Language and Mind
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Module - 03
Lecture - 14
Patterns and Words

We are talking about patterns underlying words. Such an understanding is significant for us to see the application and the role of human mind in understanding underlying patterns of language, at the level of words. We have been trying to build an argument on the basis of underlying patterns of sounds, and now we are discussing words, and pretty soon we will be discussing sentences to cumulatively construct an argument for the underlying patterns of language to see the application and the role of human mind in understanding patterns underlying language. And finally, we want to see it both ways; the role of human mind in understanding language and then understanding of underlying patterns of language for building an argument for a relationship between the two.

So, we have talked about sounds; for sure we understand it. We have talked about parts of words and some patterns. Now we will be focusing on a particular pattern of clusters; however, here is what we have said so far. Words come up out of the pattern of C V C V. This is one of the most common patterns underlying construction of words which in a way tells us that an alternation of consonants and vowels is going to give us words. Now, various permutations of consonants and vowels are also permitted, and they also constitute part of underlying patterns.

In terms of understanding restriction on patterns underlying words, we started looking at clusters. Well, once again, before we go to clusters, we want to look at the term syllable, and I want to mention to you that the term syllable in discussion of words means a smaller part of a word. In a totally non technical sense, a syllable means a smaller part of a word and the common thing between a syllable and a word and the construction of both is needed for understanding requirement of a vowel; that is, for both, we need a vowel. We do not have a syllable without a vowel; we do not have a word without a vowel. Therefore we say, a syllable is a smaller part and for both we require vowels.

Now, we needed to talk about syllables, because we want to talk about initial, medial, and final places in a word. Now let us turn back to underlying patterns, and constraints

on the formation of word in terms of clusters. What we have said so far that the moment a cluster of consonants come, the possible number of words go down; within alternation of consonants and vowels and various permutations, we get infinite number of words in any given language. However, the cluster of two consonants, the cluster reduces the total number of words possible. We have seen - this reduction is huge; therefore cluster works as an important constraint on the formation of words.

As long as the cluster of two consonants is concerned, we still have much larger number of words possible; either at the initial position of a word, medial position of the word or final position of the word, we still allow clusters of two consonants and get lot of words. When we are looking at clusters of three consonants, then the story is radically very different. The story is, the cluster of three consonants are not allowed everywhere, and we are going to be talking about the story of a cluster of three consonants in the beginning of a word; that is, at the initial position of the word.

And we will see the constraints in terms of its sequence of consonants in the cluster itself. With such a constraint, we will finally make the argument that the total number of possible words is going to be handful and that is likely under such circumstances. We also want to say that a cluster of three consonants are not usually allowed at every place in a word. And finally, we will say that a cluster of four consonants is definitely not allowed in the initial position of a word. In some languages it may be allowed at some other position; but again, while we are saying a cluster of four consonants is not allowed at the initial position of a word or a syllable, we are saying that such a word is not possible in languages.

Now, when we are saying a few words could possibly be demonstrating a cluster of four consonants in some languages, then we are talking about just a few words. Now, please look at the possibility of words from alternation of consonants and vowels from infinite to a few, that is one or two, and then we want to look at in little bit more details the examples of how the constraint of three consonants in a cluster works in the formation of words.

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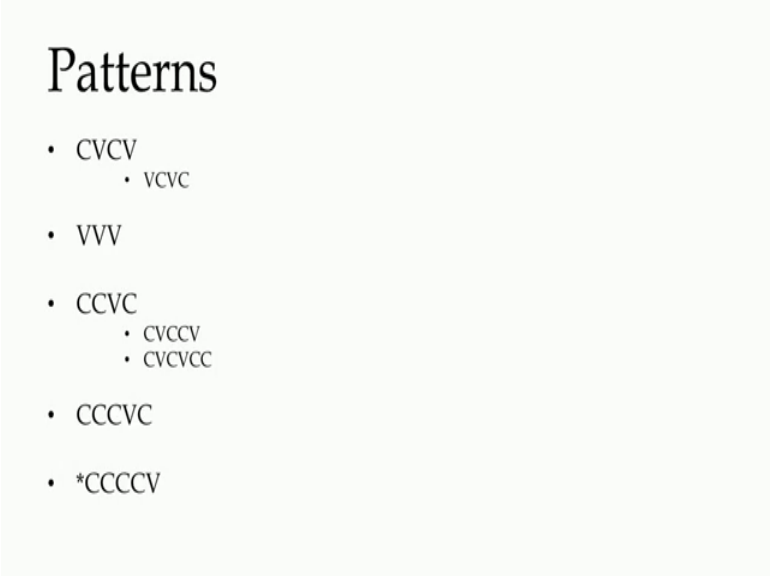

So, let us look at the pattern; these are the patterns that we have seen so far, and they tell you a summary of the things that we have been…we have just discussed.

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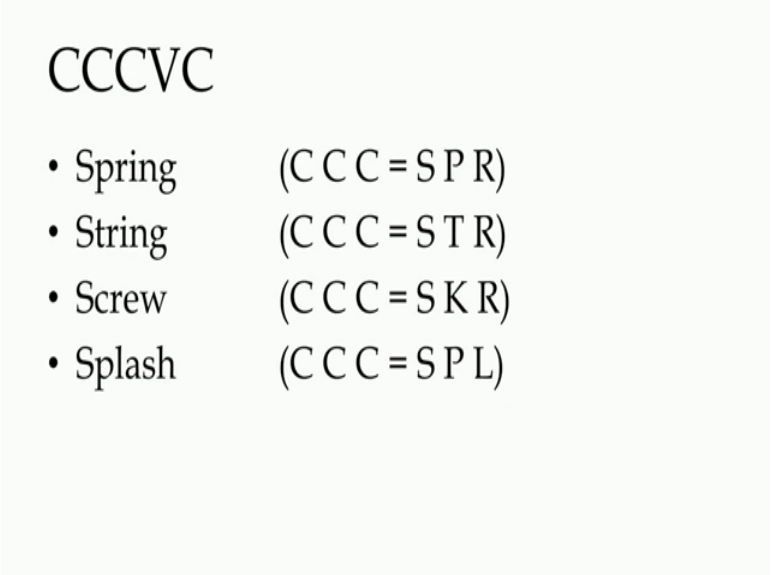

Now, in particular I want to draw your attention to these few words on the screen, where clearly we see three consonants as clusters in the beginning of a word. Such words like spring, string, screw, splash in English, and you can come up with more words, more such words, what you see is the following. And please pay attention to the three consonants participating in the cluster. What we find is that the first member of the

cluster can only be sa – a dental or alveolar fricative. No other sound is possible as the member of the cluster, and as a member in the initial position of the cluster; this is a very serious and heavy constraint in formation of words, in formation of cluster.

Similarly, we see the second member of the cluster can only be either pa, ta or ca - one of the three sounds. Now, having discussed sounds and places of articulations and their manners of articulations, I want you to find out a common thread between pa, ta and ca. The thread that combines the three consonants is a stop sound. A stop sound or applausive sound is the term which means, for the production of such sound, we have a total closure of the flow of air in the vowel tract, and then sudden release; this phenomena is called, a sound out of this phenomena is called a stop or applausive; all three of them - pa, ta and ca are stop sounds. We can have only pa, ta and ca allowed in the sequence of three consonants as the member of the cluster, as a second member of the cluster.

And then finally we see ra or la - that is, in the final position of this cluster, that is the third member of the cluster in a sequence of three consonants in a row, the third member can only be either ra or la; that is, these two sounds are put together with a term called liquid. Now when we have a word like spring, we can only have sa in the beginning, pa, ta, ca in the middle and ra or la at the final consonant. You have only 4, 5 examples on the screen; you have seen only 4, 5 examples; check each one of them in spring or string or screw or splash; all of them have sa sound in the beginning; it is not a coincidence. In each one of them we have either pa, ta, ca as the second member, and only ra and la as the member of the, as the third member in the cluster of this type.

The point that I am trying to make…of course you can come up with lot more examples, but that lot more is going to be a few compared to, when you compare it with too many words, infinite number of words possible with alternations of consonants and vowels. And yet, much larger number of words is possible with a sequence of cluster of two consonants. So the point again is, heavier the constraint in terms of cluster, fewer the numbers of words possible; these are the reasons why we say words are not random collection of sounds; words follow and is a pattern. And there is an underlying pattern, there are constraints operating on formation of words which give us string, where strings of sounds put together give us a word. Such things again, to underline for us to understand, are figured out when we figure out language. When we, when kids figure out

sounds, when kids figure out sounds, and figure out words, what they actually figure out is these constraints; what they actually figure out is the underlying pattern. The constraints are significant for us to understand, and the nature of the constraints is also important for us to see in order to see these patterns.

Thank you.