

Course Name: 'Introduction to Pāṇinian Grammar'
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Welcome. I welcome you all to this lecture in the course Introduction to Pāṇinian grammar. In this lecture we are going to study the concept of compositionality which is explored and which is the base for the grammatical system developed by Pāṇini in his grammar. We have looked at in detail the process of speech production, but that was an internal stage that we looked at that we studied. And now we can also analyze the external audible speech and obviously, that is what we do as a methodology. We hear the speech in the process of communication and from that audible speech form we then theorize about the internal aspect of this expression which acts as a cause of this expression in the form of the audible speech. So, audible speech is the expression audible speech is the external most part of the process of speech production and the internal cognitive aspect is the cause and the innermost part of the process.

It is also the very beginning of the process the initial point in the process of speech production. So, this is a journey that starts from the external most part of the process of speech production which is audible which is in the public domain and from this by doing various kinds of analysis, by asking several questions using a particular methodology which we shall see now. We think about and we theorize about the internal cognitive aspect of this external expression. We do this primarily because we note that sometimes when the audible speech is absent, we still see the communication happening and based on this contrastive experience, we reduce the fact that there is something internal which is independent of the external audible speech.

We start our investigations from this and then reach the cognitive aspect which we have studied in detail before. Now coming back to the external speech, in the last lecture we once again looked at the external speech and the cause and effect relationship. We stated that the 'ātmā buddhyā sametyārthān' stage which involves the arthākāśa part of arthākāśa and also part of śabdākāśa which is linked to this arthākāśa come into play and it is these two which are located within the intellect which are part of this stage called 'ātmā buddhyā sametyārthān' which then get converted into the audible speech signal. This audible speech signal is said to be compositional in a particular manner from a particular point of view, but as opposed to that the other view is that these audible speech signals which are produced are indivisible. So, there is non compositionality which also exists and we shall start our lecture by studying this particular aspect related to the compositionality called non compositionality indivisibility or akhaṇḍatva.

In the previous lecture we saw that the sentence meaning from 1 to 12 was put in square bracket the square brackets are used to indicate the one whole one undivided nature of the sentence meaning which gives rise to the 12 sentences together with the features of the accents.

They were also put in square brackets, thereby indicating that they are also indivisible units. So, units which are part of the arthākāśa and units which are part of the śabdākāśa which are linked together and are located in the intellect they both are indivisible which give rise to an indivisible audible speech which is part of communication. We however, break that external speech into components and what process do we adopt to do this we shall study in the course of this lecture.

First let us look at the concept of indivisibility or akhaṇḍatva. So, this we notice as part of the process of communication the feature of akhaṇḍatva. In the intellect the sentence meaning and the sentence arthākāśa and śabdākāśa and parts of them which are interrelated as conveyed and the conveyor. It is the sentence meaning which is the conveyed what is to be conveyed and the sentence is the conveyor. That is how they are related to use the Sanskrit terms the sentence meaning is vācya and the sentence is vācaka. These two both of them they act as one indivisible unit this is also shown with square brackets around them both sentence meaning and the sentence which are part of the intellect buddhi. They are non-compositional in nature one sentence meaning as one unit gives rise to one sentence as one unit from the point of view of the speaker. From the point of view of the hearer the same thing can be said as follows namely that one sentence which is heard acts as a cause which gives rise to the one sentence meaning one undivided whole. So, the cause is one undivided the effect is one undivided this is how the process of communication happens both at the speaker's end as well as at the hearer's end. So, akhaṇḍatva or non-compositionality is in fact, a very much experienced part of the process of communication involving the audible speech sounds.

But at times we also experience that the speech gets divided. In fact, we have lots of tools lot of material to divide this indivisible speech into components, we have dictionaries, we have different types of dictionaries we have say sorry. We have grammatical rules, prescribing the construction the generation of the sentence and. So, on and so, forth. So, the divisibility is also explicitly stated by various tools. Now we say that the divisibility of sakhaṇḍatva is also located in the intellect the sentence meaning and the sentence which are interrelated as the conveyed and the conveyor the sentence meaning is what is conveyed and the sentence is what is the conveyor both these they are cognized as they act as a collection or a whole of multiple parts. So, when we say this that there are multiple parts and there is a whole and this is a collection and so, on we accept the fact that this one whole is divisible into multiple parts and it is these multiple parts which make this one whole it is their combination that has made this one whole and this one whole can be disassembled into its parts. So, this one whole is cognized as divisible and is considered to be compositional in nature. We remark that it is the observation that both these features the compositionality as well as non-compositionality coexist. They are features of both the sentence meaning and the sentence and act at different levels and are objects of different

experiences and they are real both of them are experienced compositionality as well as non-compositionality sakhaṇḍatva as well as akhaṇḍatva they both are experienced as far as the sentence meaning and the sentence is concerned both of them go hand in hand. When we say that a sentence is indivisible we assume that there are components and yet it is one undivided. Similarly when we say that the sentence is divisible we assume that there are no components. In fact, there is only one whole, but that can be divided and so, on and so, forth. So, the theory of sarvasatyavāda is propounded and explains both these features and explains the coexistence of both these features of compositionality sakhaṇḍatva and non-compositionality akhaṇḍatva sarvasatyavāda the sūtra is sarvasatyavādasiddhāntaḥ.

Now, if we study the compositionality which is the title of the lecture also this is precisely because this is what is an important source for a grammarian. This is the profession of grammarian the profession of grammarian is based on this particular concept of compositionality. This is the major task of any grammar to figure out the components of one undivided speech from the available evidence collected through the audible speech signals and then look at the components. Look at the possible divisions of this speech and initially when we looked at the earliest references of grammatical activity in the context of India we noticed that in the Vedic literature there is a story where Indra the grammarian is being commissioned to cut to divide this speech into its components and it is Indra it is said, "tām Indraḥ madhyataḥ avākarot". So, Indra then did divide this particular speech which was one indivisible unit and Indra did divide it into its components.

Now, to just divide the components is one thing, but to establish them after having divided them is another and that requires quite a lot of reasoning classification and so, on and so, forth. So, this compositionality then we say that it works at three levels in the Paninian grammar artha level the meaning level, śabda level the word level and also the svara namely the accent level. So, in other words meaning is compositional.

So, earlier we were saying that the meaning is one indivisible unit shown in the square brackets now we will say that this one undivided whole has components in terms of meaning there will be meaning components which we shall study in the next lecture. The meanings can further be classified into some components some divisions some categories there are some meanings which are conveyed as relations. Some as the meanings of the lexical items this we shall study in the coming lecture, but the point is that the meaning is compositional there are components, then the word can also be shown to be compositional corresponding with the meaning compositionality that is most important because meaning acts as the cause which gives rise to the śabda in the intellect and then this śabda gets expressed in the audible speech together with the accent.

Now, we are saying here that there are three levels artha śabda and svara they are all part of the cognitive apparatus first the buddhi first and then the śabda together with the svara gets expressed in the audible speech and whether we have expressed the śabda as well as the svara correctly to convey the meaning or not is counter checked and this process of counter checking on the part of the speaker relies heavily on this intellectual programming in the form of the compositionality of artha śabda and svara located in the intellect. So, now the meaning compositionality corresponds with the word compositionality and also corresponds with the compositionality that exists in the level of accent. Even though we said that accent is a different level earlier we showed it to be a part of the word level that is true because it comes together with the word there is no separate accent available, but as Paninian grammatical derivation process shows that accent acts as an important feature.

Generally, the word derivation process and the accent derivation process are independent there is some interface, but generally they are independent, but the meaning of course, is primary it comes before these two levels. So, the compositionality is thus playing an important role in the process of speech production as well.

The compositionality is also viewed as apoddhāra in the Paninian grammatical tradition the later Paninian grammatical tradition. apoddhāra stands for extraction, extracting something imaginary from the real. One undivided sentence meaning is the real and compositional sentence meaning sentence meaning divided into parts is all imaginary one undivided sentence similarly is the real and the compositional sentence; that means, the parts of the sentence this aspect is imaginary this is what is the underlying principle in the concept of extraction or apoddhāra also stated in the Paninian grammatical tradition. Now, it is important for us to also study the methodology used to figure out the compositionality which means to decide about the components of both sentence meaning as well as the sentence. Remember they both are located primarily in the intellect and the audible speech is just the external expression of it. So, it is from this audible speech we go deep down to these two śabdākāśa and arthākāśa located in the intellect.

Now, the methodology used and is this as described in the Paninian grammatical tradition is with reference to the two words āvāpa and udvāpa insertion and extraction and what this means will become clear in a while. What it means is corresponding the similarities in the meanings to the similarities of the words the 12 sentence meanings and the twelve sentences that we have seen so, far we correspond the similarities these similarities and dissimilarities are observable.

The similarities on the one hand in the meanings and the similarities on the other hand in the sentences these can be can be corresponded to with each other. Similarly, corresponding the dissimilarities in the meanings to the dissimilarities of the words this is what is āvāpa and udvāpa by doing this and by doing this recursively. So, the recursive application of this particular methodology find out the similarities. And in the meaning and then associate them correspond

them with the similarities in the sentence find out the find out the dissimilarities in the meaning and then correspond them or associate them with the dissimilarities of the words and do this recursively this results in exploring and finding out the meaning components which correspond to the word components. This is how this methodology gives us the components which are considered as separate independent components of the sentence. These components construct these sentence and these components of the sentence meanings construct the sentence meaning as one whole this is what is in a nutshell this methodology.

Let us now study this methodology with the help of the source given on the slide. This is taken from the VyākaraṇaMahābhāṣya of Patañjali and this is commenting on sūtra 1.2.45 and discussing the methodology the words used by the VyākaraṇaMahābhāṣya to describe this methodology is anvaya and vyatireka not different than the ones that we saw earlier only in the focus there is difference.

So, here are some sentences taken from this source and I will read those sentences and then we shall spend time in analyzing this source and trying to understand what it means and how this methodology gets explained. iha the first sentence, "iha vṛkṣaḥ ityukte kaścicchabdaḥ śrūyate vṛkṣaśabdo'kārāntaḥ sakāraśca pratyayaḥ", the second sentence is "artho'pi kaściddgamyate mūlaskandhaphalalāśavān ekatvam ca" , the third sentence is "vṛkṣāvityukte kaściddśabdo hīyate kaścidupajāyate kaścidanvayī", the fourth sentence is "ekatvam hīyate dvitvamupajāyate mūlaskandhaphalalāśavān anvayī", the next sentence is "te manyāmahe yaḥ śabdo hīyate tasyāsāvārtho yo'rtho hīyate yaḥ śabda upajāyate tasyāsāvārtho yo'rtha upajāyate yaḥ śabdo'nvayī tasyāsāvṛtho yo'rtho'nvayī". It is in this passage that this methodology gets explicitly expressed let us study each sentence one by one in detail.

It says, "iha vṛkṣaḥ ityukte kaścicchabdaḥ śrūyate vṛkṣaśabdo'kārāntaḥ sakāraśca pratyayaḥ". So, all these sentences they need to be taken into account as one unit we shall go back to all these five sentences. The remarks that we want to pass on these five sentences is that there is a particular process that underlies these five sentences. It describes for example, the first sentence describes a particular word in a particular case with the particular number and then it says that when this word is uttered a particular meaning is understood together with the number.

Now, you utter the same word, but with a different number the case could be similar, but the number should be different and then you recognize that there is something dissimilar notably some word is dissimilar. Similarly, some meaning also is dissimilar and that dissimilar meaning is stated and this you go on doing in this process one also recognizes some meaning that remains some meaning that changes.

And then you go on doing this recursively later on you keep assigning the similar part in the meaning with the similar part in the word and the dissimilar part in the meaning with the dissimilar part of the word and then you assign the meanings which are similar to the similar words and you assign the meanings which are dissimilar to the dissimilar words. When we say assign we mean that then it is fixed according to the rules that when a particular component is uttered and is part of the audible speech then the hearer will understand a particular component mentioned as the meaning component. This is the rule based fixed system that is what is meant by assignment. When we say that one element is assigned to another element in this process this is how a grammarian functions.

Now, with this much background information about this passage let us study each sentence and try to understand what it means. Let us look at the first sentence "iha vṛkṣaḥ ityukte kaścicchabdaḥ śrūyate vṛkṣaśabdo'kārāntaḥ sakāraśca pratyayaḥ" what it means is when the word vṛkṣaḥ is uttered some word is heard. So, somebody is uttering the word vṛkṣa the hearer hears the word vṛkṣaḥ in this word there is a word vṛkṣa together with the suffix s coming at the end of it vṛkṣas according to the existing grammatical system.

artho'pi kaściddgamyate, we will go to the second sentence now. artho'pi kaściddgamyate mūlaskandhaphalalālāśavān ekatvaṁ ca and when the word vṛkṣa is uttered and some word is heard and its components are known to the grammarians as vṛkṣa and s now this śabda which is heard by the speaker also conveys some meaning even the meaning is cognized. Namely, something some entity which possesses the root mūla the trunk the skandha the fruit phala leaf lālāśa and so, on and oneness ekatvaṁ ca This is the meaning one cognizes as well from this word.

Now, in the same process when the same speaker utters another word vṛkṣau ityukte the speaker now utters the word vṛkṣau. So, the hearer hears the word vṛkṣavityukte kaściddśabdo hīyate kaścidanvayī and then he notices that in this second utterance of vṛkṣau there is something missing and something common with respect to the previous utterance.

Earlier utterance is vṛkṣaḥ this utterance is vṛkṣau something is similar and something is dissimilar kaściddśabdo hīyate some word was removed s is removed kaściddśabdo upajāyate and some word is added au is added kaścidd anvayī some word remains connected with the previous utterance namely vṛkṣa. So, when the word vṛkṣau is uttered some word is lost s is lost some has arrived newly au is such a word and then some word remains connected with the previous one namely vṛkṣa.

Just as this is observed with reference to a word. So, also is observed with reference to the meaning of ekatvaṁ hiyate dvitvamupajāyate mūlaskandhaphalapalāśavān anvayī. So, what it means is even in the meaning part it is observed that when vṛkṣaḥ is uttered the oneness is cognized, now when vṛkṣau is uttered twoness is cognized, now this oneness cognized in vṛkṣa is lost, but twoness has arrived dvitvamupajāyate and mūlaskandhaphalapalāśavān anvayī the meaning namely which is put in the single inverted comma.

The possessor of the root trunk fruit and leaf this particular meaning component remains connected with the previous meaning cognized from the word vṛkṣaḥ. Then after performing this action recursively one arrives at the following conclusion te manyāmahe yaḥ śabda hīyate tasyāsāvartho yo'rtho hīyate yaḥ śabda upajāyate tasyāsāvartho yo'rtha upajāyate yaḥ śabdo'nvayī tasyāsāvrtho yo'rtho'nvayī. then they think that this is its meaning which is lost whose word is lost. So, s is lost and. So, the meaning of that s namely oneness is also lost.

So, oneness is the meaning of s this is how we extract the correspondence extract the components. The oneness is the meaning of s and now the meaning which is newly arrived at is the meaning of that word which is newly arrived and so, the twoness which is being brought by au is now the meaning of this au the meaning which is newly arrived at is the meaning of that word which is newly arrived.

Twoness is the meaning of au oneness is the meaning of s twoness is the meaning of au and the possessor of the root as well as the trunk as well as the fruit and the leaf this was linked with the meaning even in the earlier utterance. So, this meaning must be the meaning of the word which is connected as far as the śabda is concerned. This is what is the meaning of this passage which aptly describes the process of anvayavyatireka or avāpa udvāpa.

Following this method recursively the components of the sentence can be arrived at and they correspond with the components of the sentence meaning further applying the same process these components can be also shown to possess components sub components and the meaning conditions also apply; that means, that the component meanings can also be shown by application of this method recursively to possess the sub component meanings.

This is how the grammatical process continues, continues to go deeper it is these sub components then are considered by us as linguistic atoms and we shall explain this fact later on when we go to the sub components by applying this particular methodology as far as the meaning and the word and the svāra is concerned.

To summarize the Pāṇinian grammatical tradition recognizes different levels at which the speech functions. And then the speech sentence is considered indivisible from one point of view in the communication the speech sentence is considered divisible from another point of view namely the view of the grammarian. The principle of contrast allows one to extract meanings and corresponding words from these whole units. One thing to remember here is that this extraction happens simultaneously at both or all the levels. When meaning extraction happens simultaneously the corresponding word extraction and the corresponding accent extraction also happens. No extraction happens in isolation this is an extremely important point to remember.

Now, to conclude today's lecture we shall follow our practice and recite a Maṅgalācaraṇa at the beginning of the most celebrated commentary of 18th century called Udyota composed by the great scholar Nāgeśa. This commentary comments on the VyākaraṇaMahābhāṣya written by Patañjali and also another commentary on this VyākaraṇaMahābhāṣya called Pradīpa composed by another great scholar called Kaiyaṭa. So, Udyota is a commentary on the commentary and as well as a commentary on the original text called VyākaraṇaMahābhāṣya of Patañjali there are two verses and I read them.

Natvā sām̐baśivaṃ devīm̐ vāgadhiṣṭhānikām̐ gurūn̐ pāṇinyādīmunīm̐ vandyān̐ pitarau ca satīśivaṃ,
nāvistīrṇam̐ na vistīrṇam̐ madhyānām̐api bodhakṛt̐ bhāṣyapradīpavyākhyānam̐ kurve'ham̐ tu
yathāmati. and I repeat, Natvā sām̐baśivaṃ devīm̐ vāgadhiṣṭhānikām̐ gurūn̐ pāṇinyādīmunīm̐
vandyān̐ pitarau ca satīśivaṃ, nāvistīrṇam̐ na vistīrṇam̐ madhyānām̐api bodhakṛt̐
bhāṣyapradīpavyākhyānam̐ kurve'ham̐ tu yathāmati.

We end today's class with the five sūtras taken from the second sub chapter of the fifth chapter of the Aṣṭādhyāyī. The pañcama-adhyāya dvitīyapāda of the Aṣṭādhyāyī and these five sūtras are dhānyānām̐ bhavane kṣetre khañ, Vṛiṣālyorḍhak,yavayavakaṣaṣṭikādyat,
vibhāṣātilamāṣomābhaṅgāṇubhyaḥ, sarvacarmanāḥ kṛtaḥ khakhañau. I repeat, dhānyānām̐
bhavane kṣetre khañ, Vṛiṣālyorḍhak,yavayavakaṣaṣṭikādyat,
vibhāṣātilamāṣomābhaṅgāṇubhyaḥ, sarvacarmanāḥ kṛtaḥ khakhañau

Thank you for your attention.