

**Indian Institute of Technology Madras**

**Presents**

**NPTEL**

**NATIONAL PROGRAMME ON TECHNOLOGY LEARNING**

**Introduction to Modern Linguistics**

**Lecture- 25**

**Phonemes & Allophones:**

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Good morning for some time we have been talking about various levels of the structure of language we began with talking about the structure of an individual speech sound then we spoke about organization of his speech sounds and now last week perhaps we began talking about word formation in all languages of the world in all natural languages you have processes that allow formation of new words.

Today and tomorrow and also perhaps another class or so later we will look at these processes and we will see if there is a grammar which constrains these word formation processes or is it that anything goes with anything you might remember in the last class .I said that it is difficult to define a word some people say meaning combination of sounds which is again a very subjective thing or some people say minimal unit now what is a minimal unit, so we used a word call can give me the new word that we used in the class last week anybody please morpheme do you remember you can note okay and.

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We said, we said that rather than talk about what which is again the same thing you know it comes this word comes from Greek okay, which means nearly the same thing look up a dictionary and look up the etymology of this word and you will find that it is more or less the same thing so in the end word is a notion we know but we cannot define like many things in nature you know we do not have even now objective definition for lots of things lots of concepts we use otherwise.

So we said last week you might look up your notes or the slides, I sent you that morpheme at least is one independent unit one minimally on it you cannot break the word down to further sub parts then a morpheme will further talk about it alright, so we will continue to talk about the concept of morpheme and word formation processes therefore are studied in a subpart of linguistics in another section of linguistics which we know as morphology please write the study of word formation processes and we call it morphology like you know the study of organization of sounds what do we call it please study of organization of speech sounds phonology production of his pitch sounds phonetics.

So when we talk about word formation processes we are talking about more ecology right so we'll continue talking about some word formation processes we cannot go in great details in this introductory course but we will have an overview of what are some of the important features some of the important processes and constraints on word formations natural languages are we together are you with me everybody please yeah okay.

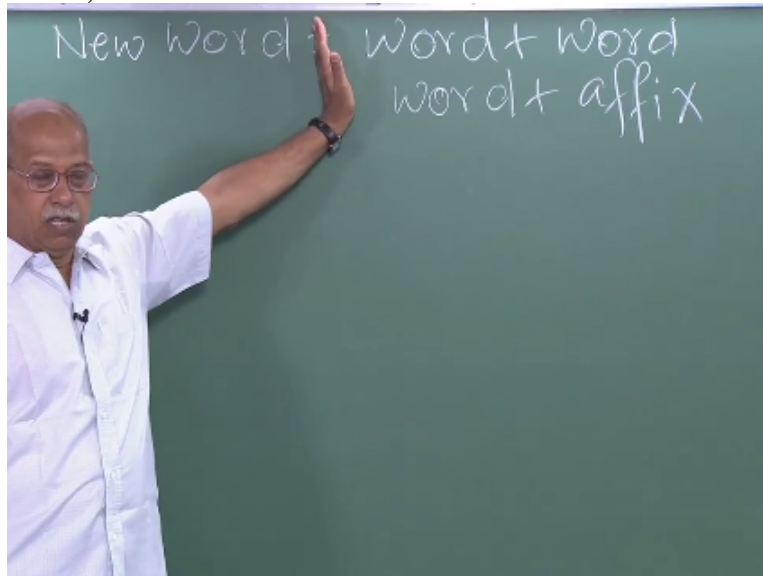
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### Units of Word Formation

- Word = Word + Word : History Teacher
- Word = Word + Affix : Person+al
- Word = Affix + Word : Dis+connect
- Word = Affix + Affix : Per+mit
- Word = Root / Stem + Affix : [[permit]+ion]

Lovely you know all new words can be done in only either of the two manners there is no third way either.

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You have word + word a new word is equal to either a word + word there is already a word and you add another word so there is class and there is representative so you say class representative and it means my it acquires a new meaning in some other class it means Ashwin in some other class it means Deepak in some other class it means X or Y okay , so you already

have existing words you have one word you have another word you put them together and you make a new word out of them.

You have Raja you have Kumar and you get Rajkumar okay which means a particular kind of Kumar a particular prince who loops at Buckingham Palace etc etcetera okay number one number two the second possibility is you can have word + please note this word please note this word affix a little particle smaller than word but not much smaller you cannot break it further okay.

We will again you know in this class today we will talk about the kinds of ethics our kinds of a fixation but at the moment I want you to understand that in all languages of the world no matter whether you speak them in Nepal or you speak them in the United States of America no matter where in which language all languages have word formation processes by which they coined new words and new words come, in only either of the two ways either they are word + word or they are word + effects look at some examples at the screen say for example.

The first example history teaching the word history is there the teacher is there and you put them together and you get history teacher or you have word + ethics so person is there and there is an ethics FX is some part of the world in this case what is the ethics in this case please can't beat X please kindly tell me what is their fix in this case all you know this is the ethics so you add it and you get personal or you care to have the ethics coming at the head of the world look at the next example you have connect okay and you want another word you want to say ok that this person is not connected.

So what do you do you add an ethics what a fix is here D is this so you know you have a fix + word it also shows that depending upon languages and fixes can come after the word before the word sometimes within the word I will give you some examples later or you can sometimes have a fix + a fix or an on independent unit + non independent unit and you can get a word say for example you have you have personal where person can occur you have person + all so you get personal right sometimes you can have only affix + affix say for example, you have / + meet and it gets it gives you knew.

You word you can have read + meet you can have sub + meet you can have lots of other words and in all languages of the world not just English Sanskrit Latin German French many Indian

languages like Malayalam are rich in this kind of derivation you know you get lots of words you can make in this manner we look at some of those examples a little later but I want you to understand that all new words in all languages of the world are formed through these processes either they are word + word or they are word + affix

Sometimes it can be only affix + affix some people call them root some people call them stem when you look up books on morphology you will find some variation in terminology those variations are not meaningless but you know I do not have time to go into great details of these variations here but I want you to understand that it is like nature in other aspects we use existing resources to acquire new resources it is a no invention no you know nothing that we have made has been made out of the blue in that sense we have had something we have improvised we have adapted we have added we have subtracted and we have got the new thing nature follows the same rule.

In this case as well you can sometimes have you say affix + affix + affix or you can have word + a V you know there can be permutations there can be combinations imagine you have three stones a b c how many combinations can you get quickly you can have ABC then beat x please you can have c VA you can have bc and if repetition is allowed you can have a a b vc or you can have a a b c or you can have a BBC you know possibilities exist there are enormous possibilities that is why look at the beauty of nature you know and when you do some engineering in languages.

You should be able to keep this in mind that all languages use limited resources finite resources to generate in finite non limited output but those non limited outputs can I have your attention please those non limited outputs come out of these limited resources in all languages of the world new words are formed by Beatrix please complete the sentence putting word + word together or word + affix together or sometimes affix + affix is very simple you know there is no other no other process the second question is are there constraints can we put anything anywhere can we put any two words in any manner we like can we put any two affixes in any manner we like are there variations are they of many different kinds okay. Let us look at some of the them you know how they come together okay you can go.

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## Compound & Phrase

- When two or more words acquire a third meaning, or make a new/or third grammatical category, they are called **compound** words: e.g. blood circulation, toy gun, bed sheet, rose garden, Physics Laboratory, wide-bodied, sleeper coach... It is a structural concept.

I will mail the slides to you can look at some of those definitions what is a compound word what is a phrase word you know word + word sometimes is called compound word when they behave like one and word + word is sometimes called a phrase when they occupy a particular box in a sentence please look up the book or I will explain it to you later okay.

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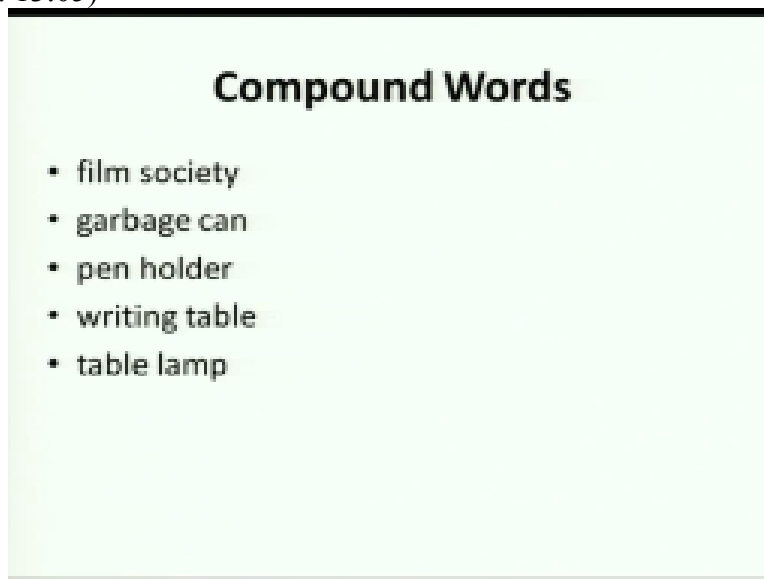
## Phrase

- **Phrase** is one or more words behaving like one grammatical category in a sentence. It can be a noun, verb, adjective, or adverbial phrase, etc., e. g. a rose garden, a swimming pool, at home, sweetest, softly... It is a functional concept.

A phrase is it is a group of words or a single word which performs a syntactic function it can be a subject it can be an object it can be a verb phrase it can be a noun phrase then it becomes a

phrase otherwise you know compound words are those words like, I have said which can be more than one but performing one function making one meaning when you say class representative it means one thing when you say Prime Minister it means one thing when you say boys hostel it means one thing when it is a blood circulation it means one thing there may be two words but they mean one particular thing so then we have the compound words and that is true of all languages look at these words.

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When you say film society what kind of society is it so the first word is important but it makes one word you can talk about it as one word you can say, I am going to club you can say I am going to Film Society at IIT we have it we have an OE t Society we have a film, film ,film Club or Film Society similarly garbage can what kind of can not the juice can not the milk can but garbage can hear the first word is important pen holder writing table lamp okay ,but there may be compounds where second word is important look at pickpocket.

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## Compound Words

- pick-pocket
- cut-throat
- red-head
- daredevil
- killjoy

Okay a cut throat a redhead or daredevil okay. You know we have these things in nearly all languages of the world I will give you some examples from Telugu you can also help me out there may be occasions when both words are equally important.

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## Compound Words

- deaf-mute
- actor-director
- poet-translator
- mother-child
- father-son
- morning-evening

When you talk about deaf mute when you talk about Sarang Shasta what is more important Sartre is that a boring affair even for us okay, though that is the only thing that you can talk about in later life okay but you know so in the word formation sometimes you may put two words together such that both words are equally important okay ,such as here you know can




you give me some parallels from Telugu where two words are equally important like I can give you examples from my mother tongue.

We can say the heat Dei dude okay curry rice Jorhat are you know in lots of places east of Varanasi which efficient rise of his rice much what okay like you know you say when you go to temples you say Gauri Shankar Mahadev yes please. I would say Andhra Telangana I will say Warangal Hyderabad right, I will say optic Godavari. I would not say top piece of you because sorry you is obviously you know less important right a father son mother child poet trans actor director you know you can have lots of words which behave like one.

But when you break them you find that both are important what am I talking about, I am trying to tell you that when two words come together behave like one though meaning wise one part may be more important or another part may be more important or sometimes both parts may be equally important but as far as word formation is concerned this is it this is how they go are the only two words come together in English.

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**Compound Words**

- social science teacher
- space research centre
- high school play ground
- shopping mall car park
- Hotel Fort Canning Staff Club

We find three words come together four words come together shopping mall car park are five words come together Hotel Fort Canning is staff club or we find sometimes six seven you know when my friends from biotech biotechnology chemical engineering departments write papers and ask us to sometimes read for our enlightenment and their correction then we find they have six seven words in one go behaving as one word okay ,catalysis process or you know reverse osmosis catalysis process lab etc.

You know we tell them please why do not you use sometimes of an and to and that sort of you know smaller things to help us but language has no restriction English language or like many other languages do not say you can have only one word or two words we in India have entire verses you know how many of you remember that sloka in the praise of Durga I get in on Dini they are nothing but compounding of words Sean Cocker ham William Shine long but no novel it goes on kosher lay around you know looks so pro cotton when you go to put the anybody from Tirupathi here okay.

I am told that all children in Tirupathi learn it before they are born okay ,so all of these things all of these things can I have your attention there are all of these things show that there is no upper limit on how many words you can have coming together even then there is an order we will look at that in later classes.

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### Kinds of Compounding

- Noun Noun : toll booth, security check, country house, country club, ring road
- Adjective Noun: lowland, highland, blackbird, highway, redline, greenlight...
- Verb Noun : search party, hangman, crash land, rattlesnake, hovercraft, playboy, dancehall, tell tale, sing song, call centre...
- Preposition Noun : off-colour, up-hill, under-age, over-board, by-pass, by-law, byline...

You can you have only nouns together well you can have noun + noun look at examples in English and I will also ask you to add to one so please open your notebook okay you can have noun + noun like you know you have Tollbooth you have security check you have country house Country Club Ring Road can you give me another boys hostel , girls hostel both nouns give me some others guesthouse okay ,something else a blackboard lovely blackboard is not noun + now it is black is adjectives give me a noun + down please sorry come on you see

there is no it is not a shame making a mistake in the classroom is the only place where you can make a mistake and yet grow do not make these mistakes outside okay right bathroom.

Yes the least visited place in the hostel yeah at least watch his wristwatch lovely come on please okay some more please right on the loop everybody should have at least one your original your own okay look at the adjective and noun and all it is not that only English has it no matter how highly we think of English other languages also have these processes say for example adjective and noun you have Lowell and where Louis adjective land is learn or Highland you know in place of mountains sometimes you know with of mountains it are pretty I but when you talk of places.

Which are not so high and yet high we talk of Highlands a Blackbird highway redline buses you know green light if you go to Delhi they talk about red line blue lines if you go to London then metros trains are named like that Red Line train ,Blue Line train Green Line train god they have an entire rainbow buried inside this city okay, can you give me some example of adjectives in Nome somebody said some you gave me some smart example somebody gave me something a blackboard that is it that is a good example, of you know but blackboard has become generic.

Now a lot of people talk about this also as blackboard when this is obviously green board so we call it green blackboard okay right sorry our hot plate is very useful thing up actually particularly for those in the hostels please come on give me some example hard work yes one B-Tech once told me you somebody told him beat a boy hard work never kills anyone and I remember some batches ago a bit ago. I said but why take the risk sir okay come on please give me some example of everybody please at least one he come on rock.

Where are you save my life please sorry where are you okay please a semi sir okay give me some example lovely that is that is wonderful really sunny day bright night okay similarly we can have four compounds coming together two verbs okay a word + noun search party hangman okay crash-land rattlesnake hovercraft playboy although all of these things are possible they happen or you can have preposition + noun off-color uphill okay underage overboard by pass by law look at look at the versatility of languages their resources you know how many prepositions.

You have in every language of the world you have limited number of prepositions nouns pronouns sorry nouns adjectives adverbs may or may not be limited but prepositions articles some other parts of language are always in limited number but what you do is you combine one with another and you get new words out of them of course there are restrictions of course there is a grammar is not without that you know if you want your computer to generate this kind of vocabulary you will have to give them the database.

But you will also have to give them give the computer some constraints we will talk about them if time permits you can have adjective + adjective regularly you know some people have researched and found.

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**Kinds of Compounding**

- Adjective Adjective: light blue, royal blue, dark red...
- Noun Adjective : country wide, peacock blue, bottle green, sea green, sky blue, jet black, blood red, world famous...
- Verb Adjective : diehard, fail safe...
- Adj Verb: soft land, deep freeze
- Preposition Adjective: off-white, over-explicit...
- Verb Verb : stir fry, spin dry, drip dry, spray paint

That whenever we talk of good things like arts architecture music we use lots of these words light blue all blue dark red jet-black okay milk white you know India is considered one of the top racist countries and people are not looking only for good-looking boys and girls is the girl fair yes how fair milk white milky splits in no time you have something ,which is a stable but people do talk about some of these things or Vermillion red hard you know Lotus red you know we do talk about all kinds of things and we have words for them in Telugu can you think of you know adjective + adjectives pertaining to colors in Telugu come on.

Yes tell me speak louder correct okay ,right similarly you can have noun + adjective look at the example countrywide can you give me an example for this in Telugu and Sanskrit or any other

language countrywide a peacock blue here it is noun + adjective in Hindi we call it my or punky in Maithili we call it Monsieur punky in my mother tongue in my mother tongue we have all kinds of you know color prejudices peacock color parrot color or some people can be Co color okay sometimes it is sometimes it is good to have black which is beautiful okay.

So bottle green sea green sky blue jet black blood red okay sorry world famous does not belong there you can you can leave it out that is a mistake I have made look at verb + adjective rather limited you know .I broke my ho I heard over it for about half an hour could not find more than two examples but English has some more yet relatively speaking these examples are limited but you see the theory linguistic theory is not influenced by the actual number of occurrences you may have only one but the point here is it is possibly you cannot coin you can make new words.

You can and it is this capacity of making new words that is considered knowledge of language the day you can impart this capacity to computers you will have solved a huge puzzle how we learn language and how we use them so you know you have preposition + adjectives or foiled / explicit verb + verb + verb do we have them in our languages can you give me one example of word + verb from our languages either Hindi or Sanskrit or Marathi anybody please no matter what I will give you 1 mark out of my pocket.

I will tell the Dean please they may not have done something like right Withers it was very close yeah salty Turkey would double Wallach do one dawned of Allah who Jaya Gauri Maha Devi stir-fry this would make one verb salty will go for a duplication salty Katya got a hostage there multiple tea come again how would it translate into run in place lovely okay come on please give me something else okay something more come on please and anyone from Hindi how many people know Hindi.

In this class can you give me some example from with the sunidhi canopy No - no kata Pittances actually give me some is known the Mura is adjectives I am looking for verb + verb stir-fried Mary okay Hindi me because of their helada locker that is a verb helado Locker Chaleff a locker like the you know the point once again is please think and at the end semester examination. I am going to ask you to come up with examples from your mother tongue and I know every mother tongue in India.

So please okay try and think of some of these things.

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## **Kinds of Compounding**

- Noun Verb : hand weave, machine wash, hand wash, pressure cook, window shop, valley view, fire fight,
- Adj Verb: deep fry, double talk, sweet talk, double coat, dry clean
- Prep Verb: under rate, over estimate, over eat, over work, over react, upstage, in coming, out going
- Prep Prep : into, onto, within, without..

This list is you can have all kinds of combinations noun verb like hand wash and weave pressure-cook window saw of Valley View do you think we have similar examples in our languages do you think we have similar examples in our languages if you think of words related to marriage festival you will get some words of this kind adjective adverb you know like deep fry double-talk sweet-talk double quote dry-clean okay, clean sweep for those who you know place takes Gamble's etc preposition + verb under rate over estimate over it over work that the challenge is for us to think if we have similar things in our mother tongue okay. And I am very confident you have okay, I am going to mail all of these slides to Mahesh.

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## Kinds of Compounding

- Noun Prep : runner up,
- Adj Prep : close up
- Verb Prep: sit in, lock out, drop out, breakdown, drive-in

Please look at them and do we spend about 10 to 15 minutes definitely not longer than half an hour come up with your examples from your mother tongue and you will see you will find lots of new windows opening and you will see that these processes are by enlarge a universal exact manifestation may change exact number of examples, may differ some like you know English may have more, because English has borrowed from everywhere we may not have as many because we have not quoted code borrowed you know as freely but the processes are likely to be there in all languages.

I have taken some examples, from my mother tongue you can look at the English meaning in English and you can have similar examples ,from Telugu or thermal how many people speak Tamil here okay, please think of matching examples from Tamil .I am confident you have them Marathi Hindi can you think of similar examples you know like it is a deity room.

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## Compound Words in Maithili

- shāmbhunath ghar "deity room"
- bhānsaghar "kitchen"
- bhāgbātti than "shrine of goddess"
- āshmashan ghat "funeral ghat"
- dhobie ghat "dhobie ghat"
- sātjanarajan katha "Satyanarayana Tale"
- gjæ du:dh "cow milk"
- gharaija naw "house boat"

What would you say in the they have got they have talked a girl or pooja girl no matter how you know American Mac one American Journal ones are we together. I wonder if you have her seen a journal called span have you seen a journal called span it is there in the Central Library okay so once a span conducted a survey of Americans sorry Indians in America and one of the not very startling revelations it came up with was that no matter how small their apartment they had a corner which they called puja room even.

If it was not a full room they had a puja room so what is puja room pooja room is noun + noun okay and you know what is kitchen in English in my mother tongue takes two nouns bonze and girl in Bangla it takes two nouns Rana gar how many does it take in Kaluga Satya give me those words ma . I want you to start an evening proficiency class in Telugu for all the boys in this class they are so deficient really okay they can only speak hostel jargon do you have do you have such words in hostel jargon noun + noun come on.

How is our pain will become adjective + noun okay can you give me noun + noun from the hostel Jonathan who is compiling the dictionary of hostel jargon for term paper are you no do not do that there is already one if you go online IIT jargon one German reserve we had a German research scholar here once a lady and she did a wonderful piece of work that is the best-known part of IIT in Europe okay the jargon can you give me some non + noun from most of jargon okay.



Then you do it right but look at the a jump you look at the clause can I have your attention look at the clause .I have given in English I am sure you have parallels in your mother tongue say for example Ausmus on God the funeral pyre what is the telugu word for that that is no okay though we got there is you know the best shopping area in Singapore is known as though we got okay Satyanarayan katha okay, or you know chessboards what is the tell who were for chessboard that is no there are certain game is not adjective okay lots of them you know.

I wonder if you have if there if you remember Telugu word for houseboat once upon a time telugu is speaking people were trading community lots of big rivers going directly into the sea Kakinada muchly patent on Visakhapatnam today they are all you know biggest ecological disasters you have words there okay.

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These are non + noun okay bride's father do you have word for that the most helpless person in India the word for that in Cal gu okay or how do you refer to the tamarind tree okay , our banyan tree mango orchard mango orchard anybody from a village here other than Rajas in me yeah what do you how do you call how do you refer to mango orchard that is it okay or paddy field okay you have one word for that our mothers mother's village in my mother tongue we call it nonagan and it has a very idiomatic meaning when you die you go to nenna mae go okay.

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## Compound Words in Maithili

- nenna mæ "child's mother"
- brahman bhocæn "feast for brahmins"
- i:ta bhæTha "brick kiln"
- senia ba:hu "Senia's wife"
- munni putā:hu "Munni's daughter-in-law"
- bæI gaRi "bullock cart"
- kirtan mænDæI "prayer group"

All of these things you see here.

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## Compound Words in Maithili

- Jhor bhat "curry rice"
- roTi dæI "chapati lentil"
- guR tsinni "jaggery sugar"
- prem sineh "love & affection"
- beTi putā:hu "daughter daughter-in-law"
- ghæ:r angan "home & hearth"
- Khet pathar "farm & fields"

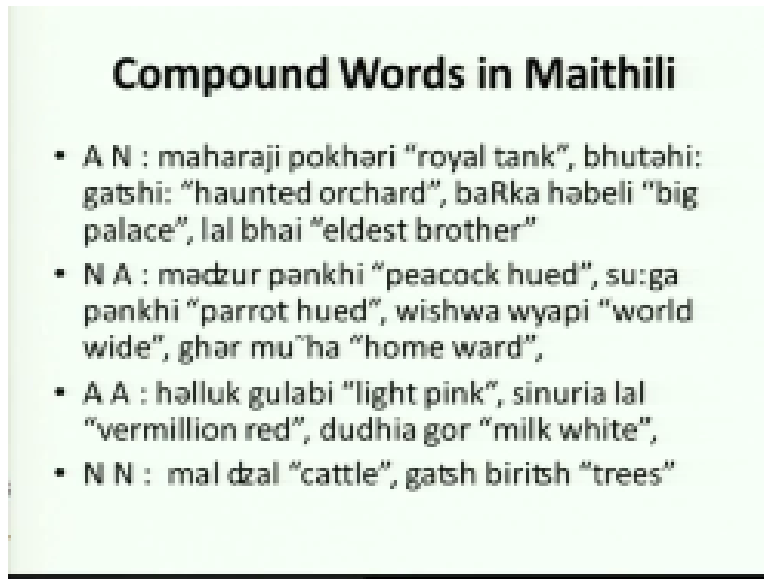
Duels, I am sure you can give me lots here both sides equally important you know in Sanskrit they are called one the Samosa have you heard of anyone who did Sanskrit in school here okay.

So you may have heard of words called some awesome compounding there can be some others aware first word is important there can be some other somewhere second word is important there can be Samosa which takes a new meaning when you say more later on you do not mean anyone with a morally you mean professor and head of my department a particular person or

you know God up above the world so high okay ,similarly you know similarly you can have two words equally important in my mother tongue we have jor bath roti dial Gorge.

In the jaggery and sugar equally important do you have similar words in Telugu give me do you have a word for jaggery in Telugu and sugar check Karen do you ever use them together okay or chili and pickle chili and pickle right.

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**Compound Words in Maithili**

- A N : maharaji pokhari "royal tank", bhutahi: gatshi: "haunted orchard", baRka habeli "big palace", lal bhai "eldest brother"
- N A : madzur pankhi "peacock hued", su:ga pankhi "parrot hued", wishwa wyapi "world wide", ghar mu`ha "home ward",
- A A : halluk gulabi "light pink", sinuria lal "vermillion red", dudhia gor "milk white",
- N N : mal dzal "cattle", gatsh biritsh "trees"

I think I will leave you early today you know, I know there is no point going through this entire list you know, I am going to mail it to you the point I have tried to make is the following is the following.

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## Units of Word Formation

- Word = Word + Word : History Teacher
- Word = Word + Affix : Person+al
- Word = Affix + Word : Dis+connect
- Word = Affix + Affix : Per+mit
- Word = Root / Stem + Affix : [[permit]+ion]

All words can be formed in this manner, I give it I gave you a very quick tour of you know as we say all India tour either they are word + word or there are word + affixes or there are affixes + word or there are affixes + affixes tomorrow we will look at constraints on a fixation okay how many different kinds of affixes are there and what constraints there are no these are affixes and you tomorrow brings some examples of affixes like. I said all on Ian parallels in your mother and not English bring some examples of these things from your mother tongue tomorrow thank you have a good day.

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