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**SYLLABLE STRUCTURE IN GUJARATI:
EVIDENCE FROM A WORD GAME**

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ABSTRACT

This paper deals with word games in Gujarati. Gujarati belongs to the Indo-European language family. Gujarati word game known as “Asma ne Tasma” involves insertion of a “nonsense syllable” with the CCV structure. The main aim of this paper is to observe the changes in the internal syllable structure brought about by the insertion of a nonsense syllable ‘smV’ to the original words in the word game. The paper attempts to deal with the following research questions: (i) Whether the addition of ‘smV’ keeps the canonical structure intact? (ii) If it breaks the canonical structure of the syllable, then what kind of structure it opts for?

Keywords: Language Games, Gujarati, Syllable Structure, Words

1. Introduction

The main aim of this paper is to observe the changes in the internal syllable structure brought about by the insertion of a nonsense syllable ‘smV’ to the original words in the word game played in Gujarati. Word games are a phenomenon of language which may reveal facts about the language and its speakers. The word games provide evidence for the phonological structures and rules of a language and consequently are very helpful to phonologists (Surintramont 1973, Wakhale and Sarvaiya 2019). People often use a word game, with the help of insertion of a nonsense syllable having syllable structure of CCV, to converse in a secret code. This word game called “Asma ne Tasma”, is mainly used by a group of friends or by the members of a family to exchange information with others who understand the game, which otherwise they are not comfortable sharing with everyone.

The paper focuses on how introducing nonsense syllable to the words affects the syllable structure of the words, and also what other changes it brings about to the word. The data for this paper was gathered from two informants who are native speakers of Gujarati, residing in Vadodara, Gujarat. Both the speakers are female, one of whom is 37 years old and the other is 62 years old. The data was collected by

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recording the conversation between the informants, which was later decoded and tabulated, according to the different types of syllables. The data was categorized as:

- 1) Monosyllabic Words
- 2) Disyllabic Words
- 3) Trisyllabic Words
- 4) Quadrisyllabic Words

The data was then analysed to find the changes brought about in the syllable structure of a word by the addition of the nonsense syllable with focus on the following questions:

- (i) Whether the addition of 'smV' keeps the canonical structure intact?
- (ii) If it breaks the canonical structure of the syllable, what kind of structure does it opt for?

2. Data Analysis

Researchers have identified around fourteen types of canonical syllables structures for Gujarati (Desai 1992, Mistry 1997, Pandey 2014), but this paper does not cover all of them. Only the most common canonical structures are dealt with in this paper.

The syllable structures undergo changes when the nonsense syllable is inserted. This insertion is done by the nonsense syllable "smV", where the consonants are constant throughout the game and the 'V' changes according to the presence of the vowel in the syllable immediately preceding smV. When the 'smV' is added to various categories of syllable structure, the nonsense syllable splits itself, such that the 's' becomes a coda to the existing syllable and 'mV' creates another syllable, thus following the Maximum Onset Principle.

For the purpose of this study, a categorization is done based on the syllable structure and the data is further divided as follows:

- a) No Coda Syllable Structure
- b) No Onset Syllable Structure
- c) Simple Coda and Simple Onset Syllable Structure
- d) Branching Onset Syllable Structure
- e) Branching Coda Syllable Structure
- f) Branching Coda and Branching Onset Syllable Structure

2.1 Monosyllabic Words

In this paper six different types of syllable structures, based on the complexity, are dealt with to study the changes that are brought about in the original structure of the word by the insertion of the nonsense syllable 'smV' in the word game. The data and examples for the same are given below:

a. No Coda Syllable Structure

This type of syllable structure includes a simple CV structure where, one onset and one nucleus are present in a syllable but the coda is absent. When ‘smV’ is added to this kind of syllable structure it can be seen that the number of syllables in the word gets doubled, resulting in the output syllable structure as follows:

Word	Syllable Structure	Output Word	Gloss
/ma/	CV	/mas.ma/	In
/tʃ ^h e/	CV	/tʃ ^h es.me/	Is
/le/	CV	/les.me/	Take

Table 2.1a: CV Syllable Structure

As seen from the above data, the syllable structure of CV changes when ‘smV’ is added and the resulting syllable structure becomes CVC.CV. Also, it is observed that the onset and nucleus are seen as a single unit. So, it can be said that for a No Coda Syllable Structure, following process takes place in the word game:

Output 1: CV + smV = CVs.mV

b. No Onset Syllable Structure

This type of syllable structure includes a simple VC structure, where one nucleus and one coda are present in a syllable, but the onset is absent. When ‘smV’ is added to this kind of syllable structure, a few changes occur due to its addition. The output of the same can be seen below:

Word	Syllable Structure	Output Word	Gloss
/ek/	VC	/es.me.kəs.mə/	One
/ap/	VC	/as.ma.pəs.mə/	Give
/ag/	VC	/as.ma.gəs.mə/	Fire

Table 2.1b: VC Syllable Structure

As seen in the data, the input of VC changes to VC.CV.CVC.CV when the nonsense syllable ‘smV’ is added to it and the number of syllables increases to four. It is observed that when there is no vowel in the word final position, the ‘V’ of the ‘smV’ becomes the mid-central vowel [ə]. Also, it is noticed that nucleus and coda are seen as two different units. The output for the same is shown below:

Output 2: VC + smV = Vs.mV.CVs.mV

c. Simple Coda and Simple Onset Syllable Structure

This type of syllable structure includes CVC structure, where there is one onset, one nucleus and one coda present in its syllable structure. When ‘smV’ is added to this type of syllable structure, some changes take place in the original structure of the word, which can be seen as follows:

Word	Syllable Structure	Output Word	Gloss
/mor/	CVC	/mos.mo.rəs.mə/	Peacock
/d ^h el/	CVC	/d ^h es.me.ləs.mə/	Peahen
/gɪŋ/	CVC	/gis.mi.ŋəs.mə/	Song

Table 2.1c: CVC Syllable Structure

Monosyllabic words of CVC syllable structure have a similar result to output 2, wherein the nonsense syllable ‘smV’ increases the number of syllables to four, but with an addition of a C before the first syllable in the output, which can be seen below:

Output 3: CVC + smV = CVs.mV.CVs.mV

d. Branching Onset Syllable Structure

This type of syllable structure includes CCV and CCVC syllable structures, where there are two onsets, one nucleus and either one or no coda. When ‘smV’ is added to the existing syllable, a structure similar to No Coda syllable structure is found, with the exception of an extra onset before the nucleus. The data for the same is given below:

Word	Syllable Structure	Output Word	Gloss
/tjã/	CCV	/tjãs.ma/	There
/fri/	CCV	/friʃ.mi/	Mr.
/dʒjã/	CCV	/dʒjãs.ma/	Where

Table 2.1d-i: CCV Syllable Structure

Monosyllabic words with a CCV syllable structure have a similar result as the output 1, where addition of ‘smV’ results in doubling of the number of syllables; the only difference here being in the number of onsets. So, again branching onsets and nucleus are perceived as a single unit. Also, it can be observed that in presence of post-alveolar voiceless fricative [ʃ], the nonsense syllable ‘smV’ changes to ‘ʃmV’. Therefore, the output for the same becomes:

Output 4: CCV + smV = CCVs.mV

Word	Syllable Structure	Output Word	Gloss
/vjadʒ/	CCVC	/vjas.ma.dʒəs.mə/	Interest
/prem/	CCVC	/pres.me.məs.mə/	Love
/trəŋ/	CCVC	/trəs.mə.ŋəs.mə/	Three

Table 2.1d-ii: CCVC Syllable Structure

In monosyllabic words with CCVC syllable structure, we get a similar result as that of the output 3, where the number of syllables becomes four. Once more, it is seen that when vowel is absent in the word final position, the ‘V’ of the ‘smV’ takes on the mid-central vowel

[ə]. Moreover, it can also be seen that again branching onset and nucleus are seen as one unit, while nucleus and coda are perceived as separate units. The output for the same will be:

Output 5: CCVC + smV = CCVs.mV.CVs.mV

e. Branching Coda Syllable Structure

This type of syllable structure includes VCC and CVCC syllable structures, where one nucleus, two codas and either one or no onset is present. When ‘smV’ is added to this type of syllable structure, very similar results to No Onset syllable structure can be seen, excluding the fact that in order to follow the Maximum Onset Principle, the branching coda splits, where the first C remains the coda of the original syllable and the second C becomes the onset of the succeeding syllable. The examples of the same can be seen as follows:

Word	Syllable Structure	Output Word	Gloss
/ənd̪ ^h /	VzCC	/əs.mən.d̪ ^h əs.mə/	Blind
/əŋf/	VCC	/əs.mən.ŋəf.mə/	Part/Section
/ərt̪ ^h /	VCC	/əs.mər.t̪ ^h əs.mə/	Meaning

Table 2.1e i: VCC Syllable Structure

In monosyllabic words with VCC syllable structure, the first consonant becomes a coda to the nonsense syllable mV, rather than becoming an onset and creating a new syllable and the second consonant forms a new syllable altogether. Also, it is observed that the second consonant takes on the mid-central vowel [ə], since there is no vowel in the word final position and that in presence of post-alveolar voiceless fricative [ʃ], the nonsense syllable ‘smV’ changes to ‘ʃmV’. The output for which can be put together as:

Output 6: VCC + smV = Vs.mVC.CVsmV

ii. CVCC Syllable Structure

Word	Syllable Structure	Output Word	Gloss
/ʃant̪/	CVCC	/ʃəf.man.t̪əs.mə/	Silent
/d̪ost̪/	CVCC	/d̪os.mos.t̪əs.mə/	Friend
/ləkʃ/	CVCC	/ləs.mək.ʃəf.mə/	Goal

Like in the above seen monosyllabic words with VCC syllable structure, monosyllabic words with CVCC syllable structure gives a similar output, where the first consonant becomes a coda to the nonsense syllable mv and the second consonant forms a new syllable. The only difference here is the presence of an onset. Here also, in presence of post-alveolar voiceless fricative [ʃ], the nonsense syllable ‘smV’ changes to ‘ʃmV’ and the second consonant takes on the mid-central vowel [ə], since there is an absence of vowel in the word final position. The output of this syllable structure is:

Output 7: CVCC + smV = CVs.mVC.CVsmV

f) Branching Coda and Branching Onset Syllable Structure

This type of syllable structure includes CCVCC structure; it consists of two onsets, two codas and one nucleus. Only monosyllabic words are included here for this type of syllable structure. When ‘smV’ is added to this type of syllable structure, a few changes are seen in the internal syllable structure of the word. First, the number of syllables increases to four from one and secondly, just like in branching coda syllable structure, the codas split in order to obey the Maximum Onset Principle. The data for the same is given below:

Word	Syllable Structure	Output Word	Gloss
/svart ^h /	CCVCC	/svas.mar.t ^h əs.mə/	Self-seeker
/grənt ^h /	CCVCC	/grəs.mən.t ^h əs.mə/	Book
/prant/	CCVCC	/pras.man.təs.mə/	Province
/svərg/	CCVCC	/svəs.mər.gəs.mə/	Heaven

Table 2.1f: CCVCC Syllable Structure

As seen from the above given data, the syllable structure of CV changes when smV is added and the resulting syllable structure becomes CCVC.CVC.CVC.CV. Again, it is noted that when there is no vowel in the word final position, the ‘V’ of the ‘smV’ takes on the mid-central vowel [ə]. So, it can be said that for Branching Coda and Branching Onset Syllable Structure following process takes place in the word game:

$$\text{Output 8: CCVCC + smV = CCVs.mVC.CVsmV}$$

2.2 Disyllabic Words

The disyllabic words are also divided in the same manner as those of monosyllabic words but separate outputs are not mentioned for these words as the outcomes are a combination of the main 8 outputs mentioned in the above given section. The examples of the same can be seen as follows:

a. No Coda Syllable Structure

For this type of syllable structure, a similar output to output 1 is seen where the syllable structure of CV changes when ‘smV’ is added and the resulting syllable structure becomes CVC.CV. The only difference being the doubling of the number of syllables in both, the original word as well as the output word. Also, it is observed that onset and nucleus are seen as a single unit. In addition to this, here as well in presence of post-alveolar voiceless fricative [ʃ], the nonsense syllable ‘smV’ changes to ‘fmV’. The examples are given below:

Word	Syllable Structure	Output Word	Gloss
/pa.ŋl/	CV.CV	/pas.ma.ŋɪs.mɪ/	Water
/d̪e.fo/	CV.CV	/d̪es.me.fof.mo/	Countries
/gə.me/	CV.CV	/gəs.mə.mes.me/	Like

Table 2.2a: CV.CV Syllable Structure

b) No Onset Syllable Structure

For disyllabic words having this syllable structure, the structure of the first syllable is VC, while as the structure of the second syllable is CV. So, the changes in the first syllable happen according to the output 2, while the changes in the second syllable are according to the output 1. Here in the first syllable, it is observed that when there is no vowel in the word final position, the ‘V’ of the ‘smV’ takes on the mid-central vowel [ə]. The examples are given as follows:

Word	Syllable Structure	Output Word	Gloss
/aṭ.ma/	VC.CV	/as.ma.ṭəs.mə.mas.ma/	Soul
/uṭ ^h .vũ/	VC.CV	/us.mu.ṭ ^h əs.mə.vũs.mu/	To Get Up
/əp ^h .va/	VC.CV	/əs.mə.p ^h əs.mə.vas.ma/	Rumour

Table 2.2b: VC.CV Syllable Structure

c. Simple Coda and Simple Onset Syllable Structure

The disyllabic words of this syllable structure have a similar result as the output 3, the only difference here is in the total number of syllables in input and output, as disyllabic words have two syllables. Also, like in the other syllables mentioned above, which end in a consonant, the ‘V’ of the ‘smV’ takes on the mid-central vowel [ə], since the vowel is absent in the word final position and in presence of post-alveolar voiceless fricative [ʃ], the nonsense syllable ‘smV’ changes to ‘ʃmV’. Given below are the examples for the same:

Word	Syllable Structure	Output Word	Gloss
/pəʃ:tʃi/	CVC.CVC	/pəs.mə.ʃəs.mə.tʃi s.mi.məs.mə/	West
/nan.pə/	CVC.CVC	/nas.ma.nəs.mə.p əs.mə.ṇəs.mə/	Childhood
/ḍur.bin/	CVC.CVC	/ḍus.mu.rəs.mə.bɪ s.mi.nəs.mə/	Binoculars

Table 2.2c: CVC.CVC Syllable Structure

d. Branching Onset Syllable Structure

In the disyllabic words of this syllable structure, the first syllable has a CCVC syllable structure, while the second syllable has a CVC syllable structure. So, the first syllable produces the same output as the output 5, while the second syllable produce the same output as the output 3. It is seen here also that since there is no vowel in the word final position, the ‘V’ of the ‘smV’ takes on the mid-central vowel [ə]. The examples are given below:

Word	Syllable Structure	Output Word	Gloss
/tras.vaɖ/	CCVC.CVC	/tras.ma.səs.mə.v as.ma.ɖəs.mə/	Terrorism
/præk ^h .jaɖ/	CCVC.CVC	/prəs.mə.k ^h əs.mə .jas.ma.ɖəs.mə/	Famous
/vjəv.har/	CCVC.CVC	/vjəs.mə.vəs.mə. has.ma.rəs.mə/	Behaviour

Table 2.2d: CCVC.CVC Syllable Structure

Branching Coda Syllable Structure

There are two types of syllable structures considered in this paper under the Branching Coda Syllable Structure:

The first category includes the disyllabic words with the first syllable having CVCC syllable structure and the second syllable having CV syllable structure which produces an output which is a combination of the output 7 and the output 1, respectively. Also in the first syllable, in presence of post-alveolar voiceless fricative [ʃ], the nonsense syllable ‘smV’ changes to ‘ʃmV’ and the second consonant takes on the mid-central vowel [ə], since there is an absence of vowel in the word final position. The examples are given as follows:

Word	Syllable Structure	Output Word	Gloss
/mənʃ.r /	CVCC.CV	/məs.mən.ʃəs.mə.rəs.m ə/	Slogan/Spell
/ʃɪŋg.ɖ ũ/	CVCC.CV	/ʃɪʃ.mɪŋ.gəs.mə.ɖʊs.mu /	Horn
/ɖʒɪŋɖ. g/	CVCC.CV	/ɖʒɪs.mɪn.ɖəs.mə.gɪs.m ɪ/	Life

Table 2.2ei: CVCC.CV Syllable Structure

And, in the second category the placement of syllables is reversed, so the first syllable has a CV syllable structure and the second syllable has a CVCC syllable structure, which provides us with an inverse result, which is the output of the first syllable is same as output 1 and that of the second syllable as output 7. The same changes occur in the second syllable here - in presence of post-alveolar voiceless fricative [ʃ], the nonsense syllable ‘smV’ changes to ‘ʃmV’ and the second consonant takes on the mid-central vowel [ə], since there is an absence of vowel in the word final position.

ii) CV.CVCC Syllable Structure

Word	Syllable Structure	Output Word	Gloss
/g ^h ə.məᅇᅇ/	CV.CVCC	/g ^h əs.mə.məs.məᅇ .ᅇəs.mə/	Ego
/ni.bəᅇᅇ ^h /	CV.CVCC	/nis.mi.bəs.məᅇᅇᅇ ^h əs.mə/	Essay
/su.gəᅇᅇ ^h /	CV.CVCC	/sus.mu.gəs.məᅇᅇᅇ ^h əs.mə/	Fragrance

2.3 Trisyllabic Words

Similar to the disyllabic words, independent outputs for the trisyllabic words are not created and an amalgamation of the main 8 outputs are used to explain the below given examples of different complex syllable structures: that of the output 1 is seen where the syllable structure of CV changes when ‘smV’ is added and the resulting syllable structure becomes CVC.CV. The only difference is that instead of doubling of the number of syllables in both original word as well as the output word, the number of syllables is tripled. It is also observed that onset and nucleus are seen as a single unit. Moreover, it is observed that in presence of post-alveolar voiceless fricative [ʃ], the nonsense syllable ‘smV’ changes to ‘jmV’. The examples for this type of syllable structure are given below:

Word	Syllable Structure	Output Word	Gloss
/ʃi.ja.[o/	CV.CV.CV	/ʃiʃ.mi.jas.ma.[os.mo/	Winter
/və.he.v/	CV.CV.CV	/vəs.mə.hes.me.vūs.mu/	To Flow
/lə.k ^h o.ʃi/	CV.CV.CV	/ləs.mə.k ^h os.mo.ʃis.mi/	Marble

Table 2.3a: CV.CV.CV Syllable Structure

b. No Onset Syllable Structure

Word	Syllable Structure	Output Word	Gloss
/kəm.nə.sib/	CVC.CV.CVC	/kəs.mə.məs.mə .nəs.mə.sis.mi.b əs.mə/	Unfortunate
/ger.sə.məᅇᅇ /	CVC.CV.CVC	/ges.me.rəs.mə. səs.mə.smə.ᅇᅇᅇ .mə/	Misunderstand ing
/pər.ʃu.rəᅇ/	CVC.CV.CVC	/pəs.mə.rəs.mə.t ʃus.mu.rəs.mə.ᅇ əs.mə/	Loose Change

The structure of trisyllabic words given above is similar to disyllabic words given in table 2.2b) above, except for the addition of another CV syllable after the second syllable, so the output for the first syllable is the same as that of the output 2 and for the second and third syllable, the output is identical to the output 1. Again, it is seen that since there is no

vowel in the word final position, the ‘V’ of the ‘smV’ takes on the mid-central vowel [ə]. The examples are given below:

Word	Syllable Structure	Output Word	Gloss
/ek.ɠ ^h a.rũ/	VC.CV.CV	/es.me.kəs.mə.ɠ ^h as.ma.rũmu/	Constant
/əŋ.gə.mo/	VC.CV.CV	/əs.mə.ŋəs.mə.gəs.mə.mos.mo/	Dislike
/ak.ru.ti/	VC.CV.CV	/as.ma.kəs.mə.rus.mu.ti.s.mi/	Diagram

Table 2.3b: VC.CV.CV Syllable Structure

c. simple Coda and Simple Onset Syllable Structure

In trisyllabic words under this category, the first and third syllables have the syllable structure of CVC, while the second syllable has the syllable structure of CV, so the output of these words is a blend of the output 3 for the first and third syllables and the output 1 for the second syllable. Here also, the nonsense syllable ‘smV’ changes to ‘ʃmV’ and it is seen that since there is no vowel in the word final position, the ‘V’ of the ‘smV’ takes on the mid-central vowel [ə]. The examples of these words are given below:

Word	Syllable Structure	Output Word	Gloss
/kəm.nə.sib/	CVC.CV. CVC	/kəs.mə.məs.mə.nəs.mə.sis.mi.bəs.mə/	Unfortunate
/ger.sə.mədʒ/	CVC.CV. CVC	/ges.me.rəs.mə.səs.mə.smə.dʒəs.mə/	Misunderstanding
/pər.tʃu.rəŋ/	CVC.CV. CVC	/pəs.mə.rəs.mə.tʃus.mu.rəs.mə.ŋəs.mə/	Loose Change

Table 2.3c: CVC.CV.CVC Syllable Structure

d) Branching Onset Syllable Structure Trisyllabic words in this category are a mix of three different syllable structures. The first syllable has a CCV syllable structure, the second syllable has a CV syllable structure and the third syllable has a CVC syllable structure. The output of these words is an amalgamation of output 4, output 1 and output 3, respectively. Also, it is observed that since there is no vowel in the word final position, the ‘V’ of the ‘smV’ takes on the mid-central vowel [ə] and that in presence of post-alveolar voiceless fricative [ʃ], the nonsense syllable ‘smV’ changes to ‘ʃmV’, which can be seen here:

Word	Syllable Structure	Output Word	Gloss
/prə.və.tʃən/	CCV.CV.CVC	/prəs.mə.vəs.mə.tʃəs.mə.nəs.mə/	Lecture
/ŋja.ja.ɠ ^h ɪʃ/	CCV.CV.CVC	/ŋjas.ma.jas.ma.ɠ ^h is.mi.ʃəʃ.mə/	Judge
/prə.tʃə.lɪt/	CCV.CV.CVC	/prəs.mə.tʃəs.mə.lɪs.mi.ʃəs.mə/	Prevalent

Table 2.3d: CCV.CV.CVC Syllable Structure

e. Branching Coda Syllable Structure

In the trisyllabic words that fall under the syllable structure of CVC.CV.CVCC, three different syllable structures are found. The first syllable has a CVC syllable structure, the second syllable has a CV syllable structure and the third syllable has a CVCC syllable structure. So, the output of this is a combination of output 3, output 1 and output 7, respectively. Also, like in the other syllables mentioned above, which end in a consonant, the ‘V’ of the ‘smV’ takes on the mid-central vowel [ə], since the vowel is absent in the word final position, as seen in the below given examples:

Word	Syllable Structure	Output Word	Gloss
/dʰəg.la.bəndʱ/	CVC.CV.CVCC	/dʰəs.mə.gəs.mə.las.ma .bə.s.mən.dʰəs.mə/	Abundant
/tən.du.rəst/	CVC.CV.CVCC	/təs.mə.nəs.mə.dus.mu .rəs.məs.təs.mə/	Healthy
/pər.ma.nənd/	CVC.CV.CVCC	/pəs.mə.rəs.mə.mas.ma .nəs.mən.dəs.mə/	Bliss

Table 2.3e: CVC.CV.CVCC Syllable Structure

2.4 Quadrisyllabic Words

For quadrisyllabic words also, distinct outputs are not stated here since the results are a mix of the main 8 outputs found in the analysis of the monosyllabic words. Examples for different categories of syllable structures are given below:

a. No Coda Syllable Structure

For this type of syllable structure, a similar output to that of the output 1 is seen where the syllable structure of CV changes when ‘smV’ is added and the resulting syllable structure becomes CVC.CV. The only change is in the number of syllables increasing four times. Also, it is observed that onset and nucleus are seen as a single unit. Moreover, in presence of post-alveolar voiceless fricative [ʃ], the nonsense syllable ‘smV’ changes to ‘jmV’.

Word	Syllable Structure	Output Word	Gloss
/ma.tʰa..re/	CV.CV.CV.V	/mas.ma.tʰas.abʰas. ma.res.me/	Challenging
/le.va.də.a/	CV.CV.CV.V	/les.me.vas.ma.dəs. me.vas.ma/	Concern
/ʃa.ka.ha.r/	CV.CV.CV.V	/ʃəʃ.ma.kas.ma.has. ma.ris.mi/	Vegetarian

Table 2.4a: CV.CV.CV.CV Syllable Structure

b. No Onset Syllable Structure

For quadrisyllabic words in this category, the first syllable has the syllable structure of VC, while as the other three syllables have the syllable structure of CV, but the second syllable follows the principle of VCC syllable structure where rather than forming a new syllable as an onset, the ‘C’ – which is a nasal consonant, becomes the coda of the nonsense syllable ‘mV’. So, the first syllable has a similar result as that of the output 6, while as the second, third and fourth syllable have the same result as the output 1, which can be seen in the below given examples:

Word	Syllable Structure	Output Word	Gloss
/əŋ.gə.re.dʒɪ/	VC.CV.CV.CV	/əs.məŋ.gəs.mə.res.m e.dʒɪs.mɪ/	English
/ən.ɡ ^h a.rɪ.jũ/	CV.CV.CV	/əs.mən.ɡ ^h as.ma.rɪs.m ɪ.jũs.mu/	Dark

Table 2.4b: VC.CV.CV.CV Syllable Structure

c. Simple Coda and Simple Onset Syllable Structure

Here, different outcomes are seen in the below given examples, where there is presence of a nasal consonant in the word medial position, the word follows the principle of the CVCC syllable structure and gives us the result similar to the output 7. So, in the first example, the first and the fourth syllables have the same outcome as the output 3, the second syllable has the same result as the output 1 and the third syllable has the same result as the output 7. In the second example however, the outputs of the first and the third syllables are exchanged, but the outputs of the second and the fourth syllables remain unchanged. Also, it is seen that since there is no vowel in the word final position, the ‘V’ of the ‘smV’ takes on the mid-central vowel [ə], which can be seen as follows:

Word	Syllable Structure	Output Word	Gloss
/vər.ŋə.sə ŋ.kər/	CVC.CV.CVC.CVC	/vəs.mə.rəs.mə.ŋəs.mə.səs .məŋ.kəs.mə.rəs.mə/	Mixed-breed
/səŋ.ge.m ər.mər/	CVC.CV.CVC.CVC	/səs.məŋ.ges.me.məs.mə.r əs.mə.məs.mə.rəs.mə/	Marble

Table 2.4c: CVC.CV.CVC.CVC Syllable Structure

d. Branching Onset Syllable Structure

The quadrisyllabic words that fall under this category of syllable structure are a combination of two different syllable structures, the first syllable being of CCV syllable structure and the other three syllables being of simple CV syllable structure. So, the outcome for this type of syllable structure is a blend of two outputs – output 4 for the first syllable and output 1 for the other three syllables. The examples for the same can be seen below:

Word	Syllable Structure	Output Word	Gloss
/dʒva.[a.mu.kʰi/	CCV.CV.CV.CV	/dʒvas.ma.[as.ma.mus.mu.kʰis. mi/	Volcano
/prə.bʰa.ti.jū/	CCV.CV.CV.CV	/prəs.mə.bʰas.ma.tis.mi.jūs.mu/	Devotional song
/prə.na.li.ka/	CCV.CV.CV.CV	/prəs.mə.nas.ma.lis.mi.kas.ma/	Custom

Table 2.4d: CCV.CV.CV.CV Syllable Structure

e. Branching Coda Syllable Structure

In the quadrisyllabic words falling in this category, words have a different first syllable while as the other three syllables have the same structure. The results produced here are the same. In the first example, the first syllable has the same result as the output 3 and in the second example, the first syllable has the same result as the output 1. The second and third syllables have the same result as the output 1. And in the fourth syllable, the first coda becomes the coda of the nonsense syllable ‘mV’, rather than becoming a new syllable and the second coda forms a new syllable much like seen in the output 7 – in the monosyllabic words – of CVCC syllable structure. Also, the nonsense syllable ‘smV’ changes to ‘jmV’ and the second consonant takes on the mid-central vowel [ə], since there is an absence of vowel in the word final position, which can be seen below:

Word	Syllable Structure	Output Word	Gloss
/sɪl.sɪ.la.bəŋdʱ/	CVC.CV.CV.CVCC	/sɪs.mi.ləs.mə.sɪs.mi.la s.ma.bəs.mən.dʱəs.mə/	Orderly
/sə.pa.ʈa.bəŋdʱ/	CV.CV.CV.CVCC	/səs.mə.pas.ma.ʈas.ma. bəs.mən.dʱəs.mə/	At once

Table 2.4e CVC.CV.CV.CVCC/CV.CV.CV.CVCC Syllable Structure

3. Conclusion

From the above discussion, it was found that there are a number of different outcomes in different categories of syllable structures. However, there are a few commonalities that can be established in order to understand this word game better:

- A phonological change which can be noticed across the different syllable structures is that when, in the input word, a post-alveolar voiceless fricative [ʃ] is present, the nonsense syllable immediately succeeding it changes from ‘smV’ to ‘jmV’.
- Words ending with a consonant take on the mid central vowel schwa [ə], in order to form a new syllable, as a syllable cannot be formed without a vowel.
- To answer the first question, as mentioned in the introduction of the paper, whether the insertion of the nonsense syllable ‘smV’ keeps the canonical structure of the syllable intact or not, the

number of onsets does not affect the internal syllable structure of the word in this game. Also, after the addition of the nonsense syllable, the onsets always remain attached to the V of the original syllable, irrespective of whether a simple onset is present or a branching onset is present.

- The number of codas does influence the output in this word game. A simple coda becomes an onset producing a new syllable, while a branching coda splits itself in order to follow the Maximum Onset Principle. The first coda attaches itself to the nonsense syllable ‘mV’ and the second coda forms a new syllable as an onset. This observation provides us the answer for the second question raised in the introduction of the paper as well as presents us the opted syllable structure.

It needs to be mentioned that there are a few syllable structures which were not taken into consideration here. These syllable structures are:

V

V(V)

CV(V)

CCCV

CV(V)C

CCCV(V)C

Taking into account the discussion, it can be said that although different syllable structures give different outputs, there are a few commonalities that all these syllable structures share.

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