

The Psychology of Language
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Lecture No. – 15
Discourse – II

Hello friends, welcome back to this lecture number 15 on the course on the psychology of language. In the last class, which was lecture 14, we were looking at something called discourse which is the way we talk, the way we express ideas. And so, there are two ways of discourse that we talked about. We talked about something called narratives which is one person speaking and others listening to it and conversations where all the people take turn in speaking and exchanging ideas.

So, what we will do today is we will extend this idea of discourse. We will look at how some basic psychological principles are used as mechanisms for easing out the process of discourse and we will also look at several theories and principles which have been pointed out by people who are psycholinguists and psychologists for making a discourse successful and making of exchange of ideas through a discourse successful.

And we will also look at some difficulties in learning in this course. So, some kind of discourse related problems in terms of difficulties of learning. That is what we plan to do in this particular lecture. But, before we do that, as we have been doing before, we will go back a little bit in time and look at how did we arrive here, and this we keep on doing because we want to maintain continuity.

So, I want to maintain the continuity of how we arrived here. So, we will take a short fly back into the first lecture itself and build up the stage of how we arrived at this place or at this lecture. So, the course started by looking at some basic forms of language. And so, the first thing that we did was we distinguish between what is communication and language and what is the difference between them.

And, in order to look at the basic form of language we zeroed in into animal communication system. So, initially in the first section itself we focused onto the animal communication system which is the basic form of language. We looked at what a communication system like

that should have and why do animals communicate, what are the reasons of communication, because that would give us some idea of why people communicate for that matter.

So, we discussed a little bit about the animal communication system. We looked at the characteristics and the nature of our communication system like that. And from there we picked up several points and evidences and moved on to explaining the simplest form of human language. So, we looked at what is the human language like, the rules, the syntax, the structure, the principles, the nature of human language system.

So, we defined how the phonology builds up the morphology and this morphology then builds up the word, the sentences, discourse, and communication as such in the language systems of humans. So, once we had understood the basic animal system of communication and the advanced system of language in humans, we moved forward into looking into a little bit of the history of the language.

And we started out by looking at how language evolved and what are the basic evidences which are present which give us some hint about the evolution of language. And there we looked at the idea of pidgin, the idea of how language evolved from the proto language which our ancestors used to use, and what structure they used to use, and how the present language is a development of that particular system.

We also looked at the theories of continuity and discontinuity from the point of centrality of syntax. And that also gave us an idea of how the language evolved. Now, there are two views; one is the rapid view of language evolution and the other is a more phasic slow form of evolution of language. So, we will discuss that in detail there. And, lastly, we looked at some evidences that language evolved from ancestors.

So, the idea exists that language actually came from the proto humans, our ancestors. We also looked at ideas of the language gene how it was disproved and this whole branch of things. So, basically, we focused on the history. So, initially, we looked at the difference between animal and language systems, and then we focused on the evolution of language systems.

Now, once we had some idea of what is human language, how does it look like, what is the nature of it, and how to distinguish from animal language, and we also discussed a little bit on the history of language. We concentrated more on to looking at how research in language is done, because that should give us an idea of what is language and what are those psychological principles, what are those psychological factors which affect language.

So, we started out by describing the scientific method which is used in language studies, how the idea of inductive deductive reasoning and the idea of hypothesis theory building and this kind of facts are used in describing language studies. We then moved into looking at what kind of designs are used for making language studies, what kind of independent and dependent variables and what kind of dependent measures, for example, latency and accuracy two measures, which are used in language studies.

So, why should we use and what is the benefit of things like this? We looked at behavioral techniques of language studies, for example, the idea about how responses are measured, how building blocks are made, and we took input from several behavioral studies of how behavioral studies are conducted in language studies. And, lastly, we looked at the fact of how language is related to the brain.

So, those areas of the brain which specialized in language processing, and also those measures which are used for language studies, for example, MRI and EEG and how these measures give us some idea on how language studies are done. So, the first two sections itself is kind of introductory which led us to understanding what is human language and how experiments in human language are done.

Now, once we had that, we ventured into the idea of how speech which is basic form of language, which is how language is transferred, at least the human language, how they are produced and how they are perceived. So, again, before going to the production of speech, we started out by looking at speech perception, how speech is understood. So, there we looked at the basics of auditory perception, for example, what is the sound wave like, what is the basic frequency, and what is the overtones and those kinds of things.

And we then focused ourselves onto that organ in the human body which actually helps us in perceiving speech, which is the human ear. So, we did a detailed analysis of the human ear.

Once we had done that, we started looking at the speech stream itself, cutting out a stream of speech and understanding what does the speech stream actually look like in terms of the spectroscope.

So, spectroscope is a device which encode the speech stream and translates into some kind of a visual display. So, we looked at those peculiarities, the speech stream for example, the production of the consonants and the vowels, formants and sonorant, these kinds of peculiarities in the speech stream exists, and how the periodic time based, length based, how these kinds of analysis is done, and those peculiarities and similarities and various eccentricities of the speech, we focused on those kind of things in the third section.

We also looked at how the development of speech happens in small children. We looked at the idea of how children learn right from the time when they can see, from the time when they are in the womb. And we looked at the idea of how baby talk infuses those processes or baby talk uses those mechanisms through which the baby is able to perceive human speech. So, what are those factors which help them in doing that.

And we looked at several other factors which help the baby in perceiving speech and how he develops into an adult and use these mechanisms to perceive human speech. And lastly, we focused on some theories of speech. So, basically, we looked at the motor theory of speech which says that motor movements are integrated or essential for perceiving speech. We also looked at the general auditory framework of speech.

And lastly, we looked at the direct realism which is another theory of speech perception. Once we know how speech is perceived we moved into something called speech production and how speech produced. There we dedicated a whole section into the idea what the vocal tract is and how this vocal track produces speech. We also looked at various speech areas in the brain, the Wernicke area and the Broca area and what they comprised of and how the dorsal and the ventral stream of speech production really run.

We looked at several models of speech production. And then we looked at several principles of development of speech in smaller children. The basic models that we discussed were the feedforward and feedback model, the auditory separation during speech model, the dual

stream model, and of course the computational model DIVA which explains how speech is produced or the production of speech is explained through it.

So, the first six lectures were kind of an introductory part where we were looking at how speech is perceived, how speech is produced, and the science of speech and also the basis of speech. So, the first six or eight lectures were dedicated to that. Now, once that was done, we started understanding that all this perception of speech and production of speech, they amount to basic speech sounds being integrated together to create something called words.

Now, words are the basis of any speech, and so we started the next section which is the advanced module in this course, focusing on what are words and what do they actually mean. So, what you write, for example, if you write D or G, what does it mean? So, what it means and what it writes. In terms of the letters, they are two different things. So, we started looking at words and we started looking at these aspects of words.

So, we started the next lecture on looking at the anatomy of words, how words are written and what do they mean, and what kind of symbolism that they have in it, and how these interpretations are done. Then, we looked at what are the principles of learning words, how words are learned both in infants and adults. We also looked at how words are stored and what is the way in which they are retrieved.

So, several kinds of things of how words are learned. For example, we looked that the words are learned in a very fast manner and in a certain age group, and then they are not. And we also looked at principles of storing of words and principles of how the mental lexicon is arranged, the cortical lexicon is arranged, how word has a phonological form and a semantic form and those kinds of things which interested us.

Then, once we were aware of what our words and how these words actually integrate or help us in producing speech or exchanging ideas, the next obvious logical reason was understanding the sentence. Now, why this is important is one-word sentences is something which you do not use. So, words are there, but these words are to be arranged in some kind of a logical manner to exchange ideas.

One-word sentences or one word is not something that people use for transferring ideas. So, what they do is they use these words and arrange them in certain forms to actually pass out ideas and that is how the concept of sentence came in. And so we started looking, next, at sentences. So, what are sentences? So, we looked at how the structure of a sentence, what is the way in which the various parts of a sentence, for example, the agent, the patient, and the verb which contains the agent and patient and how they are arranged into their thematic roles.

We also looked at how these agents and patient how they are directly related to the idea of subject and predicate in a sentence, what is a clause, what are phrases, and how these things actually help us in making sentences. Then, the next thing that we looked is, once we know the rules are making sentences, how do we actually comprehend sentences? So, how do we actually listen to sentences and make meaning of it.

And then we looked at the garden path sentences and late closure principle and several other principles which actually help us in understanding sentences. The next thing that was of obvious concern was how do we produce sentences. So, we looked at those factors which actually help us in producing sentences. For example, the flow of information, the planning of scope, and visual attention and all these things how they help us in producing sentences.

And the last thing that we looked at is how children and adults both learn the syntactic structures of language. So, what they do and what is the anatomy of a conversation. So, once we were aware of sentences or how sentences are made and what kind of things sentences do, and how sentences are perceived and comprehend it and they pass on information from one person to another, the next thing of interest was discourse which is the present thing that we are doing.

And so, discourse as I say is more about conversations. It is about talking. So, discourse can range from daily chit chats that we do to high level talks that in various conferences that we attend to. So, two forms, the narrative form and the conversational form. So, the last section probably we were looking at what is a conversation and we looked at the anatomy of a conversation. For example, how people take turns, that is what we were doing.

We looked at the anatomy of a conversation in terms of turn taking, in terms of conversational fillers which explains how conversations are made and why the gap is there.

We also looked at the pragmatics, the way the discourse contribute to people, and how common ground is made. So, this is a chart of how conversation really functions.

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Turn Construction

Turn-constructual unit

- Syntactic structure, ranging from single word to sentence
- Makes up a turn in a conversation

Transition relevance place

- Point in conversation where listener can expect current speaker to end turn
- New speaker might start turn, but current speaker might continue

Then, we looked at how conversation progresses and how people know when they should speak in a conversation. So, the difference that I told you was in conversation most people jump in, so people jump in and they start conversing. But in narratives one person speaks. So, first we looked at how conversation works and how people know that their turn has arrived. And that happens in terms of something called a turn constitutional unit and turn relevance places.

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Turn Transition

Principle of no gaps/no overlaps

- General rule in turn transition:
- Don't leave noticeable silence between turns
- Don't begin new turn before current turn is finished

Backchannels

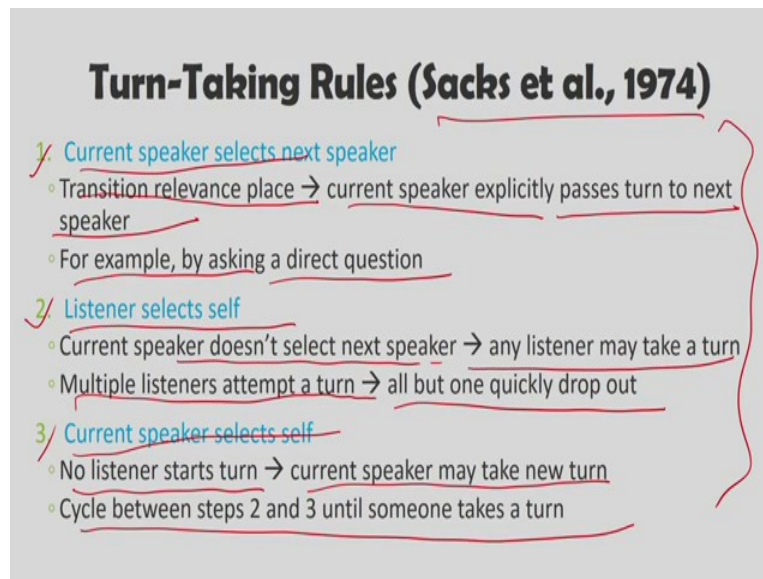
- Signals like *mmhmm* and *uhhuh* from listener
- Indicate engagement, encourage speaker to continue

Overlaps

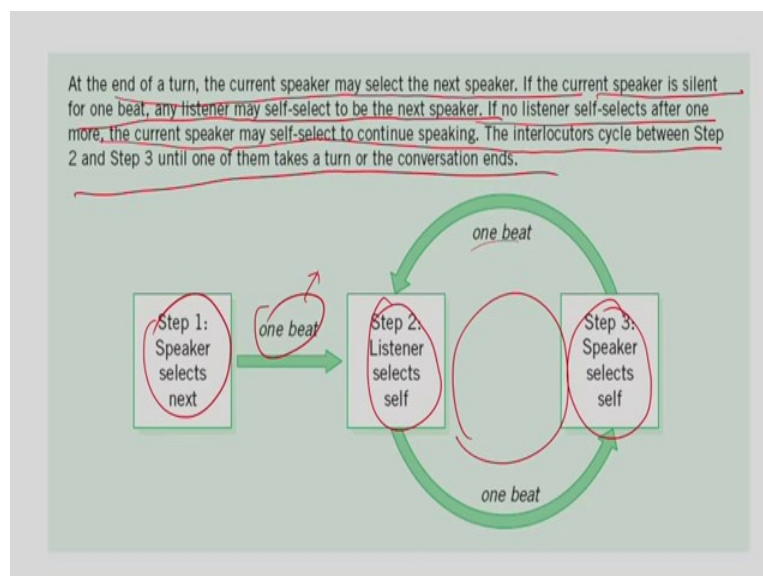
- Instances when multiple interlocutors speak at same time
- Competition among interlocutors → Negative interpretation
- Solidarity among interlocutors → Positive interpretation

And we also looked at how this turn transition works in terms of principles of no gap, back channels, and overlaps.

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We also look at certain rules of turn taking which is the current speaker selecting the other speaker and several other rules which are out there in conversation.

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Synchronizing Turn Taking

Beat

- Average time it takes to produce a syllable
- As set by speaking rate of last turn
- Timing of steps in turn taking

Entrainment

- Synchronization of rhythmic behavior in social interactions
- Interlocutors sway bodies in unison, match breathing rate, pitch, rhythm, loudness

Endogenous oscillators

- Neural circuits that fire at regular intervals
- Serve as internal timekeepers for the brain

We also looked at the methods of synchronising turns between people in a conversation. And so we looked at the idea of endogenous oscillators, the idea of entrainment, and the idea of beat which tells us when to jump in a conversation.

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Narrative and Reference: Narrative

Form of discourse in which

- One participant dominates as active speaker
- Other participants assume passive roles as listeners

Narratives within conversations as multi-turn units

- Typically begin with formulaic expression
- You'll never believe what happened...
- Did you hear the one about...

Listeners signals engagement by

- Giving floor yielding expressions like What happened? or Go on
- Gazing at speaker
- Providing appropriate backchannels, vocal and facial expressions



We, then, focused ourselves into something called narratives and we looked at what is narrative and the various forms of it, multi-turn units and listeners signal engagement.

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Storytelling

- Shop talk
 - Exchange news items and how-to instructions pertinent to shared interests
 - Demonstrate access to privileged knowledge, build rapport, group identity
- Spouse talk
 - Couples recount past experiences
 - Way to reminisce and bond
- Storytelling as vehicle for creating sense of solidarity and group membership
 - Families
 - Clubs, churches, organizations
 - National identity

One form of narrative is the storytelling. So, we focused ourselves into what is storytelling. We looked at what is shop talk, spouse talk, and storytelling.

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Cognitive Demands of Storytelling

- Decontextualization
 - Distancing of thought, language, and behavior from current situation
- Talk-in-interaction gains support from context, but storytelling does not
- Telling and understanding stories requires
 - Detaching from present moment, suppressing unrelated thoughts
 - Memory resources for remembering actors and events in correct order
- Executive functions
 - Memory allocation, planning, inhibition, and other cognitive processes for intentional behavior
- Prefrontal cortex
 - Most forward area of brain, responsible for executive functioning

And what are the various cognitive demands in any storytelling, for example, the idea of decontextualization, the idea of executive functions, and how storytelling really works, because one of the best forms of narrative is a storytelling.

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Story Grammar

Framework guiding presentation of events and characters in a narrative

Episode

- Fundamental building block of a story
- **Setting** introduces characters and location
- **Initiating event** poses problem for protagonist
- **Internal response** by protagonist to problem
- **Attempt** by protagonist to resolve problem
- **Consequence** of attempt may lead to success or failure
- **Reaction** of protagonist to consequence

Then, we looked at how story grammar is there, because story grammar is a grammar just like normal grammar, which lets you speak any language. The story also tends to have a grammar.

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Talk-in-interaction, the spontaneous use of speech as people engage in joint activities, is the main function of language.



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Situation Models

Schema

- Mental framework for organizing understanding of how some aspect of the world works

Situation model

- Mental representation of entities and events in a story and how they are related

“Imagery in your head” as you listen to a story

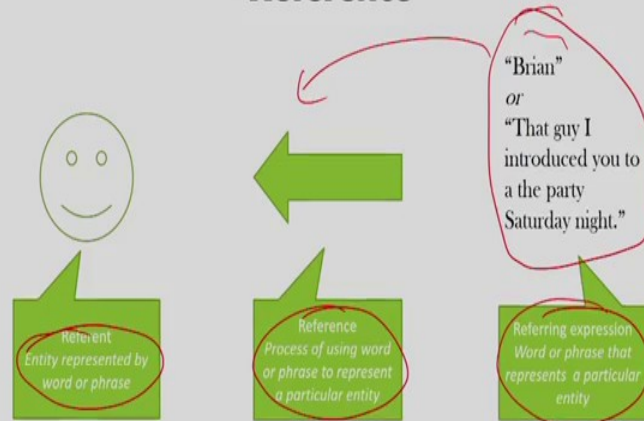
- Draw on schemas for generating expectations about characters and events

“A priest, a minister, and a rabbi walk into a bar....”

- Calls on schemas about priests, ministers, rabbis
- Also calls on schemas about bar jokes

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Reference



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Relevance

Common ground

- Information shared by all interlocutors
- However, both speakers and listeners often overestimate common ground

Privileged ground

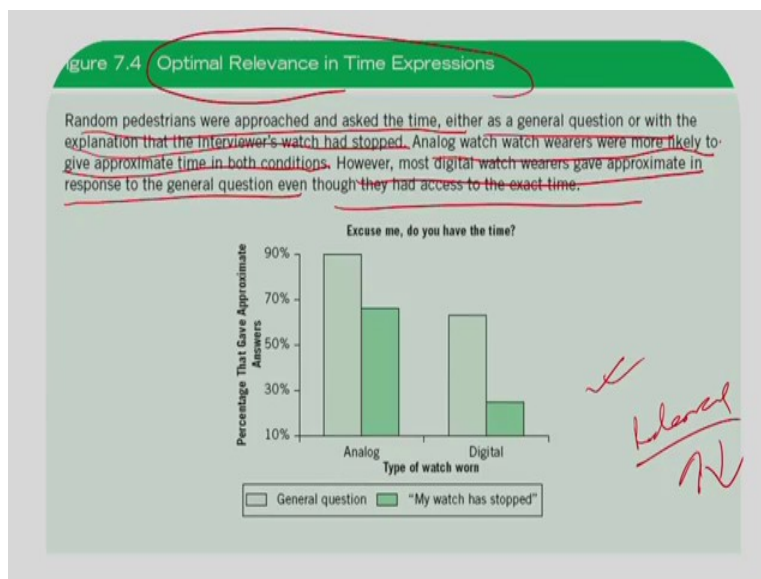
- Information one interlocutor knows but the others do not

Relevance theory

- Crafting referring expressions → strive for balance between too much and too little information
- **Optimal relevance**—neither too precise nor too vague

So, we looked at what is the story grammar and the initiative events and all those forms that we are looking at and various models of explaining that.

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Negotiating Referring Expressions

Resolving referring expressions

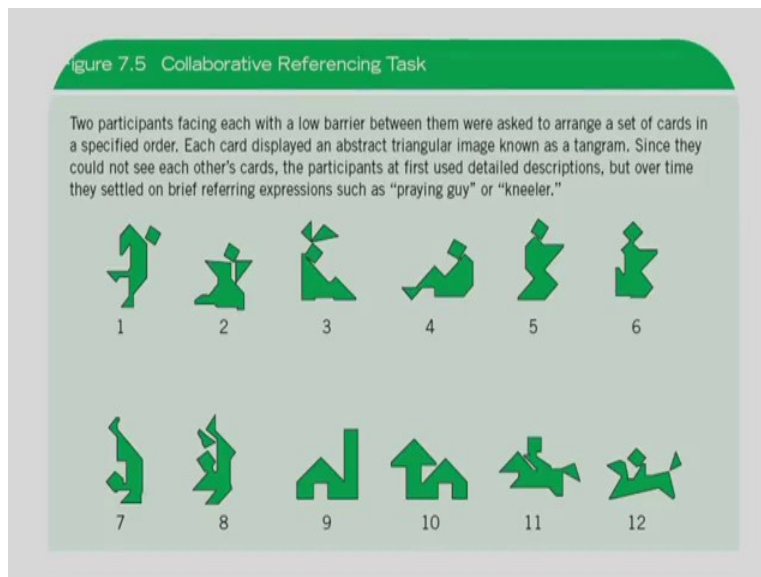
- Listeners use common ground, situational cues, speaker's eye gaze

Over time, interlocutors negotiate economical referring expressions

Building common ground

- Implicit learning from subtle social cues more important than explicit memory
- Patients with amygdala damage (impacting implicit memory) have difficulty building common ground
- Patients with hippocampus damage (impacting explicit memory) have no such difficulty

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At the end of it we looked at how these relevance and references actually work in terms of the story grammar.

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ANAPHORA AND INFERENCE

Repeated Name Penalty

Delay in processing when the same referring expression is used on multiple consecutive occasions

One day, a princess was walking along a pond when the princess saw a frog. The frog told the princess that the frog was really a handsome prince. If the princess kissed the frog, the frog said, the evil spell would be broken....

Now, what is of interest to us today is what psychological factors or what psychological principles are used for making a conversation easy and one of the factors that is used in language for easing out things is something called the use of anaphora or anaphor. Now, what is anaphor or anaphora. It is very interesting. So, what is it? Now, to explain to you what the process of anaphora actually means, let us look at this story.

This is a conversation. So, basically what I have outlined here is called the repeated name penalty, and what is repeated name penalty? If you are using a sentence and if you are using the same reference every time, using the same form of the noun every time in the same form, the conversation becomes actually a little bit difficult. And so, for easing it out we use something called an anaphor which is a substitution word for the actual expression.

And then, we use something called anaphora which is the process of using this anaphor. Now, in a moment I will make these things clear to you. So, the delay in processing when the same referring expression is used in multiple repeated expressions is actually called repeated name penalty. Now what I will put you through is that, look at this conversation, look at this story.

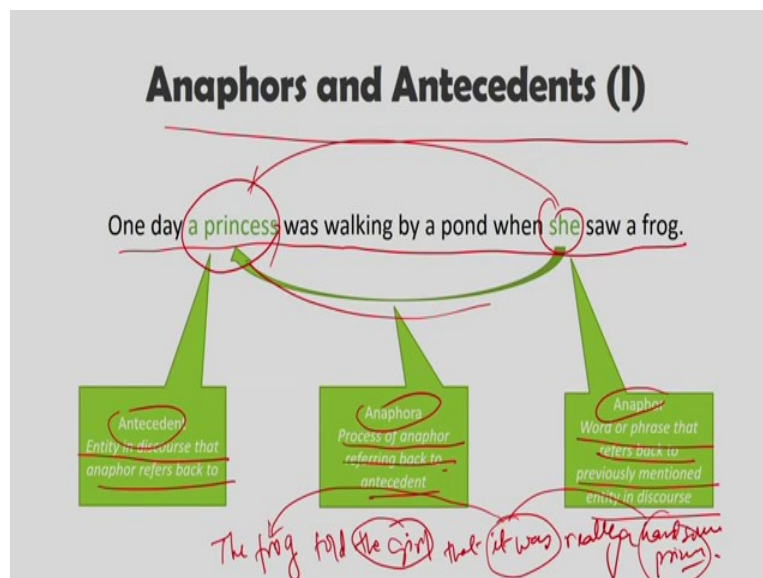
Now the story says one day a princess was walking along a pond when the princess saw the frog. The frog told the princess that the frog was really a handsome prince. If the princess kissed the frog, the frog said, the evil spell would be broken. Now, the sentence can go on and on, the story can go on and on. Can you tell me what is difficult here? The difficulty

here is that I am using the same expression again and again, using the princess, the frog, I am using the same thing in the same form.

And so when I do that it is really difficult. One way to ease this is use a substitute word and that exactly is anaphora and one easiest way of doing it is using a pronoun instead of the same expression. So, the pronoun basically are anaphora. And so, what we can do is if you look at the first sentence, we can change the sentence in this way, one day a princess was walking by the pond when she saw a frog.

Now, instead of the princess, what we have done is we have replaced the word she which is a pronoun here, and this pronoun now means the princess. So, if we rewrite the sentence as, one day a princess was walking along a pond when she saw a frog. Now, look at it, now it is easier to understand. So, this she actually replaces the princess and this process is what is called the anaphora.

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And the word that is used is called anaphor and the process is called anaphora and the expression that she is referring to is called the antecedent. So, anaphora and antecedents, one day a princess was walking around the pond when she saw a frog. So, she is called the anaphor which is a word or phrase that refers back to the previously maintained encores or entity or discourse.

The process of substitution that is going on is called the anaphora which is the process of anaphora referring back to the antecedent. And what is the antecedent? The antecedent is the

item or the antecedent is the phrase that this she is referring to and the antecedent is the entity in discourse that is referred back in the anaphora. So, this anaphor they tend to come in various degrees and we will discuss some of these degrees in the next slide.

So, in various degrees that an anaphora can come in. What is this actually anaphor? This anaphor is that kind of a mental cue, memory cue for us to know what we are referring to. For example, let us say look at the earliest sentence and we can rewrite the earlier sentence in this manner. So, we can write frog told the girl that it was really a handsome prince. Now, if you look into the sentence, the girl here is the princess, it is referring to the frog, and handsome prince is also referring to the frog.

And so, what is happening here is we are using another form of anaphora here which eases our understanding of the sentences. Now here the girl as an anaphora for the prince, the pronoun her should also work, and so we are using the girl as the anaphora because it is giving more meaning to us. Now, repeated name penalty which I said is the use of the same reference expression again and again by using something called category anaphor. And so, what is category anaphor? A category anaphor is a noun phrase anaphor.

The word which is used to replace the usual expression in our discourse comes in several forms. And one of the form that we use or one of the types of anaphors that we use is called the noun phrase anaphors that means the category that the antecedent is a member of.

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Table 7.2 Degrees of Anaphora	
Various anaphoric expressions can be used to refer back to an antecedent. The degree of anaphora speakers use reflects their estimate of how strong a retrieval cue their listeners will need.	
Antecedent	A princess
Noun-phrase anaphor	The frog told <u>the girl</u> ...
Pronoun anaphor	<u>She</u> felt sorry for the frog.
Zero anaphor	She leaned over and <u>Ø</u> gave the frog a kiss.

So, one of the forms of using the anaphor is called noun phrase anaphor. So, what is the noun phrase anaphor, the frog told the girl. So, the noun phrase anaphor is basically it names the category that the antecedent is a member of. And so, the girl is a human being and so that is what it is referring to. It is the princess, the antecedent is a princess. And so, the girl is a princess which is the female.

Now, if you look at the pronoun she, it does not tell you much, but the girl will tell you a lot more about what it is. So, it is the princess. The pronoun she will only tell you that this is singular and this is female that I am talking about. But the princess says more to that because it says that it is not only a girl that we are talking about. It is not only singular, it is also the other fact that she is a princess.

So, she is not just a common girl. And so, that is what is called a noun phrase anaphor. Noun phrase anaphors that are more general meaning are typically easier to process than those which are more specific in meaning. So, general form of noun phrase anaphors are easier to process than the complicated form of anaphors. Now, the theories of anaphor resolution generally propose that the more semantic content there is in an anaphor the more mental resources that it will take to resolve.

So, the more semantically challenging you make an anaphor, the more time it will take for you to resolve that anaphor. The more information you feed into an anaphor, the more semantically enriched you make an anaphor, the higher time it will take for resolution. Thus, the speakers have an incentive to use pronouns as often as possible. And so, the noun phrase anaphor is something that most speakers generally do not tend to use because it refers to a category and so it has more meaning into it and it has more semantic information into it.

And so it takes a long time or it takes more time to divulge information or to reexpress itself. And so what they do is they tend to use something called a pronoun as often as possible. And listeners assume the noun phrase anaphors where they expected to pronoun, singular, something important such as the introduction of a new entity into a narrative or else a shift into the focus.

Now pronoun which is another form of anaphor that we are using is a form of anaphor which conveys very limited meaning. So, they can be minimal semantic content. Now, most

English pronouns they generally convey nothing more than the gender of the entity that it is referring to and then number information, for example, whether it is singular or plural. Pronouns they give more kind of information.

Now, another form of anaphor which is out there is called the zero form anaphor and what is that? Zero form anaphor is the case where no overt anaphor is used even though the anaphoric references can be inferred. Now, if you look into this, she leaned over and gave the frog a kiss. Now if you look into it, there are two verbs and what is happening is that the main anaphor is missing.

So, generally, what is happening is, in this case, that in this sentence there are two verbs which is lean and gave. So, if you look into it, you have this as a verb and this as a verb. And for this verb there is no subject. For example, this verb there is an object which is giving the kiss and for this verb there is not. And so, this verb has something called zero anaphor or zero level anaphor, or zero, because it does not have a subject in itself.

So, some languages, for example, make more extensive use of this zero anaphor. They do not basically name the pronoun. For example, if you are familiar with the idea of Spanish and if I want to say I love you in Spanish, people generally do not pronounce the I thing. And that is why most people in Spain or in Spanish they say te amo. Now, te amo gets translated to love you.

But generally the idea is that I want to say I love you, and so this I goes away. And so, what happens is that the verb has no subject and this is called a zero level anaphor where I do not have the subject or I do not use the subject. And so, when you are saying tea mo in Spanish actually you are using a zero format or a zero form anaphor. So, these are the degrees of anaphor that can be used and various anaphoric expressions.

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Anaphors and Antecedents (II)

Category anaphor

- Noun phrase anaphor that names the category the antecedent is a member of
- One day a **princess** saw a frog in a pond. The frog told the **girl** it was really a handsome prince.

Girl → princess

But note—it doesn't work the other way

- One day a **girl** saw a frog in a pond. The frog told the **princess** it was really a handsome prince.

Princess → ?

Unheralded pronoun

- Pronoun without antecedent
- They're raising our taxes again!
- Nurse to new father: It's a girl!

As I said, you can have a category anaphor, noun phrase anaphor that names a category the antecedent is a member of. So, one day a princess saw a frog in the pond. The frog told the girl it was really a handsome prince. The girl meaning leading to princess, has more information as I said. But note that it does not work the other way. One day the girl saw a frog in the pond.

The frog told the princess that it was really a handsome prince. Prince does not lead to the frog. Now, unheralded pronoun, pronouns without antecedents. They are raising our taxes again; and nurses to a father: It is a girl.

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Givenness

Degree to which an antecedent is likely to be within memory and attention span of listener

New noun phrases → indefinite determiners (*a, an, some*)

Given noun phrases → definite determiner (*the*) or pronoun

A princess was walking by a pond when she saw a frog. The frog told the girl...



So, basically, this is how we were looking at different forms of anaphors and how these different forms of anaphors are used in discourse for easing out the way a conversation is

there. Now, another interesting aspect of a discourse is that it guides the speakers in the selection of anaphor, it is basically called the givenness of the antecedent. How much givenness the antecedent has.

Now, what is givenness? The givenness refers to the degree to which an antecedent is likely to be within the memory and attention span of the listener. Now, more recently an antecedent has been used, the more easily it can be remembered from memory and the more the givenness of that particular antecedent. So, there is a tendency for recently referred to antecedents to be represented by more recent anaphors like a pronoun or zero pronoun.

But when the antecedent has not been used in a while, so basically when you are pronoun or zero anaphor, it is for more recent anaphors. The more number of times the expression has been used or the more number of times an antecedent has been used in a sentence, it generally takes up the pronoun or zero level anaphor. But if an antecedent in a story or in a discourse has not been used recently or it has not been used for too long, then it is more likely to be reintroduced with a noun phrase anaphor.

So, noun phrase anaphor is generally used for those antecedents which have not been used for too long in a conversation. So, basically the noun phrase identifies determiners, for example, a, an, some, and given noun phrase definite determiners. A princess was walking by the pond when she saw a frog the frog told the girl. Now, English tends to mark newly introduced entities with indefinite determiners like, example, the a, the an, and some, while it marks given noun phrases with the determiner thus.

With the, if I am using an anaphor, it is generally the noun phrase anaphor that I am using, and with the a and an I am generally using the pronoun kind of, or zero form anaphor. Now, the first mention of each entity is marked with a and each time it is mentioned after that it is marked with the. In other words, a means something like here is something new while the actually means something like remember the one I mentioned before.

So, when I use the in a pronoun it is basically the pronoun, it means that this particular thing has been referenced before, it has not being used differently. But a and an is kind of something new has been introduced. Now pronouns and zero anaphors tend to be used when the antecedent is highly given, that is easily accessible with memory. However, in talking

interactions we often use an unheralded pronoun that is a pronoun without an antecedent at the beginning of a discourse.

Now, another reason why we use something called the unheralded pronoun is because the antecedent though not mentioned is clearly in everybody's mind. And so, sometimes we tend to use the unheralded pronoun as an anaphor and other times we tend to use the zero or normal pronoun as anaphors.

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Tying the Discourse Together

Cohesion

- Use of linguistic devices to bind sentences of discourse
- Anaphors, conjunctions

Coherence

- Use of schemas and logical relations to bind sentences of discourse
- Must be inferred by relying on understanding of how world works

The frog said, "Kiss me, and I'll turn into a handsome prince." The princess carefully considered the proposition. That night, she had frog legs for supper.

Now, how do we make inferences from discourses? Discourse is a set of sentence that cohere about one or more related topics. So, when we are discussing what we tend to do is we tend to make many ideas cohere together. Now, to cohere means to stick together and there are two ways that a discourse can actually use cohesion. So, discourse is basically many ideas and so what discourse tends to do is it tends to cohere or to combine ideas together.

One way is through cohesion. So, this cohesion of mixing of ideas or cohering of ideas is through cohesion which refers to the use of linguistic device to tie together sentences in a discourse. So, this cohesion that is the first way of putting ideas together or combining ideas together in a discourse. And it is the use of linguistic devices to bind sentences in a discourse, for example, anaphors and conjugations.

How do we make inferences in a discourse? Most discourses have random number of ideas and they cohere together? And so, one way this combination is explained is in terms of cohesion. Now, anaphors play an important role in providing cohesion for discourse, by

providing retrieval cues of previously mentioned identities. And so, what anaphors actually tend to do is, when we are using a conversation and this conversation has multiple ideas, these anaphors provide a memory cue to what idea was actually discussed before.

And this leads to the proper flow of a conversation. The other way through which this cohesion is achieved or this kind of coherence is achieved is something called coherence which refers to the use of schemas and logical relations to bind the sentences together of a discourse. And so what is cohesion, the use of schemas and logical relations to bind sentences of a discourse.

Unlike cohesion which is overtly marked in the discourse, coherence must be inferred by relying on our understanding of the world. In this case, the anaphors will give you an idea of cohesion. But in this case, we have to use our presence of mind about how the world works and that will give us the idea about the cohesion that is happening in the discourse. So, it must be inferred by relying on understanding of how the world works.

For example, the frog said kiss me and I will turn into a handsome prince. The princess carefully considered the preposition. That night, she had frog legs for supper. Now, obviously the idea would have been that the princess would have kissed the frog, and the frog would have turned up into a handsome prince, and they would have married and lived happily ever after. That is what the story says. But there is another angle to it which is much funny angle.

And what is the much funny angle? In real world sense what the princess did was, in real world magic does not happen. So, she does not believe in magic. So, what she did was she never kissed the prince, but rather, what she did was they took the frog's leg which supposedly would become the king and in a more generic sense she ate the leg as a supper. So, oftentimes, we left unsaid what is actually said in a discourse. Now, there is a process which is called bridging inferences which is used for making inferences in a discourse.

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Inferences

Bridging inference

- Use of logic or real-world experience to fill gaps in a discourse
- ~~Mark reached into the picnic basket. The beer was warm.~~
- Inference: There was beer in the picnic basket.

Predictive inference

- Expectation of what comes next in a discourse based on the sequence of events so far
- ~~The frog told the princess: "Kiss me and I'll turn into a handsome prince"~~
- Inference: The princess will kiss the frog

Theory of mind

- Ability to make inferences about mental states and intentions of others

Handwritten:
~~beer~~ is in the basket
 (with arrows pointing to the underlined inference)

Now, what is bridging inferences first of all? Now, bridging inferences is the uses use of logic or real world expressions to fill up gaps in a discourse. So, once we are doing discourse there are times when there exists gaps in discourse, the actual meaning is not coming or there are some kind of non-cohesion in a discourse. So, there we tend to use something called bridging inferences. What is this reading inferences?

These are logical real world experiences. Now bridging inferences play an important role in production of humor, and as I explained one way to understand the sentence, the story that we are looking at is that the princess never kissed the frog and he never turned out into a prince and she ate the frog instead. So, making bridging inferences is costly, at least as measures of reading time or written text.

But content linked with bridging inferences are also better recalled later on probably due to the fact that they are more deeply processed as the sentences which have bridging inferences are recalled better because bridging inferences are actually the logical way in which the world left. So, in the original story if you look at how the original story works and the new way that we interpret the story, the new way of understanding the story will be remembered more better because that is the most logical way of how something would have been done.

Because the idea is that magic does not work in real world. So, in real world sense whatever have happened is the frog actually did not want to die and so it was saying something whatever it was saying. Of course, it is difficult to understand the frog actually speaking a

language, but then the most easiest interpretation would have been that the frog was killed and it was eaten and that is what the idea is.

So, bridging inferences is the use of logic or real world expression to fill gaps in a discourse. Now, Mark reached into the picnic basket. The beer was warm. So, the inference is there was beer in the picnic basket. And, so, when we make the sentences, when we look at the sentence that Mark reached into the picnic basket and the beer that he was looking was warm. We of course make this bridging inferences or the inference that there has to be first of all beer in the picnic basket.

Had there been no beer, then it would not have been warm. And so, these two sentences are connected by bridging inferences and the gap here is that there was beer. So, it was never explicitly said that there was beer in the basket. This was never explicitly said, but then we can infer this from it. Now, we also have something called predictive inferences, expectations of what comes next in a discourse based on the sequence of events so far.

The frog told the princess kiss me and I will turn into a handsome prince. The inference is the princess will kiss the frog and so that is why it is said. And so we use that kind of a thing or that kind of predictive inferences for inferring things. Now, when we making bridging inferences we focus on the logical or the common sense structure of the discourse. This is also the case when we make something called predictive inferences.

Predictive inference is another way of inferencing ideas from a discourse. So, what does it really mean? So, we can generate an expectation of what comes next into our discourse based on the sequence of events. So, as we can generate from it the expectation that the frog will be kissed, if we can generate that from a discourse, this is called predictive inference. As listeners, we also make inferences and go beyond the discourse.

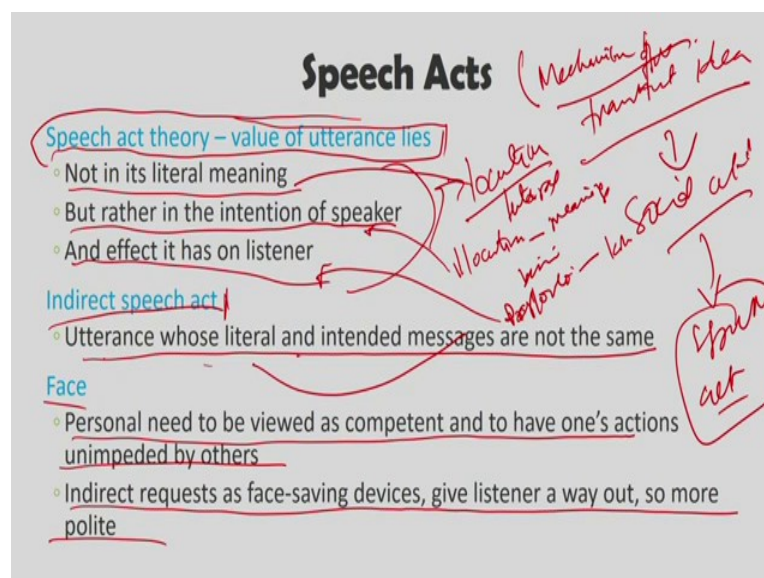
Now, the idea of bridging inference and predictive inference which tells us the meaning of our discourse leads out to the idea of something called the theory of mind. And so, what is the theory of mind? The ability to make inferences about the mental state and intentions of others is actually called the theory of mind. Theory of mind is the ability to make inferences about the mental state and intentions of others.

And this theory of mind has to be intact in people because if we do not have this theory of mind, if we do not know what other people are thinking or cannot predict what other people are thinking, then discourse would not have been possible. So, we constantly generate explanations or theories of why other people behave the way that we do. Now, when we interact with other people we assume that they have a mind of their own with perspectives and intentions that may be different from us.

And so we tend to use the kind of inferences and words in a discourse that we do. As a result, we tend not to rely on literal meaning of utterances, but rather, on what we believe the speaker would have intended. And so, that is how we make inferences. So, we know we do not actually read the way the sentences said or the way the sentence has been expressed. We actually put a lot of idea or we actually put ourselves out there to extracting what the speaker would have actually intended.

Now, the theory of mind enables us to distinguish between a joke and a lie. Clinical data shows that patients with damage to the right hemisphere often have difficulty in assessing the mental states of others. And so, this is how we make inferences from a particular discourse.

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Now, there are several speech acts which have been proposed. Three philosophers in the 20th century, for example, John Searle, J.L. Austin, and Paul Grice, they were influential in shifting the common view of language as primary mechanism for transplanting of information between people to a new perspective, language as a social activity. So, initially, language was thought as a mechanism for transmitting ideas.

But these three philosophers, what they did was, they made a new meaning to this language and what they said is language is basically a social activity. And they developed something called the speech act. They said that language is not just mere translating of ideas, language is more like a play, it is like an act. And in this act, there are several participants, they play their role, and the language is expressed in this particular manner.

So, they developed the speech act theory which is the position that the value of an utterance, what the utterance actually means, lies not on the literal meaning of its word, rather, in the intention of the speaker and the effect it has on the listener. So, basically, what is written is not exactly what language really means. It means more than that. It depends upon the intention of the speaker and the kind of effect that it is going to have on the listener, and all these combined together will actually mean what language is all about.

Now, speech act theory it provides a framework for connecting the literal meaning of an utterance with their intended meaning. In 1962 they argued that every utterance has three layers of meaning. So, basically, what is speech act theory then? The value of an utterance lies, it says that when we speak something, it lies on three facts, it is not just plain words that you are reading, it is more than that.

And so, these three words or these three aspects actually explain what the meaning of a discourse actually is. So, it is not literal in meaning. So, what is written is not exactly the meaning of what is written, but rather it is in the intention of the speaker. What I want to convey has a lot more to say into what a sentence should actually read, and the effect it has on listener.

For example, imagine that a family is dining with mom, dad, a teenage daughter, and a school age son. So, they are all dining and the dad as the daughter, could you pass me the salt? The teenage daughter replies, yes, I could and continue eating. Now in a perfect sense it is a perfect conversation in the perfect meaning of it. The father asked, could you pass the salt, to the daughter, and the daughter says, yes, I could, and she continued.

Now, the father in the literal sense did not actually mean he was not measuring the ability of the daughter to pass the salt, what he was meaning is not even can pass the salt along, what

he was referring is to pass the salt along. Now, in the conversation as it proceeds, the mom would be very unhappy and she looked unhappy at the daughter, and the son would in the last passed the salt to the father.

So, basically, what the father meant by saying, could you pass the salt, and the girl replying, yes, I could, this should be the end of conversation, and the literal meanings would have been true. But the literal meaning is not correct. It is the intention of the speaker. The speaker actually wanted or the father actually wanted the daughter to pass the salt and he was not actually measuring or not actually referring to the ability of the girl to pass the salt or not.

As I said, this is called the indirect speech act, utterances was literal and intended meanings are not the same. Now, speech act theory says that any utterance has three layers of meaning, any speech has three layers of meaning, the location, the literal meaning of an utterance. So, any utterance has three parts. We have the locution which is the literal meaning. The second is called the illocution which is the meaning behind the utterance.

And the third is called the perlocution which is the listener's perspective. So, the first is the locution which is the literal meaning, the illocution which is the intention of the speaker, and perlocution which is the effect it has on the listener.

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Table 7.3 Speech Act Theory		
The three layers of meaning of the question <i>Do you know what time it is?</i> uttered by a mother to her teenaged daughter as she arrives home well after her curfew.		
Locution	Literal meaning	"What's the time?"
Illocution	Intended meaning	"You're late."
Perlocution	Perceived meaning	"Mom's angry at me."

For example, look at this particular speech act theory. The three layers of meaning or questions, do you know what time it is? For example, look at this sentence, do you know what time it is? Now, if you look at in terms of the speech act theory, this literal sentence has

three parts. This sentence was uttered by a mother to her daughter who had arrived home well after her curfew.

Curfew is a kind of a time bondage which is given by parents to their sons and daughters of certain age to come to the home before a certain time. Now in terms of locution, the literal meaning of the sentence is what is the time. But if you look in terms of illocution which is what is the intended meaning, the intended meaning is what is the time, that is way it is spoken and so it actually means that you are late.

And what is the perlocution which is the perceived meaning? The perceived meaning is mom is angry, she is not interested in time, she is not interested in anything else. What she is interested in is how late you have come. Now, according to Searle in 69, when the locution and illocution of an utterance do not match, the result is an indirect speech that we were looking at. The utterance's literal and intended meaning do not match.

Now, in a simpler term, the indirect speech act is an utterance whose literal and intended meanings are not the same. So, what you mean and what you say are two different things. Although it seems counterproductive to say one thing and mean another, we are often put in a position by social constraints. Now, as a general rule, indirect requests are considered more polite because instead of asking directly you give the listener a way out.

Indirect rules or indirect ways of request are more polite because although you make a request but we also allow the listener a face saving time, which we will discuss in a moment, or a way out of the conversation. Now, some indirect requests are more polite. The listener may feel more compelled to comply. Now, in recent years, social psychologists and psycholinguists have begun thinking of indirect request as face saving devices.

I can say something directly, I can say something indirectly, and how do I say something indirectly, when what I say and what I mean are two different things. Nowadays people are using this kind of indirect request in terms of the eastern concept of face, which is the personal need to be viewed as competent and to have one's actions unimpeded by others. Now, the concept of face ties the notion of something called self-esteem and respect.

And although the idea derives itself from East Asian philosophy, it is now considered to be a universal concept. So, basically, when we use indirect speeches it gives us an idea of saving our face. And what is face, the personal need to be viewed as competent and to have one's action unimpeded by others. Indirect requests as face saving devices give listeners a way out so that they can be more polite.

Now, in the family dinner example that politely used the indirect request, which gives daughter a way out by interpreting the literal utterances, of course. So, basically, the daughter may have been angry and she actually interpreted in a second manner. So, the dad said, could you pass the salt, and the daughter says, yes I could and she kept eating, and so, it is a face saving game or facing saving strategy for the daughter.

Now, social norms dictate interpreting an indirect request according to the illocutionary, not the locutionary force, but daughter flaunts the norm. Now, given the social dynamics in the family, the dad may actually have gotten better results with a direct request like pass the salt. Now, since that father used indirect request, could you pass the salt, the daughter what she did was she picked up the literal meaning of it. And what was the literal meaning, whether you have the ability or not.

And she applied, yes, I could. But, here, the conversation would have been better off by using not the illocutionary but the locutionary meaning, which means that if you would had made a request saying pass the salt, it would have given better results. Now, Grice in 1975 had added to the speech theory by proposing something called cooperative principle which in a nutshell is the proposal that speaker should follow the social norms to tailor their utterances to fit the current need of a conversation.

And, so, what Grice says is there are some cooperative principles in our conversation, and so if these principles are not followed, the conversation would run haywire. And, so, he gave these principles which are there. What he means by cooperative principle is that any violation of the principle is meaningful, that is, as listeners we take what the speaker says at face value unless we have reason to suspect that the locutionary and illocutionary utterances actually do not match.

This triggers the theory of mind process in which we begin making inferences about what the speaker really meant. So, what it all means is that there are certain principles, there are certain cooperative principle which have been given by Grice and they should be followed for any conversation to have meaning and to actually progress in a particularly nice sequence. Now, Grice have given something called four maxims which are aspects of speaker utterances that the listener attends to in deciding whether to accept the statement at the face value.

Grice worded the maxims in terms of what the speaker should strive for and what they are. So, there are four maxims which are there.

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Gricean Maxims

Cooperative principle

- Speakers should follow social norms to tailor utterances to fit current needs of conversation
- Not a description of how conversation works
- Rather, violations of cooperative principle are meaningful

Gricean maxims

- Aspects of utterance that the listener attends to in deciding whether to accept it at face value

So, Grice says something called the cooperative principle, speaker should follow social norms to tailor utterances to fit current need of the conversation, not a description of how conversation actually works, rather, the violation of cooperative principle are meaningful. It gives us some meaning of where the conversation lag is. And so, the Grice maxim, what is it? Aspects of utterances that the listener attends to in deciding whether to accept it at face value or to make more deeper meaning of it.

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Table 7.4 Gricean Maxims

Philosopher of language Paul Grice proposed four maxims of conversation. These maxims are rules of thumb, not absolute rules. Furthermore, the violation of a maxim implies that the speaker's meaning is different from the literal meaning of the utterance. It's up to the listener to guess what that intended meaning is.

Quality	Make your contribution as informative as required; don't say too much or too little; make the strongest statement you can.
Quantity	Don't say what you believe to be false; don't say something that you lack adequate evidence for.
Relation	Be relevant; stay on topic.
Manner	Avoid obscurity of expression; avoid ambiguity; be brief and orderly.

There are four in total. They are the maxim of quantity which says make your conversation as informative as required, do not say too much or too little, make stronger statement that you can, first quantity. Do not say what you believe to be false, say, something that you lack adequate evidences. Third, in terms of relation, be relevant, stay on the topic. And fourth is of manner which is avoid obscurity in expressions, avoid ambiguity, and be brief and orderly.

Now, speech act theory and the cooperation principles have generated a considerable amount of research for many years which are far more to cover in this particular syllabus of ours.

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Development of discourse ability Conversational Turn-Taking

Beginnings of turn-taking in face-to-face interactions between infant and caregiver

- Infants initiate, caregivers mimic infant vocalizations and facial expressions

Infants attracted to adult faces that mimic their current emotional state

Perturbation paradigm

- Experimental procedure, disrupts normal infant-caregiver interaction, observes infant's response
- Infant averts eye gaze, becomes agitated or disinterested

Neutral face paradigm

- Caregiver shifts to neutral face while maintaining eye contact with infant

Replay paradigm

- Caregiver-infant interaction via video screen
- First live and then replay so no longer lines up with infant behavior

Now, we looked at those principles or those factors which can be used in making conversations a better conversation. What we are going to do now is we are looking at some developmental discourse ability in conversation turn taking. We look at turn taking as, in a

conversation people jump in and they decide this turn taking. So, there are some the development of discourse ability in our conversation turn taking.

Before beginnings of turn taking in face-to-face interactions between infant and caregivers, this decides how this turn taking is actually learnt. Infants initiate, caregivers mimic infant vocalizations and facial expressions and infants are tracked to adult face that mimic their current emotional state, and that is how they actually learn turn taking in conversations. Also something called the perturbation paradigm.

We have used experimental procedure disrupts normal infant-caregiver interaction, observes infant's responses. And the other is that infant averts eye gaze, becomes agitated or disinterested. So, one way in which we can look at how this turn taking in conversation really works in infants is using this perturbation paradigm. We also use something called the neutral face paradigm in which what happens is the caregiver shifts the neutral face while maintaining eye contact with the infant.

And we sometimes tend to use something called the replay paradigm in understanding how these infants and caregiver they learn this turn taking in conversations. So, caregiver-infant interaction via video screen, first live and then replay. So, no longer lines up with the infant behavior.

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Late Talkers

Developmental language delay

- Slower than normal development of expressive language during first few years
- Hearing, motor, and cognitive functions otherwise in normal range
- Some catch up with peers, others experience declines in socialization process

Late talkers understand conversational turn-taking, since that's learned in infancy

- Content of turns considerably reduced, rely on ellipsis or sentence fragments
- More use of pointing to indicate referents
- Adept at use of backchannels, encourage others to talk so they don't have to

Caregiver coping strategies

- Late talkers benefit most from additional facilitative support
- High-control strategies overstimulate child, causing them to withdraw more

Late talkers; now for late talkers what really happens is the process of learning conversation through the facilitation of caregiver is disrupted when the child's experiences something

called developmental language delay. Now, this is a condition marked by slower than normal development of expressive languages during the first few years of life even though hearing, motor, and cognitive functions otherwise are normal.

So, in developmental language delays lower than normal development of expressive language during the first few years happens. Hearing, motor, and cognitive functions otherwise are normal, and some catch-up with the peers, some experience decline in socialization process. Now, late talkers understand conversational turn taking, since that is learned in infancy. Contents of turns considerably reduced, rely on ellipsis or sentence fragments.

More use of pointing to indicate references. And adept to use of backchannels to encourage others to talk so that they do not have to. And so, these are some of the problems in late talkers. How they get deprived of this turn taking or learning the turn taking. Caregiver coping strategy: Late talkers benefit more from the additional facilitative support; also high-control strategies overstimulate child, causing them to withdraw more.

And, so, these are some of the strategies that the caregivers can actually use with late talkers in developing this conversation (()) (57:33).

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Gesture

Indexical gesture

- Movement of an upper limb to point out referent in conversation
- Caregivers use these as they interact with children, as in the naming game
- Children use these to point out objects they don't know the name of

Iconic gesture

- Movement of one or both upper limbs to imitate an action
- Universal phenomenon, but shaped by specific language

When people speak they also use some kind of gestures. For example, when I am speaking I am using some kind of hand movements and these are some kind of gestures. We can identify two types of meaningful. The first is the indexical gesture which is the movement of

the upper limb to point out referent in the conversation. So, when I am moving and pointing to the camera that I am speaking to, this is called indexical gesture.

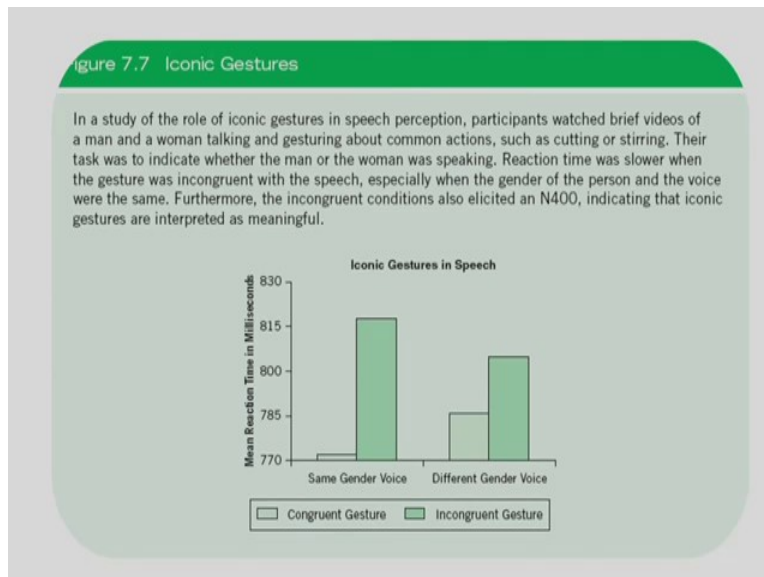
For example, the question what is that is often accompanied by indexical gesture towards the thing that we are referring to. The other kind of gesture that we use is something called the iconic gesture, which is the movement of one or both of the upper limbs to imitate an action. For example, the wind flew up, Jack and Jill rolled down. So, these kinds of gesture is basically called the iconic gestures.

Now, caregivers often use the indexical gesture as they interact with the child. Now, young children seems to be sensitive to discourse cues and appear to use them to learn and associate words with other things they referring to. Children also learn the use of indexical gestures when they are unsure of a name of an entity. Iconic gesture seems to be universal phenomena, but it is also shaped by specific languages that it is actually used with.

Iconic gestures are used in conjunction with descriptions of motion events. For example, with speakers making hand or finger movements to mimic the manner in part or the action. So, basically, indexical gestures these are movement of upper limb to point out reference in a conversation. Caregivers use these to interact with children as they are in the naming game and children use this to point out objects that they do not know the name of.

Iconic gestures, these are movement of both the upper limbs to imitate an action and universal phenomenon, but shaped by specific language.

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Cospeech Gesture (I)

Hand movements that speakers make while they talk

- Tend to line up at clause level

Motion event → Manner + Path

One clause: Manner verb + Path preposition (English)

- Jack and Jill **rolled down** the hill
- One cospeech gesture

Two clauses: Path verb + Manner Verb (Turkish)

- Jack and Jill **descended** the hill while **rolling**
- Two cospeech gestures

English (handwritten)

Two (handwritten)

We also use something called cospeech gestures in sentences. What are cospeech gestures? These are hand movement that speakers make when they talk and tend to be lined up at the clause level. An English speaker would likely Jack and Jill tumble with a single rolling gesture in downward motion, whereas Turkish people would define two separate gestures, one accompanying the downward path, for example, like this, and the other accompanying the manner of rolling, for example, this.

So, Jack and Jill went down the hill two ways. So, this is called cospeech gestures. So, hand movement that speakers make when they actually talk and they tend to be lined up at the clause motion. Motion event are manner plus the path. One clause manner, verb, plus path,

preposition in English; Jack and Jill run down the hill; one cospeech gesture, the hand rolling movement. Two clauses, this is for English and this is for the Turkish.

So, two movement, path verb plus manner verb. So, Jack and Jill descended the hill while they were rolling. So, one is descended which is the movement gesture and the rolling which is the rolling gesture that people tend to show.

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Cospeech Gesture (II)

Learning co-speech gestures with motion events

Both English-speaking and Turkish-speaking children

- Use two co-speech gestures, one for path, one for manner

Adults line up co-speech gestures with clauses

Turkish-speaking adults

- One co-speech gesture for path clause, another for manner clause

English-speaking adults

- One co-speech gesture that combines path and manner information

So, learning cospeech gestures with motion events. Both English speaking and Turkish speaking children, they use two cospeech gestures, one for the path and the other for manner. Adults line up cospeech gestures with a clause. Turkish speaking adults, one cospeech gesture for path clause, another for the manner clause. In English speaking, one cospeech gesture that combined the path and the manner information.

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Prosody (I)

Young children, like adults:

- Distinguish “happy” from “sad” tone of voice, even in foreign language
- Use prosodic cues to phrase boundaries
- Use prosody as sound symbolism



Also, prosody; prosody is the fluctuations in pitch that happens that we have learned before. So, young children like adults they distinguish happy from sad tone of voice even in foreign languages. So, prosperity is also used for making inferences or making how children learn. The way a sentence is said is basically what is the prosody. Prosody also gives you the emotional and syntactic information from a sentence.

Now, prosody can be used as a form of sound symbolism. Now, when you say, for example, try saying this sentence with symbolism, a tiny mouse and a great big elephant. You use prosodic cues and you will say, a tiny mouse and a great big elephant. The way you say this is basically the prosodic inferences and that tells you a lot about the conversation. So, use prosodic cues to phrase boundaries.

Children learn these prosodic cues to learn phrase boundaries and prosody as sound symbolism. For example, high pitch for small things and low pitch for larger things. A tiny mouse as I said a tiny mouse and a great big elephant, the way I am using this basically gives an information about the sentences that is used. We also use speaking rate to convey a sense of speed in describing fast or slow actions. The preschoolers are sensitive to this kind of sound symbolism, prosody, and the use of own speech.

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Prosody (II)

Lexical bias in children under age nine

- Tend to disregard prosodic information when inferring speaker's intent
- Rely instead on literal meaning even when context strongly suggests nonliteral meaning
- Example: speaker says *I like it* but with "unhappy" tone of voice
- When utterance low-passed filtered so only prosody remains, children correctly infer intent

Detecting irony and sarcasm in children under age nine

- Have difficulty using prosodic cues
- Can use situational context cues to infer nonliteral meanings

Now, with this, we also use something called lexical bias in making students understand this speed symbolism. Now, what is lexical bias? Lexical bias in children under the age of nine is a tendency among children to rely on the literal meaning of an utterance, even when the prosody strongly suggests that a non-literal meaning is there. For example, when a speaker says *I like it* but does so with an unhappy tone, the adults will actually mean they will understand that it is so.

If I say *I like it* or if I say *I like it*, so when I see *I like it* with a more zing into it, it is a positive sense, but I said *I like it*, I am actually not referring to the likeness, I am referring to the negative connotation of it. So, adults would be able to understand that and lexical bias is that ability where children are not able to understand that *I like* although the sentence says *I like it*, but it is meaning something else and that is what the lexical bias is all about.

It is the tendency to disregard prosodic information when referring to speakers intent; rely on literal meaning even when the context strongly suggests non-literal meaning. For example, speaker saying *I like it* with an unhappy tone of voice. When utterance low-passed filtered so that the prosody remains, children correctly infer the intent. Now detecting irony and sarcasm in children under nine years of age, they have been difficulty using prosodic cues and can use situational context to use of non-literal meaning.

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Gricean Maxims

By 33 months, children generally understand Gricean maxim of quantity

- General query *What?* → *Piggy is in the barnyard*
- Specific query *Piggy is in what?* → *In the barnyard*

Scalar implicature

- Listener's inference that a weaker term means the stronger term is not true

Some elephants have trunks

- Adults say "false," because *all* elephants have trunks
- But logically, if *all* is true, so is *some*
- Preschoolers reply "true," seem to understand scalar implicature
- Gricean maxims override scalar implicature in adulthood.

Now, Gricean maxims, the lexical bias exhibited by children does not mean that they take every utterance at the face value, rather, it seems that children have difficulty interpreting prosody when it conflicts with semantics and the context. The preschoolers are already adept at using the Gricean maxims to make inferences about speaker's intention. So, by 33 months of age children generally understand Gricean maxim of quantity, general query what?

Piggy is in the barnyard. Specific query piggy is in what? In the barnyard. So, by 33 months they are able to understand this maxim of quantity. Now, there is something called the scalar implicature. Now, Gricean maxim have generated a lot of research on the topic known as the scalar implicature. What is it? The term refers to a listener's inference that a speaker's use of a weaker term means that a stronger term is not true.

So, the use of weaker term is actually meaning the stronger term is not true. Research on scalar implicature most commonly examines listener's inferences about the quantity term some and all, but other weaker stronger pairs such as or, and, have been studied as well. So, listener's inference that the weaker term means the stronger term is not true. Some elephants have trunks.

Adults say false because all elephants have trunks. But, logically if all is true, so is some, so preschoolers reply true, seems to understand scalar implicature and Gricean maxim override the scalar implicature in adulthood.

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Discourse Impairments

Specific language impairment

- Tendency to omit grammatical suffixes and function words
- Difficulty constructing and comprehending narratives
- Produced narratives → less content, fewer story grammar elements
- “Play it safe” strategy → simple structure and vocabulary, error free but below peer’s abilities
- Difficulty making bridging inferences, representing story elements in memory

Pragmatic language impairment

- Structural language skills intact
- Difficulties with social and contextual aspects of discourse, inferring nonliteral meanings
- Often leads to behavioral problems—hyperactivity, aggression, excessive shyness

Lastly, we looked at something called discourse impairment. It is a tendency to omit grammatical suffixes and functional words. It is the difficulty constructing and comprehending narratives. Also produce narrative, less content, fewer story grammar elements, play it safe strategies used specifically by language impairment children, simple structures and vocabulary, error free, and below peer’s ability, and difficulty in making bridging inferences and representing story elements.

So, those children which have specific language impairment they tend to suffer from these kind of problems. Also, they have pragmatic language impairment, for example, structural language skills is intact in them, difficulties within social and contextual aspects of discourse, inferring non-literal meanings, and often leads to behavioral problem, for example, hyperactivity, aggression, excessive shyness.

So, what we did in today’s lecture is we moved on from what we had left before when we were discussing what is narrative and what is conversation in the last class. So, we build up to that and we looked at how psychological factors can be used for enhancing conversations and we looked the idea of what is anaphors and how these anaphors actually enrich our meaning of the discourse, how these anaphors can help us in making more meaning from discourse.

We also looked at how inferences are made from the discourse and what is the meaning of speech acts and how these speech acts are actually helping us in discourse planning and discourse interactions. Then, we looked at something called difficulties, the developmental

discourse abilities, how discourse abilities actually develop. We looked at how conversational turn taking is developed in infants through the caregiver and also how late talkers have this development, this turn taking in conversation happens in late talkers.

We also looked at how gestures can be used by caregivers for initiating conversations and embedding conversation principles into children. We looked at how prosody is used by children to understand conversations and conversation related materials, and the aspects of various conversations, and how Gricean maxims are used by children of certain age preschool children and school children, how they are using this Gricean maxims for enriching their conversation principle.

We also looked at several disabilities that specific language impairment people children have and what kind of problems they can suffer from. Now, when we meet next what we are going to discuss is what is reading and writing, and how reading and writing builds up from the discourse that we have been discussing, and how reading and writing they play a role in the psychology of language. But up till that time that we do that, it is thank you and goodbye from here.