives, figures out rules underlying those inputs and in figuring out those rules, there comes the role of human mind in it.

And thus the output is grammatical because with the role of human mind and what the processing has taken place the output becomes grammatical. So the nature of input is fuzzy, it's also limited, and then it is insufficient for the purpose of learning. Whereas after the processing, after whatever happens in human mind and if we examine the nature of output, what we find is the output is grammatical, systematic, and infinite, rule governed.

Given the completely contrary nature of both, that is input and output, the only thing that is in between the two is human mind. Therefore postulating the role of human mind was the only option and was the reason why it was called 'mentalist theory'. It was also called 'innateness hypothesis', where the capacity which human mind enables us for the grammatical meaningful rule governed output is the idea that the language is innate to humans.

And this is another part which we want to understand in order to understand what happens in human mind but the role of human mind was emphasised and was brought into picture by looking at the nature of input and output and thus the part of stimulus and response part of behaviorism was rejected and what was brought in was emphasis on human mind. Therefore the idea which was prevalent in behaviorism that language learning is a matter of habit formation was rejected and what was emphasised was the role of human mind.

And what happens in human mind was not clear – not as clear as it is now it is. And we will look into that. So the innateness hypothesis begins with the idea that language is an innate capacity of humans and in learning of language that in developing that innate capacity, we have the role of what is called as ‘poverty of stimulus’. That is, insufficient fuzzy input is what is referred to as we mention the term ‘poverty of stimulus’. This is imperfect, not designed for learning at all.

However the computation which is developed in human mind for deriving for figuring out rules underlying the imperfect stimulus for perfect learning is also called, is also referred to as ‘generative mechanism’, and this is the generative mechanism which is known as ‘development of language’ on the basis of the hypothesis that the language is a innate human capacity. Thus we can say that the whole idea of language learning changes.

And we have to look at the stages in learning and we can only say that in such a short period of 6 months to 36 months a vocabulary of above ten thousand and the development of a system which is responsible for perfect sentences, for grammatical sentences indicates perfect learning and is something which requires attention. This is what happens in language learning. Thank you.