Welcome. I welcome you all to this lecture in the course Introduction to Pāṇinian grammar. In this lecture, we are going to begin with a new topic called process of speech production as described in the Pāṇinian grammar, but before that let us take a recap what of what we have done so far in this course. And here are the most important points that we have discussed, studied some in detail, some in a brief manner and they are presented to you on these slides.

First we introduced ourselves to the basics of the tradition of Pāṇinian grammar which continues even today. That is the most important aspect it continues even today and it flows even today in spite of whatever happens in the external world whether the modern branches expand this tradition continues to flow and also continues to take with it the new developments. Then we studied salient features of the meta language of Pāṇinian grammar, we also looked at the difference between the object language and the meta language. The fundamental principle we learnt in this study was that the word form is part of the meaning conveyed by a word and this is true about the meta language, but then as we shall see in the advanced course, this principle gets ah applicable, this principle gets applied even generally, when we talk of language in general. Then we also studied the meaning of the cases in the meta language which is obviously, based on the first principle stated above.

Then we studied the technique of pratyāhāra which is a unique technique developed in the meta language of Pāṇini and has some similarities of the meaning of the word pratyāhāra, which is also used in let us say the yogasūtras of Patañjali as one of the 8 limbs of Aṣṭāṅgayoga. In this process of making the pratyāhāra we came across the term 'it', then we studied this concept in detail.

We also studied the sūtras 1.3.2 to 9, in this section and this study we studied closely the functions assigned to different sounds termed as 'it'. In the section 1.3.2 to 9 we also studied the method of making the meaning of a sūtra, how the words are continued in the subsequent sūtras from the previous ones and how the cases of the words help contribute the construction of the meaning of a sūtra.

These and several aspects we studied in the section 1.3.2 to 9, in which 1.3.2 to 1.3.8 are the sūtras which assign the term 'it' to various kinds of sounds at different positions and sūtras number 9, 1.3.9 it states the deletion of the it sound without any precondition. Amongst these sūtras defining

the term 'it' we also noted that the first sūtra 1.3.2 upadeśe ajanunāsike it assigns the term 'it' to a vowel; Whereas, from 1.3.3 to 1.3.8 the sūtras assign the term it to consonants. Amongst that we saw that 1.3.3 and 4 assign the term it to a final consonant and the rest assign the term 'it' to the consonant or the consonant cluster that comes at the beginning position of the element in the initial enunciation upadeśa. We studied closely the functions assigned to different sounds termed 'it'. We studied theory as well as examples to understand how the 'it' sounds trigger different grammatical operations.

We took several examples, while studying these examples we came across several important aspects of Pāṇinian grammar and we noted that these are not the only functions of the 'it' sounds, there are some more, but we kept that part for an advanced course. Right now we noted down these functions as examples of how 'it' sounds trigger grammatical operations. What we noted during this process is that how important the meaning is. Then what is the derivation process described in the Pāṇinian grammar, the derivation process of words.

And then finally, we will also see how the sentence is derived from words, then the technique of substitution as a major device in the grammatical description done in the Pāṇinian grammar, this is also what we noted. What it means is sounds get substituted in place of other sounds or groups of sounds also get substituted in place of other sounds sometimes or in place of sound groups some other times depending on the environment.

So, an environment is also necessary for the grammatical description in terms of substitution process, this environment could be within a word or with a word or a sentence as well. These environments could also be left hand side environments and also the right hand side environments in which the substitution process takes place.

We also looked at the compositionality of word units and the accents, words are composed of smaller units also known as prakṛti or the root and pratyaya the suffix. Prakṛti pratyaya these are the groups of sounds grouped together because they convey one meaning unit. The derivation process begins with one element to which is added another element in the next step and more modifications happen until the output is reached and no further grammatical rule application is possible. This is what we have seen so far in this particular course.

Now, we need to study how this derivation process happens in the human speech apparatus, what aspects are involved in the process of speech production. What are the features of sounds that are produced? What are the principles involved in the substitution of one sound by another as described earlier. And in order to do the study of all these points we need to study the process of speech production as stated by the Pāṇinian grammar.

In order to study the process of speech production we need to study the original source in Saṁskṛt also known as Pāṇinīyaśikṣa, śikṣa is a genre of text dealing with primarily the phonetics as it is known today. Phonetics is a branch of learning which studies the production of sounds and their features for the purpose of linguistic communication. Some of the broad themes studied in this field are the places of articulation, the efforts of articulation and so on.

And we shall study some of these fields when we study this particular source. Let us first of all study the actual process of speech production described in Pāṇinīyaśikṣa. So, this śikṣa text is related to Pāṇinian grammar and therefore, it is called Pāṇinīyaśikṣa it is believed to have been written by Pāṇini by the tradition. So, here are the verses the first verse is actually the third verse in the śikṣa text, this is relevant from the point of description of the process of speech production. It says "ātmā buddhyā sametyārthān mano yuṅkte vivakṣayā manaḥ kāyāgnim āhanti sa prerayati mārutaṁ mārutastūrasi caran mandraṁ janayati svaram sodirṇo mūrdhnyabhihato vaktramāpadya mārutaḥ varṇān janayate". I repeat "ātmā buddhyā sametyārthān mano yuṅkte vivakṣayā manaḥ kāyāgnim āhanti sa prerayati mārutaṁ mārutastūrasi caran mandraṁ janayati svaram sodirṇo mūrdhnyabhihato vaktramāpadya mārutaḥ varṇān janayate".

In these verses the process of speech production is described which can be also described in the following stages shown on this slide and in all there are 8 stages that are described. Let us look at them one by one, the 1st stage is ātmā buddhyā sametyārthān, the 2nd one is mano yuṅkte vivakṣayā, the 3rd stage is manaḥ kāyāgnim āhanti, and the 4th is sa prerayati mārutaṁ, the 5th is mārutastūrasi caran mandraṁ janayati svaram, then the 6th one is sodirṇo mūrdhnyabhihato, 7th is vaktramāpadya mārutaḥ and 8th and final is varṇān janayate which is the production of speech sound.

Now, let us look at each one of them in detail; the 1st one is is ātmā buddhyā sametyārthān. What does it mean? Let us study this in detail. So, here are four words in this line describing this first stage of the speech production. So, it consists of the word ātma which is nothing but the soul as agreed upon by many of the Indian philosophical systems known as darśana. So, the nature of this soul is cetana or animate. The second word that we find in the line is buddhyā which is the instrumental singular of 3 slash 1 of buddhi namely the intellect. So, buddhyā stands for by the intellect.

Then we have the word artha which is meaning and arthān stands for to the meanings which is 2 slash 3, sametya means having made to go together or having collected. This word is formed with the proverb sam and ā to the to the root i and the suffix tya. Put together this sentence means soul having collected the meanings together, this is the 1st stage in the process of speech production as described in the Pāṇinīyaśikṣa. Soul having collected the meanings together.

What does this assume, what does this imply? Let us study this aspect in further details. What is the first assumption? The first assumption is that there is an entity called ātma which is animate or cetana. This entity is the one who is the starting point of the process of speech production, this entity is described in the philosophy Indian philosophy as non-doer or akartā in general. However, in the process of speech production this philosophical line is kept aside for the time being and that can be interpreted in a different manner later on, when we do the advanced course.

But here in this process in this text ātma is stated to be the direct producer of speech. So, this ātma kickstarts the process and propels other parts of the apparatus to produce the speech, what entails from this is that the responsibility of a speech form can be laid on the shoulders of the ātma who produced it. That is the first and the foremost and the most important aspect.

What it assumes next is that buddhi is also an important part in this apparatus and buddhi is the closest to the ātma. Most importantly buddhi is an important instrument for this ātma. What is the nature of buddhi? And the nature of buddhi is the cognition as described in the Pāṇinian grammatical tradition may not be explicitly stated in this text, but that is how it is understood overall in the Pāṇinian grammatical tradition. It is in this buddhi that the meanings are stored part of which can be assembled to start the process of speech production, that is what sametya carries.

Now, using buddhi as an instrument ātma collects meanings in the buddhi itself, that is what is the second an important assumption. What about the arthas. So, this text assumes that arth or meaning is primarily an internal entity and it is also part of the cognitive apparatus. Where is artha located? It is located in the intellect whose nature is cognition, this is according to the Pāṇinian grammatical tradition, this artha or these arthas can be collected or assembled by the ātma using the intellect. In general these arthas are tagged also arranged and interlinked.

So, there is in the intellect something that can be used, that can be described using the concept of arthākaśa coined by this instructor, the concept of arthākaśa that exists in the intellect which is called for which triggers the operation of the process of speech production. Now, arthākaśa is the space of artha or meaning can be generally also referred to as semantic space, the human cognitive apparatus is the location of this arthākaśa. arthākaśa is also of the form of cognition and we shall study this aspect in detail in the advanced level course.

We shall also study the relation of this arthākaśa with the lexicon and grammar as well. Different kinds of lexicon and the interrelation between the lexical items and arthākaśa. This arthākaśa expands or contracts and we can say that the cognition also expands and contracts close relation

with it. This arthākaśa can be said to be linked to the concept of śabdākaśa, the space of the word which whose location is also the intellect or the cognition which is part of the human cognitive apparatus.

Now, what is the collection of meanings, when it says ātmā buddhyā sametyārthān, soul having collected the meanings, what is it that the word sametyārthān mean, what is collection of meanings. It is nothing but extraction, extraction of combinations that is in the form of action and objects or objects and objects etcetera. These combinations are such that they feature mutual congruity and also mutual expectancy as described by this particular instructor what this assumes is that the meanings are arranged in the cognitive apparatus in a structured manner.

This is the most important aspect of the collection of meanings as the primary stage of the process of speech production. Then in the process of communication, when the ātma has to respond to a given situation in either a positive manner or a negative manner or neutral which is no response manner the appropriate meanings get collected. This is a very basic and primary stage of this process.

Let me repeat in the process of communication when the ātma has to respond to a given situation either in positive manner or in a negative manner or in a neutral or no response manner, the appropriate meanings get collected obviously, by the intellect in the intellect; they are collected by this ātma.

Now, this is a very basic and primary stage, what it means is what it also stands for is that whether such a collection of meanings should be processed further and given an expression in the form of an audible speech or not, is a matter that comes next, but what is important is the collection of meanings. The appropriate meanings to respond to a given situation as part of the communication that is the first important feature important stage.

Whether this collection of meanings should be processed further and given an expression in the form of an audible speech or not is a matter that comes later on. If the speaker wants to express the meanings that are already collected then the process that is described hereafter continues and then the speech becomes audible. But if the speaker the ātman does not want the further processing of this stage of collected meanings then the ātman stops over here in this particular stage itself.

And we say that that we have thought about the response, but we do not want to express it in audible speech, but the response is very much thought about and is available, but is just kept in the cognitive apparatus pending for the actual audible speech to express it in terms of the process of

communication, that is very crucial. Now, that stage can also be described in general in various ways. One can say that a response is thought about, but one needs more time to refine it or it can also be interpreted as a situation where the response gets suppressed.

It can also be the fact that this thought out response can never be refined in the course of time, but if the concentration is more the response does get refined in the course of time and then later on probably it may move on to the next stage of the production. However, if that does not happen then we say that that thought out response got evaporated in thin air in the course of time probably that response was not so important or was not given importance by the speaker.

One who wants the expression of the thought out response collection of meanings may process it further for the expression and for that expression the ātma could use various means. For examples gestures or hand signs or written symbols and the most efficient amongst them all namely the speech sounds in order to express the collection of meanings done in the intellect as the first stage.

Once the decision to use the speech sounds for the expression is made then obviously, the next step is taken, that is in a nutshell what all is assumed from this first description namely ātmā buddhyā sametyārthān the soul having collected the meanings together. What is the next step then, the next step is mano yuṅkte vivakṣayā , this soul then enjoins the mind with the desire to speak, that is the next step and we shall study in detail what this assumes and what this stands for in the next lecture.

To close this lecture we will recite the maṅgalācaraṇa once again from SiddhāntaKaumudī, VaiyākaraṇaSiddhāntaKaumudī and this is the maṅgalācaraṇa that appears at the beginning of the uttarārdha second part and this follows the tradition described by Patañjali in his Mahabhāṣya where he says maṅgalādīni maṅgalmadhyāni mangalāntāni ca śāstrāṇi prathante. So, this is the madhyamaṅgala that we are reciting now, Its reads like this śrautrārhanticaṇairguṇyairmaharṣibhirahardivam/ toṣṭūyyamāno'pyaguṇo vibhurvijayatetarām// and I will read it again śrautrārhanticaṇairguṇyairmaharṣibhirahardivam/ toṣṭūyyamāno'pyaguṇo vibhurvijayatetarām// . And lastly the 5 sūtras, uṇādayo bahulam these are taken from 3.3.1 to 5 the first one is uṇādayo bahulam/ and I read them for you uṇādayo bahulam/ bhūtepi dṛśyante/ bhaviṣyati gamyādayaḥ/ / yāvatpurānipātayorlaṭ/ vibhāṣā kadākarhyoḥ. I repeat uṇādayo bahulam/ bhūtepi dṛśyante/ bhaviṣyati gamyādayaḥ/ / yāvatpurānipātayorlaṭ/ vibhāṣā kadākarhyoḥ.

Thank you for your attention.