

Principles and Parameters in Natural Language
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Lecture – 32B
Generative Grammar

Hey, I will start with a personal note. I was an MA, I am an MA in English literature and I was teaching English literature. Now I happened to go to a place which was called at that time central institute of English and foreign languages now it is a flue it is in Hyderabad where I did not you know did a kind of diploma course in teaching of English. In the first semester there were some three courses that I was doing related to language studies in particular there was a course on introduction to linguistics, the course on grammar and a course on phonetic phonology and phonetics.

So, I was doing this courses and I found I mean I let me share this with you I found the entire subject of linguistics absolutely banal. You know there was nothing of in phonology and phonetics there was hardly anything that was of any interest to me and grammar you know sort of I mean hardly I did not particularly care for grammar and during those days there was a negative attitude towards the you know grammar and all that you know. So, grammar was considered to be something fit enough to be taught at school and not at higher levels.

So, I carried that you know precedence with me. So, at that time you know I thought I am not it is no, I do not tell you, so I am not bothered about this, but it came to linguistics we were taught things like the difference between human languages and animal systems of communication to the very traditional kind of topic in the courses of in introductory courses during those days and that is one topic I found extremely silly. I am not bothered about to you know how animals communicate, I am going to go and I will go and teach English to human beings and I am not bothered why waste my time and then questions like phonological structure, morphological structure, etcetera etcetera. I do not know I thought I mean it these may excite some people, but there are absolutely you know nothing that heightened my or that you know made me interested in these subjects.

The course of the ending and the last three or four classes were there and my teacher the all the teachers are excellent, but the subjects are not interesting and the last few classes the three top three classes were devoted to a topic called transformational grammar. And I remember in the first lecture, in his first lecture the course instructor said that there is a person called Noam Chomsky and he says that all languages are identical at the level of some underlying representation at the level of you know that they share common structural features.

No, I am not exaggerating I am telling you I woke up I thought what kind of a thing is this you know I mean we know that languages are I mean no sort of I was in Hyderabad, so Telugu was unintelligible to me. The fact of language unintelligibility is you know nothing new and we know that that two languages which are mutually unintelligible may not it may not be the case that they have entirely different structures that we knew, we have that much understanding of abstraction we knew that structurally you know they I mean let us say you know a Tamil and Oriya that is my language you know.

So, they are unintelligible mutually unintelligible, but they share a structure. So, we knew that that is fine. But then languages which have which do not which cannot be linked in terms of history genealogy nothing absolutely unrelated languages and then here is a person who is saying that they have an identical structure at some level of, at some underlying level I thought this is something which is marvelous and he is saying such he is saying something which sounds prudently observed and so many people take him seriously. So, I think I was in my early 30s done now till I retired from IIT Kanpur those 30 years I devoted to finding out what is all this about and I do not regret a moment of it.

You know, so fascinating I mean you know see it was not or we know that if you say languages are different and languages have a different structure each language has its own unique structure, you know fine I mean that do not disturb anybody because one would think that that is experience you know. English has a subject verb object kind of structure my language are subject you know object and verb kind of structure.

So, there are in many ways languages could differ like this at the level of structure. So, that is not surprising, but what is surprising is the fact that there is a kind of common sharing in terms of structures. So, what is that? So, I forgot my Phd research on (Refer

Time: 05:52) foster and thought that let me see what this is all about. I mean it is almost like you know sort of going on a discovery trip sort of finding out what are all this is about this is a kind of you know powerful intellectual experience. Many many people would have joined you know would have would have try to do linguistics for the same reason how come you know sort of how does on a count for the fact that languages share that is the claim, common features at some underlying level and yet you know they demonstrate different structural properties at other levels.

So, that is something which that is what is a how does on articulate the underlying similarities between languages and their systematic differences, languages do not differ from each other in structural terms in absolutely unpredictable you know ways. The ways languages differ from each other in structural terms are predictable right. So, we know that a language the two languages can differ along certain lines they cannot differ arbitrarily, it cannot be the case that there will be a language in which take a sentence of you know sort of it take a sentence of a considerable length right and create a sentence which was the mirror image of that sentence and think that if the first sentence is grammatical the mirror image of that sentence is also grammatical nothing of this (Refer Time: 07:30) you know, so that cannot be language like this.

So, you know sort of, so this kind this is very fascinating that languages differ surely, but the differ in predictable ways in limited ways. So, you know how what kind of a theory is there to be able to account for all this. So, so that is where you know sort of I think many many people we know I am I have a small fry, but many many people would have been interested in trying to find out what is this all about. So, that is one.

And when Chomsky came into the scene you know the kind of grammar that was written was what was called you know descriptive grammar structural you know grammar there was a there was a school of linguistic thought called structural linguist. So, there are very hard working I know people they did a lot of creating things in their own domain. But then we know they said that you see linguistics is a science they were the first people who said that linguistics is a science and a classificatory science you know it is a classificatory science what does; what did it mean? It meant something like this the two let us say you know talking about sentences. So, let us say we divide all sentences of the language into various you know sub parts sorry various groups. So, call a particular kind of category various categories you know call a category simple sentences, another

category you know simple negatives, another category you know sort of simple questions then compound questions you know, so categorize sentences and label its category. So, simple sentences, compound sentences, complex sentences within simple negatives questions you know impurity whatever.

So, you will you know, you collect data very carefully using the most sophisticated instruments of data collection and arrives at sentence level you do lot more you start from the phonological level and then you come to the sentence level and then when you come to the sentence level what you do is you categorize your sentences in terms of sub categories like simple, compound, complex and just as I told.

Now, see the categorizing categorization is not a simple task it is a fairly challenging intellectual task because you are you are looking at the features and carefully trying to say which are the distinctive or distinguishing features of each category. So, it is not a small thing you should not really you know think that it its unimportant. But when I was teaching at IIT Kanpur I used to say that this is like what happens in a bata [FL], you go to a bata shoe shop and you have [FL] number shoes, [FL] number shoes, [FL] number shoes in different, you know in different shoe you know sort of slots.

Now, of what great interest is this you know I mean we trivialized it, but now I do not know trivialize, but the categorization is a serious task, you know I mean you find out features common features you will see you know distinguishing features, so it is not unimportant. But you say when it at the end of it what have you done at the end of it you simply have you know sort of slotted them into different categories and that is about it.

Now, Chomsky said no this cannot be very interesting and serious science you know it cannot be interesting and science is not concerned about classification although much later I came to learn that today biology is a very sophisticated subject, but only 50 years ago biology was a classificatory science, I mean about 50 years ago you do not more or less a classificatory science. So, maybe disciplines have to undergo a stage of classification you know maybe I mean questions of explanatory nature maybe it is difficult that such questions are asked at a certain level of an intellectual enterprise. So, maybe a kind of you know a kind of stage has to be gone through where classification becomes extremely important, but then Chomsky's are know we need explanatory theories ah

So, what kind of exploratory theory do we need what do we explain. So, you know for the first time I mean he not only he said what kind of a science in linguistics would be, what kind of a science is this you know at that time, today its slightly different but at that time there are no experiments you know you could not conduct experiments right. You know you come up with you postulate linguistic rules, but there are no experimental there are no experimental evidence for the same right.

So, some people you know who wrongly associate science with explanation sorry associate science with experimentation you know mature sciences like physics and all we know that I am sort of you know that the how important experimentation is there for those sciences, because of the success of the natural sciences. So, sometimes you know people tend to associate experimentation with scientific inquiry. So, if your science or what you were claiming to be science has no experiments right there are your science cannot be taken seriously it is at best a kind of you know folklore or it is that was a kind of enough pre scientific science or whatever if you political science right, do not make any scientific claims for that you know. So, you do not know an experiment. So, how does not get support I mean for the postulates are you are making, so that was there.

But then that is not a very serious I mean you know see for example, in astronomy what kind of experiments we will have in astronomy and these astronomy art are used to (Refer Time: 13:26) what do mean is it art you know it is not. So, it is not the case that in all sciences you know you would like to have experimentation. Now, if you do not have experimentation in your you know in I mean in your domain of inquiry which is want to call science, how does one evaluate the findings right, how does one evaluate the findings you know whatever findings you are arrived at how do one check. Now, if there is no way to check whether your findings are correct or incorrect or whatever right then we are not doing any you know we are not into any rational enterprise. We are into some kind of mystic enterprise you say something and by definite or definitionally that is true, you know it is almost making a claim like that.

So, what, so what does not do? All right, you write a grammar of English, let us imagine we write a grammar of English now. So, what do you do how do you test it? Simplest thing is so long as you were writing a grammar of English you test it against the data. So, does it account for all data, does it you know account for in this case would be does it cover all data right. So, if it covers all data you think that it maybe you know there is I

mean its right ok. But soon you know that I mean you are not you know an enterprise cannot stop with writing the grammar of our working out the grammar of a single language because English is a language, so is Hindi, so is Oriya, so is Swahili, so are many other languages right, they are all objects of the same type you know, they are all objects of the same type right

So, a kind of descriptive mechanism or a descriptive device that you have arrived at from one language right should apply in you know two other languages as well because there is no science where for each object of inquiry there is a big, there is a kind of theory. So, it is not like the, it is not, so it cannot be the case that for Hindi there will be theory of grammar for English there will be theory of grammar and these theories of grammar will have no you know there will no way to converse I mean no conversation would be possible between these theories of grammar that is a false thing it was noted, way back in fifty seven it was noted that all grammars of languages you know I mean people wrote grammars or various languages.

Now, they know you had notions like subject your notions like object your notions like noun verb pronoun like that verb you know right. So, is it accidental that when somebody writes a grammar of English uses this terms, you write a grammar of Sanskrit you also use this terms you know right. So, is it accidental that languages when you write grammars of different languages you know the grammatical vocabulary is something which is largely similar, how does it happen.

So, the question arises where do you get your basic terms from right, where do get the terms from. So, these have to come from some kind of a theory. There has to be a theory of grammar and from that theory of grammar would itself specify that these are the kinds of notions that we are we are going to have and these are the kind of interactions that we are going to have between you know whatever entities. So, what are the entities? How do the entities that we know sort of interact, these are things which cannot be just for one language they have to be for all languages. It is not an accident that you know you have I mean as I said you know sort of its not an accident that subject object verb you know noun pronoun etcetera category labels whenever you write a grammar foreign language these are the categories which you will use how come.

So, if you have to find an explanation for this. You cannot find an explanation from history of writing of grammars no, you cannot say oh let us write a history of grammars of all languages you know and in somewhere you will not get it anywhere, you have to have something like a linguistic theory a grammatical theory and the theory will give us the terminology, the basic concepts, the interactions everything right.

So, for the first time in the history of linguistics and the linguistics there are felt the need for a theory of language or theory of grammar. See linguistics is not you know I mean linguistics is not always called linguistics it was called grammar or whatever else, what linguistics is a civilization of a subject you know it is not something which is recent. 2500 years ago in Greek civilization you know sort of linguistics was being done and even earlier in India people are doing linguistics we talk about Panini who is probably 2500 years old, but Panini is only the finest flowering of a tradition that existed Panini you know, it is not that grammatical tradition started with Panini no lots of people had worked before Panini in world So, this is rich traditions you know, grammatical studies on that world, but for the first time in the history of grammatical studies.

You know the need for the general grammatical theory general linguistic theory was felt. I am not saying the people who wrote grammars before did not have a theory of grammar they had a theory of grammar, but what that theory of grammar was never explained it was never explicated because it was not necessary to spell out the kind of grammar that they had, kind of theory of grammar that they had.

In other words you know what is the theory of grammar, what are the goals of study of grammar right, what does it explain something, does it categorize something, what does it do what are the upper boundaries and lower boundaries. You know the usual question that you asked about theories right. So, you know and what is the architecture, you know that they had some notion surely if you do not have these theoretical notions you cannot write a grammar right. You know the person who wrote a grammar of you know Sanskrit phonology morphology etcetera etcetera I well karaka had an idea of what a grammatical system is like, what a language is like, what kind of structural you know system the language is likely to have that is why he divided them into phonology morphology whatever here. But then were no articulation of it, there is no explicit articulation of it. So, the need for an explicit articulation of the theory of grammar was felt. So, strongly

and you know was realized and you know it I mean this is, I mean when Chomsky came into the scene.

So, we must remember Chomsky as a man right you know who for the first time articulated the need for an explicit linguistic or grammatical theory and then you know the other. So, you have a theory and all these we will follow the grammatical terminology we will follow and terminology just you know I mean one part of it because you are talking about, what are terms that terms are labels or entities and next is interaction between entities and you know they interact within a framework and that is an architecture. So, all these things will come at a later stage, all these things will come and then you write your grammar in terms of that right.

Now, suppose you have postulated something right in your model and you are saying that you know this is something which is a general feature of all languages imagine something like you know what I am going to say, imagine something like you have done phrase structure rules right your familiar phrase structure rules. Imagine that were that that phrase structure rules are part of universal grammar a term with which you are familiar right. Let us imagine the phrase structure rules are a part of universal grammar, now how do you know the coming back to the question as to if we do not have experiments right how do we test you know our findings or hypotheses right. So, how do we test? So, test is like this if you can arrive at a grammar where you can dispense with phrase structure rules completely right you know that you would say that that is something you know that is are that that is our test.

So, when you can postulate a theory of grammatical universals right, but then this theory of grammatical universals whether you know a particular rule or a particular mechanism or a particular you know whatever right kind of rule etcetera. So, I mean this rule has to stand the test of scrutiny you know from other languages right. So, you write a grammar of another let us say that is you know, let us say your postulating a some rule on the basis of an English let us say that you can do you can say that we have phrase structure rules in English grammar and we our hypothesis is that phrase structure rules do not simply belong to the grammar of English, phrase structure rules belong to you know they are a part of universal grammar.

Now, if somebody works in on I mean if somebody is working on some other language and is able to argue that you do not have a need for the phrase structure rules that you have postulated and you are claiming universality, universal status for them right. Then the phrase structure rules are you know sort of I mean their question we cannot be so the test, the testing device come from careful analysis of another language of the grammatical is you know features of another grammatical systems of another language. So, please notice one thing you know you cannot I mean data cannot falsify a theoretical claim right. Suppose you know you are making a theoretical claim about whether phrase structure about the fact that phrase structure rules exist as part of universal grammar right they are a part of universal grammar.

So, let us imagine that this is a theoretical claim that you are making at the moment it is assumption you have posited it on the basis of study of a single language or careful study of a single language right. The testing comes not from the fact that there are sentences in other languages right which you know seem to falsify the claim data cannot falsify the theoretical claim right, data cannot direct on analyzed raw data cannot falsify a theoretical claim what can is analyzed data into a system of rule.

Say rule you know I mean if there is a rule that exists or you are claiming a rule to universal a counterexample will be from you know from another grammar in terms of another rule, rules you know that kind of thing you cannot falsify you know on director on analyze data cannot be used to falsify you know or question or undervalue you know theoretical postulations in this particular case is something like a theory of rule. So, you know what move alpha right, know what move alpha. If you find an example from another language which says that we really do not need something like move alpha we can do whatever we, whatever move alpha does we can do by using some other device and we can do something more and if you know. So, so look at the level of claim. The claim is being made at the level of a rule not at the level of you know I mean direct raw of data right.

So, what Chomsky did was you know it is interesting what he did was he not only created a sort of field in the sense he raised new questions with respect to grammar, he also provided a way of how to test them because experimental testing at that time was not there now you know, today there were experiments you know people do conduct experiments right, but you know I am not going to get into that and there are all kinds of

questions that can be raised with respect to those experiments as if you want to use them to falsify theories you know there are complications there you know they are not straightforward. So, let us not go into that.

So, all the time I am so far what I have tried to suggest is this that linguistics was considered to be a classificatory science when Chomsky came into the scene Chomsky said classificatory science is, but not sufficient a discipline has to be, you know it has to be exploratory in nature. So, you have to come up with explanations now what kind of explanation what is it that you are explaining, data the data are what you are explaining you know right and what is explanation, you come up with more and more you know simpler more elegant grammars. So, the grammar itself is a kind of explanation you know for the kind of for the data. So, you know it is explained by grammar and the falsification of this or testing of this will come from grammars of other languages right. So, something like that you know. So, roughly sort of, this is what it is.

And many many interesting questions started getting raised say for example, you know consider something like subject, object and verb right, you know take them as three different categories. So, how many combinations are possible? 8 combinations I think know, you can permute them and combine them in 8 ways, right. So, what would we expect? You would expect that we will encounter languages in the world right which will have which will demonstrate each one of these categories right. So, there will be you know languages which demonstrate each of these categories. But the fact is that it is not really like this you know most of the languages have a sov Hindi type sov languages you know I am quite a large number of languages are English type you know is zero, some are vso, and maybe there are certain other types and I am forgetting details, but there are certain categories we do not show up at all. So, that is the kind of thing.

So, you see if you have a certain kind of you know I mean if you have this vso right, you know I am sorry if you take this terms you know subject verb and object right and thinking term and you know sort of think of languages right, you will expect something like 8 categories and you will expect the world to demonstrate this category, but that does not happen.

So, what we are dealing with here is not a question of logic, but something else logically you would expect all these you know sort of categories of languages to be there in the

world, but they are not there. So, what we are dealing with is not really a question of logic, but something else.

Now, why is it that most of the languages are of you know sov are in zero types and there are languages language types which are not simply there, why is why is the world like this. So, there is a variety you know, linguistic world you know, there is a variety it is not you know it is not uniform in the sense that there not just one type of languages sov. No, there is a variety. But the variety is a constrained kind you know it is not that whatever is you know sort of whatever what the, all the logical possibilities are realized in actual you know in actual reality of languages, it is not like that.

So, this is a question to ask why is it like this. Now look at the kind of question that is being asked right, these are never the these are never the kind of questions we are asked before Chomsky came into the scene you know right. In the 60s and all these questions our early 70 this questions were getting asked and these questions in all those thousands of years of our you know rich linguistic in history no one ever ask these questions you know. The reasons of course, simple you, you always looked at one language.

So, you wrote the most economical grammar of one language right you never thought that you know, here is another language, here is another language you know right. So, what I am saying for this language and if I find that there are similarities you know I find in other languages which I am exposed to in day to day life, it never you know if never attracted at the attention any one of them going to find out is this similarity accidental. It is not that you know sort of in our, I mean Panini or our great Sanskrit grammarians did not know any other language or not exposed any other language. So, there were you know, but you see there was certain. So, there are certain attitudes because of he is never care to study them. You know if you looked up I mean the tradition I am in a sort of Bimal Matilal says that our Sanskrit scholars or grammarians would study the language of somebody of a category of people whom he called Shysters, Shysters. Shyster is one who is not just a scholar, but also a man with you know spiritual attainments.

So, if you say that we are going to study the language of say a set of people and this will be kind of you know alit and we will not bother about the study of any other you know sort of groups of people right what would you will do. This is one of the consequences, that even though you find that you know the people who have defeated in the, defeated in

some war and taken them as slaves to your households they speak a different language you will not treat that with their language seriously consider the language seriously because you do not treat them seriously. And you have decided that you would study the language of only you know I mean in some sense you know the purest kind of language, all these terms make no sense in democratic (Refer Time: 31:39) right.

But you know if you decide to study that that is true everywhere, in the western tradition you know look at the grammar books the best of writings of the best of authors were what whether data for grammatical analysis, spoken language are hardly analyzed, they are based corrupt, in anyway sort of. So, so you see because I think it is very difficult to find a social I mean to we see for writing we are looking at the history of knowledge it is very difficult to explain certain things in that history in terms of sociological facts you know, I am not saying that we should explain that, but perhaps you know if we did not you see the all these things I mean if we did not in our civilization consider the fact that if he is if Sanskrit has a structure like this you know some other language has also similar structures. Even when you notice you know you did not raise any question out of it you know right and that is because we were possibly you know sort of we did not think that languages of others was considered to be a serious subject of investigation and shyster.

So, long as the shyster attitude is there we will study the language of the shysters alone and shyster you know is defined not as somebody who is a scholar, but also a somebody who has spiritual attainments, who is studying for a for the sake of the study you know who is studying for you know for not for any benefit, but for general good you know things of this (Refer Time: 33:13).

So, if you do that you are your data domain is shrunk. So, other similarities and dissimilarities you know you just ignore right. It is only when you discover in, it is only one we note the similarities and dissimilarities that your mind gets challenged to find out how come you know there are, how come the there are a similarity and how come there are dissimilarities. So, you will try and explain these in terms of you know I mean in some term. One is you know postulates something called universal grammar and postulate parameters you know which we will define you know the systematic differences between grammars. So, you know only when you, only when you notice this and only when you think that this is something that is worthy enough for investigation.

The languages, some features are similar, some feature dissimilar how does one explain the similarity and dissimilarities right, how does one explain dissimilarity and similarity right. So, you can do it in many ways, I mean you can do it let us try and see what do we can do it with this simple observation that you know let us say given two languages or three languages we find certain similarities between them at the structural level right and we find certain dissimilarities, how do we go about it.

So, suppose we say you know the fundamental principle all languages differ right structurally right, you know suppose you saw all languages differ structurally right. Period you cannot raise the question about similarity you know if languages differ from each other in you know and if that is the story right that is what your observation is that languages differ from each other right.

So, suppose you say we have a theory and we look at the grammars like this all languages are you know each language is unique and is describable in its own terms you know, suppose you have this kind of a theory right. The question of accounting for similarities cannot even be raised right. Now suppose you have alternative theory and says all languages you know I mean there is a lot of see you finding similarities say all languages are similar and you know, suppose you say this you know it is false it just cannot be right. So, then, but if you take that kind of a view you at least have a possibility of trying to find out given the similarities how do I account for the differences and when you discover the differences are not you know I mean instead of wild and unpredictable right, you know arbitrary, then you have a way of trying to find out how to you know sort of account for this similarity and dissimilarity right.

So, that is a universal grammar and that is parameters right, parameters were you know sort of in one model they are called sort of the term parameter is used for them in one model earlier the term was not use something else was used, but essentially the fact is there how do we account for the similarities between you know grammars of different languages and their systematic dissimilarities. So, you are working out in various models at various times in many ways, so you know, this is something.

Now, let us go to something else see in all cultures you know another 2 o'clock [FL].

Student: Yes.

In our culture and I am sure in other cultures as well at least in our culture look at you had people like you know we had a rich grammatical tradition you know Panini and all right. So, you ask them questions how is, what is the you know, I mean what is the grammar of Sanskrit right. One extremely good answer is Panini's grammar, an economical detailed economical sophisticated formal generative grammar Panini is the first generative linguist and not Chomsky because we look at Panini's from musical roots they are generative rules. So, in any cases, so that is another topic in any case. So, I mean a very sophisticated grammar right. So, what is the structure of Sanskrit? Panini's grammar is answer. What is the structure of Sanskrit? Panini's grammar is answer. How is Sanskrit learned or how is you know how is Sanskrit learn in a [FL] you will have no insights about how this is all learnt, right.

So, those who really worked out the structures did not address himself to the, themselves to the question of how these structures are acquired by people or learn by people know right. Similarly you know at a later stage there are thinkers in our culture who raise this question how do children learn the language. So, and they came up with answers you know like see a through observation, you know and they find that somebody is telling somebody bring the horse. So, actually somebody goes and brings a horse you know right and somebody say pass the salt, you know, I mean they listen to the sentences through observation they make inferences and all that. So, you know they learn from experience, they learn from explicit, teaching, they learn from the grammar books, they learn from you know lexicon under the dictionary, so many ways right.

Now, what they said would resemble very much what our behavior is said about learning you know the behaviorist you know positivist you know what they said about how things are learned. Essentially things are learned from experience, nothing like when our mind is a clean slate you know I mean I am over swim drawing everything nearly.

So, the mind is a clean slate there is nothing in it. So, from experience we keep on you know sort of we abstract from experience and keep on adding knowledge right. So, that is how it is, you know, so somebody says you know bring the horse or sort of whatever right, bring the horse of bring the food and you find that this is happening, from this the child enforce you know the grammar and it is supplemented by classroom teaching grammar books blah blah blah and all these kinds of things.

So, essentially this is a kind of behaviorists account, essentially the behaviorist account of you know language learning right and these people who were concerned with the question of how a language is learned did not ask themselves the question what is the structure of a language. So, my, the point that I am trying to make is that we say what is the structure of language was a question which is independent of the question how is that language is learned or how are those structures learned So, the structure of a language and the learning of a language were two distinct questions and they were answered in different ways right.

Now, what Chomsky did was in some sense he combined these and that is a great achievement. So, you know he said, you know questions like this how do you compare you know in the beginning right when we came up with this you know generative grammar transforms in a generative grammar and there was the structural grammars before that you know structural grammars traditional grammars before that all those grammars existed. So, though natural the question will arise how do you compare this grammars.

So, you can say, no you know sort of I mean generative grammars try to show sentence relationships you know that what is the relation between active and passive, what is the relation between you know an imperative and a non imperative, you know like what is the relation between sentences right. So, you apply a passive transformation or whatever and you get a passive sentence imagine you know that let us imagine this. So, even active structure apply a passive transmission, so you get a passive sentence. Just one thing you know, transformations are not applied to sentences they are applied to structures in any case. So, you know you are trying to find relationships right.

That he is coming in the fact, it is a fact that he is coming. So, you will relate these sentence right. So, let us the generative grammar was trying to find sentence relationships and account for sentence relationships what does it mean explain or account for, in terms of a grammatical system the system would say that you know we can generate these sentences and all that in right.

Now, structural English notes and you know we never tried this, you know we did not try this. So, why are you comparing us with generative linguist and say that we are inferior in some sense because you know we never tried this you have change the goalposts. So,

you can change the goalposts and score goals over us you know because whenever what you do whenever did then how do you compare grammars then. Now the answer that was given at that time was you know that grammar is the best or that grammar is the most appropriate or more suitable grammar which explains language acquisition facts better right.

So, look at the connection now. So, you know sort of your, there is a structural grammar and there is a generative grammar, generative grammar is trying to account for sentence differences with a sorry sentence, but no relatedness which structural and linguistic did not try to do. So, the question is these are incommensurable, the rules are incommensurable we are trying to do x, they are trying to do y and you cannot compare you know these two models to these two models with grammar because you know their objects are different how can you do that. Then the answer to this is yeah you still can compare them on a different parameter and that parameter has nothing to the grammar that parameter has to do with you know how I mean which explains language acquisition facts better right.

Look at the assumptions we are making now the assumption, the assumption we are making is I mean if an architecture of structure right can be evaluated in terms of how it is acquire right, you know I mean what are you doing you are saying that they say you are acquiring the architecture because the mind is ready in some sense the mind you know predisposed in some sense to learn that architecture or to acquire that architecture right. You know if you are able to learn a system right you know right; you learn that system because you already have some means in your minds, some equipment in your mind in terms of which you will learn that system. So, now, the system and look at the relatedness between a system and cognizing that system or acquiring that system, you acquire the system right because there is some system in your mind which really you know in terms of which you acquire that system more easily among them some of the system right.

That is what you know, that is makes you feel that maybe you know there is a genetic endowment we are born with a certain capacity right when we are born with a certain kind of you know I mean sort of a gift natures gift in terms of which we make sense out of our linguistic experience. What does that mean to make sense of linguistic experience? You know we are able to construct a grammar from the data that we are exposed to write

a children right you know we are able to do that because there is already something in our mind right in terms of which we do this you know, otherwise we cannot right. You cannot make, you can make sense out of experience only in terms of an intellectual and only in terms of knowledge without knowledge there is no way you can understand experience right this is a very very important thing that you know that we have to keep in mind.

So, how do I get that where do I get it from? It cannot be taught you cannot teach a one year old child you know write a grammar right you know, what kind of instruction do they get they get some simple instruction about you know this is the object this is called this, this called that and some other this further never etcetera etcetera very simple. But then no sophisticated information and yet a whole grammar you know the system is learned so that it simply means that by you know we are somehow by nature we are gifted with some kind of a knowledge right in terms of which we understand that we make sense of experience and acquire that knowledge. Call that knowledge now you know, so I mean only saying this is not sufficient. So, what is that knowledge, how do I describe it? Now call that knowledge universal grammar. So, what am I born with? I am born with universal grammar right.

Now, another main for universal grammar is the initial state of knowledge of language, the initial state of knowledge of language right. What is I mean, how do I describe initial knowledge of language by in by it working out of the architecture of universal grammar. Now, you see the connections now right you know which grammar is the best out of a number of possible grammars, that grammar which experience language acquisition facts better right. Now, what does it I mean, what does it really mean? That we see in order to acquire language you know in order to acquire a language or the structure of a language we already have to have you know we have to have a structure in terms of which make sense of other structures explicitly available to us.

So, now look at the connection and I think it is a supreme creative it is you know it is a demonstration of a supremely creative mind of Chomsky which connected these questions e both of these are civilizational questions how do we learn a language. Look most civilizations ask this question how do we learn geometry, you know but it is asked you know I mean obviously, the reason is really see you know I mean not a we know why because you know geometry is always I will learnt at a later level, but language

learnt you know at I mean by one year olds you know demonstrate their understanding their command of language. That does not happen in case of mathematics right. So obviously, you know you do not ask a question like you know how do you know [FL] right, you learn it so you know through explicit instruction, but in language case it is different right.

So, anyway, so this question as to how a language is learned has been asked you know I mean by people in various cultures thousands of years ago. How do I describe the structure of a language is also a question which I have asked even probably before you know this acquisition questions for ask they were different questions. In Panini's of [FL] you will have absolutely no account of how this is learned in Kumarila Watta and other you know philosopher's speculations who raised this question of how a language is learnt you will find absolutely nothing about the phonological structure or the morphological structure of a language they are different questions.

Now, see these different questions are you know sort of seen as one by Chomsky you know. So, universal grammar can also be described as the initial state of knowledge of language and within that initial state of knowledge of language you know is what we are born with.

And I will conclude because an there is a lot to say, but I will conclude by making only one point. See why is this enterprise so exciting, this enterprise is so exciting you know because hundreds and hundreds of undeserved questions. So, you all the time feel that you know what we know it is probably not right maybe you know there is the I mean see we have some confidence, but we are never sure that we have really we have in approaching I mean we have you know going the right way we do not even know.

One simple you know problem is we see you know that I can I mean one can analyze the structure of a sentence without knowing the meaning of that sentence, colorless green ideas sleep furiously you know you can assign a structure to this without you know bothering about this meaning. So, you know I mean NP VP whatever you know right you can you can work out the internal structure. I have tested the following you know, but I what you know I mean my testing may be wrong, but you know I have done the following I have to you know take it to the level of discourse. A discourse comprises several sentences right, you know 10 sentences let us say you know. So, I gave a

paragraph, I mean I gave some three you know, I am pays to my students and it was on the football or pele you know beautiful writer by Eduardo Galeano. So, I just removed the paragraph for divisions and all that and give the text to my students.

One would think that you know if you are talking about structure of a written text one would think that chunks you know you will you will divide them into chunks and in some sense of chunk will correspond to a paragraph in print. Suppose you know you do that, so that is an assumption which I had what is the structure ahead of the discourse you know right. So, we can think you know we can divide them into chunks which is what the computational linguist some of them are working on discourse do and then you know I mean, let us say we do this.

Now we give it to students right, see you would find you know this is what I found it also find that people divide them into paragraphs depending on the meanings because if they do not know the meaning there was simply will not be able to arrive at any decision with respect for which you know become a strong kind which not how does it you know. How is it, if it is correct that the structure of a sentence can be analyzed or can be arrived at without reference to meaning at all you know that is absolutely clearly demonstrated right. And you know where is in course of discourse which is actually sum total of sentences this simply does not seem to work then what is happening. You know can we have one theory for sentences another theory for discourse which itself is you know comprised a several sentences no I do not know what is happening you know. So, this is that would be there are a hundred and there are much more technical internal questions right which we have and we do not know the answer to those questions right we are working on them you know we do not know the answers.

So, an enterprise is alive and kicking if there are unresolved problems right. So, that is why you know I mean this program or doing generative linguistics is exciting. I will end by making this one only one observation about the contribution of Chomsky. See there are many people who have at many times said that Chomsky is my has misled linguistic community by you know his theories right, but he has done something you know and I would I would even say that maybe all that we know today principles and parameters theory you know whatever all that we know today may turn out to be absolutely blatantly wrong possible you know maybe more interesting more formal grammars would arise

and you know would I mean they would they would immerged and say that all this is wrong, but there is one thing that you know cannot be proved to be wrong.

Chomsky has said the agenda of how to do linguistics right, these formal mechanisms may be substituted, but nobody can say that is he will have one theory for Sanskrit, one theory for you know, one grammatical theory for Sanskrit and one grammatical theory for you know Hindi. You cannot do that you have to you know tackle the question of universals you cannot go back to an earlier stage and say each language has its own structure no that is gone.

So, you have to tackle the question of universals you cannot anymore say that when we talk about the structure of languages we will not raise these fundamental questions beginning acquisition no you know. So, whatever theories you come up with whatever you know new balance is you come up with where you know what is it give biologically give in and what is learn from experience these are same thing not sure and nature and nurture what is given what is learned through experience.

So, there may be many ways of you know fine tuning between the relationships relations between these, but the fact remains that there cannot be a day there will not be a day when you would say that we need separate grammatical theories for separately for different grammatical theories for different languages we will not ask acquisition questions from the raise questions of structure these are not the things you know that I mean we cannot go back to those days of innocence. And that is you know I mean here is a man who has told us how to do linguistics.

So, the technical solutions may alternatively wrong, but there is no going back to universal grammar. There may be different articulation of the grammar the architecture that we may come up with may not be the same, but you know there no person of saying that no its wrong I mean that we do not want to do it anymore, I think I will stop here.

Thank you.