


**Fundamental Concepts in Sociolinguistics**  
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**Lecture 07**  
**Behaviourist Paradigm in Language Acquisition**

Welcome everyone. Today we are going to talk about Language Acquisition. So as we know, language is a remarkable endowment to human beings, and perhaps language is one of the most important criteria, which keeps us above all the rest of the species in the animal kingdom.

But how language comes to us? How do we acquire language and how it grows in us? No one ever noticed. We do not even think of these things. Because it comes to us so naturally that we hardly notice. Language grows in us like nails and hairs. We do not notice the growth of our nails or the hair.


It happens so gradually and so consistently that we hardly notice any change. So how it happens to us and how language comes to us? This is exactly what we are going to talk about today. So while talking about acquisition of language, we have two, three remarkable theoretical positions, out of which behaviourist theory of first language acquisition or language learning or frequency learning has a very wide implication and a long held tradition. But this thing changed in 1947, which is a remarkable year in the history of language and understanding of language as a phenomenon. So, we will talk about the Behaviourist Paradigm in language learning today.

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### Human Child endowed with a remarkable ability to Communicate

- Small babies:
  - children babble and coo and cry
  - send messages and receive messages vocally and nonvocally.
- End of first year:
  - children start to imitate words and speech sounds and about this time use their first words.
- 18 months:
  - their vocabulary in terms of words has increased and are beginning to use 2-word 3-word utterances (known as "telegraphic utterances").
- 3 years:
  - Children can comprehend an incredible quantity of linguistic input
  - they chatter nonstop
- School age:
  - Children start to internalize increasingly complex structures, expand their vocabulary and sharpen their communication skills and
  - they also learn the social functions of their language.



Look at the human child, and if you happen to see a child as a newly born baby, you must have noticed how they babble, they coo, they cry and how they are able to make sense of these babbles, coos and cries by sending and receiving messages both vocally and non vocally. And from there, we start as a baby and by the end of the first year, a child starts imitating words and certain speech sounds. And perhaps at the end of the year from birth, the child starts uttering a few words, learns a few words. Very simple words, few words.

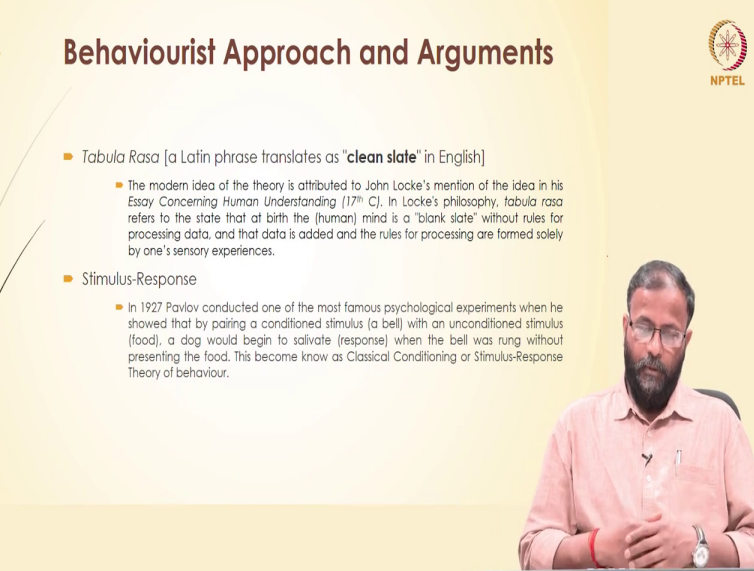
By the age of 18 months or one and a half years, you see the vocabulary grows in terms of size of the words. And also sometimes clustering these two, three words together, children make utterances, and that speech sample is known as telegraphic messages. So by the age of 18 months, a child is able to sustain two to three words in a row and form an utterance.

So the child starts using keywords. By the end of three years of his or her age, a child comprehends an incredible amount of speech in the environment. And they start chattering nonstop. And by the time a child goes to school, they start internalising increasingly complex structures, and their vocabulary is expanded and they have certain communication strategies. They develop certain communication strategies. They know turn taking, they know turn giving. And this is how they start interacting frequently, freely and flawlessly.

There are many functions of language by the time they go to school. So this is a remarkable development and this development has been accounted for by different theoreticians and

practitioners in the field with different explanations. One of them is the behaviourist paradigm. And how do they account for this development in the child in terms of language? We are going to talk about that today.

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**Behaviourist Approach and Arguments**

- **Tabula Rasa** [a Latin phrase translates as "clean slate" in English]
  - The modern idea of the theory is attributed to John Locke's mention of the idea in his *Essay Concerning Human Understanding* (17<sup>th</sup> C). In Locke's philosophy, *tabula rasa* refers to the state that at birth the (human) mind is a "blank slate" without rules for processing data, and that data is added and the rules for processing are formed solely by one's sensory experiences.
- **Stimulus-Response**
  - In 1927 Pavlov conducted one of the most famous psychological experiments when he showed that by pairing a conditioned stimulus (a bell) with an unconditioned stimulus (food), a dog would begin to salivate (response) when the bell was rung without presenting the food. This became known as Classical Conditioning or Stimulus-Response Theory of behaviour.

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Now you need to understand that behaviourist tradition is a long tradition almost like John Locke's idea of *tabula rasa* from the 17th century to 20th century, by the time B. F Skinner came up with his verbal behaviour theory; it is a long tradition. So there are certain verticals and pillars of this behaviourist paradigm. We need to understand number one, *tabula rasa*. The idea of the concept of *tabula rasa*. This is one. The other vertical that we find in a behaviourist paradigm is stimulus response.

The great Pavlov in 1927 conducted an experiment which happened to be famous, as classical conditioning. So stimulus and response, that is another vertical of the behaviourist paradigm. Then in 1938, Skinner introduced the idea of operant conditioning, which he mentioned in his 1987 work as well. And perhaps this operant conditioning became the basis of his verbal behaviour theory.

So the third vertical in the behaviourist paradigm is operant conditioning. And when you look at the consequent explanations of these three verticals; then you have reinforcement, then you have habit formation, and now it becomes part of total human behaviour. So *tabula rasa*, which

roughly translates as clean slate in English, is a Latin phrase, which roughly translates as clean slate.

The modern idea of the theory is attributed to John Locke who mentioned it in his *Essay Concerning Human Understanding* in the 17th century. In Locke's philosophy, tabula rasa refers to the state at birth when the human mind is a blank slate without rules for processing data. And later, data is added and the rules for processing are formed solely by one's sensory experiences. So this is what John Locke mentioned in the 17th century and this idea was also used in the 20th century explanation of acquisition of language.

Then stimulus response chain behaviourists believed that every stimulus will have a consequent response and every response has a corresponding stimulus. It is a chain. It goes on, and this idea originated long back, but became famous in terms of conditional, classical conditioning given by Pavlov in 1927. He conducted one of the most famous psychological experiments when he showed that by pairing a conditioned stimulus of a bell with an unconditioned stimulus food. A dog would salivate when the bell was rung without presenting the food. This came to be known as classical conditioning or the stimulus response theory of behaviour.

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Operant Conditioning [B. F. Skinner, 1957]

- Operant conditioning is the use of consequences to modify the occurrence and form of behavior.
- It refers to conditioning in which the organism (in this case, a human being) produces a response, or operant (a sentence or utterance), without necessarily observable stimuli.
- This operant is maintained (learned) by reinforcement (e.g. a positive verbal or nonverbal response from another person).
- If a child says "want milk" and a parent gives the child some milk, the operant is reinforced and, over repeated instances, is conditioned.

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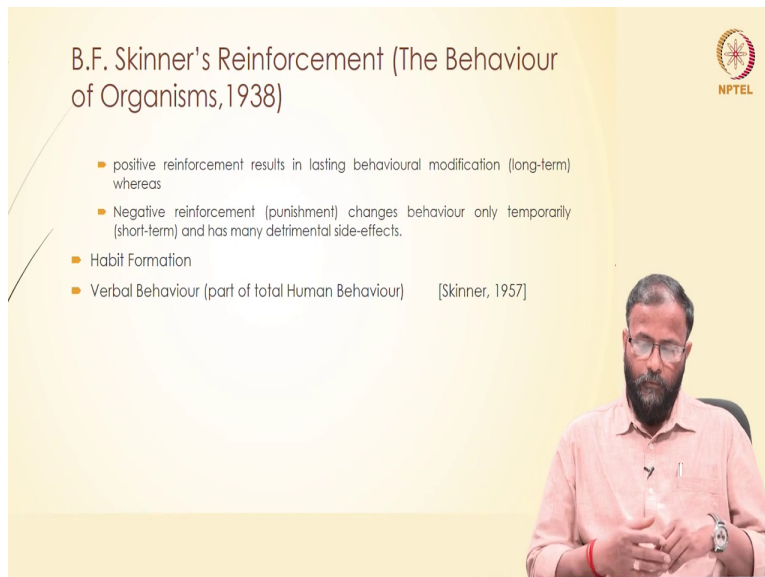
The slide features a video inset in the bottom right corner showing a man with a beard and glasses, wearing a light pink shirt, sitting at a desk and speaking. The background of the slide is a light yellow color with a subtle pattern of curved lines on the left side.

Then the third vertical that we talked about is operant conditioning. Operant conditioning is the use of consequences to modify the occurrence and forms of behaviour. It refers to conditioning in

which the organism, in this case a human being, produces a response or operant, a sentence or utterance without necessarily observable stimuli.

This operant is maintained or learned by reinforcement, positive verbal response or positive nonverbal response from another person. If a child says they want milk and a parent gives the child some milk, the operant is reinforced. And over repeated instances it is conditioned, so the child knows that I have to ask for milk and I will get milk.

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B.F. Skinner's Reinforcement (The Behaviour of Organisms, 1938)

- positive reinforcement results in lasting behavioural modification (long-term) whereas
- Negative reinforcement (punishment) changes behaviour only temporarily (short-term) and has many detrimental side-effects.
- Habit Formation
- Verbal Behaviour (part of total Human Behaviour) [Skinner, 1957]


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The slide features a video inset of a man with a beard and glasses, wearing a light pink shirt, sitting at a desk and speaking. The background of the slide is a light yellow color with a subtle geometric pattern.

B. F Skinner's reinforcement comes from this operant conditioning and the idea of reinforcement, comes out of his *The Behaviour of Organisms* published in 1938. So he talks about two kinds of reinforcements; positive reinforcement and negative reinforcement. So positive reinforcement results in lasting behavioural modifications which are long term and it stays with us. Negative reinforcement, which is punishment, changes behaviour only temporarily and is a short term gain. It does not stay with us and it has many detrimental side effects.


Then the process and the consequence of these three verticals in behaviourist theory leads to habit formation. So this is how habits are formed with positive reinforcement. Periodical reinforcement of such behaviours are formed and this verbal behaviour becomes part of the total human behaviour. This is how behaviourists respond to the question of how a human child acquires language.

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### B. F. Skinner. 1957. Verbal Behaviour

- One of the best-known attempts to construct a behavioristic model of linguistic behavior was embodied in B.F. Skinner's classic, *Verbal Behavior* (1957).
- Skinner's theory of verbal behavior was an extension of his general theory of learning by **operant conditioning**.




Now, the whole idea of verbal behaviour published in 1957 by B. F Skinner rests on the fact that a human child is born with tabula rasa and whatever child learns, child learns from the environment. So the learning of a child is environment dependent. The child must have an appropriate environment to acquire language. And how does a child acquire language in terms of stimulus and response inputs from the environment then? Frequent and in a consistent reinforcement divide and punishment method where if the child utters the right word, he or she is appreciated, if the child makes a mistake or commits an error, then the child is subjected to pattern practices.


So that is punishment for the child and the child is conditioned in such a way that next time the child gives you desired responses for the stimulus and response chain. This leads to operant conditioning.

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B. F. Skinner. 1957. Verbal Behaviour



- According to Skinner, verbal behavior, like other behavior, is controlled by its consequences.
  - When consequences are rewarding, behavior is maintained and is increased in strength and perhaps frequency.
  - When consequences are punishing, or when there is a total lack of reinforcement, the behavior is weakened and eventually extinguished.
- Skinner's theories attracted a number of critics (Noam Chomsky) but it also had people who defended it (Kenneth MacCorquodale).



This operant conditioning leads to habit formation, and once this series of responses become part of your habit, you have developed verbal behaviour which is considered part of total human behaviour.

So language as a verbal behaviour is part of the total human behaviour. So the way we acquire other behaviours, we also acquire language in a similar way. So this is an externally perceptible, publicly observable thing which is what behaviourists believed. So according to Skinner, verbal behaviour like other behaviours is controlled by its consequences.

So when consequences are rewarding, we are talking about positive reinforcement, behaviour is maintained and is increased in strength and perhaps its frequency. When consequences are punishing or discouraging, when there is a total lack of reinforcement, the behaviour is weakened and eventually extinguished.

It refers to frequent corrections that the parents or the people around the child make. So Skinner's theories attracted a number of critics like Noam Chomsky, but it also had people who defended it. So if you look at this entire behavioural understanding of language acquisition, it rests on three verticals.

Number one, stimulus response chain. Number two is the idea of tabula rasa, which is the basic philosophy of behaviourist paradigm where they talk about a child's mental state being like a blank slate. So there is no understanding. There are no rules, there is no data, there is no

knowledge of language at all. It is a blank slate and a child is dependent on the environment to learn language.

So you have to keep in mind that language is something observable, perceptible and externally visible. So the data, the primary data comes to the child as an input from the environment and then the child's response to this stimulus. And this stimulus and response chain leads to operant conditioning. Operant conditioning refers to reinforcements that we rather give to the child, positive or negative.


So in the reward and punishment method we appreciate the child if the child utters the right word or desired word, and we correct or make corrections to the utterance of the child if the child commits an error. And then the child is subjected to paternal practices. So lots of practice is given to the child. And then Skinner says that when consequences are punished or when there is a total lack of reinforcement, then what that means, they do not appreciate, they do not encourage the child to commit errors, the behaviour is weakened and eventually extinguished.

So that mistake goes away and the child learns the right response to any given stimulus and this is how we behaviourists believe that we learn language. Now this is a remarkable thing to notice that behaviourists believed a child to be born with a tabula rasa which was challenged later on by Chomsky.

But this whole idea of tabula rasa makes the child dependent on the environment in learning a language. Number two, learning a language is being equated with learning of any other human behaviours that we learn from the environment. Number three, language learning is not an autonomous phenomena in this behaviourist paradigm, but it is aligned to this environment dependency. So the child is dependent on the environment to learn the language.



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The slide is titled "Deductions from Behaviourist Paradigm" and features the NPTEL logo in the top right corner. It contains a bulleted list of four points:

- Children are born with a *tabula rasa* (a clean slate bearing no preconceived notions about the world or about language)
- These children are then shaped by the environment and slowly conditioned through various schedules of reinforcement.
- Language is a fundamental part of total human behavior.
- This approach focuses on the externally perceptible aspects of linguistic behavior

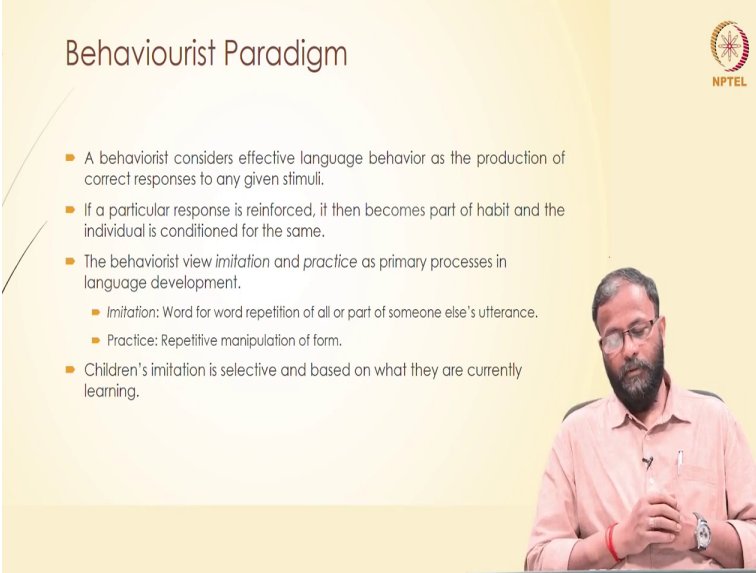
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And if you try to deduct what we learn out of this behaviourist paradigm, you can summarise the whole idea such as, children are born with a *tabula rasa*, a clean slate bearing no preconceived notion about the world or about language. So a child has no agency in learning. Then these children are shaped by the environment and slowly conditioned through various schedules of reinforcement. So the environment, if you go by this idea of blank slate, then the environment writes on it.

So the child gets everything from the environment, and the periodical reinforcement schedules of consistent enforcement ensures that the child learns in an appropriate way. Then the third deduction we can make is that language is a fundamental part of total human behaviour. So language is also considered here in this paradigm as other behaviours. Like other behaviours, it is part of total human behaviour. So language is not being seen as an independent phenomena in this paradigm.

Then this behaviourist approach focuses on language in terms of externally perceptible aspects of linguistic behaviour. So no internal factor is being attributed in this entire learning process. So the child acquires stimulus or input from outside and child responses, so both input and output; linguistic input and linguistic output and the whole idea of processing are externally perceptible and observable.

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### Behaviourist Paradigm

- A behaviorist considers effective language behavior as the production of correct responses to any given stimuli.
- If a particular response is reinforced, it then becomes part of habit and the individual is conditioned for the same.
- The behaviorist view *imitation* and *practice* as primary processes in language development.
  - *Imitation*: Word for word repetition of all or part of someone else's utterance.
  - *Practice*: Repetitive manipulation of form.
- Children's imitation is selective and based on what they are currently learning.

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Then number five, a behaviourist considers effective language behaviour as the production of correct responses to any given stimuli, that means, they solely depend on a stimulus response chain. So the child responds and learns what the child gets from the environment, so the child has no agency in learning, no independent agency, creativity and imagination in learning. Number six, if a particular response is reinforced then it becomes a part of habit and the individual is conditioned for the same.

So given a consistent reinforcement about something, it becomes permanent in our habit, in our behaviour, and we acquire it, we learn it, and any given stimuli we are able to respond to, this is what they believed. So the behaviourists view imitation and practice as primary processes in language development.

Imitations, that means they get from the environment they imitate. Word for word repetition or of all parts or someone else's utterances, and practice refers to repetitive manipulation of all these linguistic forms that the child is subjected to. So children's imitation is selective and based on what they currently are learning.

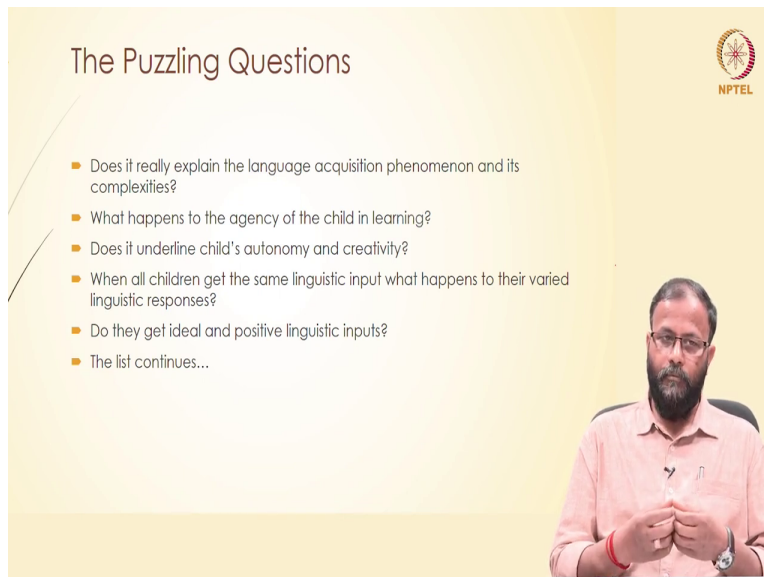
So these are some deductions that we can make out of the behaviourist paradigm and B. F Skinner in 1957 published his work called *Verbal Behaviour* and perhaps the most significant monumental work in the behaviourist paradigm for explaining language acquisition process or learning process.

And he built on the already existing explanations like classical conditioning, like stimulus response chain, like tabula rasa, the idea of tabula rasa. So he built on all these existing systems of knowledge about language in the behaviourist paradigm and summarised it in his work called *Verbal Behaviour* published in 1957, which drew a lot of attention in academia as well as in the, by the (0)(21:39).

But it also invited a lot of criticism. The whole idea of operant conditioning was questioned in terms of language, not in other behaviours, not in other cognitive skills, but as far as language is concerned, this whole idea of behaviour, language as a behaviour was questioned and the leading attack was done by Noam Chomsky. Look at this behaviourist theory, it leaves no space for the child to be creative, to be imaginative and gives no agency to the child in learning.

So this idea of reinforcement, this idea of operant conditioning habit formation, it looks very fine and convincing, and people have done research to establish these ideas. But there are certain puzzling questions that leave us unanswered when we solely depend on behaviourist theory of language acquisition and array.

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The Puzzling Questions

- Does it really explain the language acquisition phenomenon and its complexities?
- What happens to the agency of the child in learning?
- Does it underline child's autonomy and creativity?
- When all children get the same linguistic input what happens to their varied linguistic responses?
- Do they get ideal and positive linguistic inputs?
- The list continues...

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So despite all the merits that we have reached, there are certain puzzling questions. Questions like, does it really explain the language acquisition phenomenon and its complexities? Do we really believe that the simplistic view that the behaviourist put forward in their explanation can

hold or account for the complexity of learning a language? Can language be equated with other human behaviours? Can language be considered as a behaviour in the first place?

Number two, can we equate learning of language with the learning of other human behaviours? What happens to the agency of a child in this process of learning? Does the child have any agency in learning or is it completely dependent on the environment? Does it undermine a child's underlying autonomy and creativity?

Now the question is that if all the children in a particular environment get the same input, why do we have varied linguistic outputs? Why do we have so much variation in learning? The next question that we can raise in behaviourist theory is that does a child get the ideal and positive input only from the environment?

So is it the case that the child is presented with only positive data in the environment or do we create a special environment for a child to learn language or does the child learn a language in an ordinary normal environment and the list continues. So Chomsky has criticised and he reviewed Skinner's work seriously, published his work in 1959, two years after *Verbal Behaviour* theory was published. Chomsky also published his generative paradigm, generative theory.

And this debate began. It became very rich by producing counter arguments for this behaviourist understanding of learning by Chomsky and also making a foundation for generative theory. So the psychological foundation is replaced by the biological foundation of language. Chomsky brings it in a different perspective called generative theory. We will talk about this generative theory and innateness hypothesis in our next video. So, thank you very much.