

# Stress Pattern System in Central Sarawani Balochi

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## Abstract

The present article investigates the stress pattern system of Central Sarawani Balochi (CSB), spoken in Sarawan located in Sistan and Baluchestan province of the Islamic Republic of Iran, based on metrical theory as developed in Hayes (1995). Correspondingly, the present research illustrates the position of primary and secondary stress in mono-morphemic words, verbal paradigms, compound words, complex words, pair words and simple transitive as well as intransitive sentences. The linguistic data are mostly based on the purposeful recording of speech gathered through interview and elicitation from the speech of 10 male and female language consultants with different social backgrounds. CSB data highlight that the stress pattern system in this language variety is almost totally systematic; it is a language variety with iambic feet. Further, CSB data show up that stress is culminative at phonological level. It is also rhythmically distributed. The absence of stress assimilation is supported by CSB data as well. Since the location of stress is predictable, its stress pattern is fixed. The data, likewise, confirm that stress system in CSB is a mixture of morphological and rhythmic. Meanwhile, stress pattern in complex words indicate the suffixes attract the primary stress. Besides, in negative and prohibitive forms, prefixes *mæ-* and *næ-* get the primary stress.

**Keywords:** Central Sarawani Balochi, Metrical Theory, Iambic Feet, Stress Pattern System

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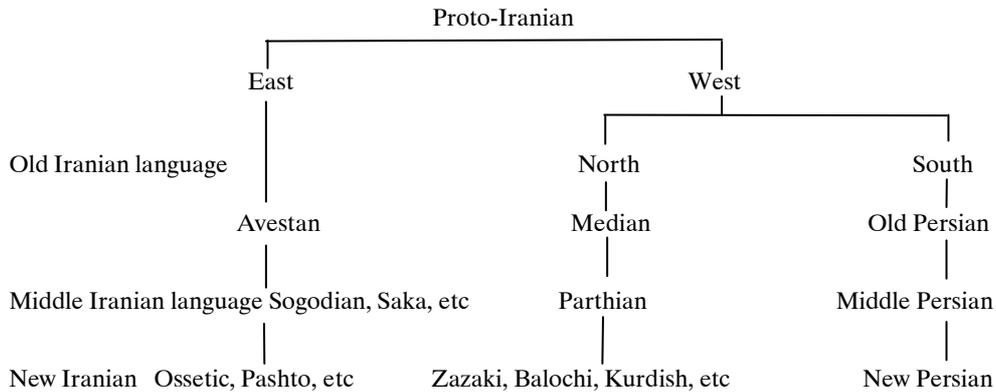
## **1. Introduction**

This article deals with the study of the stress pattern system of CSB based on the method outlined by Hayes (1995). The corpus for this investigation was gathered by elicitation and interview with 5 female and 5 male language consultants.

Balochi is spoken in south-western Pakistan, in the province of Baluchestan as well as by smaller populations in Punjab and Sindh, and by a large number of people in Karachi. It is also spoken in south-eastern Iran, in the province of Sistan and Baluchestan, and by Baloch who have settled in the north-eastern province of Khorasan and Golestan. It is furthermore spoken by small communities in Afghanistan, in the Gulf States, in the Marw/Marie region of Turkmenistan, in India, East Africa and nowadays also by a considerable number of Balochin North America, Europe and Australia (Jahani and Korn, 2009). The total number of speakers of Balochi has been estimated as being between 5-8 millions, but might also be somewhat higher than that (Jahani, 2001: 59).

The position of Balochi among Western Iranian languages is controversial. Elfenbein (1989) introduces this language as a North Western Iranian language whose Middle Iranian ancestor is much closer to Parthian rather than Middle Persian. Paul (2003: 61) claims that Balochi seems to be still more a South Western Iranian language. Korn (2003: 49), from the historical point of view, regards it as a so-called North Western Iranian language. This means that with regards to certain linguistic features (called isoglosses) Balochi shares a set of characteristics with e.g. contemporary Kurdish and Zazaki and Middle Iranian Parthian, whereas Persian, Tajiki and some other languages -called South Western Iranian- show something different under same circumstances. Korn (ibid: 50) shows such a relationship in the form of family tree as:

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However, Korn (ibid) maintains that in some cases, the Balochi outcome of some Proto-Iranian sounds or combinations of sounds is not the one we might expect in a North-Western Iranian language (judging from the Parthian evidence), but rather the South-Western one as in Persian.

Jahani and Korn (2009) divide the main dialects of Balochi into Western, Southern, and Eastern. They assert this classification as a very broad dialect division, within which further dialect demarcations can be made. Some dialects do not easily fit any of these groups. This is true, for example, of the dialect spoken in Iranian Sarawan, which shows transitional features between Western and Southern.

Sarawani is spoken in the area including the town of Sarawan. The district of Sarawan is about 24,000 km<sup>2</sup>. It borders with Pakistan to the east and with Chabahar district, which is situated along the Arabian Sea, to the southwest and south. In the north it borders the towns of Khash and Zahedan and in the west Iranshahr. The distance from Sarawan to Tehran is about 2000 km. (Baranzehi, 2003: pp. 75-77).

To the extent the authors know, the number of works on the phonological system of Iranian Balochi and particularly Sarawani dialect is limited to Baranzehi (2003) and Soohani (2003).

Baranzehi (2003) describes the Sarawani dialect and its dialectal varieties as well as Persian influence on this dialect. Moreover, he introduces the consonant inventory<sup>1</sup> of CSB as given in table (1):

**Table1. Sarawani Balochi consonants (Baranzehi, 2003: 80)**

	labial	dental-alveolar	retroflex	prepalatal-palatal	velar	glottal
plosive	<i>p</i>	<i>t</i>	<i>t̠</i>		<i>k</i>	(ʔ)
	<i>b</i>	<i>d</i>	<i>d̠</i>		<i>g</i>	
affricate				<i>t͡ʃ</i>		
				<i>t͡ʃ̠</i>		
fricative	( <i>f</i> )	<i>s</i>		<i>ʃ</i>	( <i>x</i> )	<i>h</i>
		<i>z</i>		<i>ʒ</i>	( <i>g</i> )	
nasal	<i>m</i>	<i>n</i>				
lateral		<i>l</i>				
flap		<i>r</i>	<i>r̠</i>			
glide	<i>w</i>			<i>y</i>		

He also introduces Sarawani Balochi vowels as below:

Long vowels: *ā, ī, ū, ē, ō*

Short vowels: *a, e, o*

Diphthongs: *ey, aw*

Baranzehi (ibid), further, asserts that all both short and long vowels appear phonetically as nasalized in CSB, as well.

<sup>1</sup> The consonants /f/, /x/, /q/ which are found in loanwords from Persian and Arabic are changed to /p/, /h/, /k/or/g/ by most consultants whereas some educated uses the Persian pronunciation.

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Soohani (2003) investigates the phonology of CSB from the point of view of the ruling linear and non-linear models of modern generative phonology as developed in Chomsky and Halle (1968). She provides a list of consonants for this dialect as presented in table (2):

**Table 2. CSB Consonants (Soohani, 2003)**

	bilabial	labiodentals	dental	alveolar	post alveolar	retroflex	velar	uvular	glottal
plosive	b p		t d			ʈ ɖ	k g		(ʔ)
affricate					tʃ dʒ				
fricative		(f)		s z	ʃ ʒ			x ɣ	h
nasal	m			n					
tap				r		ɽ			
approximate	w						j		

Sooahni (ibid) considers the following vowels for CSB:

Short vowels: *a, e, o, æ*

Long vowels: *a:, i:, o:, u:*

Diphthong: *ei, ow*

She, besides, formulates the syllable pattern in CSB as: (C) CV(C) (C).

Consequently, different types of possible syllables in CSB are given as bellow:

CV	<i>do:</i>	‘two’
CVC	<i>ʔa:b</i>	‘water’
CVCC	<i>ʔæsk</i>	‘photo’
CCV	<i>tru:</i>	‘aunt’
CCVC	<i>sra:h</i>	‘home’
CCVCC	<i>dræht</i>	‘tree’

The present article consists of five sections. Apart from section (1) dedicated to introduction, section (2) deals with the theoretical framework employed. Section (3) provides a description of the stress patterns of the CSB data. Section (4) gives a metrical analysis of the linguistic data under investigation. Section (5) represents the conclusion.

## **2. Theoretical Framework**

According to Burquest (2001: 274), metrical phonology began with McCarthy's (1981) paper on the non-catenative morphology of Arabic. The central assumption of this theory is that stress is a rhythmic phenomenon, determined strong–weak relations between syllables (Lieberman and Prince, 1977; Hayes 1979, Halle and Vergnaud, 1987). Metrical stress theory, as a branch of generative phonology theory, deals with stress patterns. It maintains that the phonetic and phonological differences between stress and ordinary features can be best explained if one discards the supposition that stress is a feature. Instead, the theory considers stress as a hierarchically organized rhythmic structure (Lieberman, 1975; Lieberman and Prince, 1977).

The fact that stress is the linguistic manifestation of rhythmic structure is regarded as the central claim of metrical stress theory, that is, in stress languages, every utterances has a rhythmic structure which serves as an organizing framework for that utterance's phonological and phonetic realization. One reason for considering that stress is linguistic rhythm is that stress patterns show substantial formal parallels with extra-linguistic rhythmic structures, such as those found in music and verse (Hays, 1995: 8).

According to Hayes (ibid: 24-26) metrical representation of stress allows the special properties of stress as follows:

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**(A) Culminativity:** One distinctive phonological characteristic of stress is that it is normally culminative, it means each word or phrase has a single strongest syllable bearing the main stress. The domain of culminativity differs from language to language. In some languages, the stress is culminative at the word level, at the level of the intonational phrase, phrasal level (for example in French and Italy) and possibly at the phonological level (like in English). Some languages have been claimed to lack culminativity at all levels; that is, there can be completely stressless utterances

**(B) Rhythmic Distribution:** Stress is rhythmically distributed (Selkirk, 1984, cited in Hayes, 1995), in the sense that syllables bearing equal levels of stress tends to occur spaced at roughly equal distances, falling in to alternating patterns. Thus in many languages ,the stress pattern of six-syllable words is  $\acute{\sigma} \sigma \acute{\sigma} \sigma \acute{\sigma} \sigma$  (/σ/= syllable); but there appear to be no languages in which six-syllable words regularly receive the pattern  $\sigma \sigma \sigma \acute{\sigma} \acute{\sigma}$ .

**(C) Stress Hierarchies:** Stress is hierarchical (Lieberman and Prince, 1977; cited in Hayes, 1995: 25), in the sense that most stress languages have multiple degrees of stress: primary, secondary, tertiary, and so on. Such degrees of stress can appear within the phonology, rather than being the result of late phonetic rules.

**(D) Multiple Levels:** The existence of multiple levels of stress reflects the hierarchical nature of rhythmic structure.

**(E) Lack of Assimilation:** The absence of stress assimilation follows from the absence of a feature [stress] to assimilate. That is, a stressed syllable does not induce stress on the immediately preceding or following syllable. In principle, it is expected grid marks to be associated to more than one syllable, but this is against the nature of rhythmic structure: a rhythmic beat, which is

what a grid mark represents, forms appoint in time rather than a sequence (Lerdahl and Jackendoff, 1983: 18, cited in Hayes, 1995: 30).

Moreover, Hayes (ibid: 31) discusses the basic typology of word stress rules as below:

**(A) Free Versus Fixed Stress:** The oldest notion in stress rule typology is that of fixed versus free stress languages. These terms refers to phonemic status of stress in languages: fixed stress is predictable in its location and maybe derived by rule, while free stress in unpredictable and must be lexically listed.

**(B) Rhythmic Versus Morphological Stress:** Hayes (1995) considered a division of stress system into rhythmic and morphological variation independent of the free/fixed division. In a rhythmic stress system, stress is based on purely phonological factors, such as syllable weight or limitation on the distance between stress and word boundaries. In morphological system, stress is based on the morphological structure of Often, the particular syllable of the root bears the main stress, and affixes bear the weak stress. In morphological stress system, main stress may fall on whatever syllables of the stem is assigned main stress at the stem level. In another type of morphological system, the position of stress is the result of a complex interplay of stem and diacritic properties of affixes: affixes can be stressless, stressed, can remove stresses from the domain to which they are attached, assign a stress to the preceding syllable and so on. Such systems often have a rhythmically determined default pattern. A system of this kind has been described for Indo-European and various daughter languages in the work of Halle and others (Halle and Kiparsky, 1977, 1981, cited in Hayes, 1995: 32). Naturally most stress systems are a mix of the morphological and rhythmic stress system and these stress systems are not usually manifested in pure form.

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**(C) Bounded and Unbounded Stress:** In a bounded stress system, the stress fall within a particular distance of a boundary or another stress; stem stress in English is an example. In an unbounded system, stress can fall an unlimited distance from a boundary or another stress. An example of an unbounded system would be the following: Stress the right heaviest syllable in a word; if there is no heavy syllable, stress the initial syllable.

Besides, the notion of feet derived from the study of classical metrics, the study of rhythm in verse, has been extended to the study of the rhythmic grouping of syllables within the word (van Oostendorp, 2009). In metrical stress theory the best way to express rules might not actually be the most direct one, that is, to place stress on a particular syllable. The alternative is to state the possible structures for metrical constituents and construe stress placements as the parsing of a word into such constituents. These constituents, the minimal bracketed units of metrical theory, are called feet (Hayes, 1995: 40).

In many languages the appropriate foot for assigning rhythmic word stress is disyllabic. One of these two is more prominent than the other, and gives two options: trochee and iambic. Trochee is borrowed from the classical metrics and means ‘disyllabic foot with initial prominence’. Iambic is also borrowed from the classical metrics and means ‘the second syllable is the most prominent one’, (van Oostendorp, 2009; Hayes, 1995).

Iambic and trochaic feet are the most important building blocks in the stress systems of the most stress languages, too. Feet are different from all other levels of phonological organization in one important way. Although it is hardly ever contrasted that all languages have features, segments and syllables, there is quite number of languages for which there is no evidence for metrical feet; for these languages it cannot be said that some syllables are systematically stronger than its phonological neighbor (van Oostendorp, 2009). Languages

which do have feet choose to have either iambic or trochaic feet. This is a parametric choice; there might be no languages in which the two types of feet are mixed.

The metrical theory of stress is also related to the theories of syllable structure, particularly those aspects of syllable theory concerned with weight. Hayes (1995) adopts the view that in stress languages, the stress-bearing unit is the syllable. This means, for instance, that in disyllabic words there are only two possibilities for stress placement, without considering of how many segments the word contains. Hayes assumes that syllables are the units which are grouped together in metrical structure and to which grid marks are associated (Hayes, *ibid*: 49). Among the more interesting stress rules are those that refer to a distinction between heavy and light syllables. By this, it means that all syllables may be grouped into two such classes and this character of syllables determines the syllable's influence on stress. Attraction of stress by heavy syllables is known as 'quantity-sensitivity' (Kager, 1999; van Oostendorp, 2009).

Hayes (1995) claims that there are no quantity-insensitive iambs. On the other hand, most trochaic languages seem to be also quantity - sensitive. The difference between foot types is partly determined by the Iambic/Trochaic law (Hayes, 1995; van Oostendorp, 2009):

- Elements contrasting in intensity naturally form grouping with initial prominence (trochees).
- Elements contrasting in duration naturally form groupings with final prominence (iambs).

### **3. Description of Stress Patterns in CSB**

In this section, the stress pattern system of CSB has undergone study. The position of primary and secondary stress in mono-morphemic words, verbal

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paradigms, compound words, complex words and simple transitive and intransitive sentences are shown based on the metrical theory (Hayes, 1995).

### 3.1. Mono-morphemic Words

CSB syllables fall into two classes: (a) light syllable CV which is represented by /<sub>ˌ</sub>/ and (b) heavy syllables (CVC, CV: and longer) that is shown by /<sub>ˈ</sub>/. Words which contain only one morpheme are known as mono-morphemic words. The following CSB examples show that the primary stress in simple nouns, adjectives and adverbs falls on the last heavy syllables, while the position of secondary stress is on the penultimate heavy syllable. Consider these examples:

• **Nouns**

(1) a. (CV:)(CV:)	/ <sub>ˌ</sub> ˌ/	<i>bĩ: bĩ</i>	‘grandmother’
		<i>gũ: rĩ</i>	‘teapot’
b. (CV)(CVC)	/ <sub>ˌ</sub> ˈ/	<i>zẽmĩ:n</i>	‘ground’
		<i>koʃæ:k</i>	‘dog’
		<i>pogól</i>	‘frog’
		<i>neʃa:r</i>	‘bride’
c. (CVC)(CVC)	/ <sub>ˌ</sub> ˈ/	<i>bællók</i>	‘grandmother’
		<i>pèʃfók</i>	‘cat’
		<i>hòʃtér</i>	‘camel’
		<i>hænguír</i>	‘grape’
		<i>gæрма:n</i>	‘summer’
d. (CVC)(CV:)	/ <sub>ˌ</sub> ˈ/	<i>hòрма:</i>	‘date’
		<i>bĩ:nda:</i>	‘gumbo’
		<i>hènná:</i>	‘henna’

• **Adjectives**

(2) a. (CV)(CV:)	/ <sub>ˌ</sub> ˈ/	<i>gæniĩ</i>	‘rich’
b. (CV:)(CVC)	/ <sub>ˌ</sub> ˈ/	<i>lâ:gæér</i>	‘thin’
		<i>ʃù:hĩ:n</i>	‘long’
		<i>bâ:ræég</i>	‘tide’

c. (CVC)(CV)	/ ˈ ʊ /	<i>kóhnæ</i>	‘old’
d. (CVC)(CVC)	/ ˈ ʊ /	<i>tənbæɪl</i>	‘lazy’
		<i>hʊ:rtog</i>	‘short’

● **Adverbs**

(3) a. (CV)(CV:)	/ ʊ ˈ /	<i>pæʃɪ</i>	‘why’
		<i>hænuː</i>	‘now’
b. (CVC)(CV:)	/ ˈ ʊ ˈ /	<i>bɑːndaː</i>	‘tomorrow’
c. (CV)(CV:)	/ ʊ ˈ /	<i>zekɪ</i>	‘yesterday’
d. (CV)(CV:)(CV)	/ ʊ ˈ ʊ /	<i>hæmɪʃæ</i>	‘always’

### 3.2. Verbal Paradigms

This section deals with the study of the stress pattern system of the simple past, simple present, past and present continuous, present and past perfect as well as negative forms of the verbs in CSB.

#### 3.2.1. Simple Present

The present tense is formed from joining present personal ending to the present stem. In the case of compound verbs, suffix-æ (an oblique marker) is added to the nominal part of compound verb.

The primary stress in simple present verbs falls on the present personal endings and the last syllable of verbal part of the compound verbs get the primary stress. Consider the following examples:

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**Table 3. Simple Present**

Simple verb	Compound verb	
<i>wa:ps-a':n</i> sleep.Present-1SG “I sleep”	<i>ka:r-æ</i> work-V.EL “I work”	<i>kæ n-a':n</i> do.Present-1SG
<i>wa:ps-éj</i> sleep.Present-2SG “You sleep”	<i>ka:r-æ</i> work-V.EL “You work”	<i>kæ n-éj</i> do.Present-2SG
<i>wa:ps-ét</i> sleep.Present-3SG (s)he sleeps	<i>ka:r-æ</i> work-V.EL “(s)he works”	<i>kæ n-t</i> do-Present-3SG
<i>wa:ps-ĩn</i> sleep.Present-1PL “We sleep”	<i>ka:r-æ</i> work-V.EL “We work”	<i>kæ n-ĩn</i> do.Present-1PL
<i>wa:ps-ĩt</i> sleep.Present-2PL “You sleep”	<i>ka:r-æ</i> work-V.EL “You work”	<i>kæ n-ĩt</i> do.Present-2PL
<i>wa:ps-ént</i> sleep.Present-3PL “They sleep”	<i>ka:r-æ</i> work-V.EL “They work”	<i>kæ n-ént</i> do.Present-3PL

### 3.2.2. Progressive Present

The progressive tense is formed with *gola:jeʃ* + Present copula + simple present of the main verb.

This progressive form exists only in CSB and is not found in any other dialect of Balochi (Baranzehi, 2003). The primary stress in the progressive form falls on the personal ending of the main verb and the inflected form of *gola:jeʃ* appearing as an auxiliary verb takes its own primary stress on personal ending

as well. The following examples indicate the stress position in progressive present:

**Table 4. Present Progressive**

Simple verb		Compound verb		
<i>gola:jeʃ-aːn</i>	<i>wa:ps-aːn</i>	<i>gola:jeʃ-aːn</i>	<i>ka:r-æ</i>	<i>kæ n-aːn</i>
PROG-COP.Present-1SG	sleep.Present-1SG	PROG-COP.Present-1SG	work-V.EL	do-Present-1SG
"I am sleeping"		"I am working."		
<i>gola:jeʃ-éj</i>	<i>wa:ps-éj</i>	<i>gola:jeʃ-éj</i>	<i>ka:r-æ</i>	<i>kæ n-éj</i>
PROG-COP.Present-2SG	sleep. Present -2SG	PROG-COP.Present-2SG	work-V.EL	do-Present-2SG
"You are sleeping"		"You are working."		
<i>gola:jeʃ-ó</i>	<i>wa:ps-ét</i>	<i>gola:jeʃ-ó</i>	<i>ka:r-æ</i>	<i>kæ nt</i>
PROG-COP.Present-3SG	sleep-Present-2SG	PROG-COP.Present-3sg.	work- V.EL	do-Present.3SG
"(s)he is sleeping"		"(s)he is working."		
<i>gola:jeʃ-ĩn</i>	<i>wa:ps-ĩn</i>	<i>gola:jeʃ-ĩn</i>	<i>ka:r-æ</i>	<i>kæ n-ĩn</i>
PROG-COP.Present-1PL	sleep-Present-1PL	PROG-COP.Present-1PL	work- V.EL	do-Present-1PL
"We are sleeping"		"We are working."		
<i>gola:jeʃ-ĩt</i>	<i>wa:ps-ĩt</i>	<i>gola:jeʃ-ĩt</i>	<i>ka:r-æ</i>	<i>kæ ni-ĩt</i>
PROG-COP.Present-2PL	sleep-Present-2PL	PROG-COP.Present-2PL	work-V.EL	do-Present-2PL
"You were sleeping"		"You are working."		
<i>gola:jeʃ-ént</i>	<i>wa:ps-ént</i>	<i>gola:jeʃ-ént</i>	<i>ka:-ræ</i>	<i>kæ n-ént</i>
PROG-COP.Present-3PL	sleep-Present-3PL	PROG-COP.Present-3PL	work-V.EL	do-Present-3PL
"They are sleeping"		"They are working."		

### 3.2.3. Present Perfect

The present perfect is formed by joining past personal ending (except in the 3rd SG) to the past participle. The position of primary stress in simple verb present perfect is in the last syllable of the past participle and the secondary stress falls on the first syllable of the copula. The primary stress of compound verb in present perfect falls on the last syllable of the nominal element, while the secondary stress in compound verb is on the last syllable of verbal element, Consider the following examples:

**Table 5. Present Perfect**

Simple verb	Compound verb	
<i>wa:pt-æ-j-a:n</i> sleep.Past-PP-HIAT-1SG “I have slept.”	<i>ka:r-ón</i> work-PRON.suffix.1SG “I have worked.”	<i>kort-æ</i> do.Past-PP
<i>wa:ptæ-j-éj</i> sleep.Past-PP-HIAT-2SG “You have slept.”	<i>ka:r-ét</i> work-PRON.suffix.SG You have worked.”	<i>kort-æ</i> do.Past-PP
<i>wa:pt-æ</i> sleep.Past-PP “(s)he has slept.”	<i>ka:r-i'</i> work-PRON.suffix.SG “(s)he has worked.”	<i>kort-æ</i> do.Past-PP
<i>wa:pt-æ-j-ĩn</i> sleep.Past-PP-HIAT-1PL “We have slept”	<i>ka:r-ĩn</i> work-PRON.suffix.1PL “We have worked.”	<i>kort-æ</i> do.Past-PP
<i>wa:pt-æ-j-ĩt</i> sleep.Past-PP-HIAT-2PL “You have slept.”	<i>ka:r-éj'</i> work-PRON.suffix.2PL “You have worked.”	<i>kort-æ</i> do.Past-PP
<i>wa:pt-æ-j-ént</i> sleep.Past-PP –HIAT-3PL “They have slept.”	<i>ka:r-éj'</i> work-PRON.suffix.3PL “They have worked.”	<i>kort-æ</i> do.Past-PP

### 3.2.4. Past Simple

The past tense in CSB is formed from the past stem by adding the past personal endings. The position of primary stress of past simple is on the first syllable of the verb and in compound verbs the first syllable of the nominal element gets the primary stress and the secondary stress falls on the first syllable of verbal element. Following examples indicate the position of primary and secondary stress of simple past form:

**Table 6. Past Simple**

Simple verb	Compound verb	
<i>wá:pt-on</i> sleep.Past-1SG “I slept.”	<i>ka:r-on</i> work-PRON.suffix.1SG “I worked.”	<i>kò(rt)</i> do.Past.3SG
<i>wá:pt-ej</i> sleep.Past-2SG “You slept.”	<i>ka:r-et</i> work-PRON.suffix.2SG “You worked.”	<i>kò(rt)</i> do.Past.3SG
<i>wa:pt</i> sleep. Past-3SG “(s)he slept.”	<i>ka:r-í</i> work-PRON.suffix.3SG “(s)he worked.”	<i>kò(rt)</i> do.Past.3SG
<i>wa:pt-ín</i> sleep.Past-1PL “We slept.”	<i>ka:r-ín</i> work-PRON.suffix.1PL “We worked.”	<i>kò(rt)</i> do.Past.3SG
<i>wa:pt-ít</i> sleep.Past-2PL “You slept.”	<i>ka:r-ef</i> work-PRON.suffix.2PL “You worked.”	<i>kò(rt)</i> do.Past.3SG
<i>wa:pt-ent</i> sleep.Past-3PL “They slept.”	<i>ka:r-ef</i> work-PRON.suffix.3PL “They worked.”	<i>kò(rt)</i> do.Past.3SG

### 3.2.5. Progressive Past

CSB uses *gola:jeʃ+* copula in the past tense+ main verb in the present indicative to show past progressive. The position of primary stress of progressive past is on the last syllable of the main verb and the inflected form of *gola:jeʃ* appearing as an auxiliary verb takes its own primary stress on the personal endings. Consider the following examples:

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**Table 7. Progressive Past**

Simple verb	Compound verb
<i>gola:jeʃ-ætón<sup>2</sup></i> <i>wa:ps-á:n</i> PROG-COP.Past.1SG sleep.Present-1SG “I was sleeping.”	<i>gola:jeʃ-ætón</i> <i>ka:r-æ</i> <i>kæn-ón</i> PROG-COP.Past.1SG work-V.EL do.Present.-1SG “I was working.”
<i>gola:jeʃ-ætéj</i> <i>wa:ps-éj</i> PROG-COP.Past.2SG sleep.Present-2SG “You were sleeping.”	<i>gola:jeʃ-ætéj</i> <i>ka:r-æ</i> <i>kæn-éj</i> PROG-COP.Past.2SG work-V.EL do.Present-2SG “You were working.”
<i>gola:jeʃ-æt</i> <i>wa:ps-ét</i> PROG-COP.Past.3SG sleep.Present-3SG “(s)he was sleeping.”	<i>gola:jeʃ-æt</i> <i>ka:r-æ</i> <i>kænt</i> PROG-COP.Past.3SG work-V.EL do.Present-3SG “(s)he was seeing.”
<i>gola:jeʃ-ætí:n</i> <i>wa:ps-í:n</i> PROG-COP.Past.1PL sleep.Present-1PL “We were sleeping.”	<i>gola:jeʃ-ætí:n</i> <i>ka:r-æ</i> <i>kæn-í:n</i> PROG-COP.Past.1PL work-V.EL do.Present-1PL “We were working.”
<i>gola:jeʃ-ætí:t</i> <i>wa:ps-í:t</i> PROG-COP.Past.2PL sleep.Preset-2PL “You were sleeping.”	<i>gola:jeʃ-ætí:t</i> <i>ka:r-æ</i> <i>kæn-í:t</i> PROG-COP.Past.2PL work-V.EL do.Present-2PL “You were working.”
<i>gola:jeʃ-ætén(t)</i> <i>wa:ps-én(t)</i> PROG-COP.Past.3PL sleep.Present-3PL “They were sleeping.”	<i>gola:jeʃ-ætí:n(t)</i> <i>ka:r-æ</i> <i>kæn-ént</i> PROG-COP.Past.3PL work-V.El do.Present-3PL “They were working.”

<sup>2</sup> The following verb form indicating progressive past is also used in CSB but not so commonly as the form given in table 7.

*gola:jeʃ* + past copula + main verb in the past. For example:

Simple verb		
<b>mon</b> <i>gola:jeʃ-ætɑ:n</i> <i>ræpt-ɑ:n</i> PROG-COP.Past.1SG go.Past-1SG “I was going.”	<b>tæw</b> <i>gola:jeʃ-ætej</i> <i>ræpt-ej</i> PROG-COP.Past.2Sg go.Past-2SG “You were going.”	<b>aji:</b> <i>gola:jeʃ-æt</i> <i>ræpt</i> PROG-COP.Past.3SG go.Past.3SG “(S)he was going.”
<b>ma:</b> <i>gola:jeʃ-ætɛn</i> <i>ræpt-i:n</i> PROG-COP.Past.1PL go.Past-1PL “We were going.”	<b>ʃoma:</b> <i>gola:jeʃ-ætɛn</i> <i>ræpt-i:t</i> PROG-COP.Past.2PL go.Past-2PL “You were going.”	<b>ɑyɑ:n</b> <i>gola:jeʃ-ætɛn</i> <i>ræpen-ɛn(t)</i> PROG-COP.Past.3PL go.Past-3PL “They were going.”

### 3.2.6. Past Perfect

The past perfect tense is formed by adding the copula past to the past stem. The position of primary stress of the simple verb in past perfect is on the last syllable of the past copula. In addition, the primary stress of the compound verbs falls on the first syllable of the nominal element and the secondary stress falls on the past copula. Following examples show the position of primary and secondary stress in the Past Perfect:

**Table 8. Past Perfect**

Simple verb	Compound verb
<i>wa:pt-æ ta:n</i> sleep.Past-COP.Past.1SG “I had slept.”	<i>ka:r-on</i> <i>kort-æt</i> work-PRON.suffix.1SG do-PERF.3SG “I had worked.”
<i>wa:pt-æ téj</i> sleep.Past-COP.Past.2SG “You had slept.”	<i>ka:r-et</i> <i>kort-æt</i> work-PRON.suffix.2SG do-PERF.3SG “You had worked.”
<i>wa:pt-æt</i> sleep.Past-COP.Past.3SG “(S)he had slept.”	<i>ka:r-í</i> <i>kot-æt</i> work-PRON.suffix.3SG do-PERF.3SG “(s)he had worked.”
<i>wa:pt-æ tí:n</i> sleep.Past-COP.Past.1PL “We had slept.”	<i>ka:r-í:n</i> <i>kort-æt</i> work-PRON.suffix.1PL do-PERF.3SG “we had worked.”
<i>wa:pt-æ tĩ:t</i> sleep.Past-COP.Past.2PL “You had slept.”	<i>ka:r-ef</i> <i>kort-æt</i> work-PRON.suffix.2PL do-PERF.3SG “You had worked.”
<i>wa:pt-æ íent</i> sleep.Past-COP.Past.3PL “They had slept.”	<i>ka:r-ef</i> <i>kort-æt</i> work-PRON.suffix.3PL do-PERF.3SG “They had worked.”

### 3.2.7. Negation

Negative forms of the verbs are formed by adding the prefix *næ-* to all indicative<sup>3</sup> moods. The primary stress falls on the prefix *næ-*, while the secondary stress falls on the personal ending. Consider the following examples:

- (4) a. *næ'-wa:ps-à:n*  
NEG-sleep.Present-1SG  
“I do not sleep.”
- b. *næ'-dĩ:st*  
NEG-see.Past.3SG  
“(S)he did not see.”
- c. *næ'-wa:ptæ-j-ĩ:t*  
NEG-sleep.PP-HIAT-2PL  
“You have not slept.”
- d. *næ'-dĩ:st-æt-èf*  
NEG-see.Past-COP.Past-PRON.suffix3PL  
“They had not seen.”

### 3.2.8. Prohibition

Prohibitive forms of the verb are found in the second singular and second plural by joining the prefix *mæ-* to the present stem. In the case of compound verbs, like imperative forms, prefix *mæ-* adds to the verbal element, e.g.: The prefix *ma-* attracts the primary stress in all verb forms and the secondary stress falls on the last syllable of present stem. Consider the following examples:

- (5) a. *mæ'-gehà:s*  
PROH-yawn.Present.2SG  
“Do not yawn!”

---

<sup>3</sup> In this paper only indicative mood has been studied.



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b. (CVC).(CVCC)	/ ˌ ˈ ˈ /	<i>bà:r bæ'nd</i> [[load] <sub>N</sub> [rope] <sub>N</sub> ] <sub>N</sub> 'packing'
c. (CV:).(CVC)	/ ˌ ˈ ˈ /	<i>pà:pæ'd</i> [[foot] <sub>N</sub> [trace] <sub>N</sub> ] <sub>N</sub> 'footprint'
d. (CVC).(CVC).(CV)	/ ˌ ˈ ˈ ˈ /	<i>tʃà:r ʃæ'mbæ</i> [[four] <sub>N</sub> [Saturday] <sub>N</sub> ] <sub>N</sub> 'Wednesday'
e. (CV).(CVC).(CVC)	/ ˌ ˈ ˈ ˈ /	<i>na:hòn tʃɪ'n</i> [[nail] <sub>N</sub> [paring] <sub>N</sub> ] <sub>N</sub> 'nail trimmer'
f. (CVCC).(CCVC)	/ ˌ ˈ ˈ /	<i>kæ'nd prúʃ</i> [[sugar] <sub>N</sub> [breaking] <sub>N</sub> ] <sub>N</sub> 'a tool for making small pieces of sugar'

### 3.3.2. Compound Adjectives

Based on gathered, compound adjectives are formed by the combination of two nouns or an adjective and a noun. The position of primary stress in on the last heavy syllable of the second component and the secondary stress falls on the last heavy syllable of the first component. Following examples indicate the position of primary and secondary stress in compound adjectives:

(7) a. (CVC). (CV :).(CVC)	/ ˌ ˈ ˈ ˈ /	<i>tʃà:r ʃa:næg</i> [[four] <sub>N</sub> [shoulder] <sub>N</sub> ] <sub>ADJ</sub> 'strong man'
		<i>dɛl sija'h</i> [[heart] <sub>N</sub> [black] <sub>ADJ</sub> ] <sub>ADJ</sub> 'stone heart'

b. (CV).(CVC).(CVC)	/ ˌ ɔ̃ ˌ ɔ̃ /	<i>hæjɑ:l dʒæm</i> [[mind] <sub>N</sub> [relax] <sub>N</sub> ] <sub>ADJ</sub> 'relax' <i>sobæk dʒɑ:n</i> [[light] <sub>ADJ</sub> [body] <sub>N</sub> ] <sub>ADJ</sub> 'active person'
c. (CVC).(CVC)	/ ˌ ɔ̃ ˌ ɔ̃ /	<i>pòr múd</i> [[full] <sub>ADJ</sub> [hair] <sub>N</sub> ] <sub>ADJ</sub> 'hairy person'

### 3.4. Pair Words

Pair words are the words that often go together, like king and queen in English. In CSB, the position of primary stress in the pair words is on the first syllable (heavy or light) of the first component and the secondary stress falls on the first heavy syllable of the second component. Consider the examples below:

(8) a. (CV:).(CV).(CVC)	/ ˌ ɔ̃ ˌ ɔ̃ /	<i>(ʔ)ɑ:p o nɑ:n</i> water and bread 'water and bread'
b. (CV).(CV).(CV).(CV:).(CVC)	/ ˌ ɔ̃ ɔ̃ ɔ̃ ˌ ɔ̃ /	<i>(ʔ)éda:n o (ʔ)ò:da:n</i> here and there 'here and there'
c. (CVC).(CV).(CV:)	/ ˌ ɔ̃ ˌ ɔ̃ /	<i>ʃæp o rù:</i> night and day 'night and day'
d. (CVC).(CV).(CVCC)	/ ˌ ɔ̃ ˌ ɔ̃ /	<i>dʒæhl o bòrz</i> up and down 'up and down'
e. (CV:).(CV).(CV).(CV:).(CVC)	/ ˌ ɔ̃ ɔ̃ ˌ ɔ̃ ˌ ɔ̃ /	<i>(ʔ)í:ker o (ʔ)ɑ:ker</i> this side and that side 'this side and that side'



### 3.6.1. Stem + Derivational Affixes

Derivation is the formation of complex words by means of affixation or non-concatenative morphology (Booij, 2007). In CSB, there are prefix + stem and stem + suffix to form a complex word.

#### 3.6.1.1. Prefix + Stem

The position of primary stress in the complex words with prefix is on the prefix and the secondary stress falls on the last heavy syllable of the stem, if it contains heavy syllable. Consider the following examples:

- |                          |           |   |
|--------------------------|-----------|---|
| (10) a. (CVC).(CV).(CVC) | / ˈ ˌ ˌ / | <p><i>hæm dʒera:t</i><br/>                 [same][bride]<sub>N</sub><sub>N</sub><br/>                 ‘sister in law’<br/> <i>hæm zobà:n</i><br/>                 [[same][tongue]<sub>N</sub>]<sub>ADJ</sub><br/>                 ‘mate’</p>                          |
| b. (CV).(CV).(CVC)       | / ˈ ˌ ˌ / | <p><i>bĩ-hæbà:r</i><br/>                 [[without][news]<sub>N</sub>]<sub>ADJ</sub><br/>                 ‘unaware’<br/> <i>bĩ-tæwà:r</i><br/>                 [[without][voice]<sub>N</sub>]<sub>ADJ</sub><br/>                 ‘voiceless’</p>                      |
| c. (CVC).(CV).(CVC)      | / ˈ ˌ ˌ / | <p>(?)<i>ĩr-dʒænæg</i><br/>                 [[down][to hit]<sub>INF</sub>]<sub>V</sub><br/>                 ‘to fold’<br/>                 (?)<i>ĩr bæ ræg</i><br/>                 [[down][to take]<sub>INF</sub>]<sub>V</sub><br/>                 ‘to swallow’</p> |





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d. (CCVC).(CVC)	/ ˘ ˘ /	prù:t-én [[break] <sub>Past stem</sub> [INFMS]] <sub>INF</sub> ‘to break’
e. (CV:).(CVC)	/ ˘ ˘ /	fù:d-æ̀g [[wash] <sub>Present stem</sub> [INFMS]] <sub>INF</sub> ‘to wash’ ja:j-æ̀g [[come] <sub>Present stem</sub> [INFMS]] <sub>INF</sub> ‘to come’
f. (CVC).(CVC)	/ ˘ ˘ /	hà:nd-æ̀g [[laugh] <sub>Present stem</sub> [INFMS]] <sub>INF</sub> ‘to laugh’

### 3.6.2. Stem+ Inflectional Affixes

The primary distinction between inflectional and derivation is a functional one: derivation creates new lexemes, and inflection serves to create different forms of the same lexeme. A second possible criterion is that inflection is obligatory, whereas derivation is optional. This criterion does not apply to contextual inflection, but at first sight not always to inherent inflection. An important criterion that might distinguish inflection from derivation is the essential role of the paradigm in inflection (Booij, 2007: 113).

Based on the present data from CSB, inflectional suffixes are divided into four groups: plural marker, comparative marker, superlative marker and indefinite marker. All of these inflectional suffixes attract the primary stress (plural marker and indefinite noun marker with the final consonant of the stem make the primary stress syllable), while the secondary stress falls on the heavy syllable of the stem, as seen in the following subsections.



*Stress Pattern System in Central...*

(15) a. (CVC).(CVC)	/ ˌ ˈ ˈ /	<i>tù:h-tér</i> loud-COMPR 'louder' <i>nòk-tér</i> new-COMPR 'newer'
b. (CV).(CVC).(CVC)	/ ˌ ˈ ˈ ˈ /	<i>mæzæn-tér</i> big-COMPR 'bigger' <i>sa:dæg-tér</i> simple-COMPR 'simpler'
c. (CVCC).(CVC)	/ ˌ ˈ ˈ /	<i>kòŋ-tér</i> dull-COMPR 'duller' <i>bòrz-tér</i> high-COMPR 'higher'

**3.6.2.3. Stem + Superlative Marker**

The suffix of superlative degree - *terĩn* always attracts the primary stress on its last heavy syllable. The secondary stress falls on the heavy syllable of the stem, as in the following:

(16) a. (CVC).(CV).(CVC)	/ ˌ ˈ ˈ ˈ /	<i>tù:h-terĩn</i> loud-SUPR 'louder' <i>př:r-terĩn</i> old-SUPR 'older'
--------------------------	-------------	--

- b. (CVCC).(CV).(CVC)    / ˌ ˌ ˌ /    *təhl-terĩn*  
 bitter-SUPR  
 ‘bitterest’  
*bòrz-terĩn*  
 high-SUPR  
 ‘highest’  
*kòŋ-terĩn*  
 dull-SUPR  
 ‘dullest’

### 3.6.2.4. Stem + Indefinite Marker

The indefiniteness marker *-i* with the final consonants of the stem makes the heavy primary stressed syllable. The position of secondary stress is on the heavy syllable of the stem. Consider the following examples:

- (17) a. (CV).(CV:)            / ˌ ˌ /    *kæ t-i*  
 room-INDF  
 ‘a room’  
*dʒæ n-i*  
 woman-INDF  
 ‘a woman’
- b. (CVC).(CV:)            / ˌ ˌ /    *pòtʃ t-i*  
 cloth-INDF  
 ‘a clothes’  
*tʃòkk-i*  
 child-INDF  
 ‘a child’
- c. (CV:).(CV).(CV:)    / ˌ ˌ ˌ /    *zà:læ k-i*  
 old man-INDF  
 ‘an old man’  
*wà:dʒæ -jĩ*  
 man-INDF  
 ‘a man’

### *Stress Pattern System in Central...*

Based on all the above examples, it seems all affixes are auto-stressed affixes, this means that the affix takes the stress from the base on itself (Katamba and Stonham, 2006: 90), so primary stress falls on the syllable contains affix while secondary stress falls on the heavy syllable of the base.

### 3.7. Simple Intransitive and Transitive Sentences

The gathered data illustrate that the position of primary stress in simple intransitive sentences is on the verb, but when an adjunct word like *zu:d* “early” is used in such sentences, the primary stress shifts to the adjunct. In the transitive sentence; oblique<sup>5</sup> gets the primary stress. Consider the following examples<sup>6</sup>:

- **Simple intransitive sentences**

- (18) a. *hæpsa:n jæht-ént*  
horse-PL come.Past-3PL  
‘Horses came’
- b. *tow **ræw-éj***  
you go.Present-2SG  
‘You go’

---

<sup>5</sup> CSB like many dialects of Balochi (cf, Baranzehi, 2003; Korn, 2003) shows “split ergativity”, i.e. in the tenses which are formed from past stem the treatment of the verb depends on whether it is transitive or intransitive. An intransitive verb is inflected according to the nominative pattern and the endings of the verb agreeing with the subject. The agent of transitive verb is in the oblique case and the object is in the direct case. In CSB, both agent and object of ergative constructions are in nominative and pronominal suffixes are used to mark the agent. Moreover; the verbal ending in transitive verb (from past stem) agrees with third person singular

<sup>6</sup> In all examples, the words that get the primary stress are bold.

- c. a:jī **zu'd** wa:pt  
(s)he early sleep.Past.3SG  
“(S)he slept early.”
- d. mon ez **Særa:wa'in** jæht-on  
I from Sarawan come.Past-1SG  
“I came from Sarawan.”

● **Simple transitive sentences**

- (19) a. wa:rk-on                      **ná:n-i'**                      wa:rt  
sister-PRON.suffix.1SG bread-PRON.suffix.3SG eat-Past-3SG  
“My sister ate her food.”
- b. mon **dærs-æ**                      wa:n-on  
I lesson-OBL read.Present-1SG.  
“I study (lit. read) my lesson.”
- c. ma: **peʃʃ-ók-im** dʒæt  
we cat-DIM-PRON.suffix.1PL hit  
“We hit the cat.”

## 4. Data Analysis

The previous section was dedicated to the description of the position of primary and secondary stress in CSB data, the present section provides an analysis of the given data based on Hayesian framework (1995) presented in section 2. Considering a metrical representation of stress, special properties are mentioned by Hayes (ibid: 24-25) as: (a) Culminativity; (b) Rhythmic distribution; (c) Stress hierarchies; (d) Multiple levels; (e) Lack of assimilation. Taking into consideration the mentioned properties, CSB data illustrate that the stress is culminative at the phonological level, i.e. syllable. Consider the examples below:

*Stress Pattern System in Central...*

- (20) a.  $\hat{\_}\_ \acute{\_}$  / *bř bř* (monomorphemic noun)  
 ‘grandmother’
- b.  $\_ \_ \acute{\_}$  / *kæt-ř* (complex noun)  
 room-INDF  
 ‘a room’
- c.  $\_ \_ \acute{\_}$  / *wa:ps-a:n* (simple present)  
 sleep.Pesent-1SG  
 ‘I sleep’
- d.  $\hat{\_}\_ \acute{\_}$  / *brâ:zæht* (compound noun)  
 [[brother]<sub>N</sub>[born]<sub>N</sub>]<sub>N</sub>  
 ‘nephew’
- e.  $\hat{\_}\_ \_ \acute{\_}$  / *řðften-ř* (complex noun)  
 [[to wash]<sub>INF</sub>[AMS]]<sub>Adj</sub>  
 ‘washable’

Furthermore, data show that stress is rhythmically distributed, almost all final heavy syllables attract primary stress and secondary syllable falls on the penultimate or antepenultimate heavy syllable. Such as the following:

- (21) a.  $\hat{\_}\_ \acute{\_}$  / *pðtřř-ř* (complex noun)  
 cloth-INDF  
 ‘a clothes’
- b.  $\hat{\_}\_ \_ \acute{\_}$  / *tæhl-terř:n* (complex noun)  
 bitter-SUPR  
 ‘bitterest’
- c.  $\_ \_ \_ \acute{\_}$  / *lærzèst-én* (complex noun)  
 [[shake]<sub>Paststem</sub>[INFMS]]<sub>INF</sub>  
 ‘to shake’
- d.  $\hat{\_}\_ \_ \acute{\_}$  / *hæm-dřera:d* (complex noun)  
 [[same-prefix][bride]<sub>N</sub>]<sub>N</sub>  
 ‘sister in law’
- e.  $\_ \_ \_ \acute{\_}$  / *wæřř-řn pðtřř* (syntactic phrase)  
 nice-ATTR-dress  
 ‘nice dress’



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- d. /\_˘\_˘\_˘/    *tropf-ĩn henà:r* (syntactic phrase)  
sour-ATTR-pomegranate  
'sour pomegranate'
- e. /\_˘\_˘\_˘/    *tʃà:r ʃa:næ̀g* (compound noun)  
[[four]<sub>N</sub>[shoulder]<sub>N</sub>]<sub>Adj</sub>  
'strong man'

Hayes (ibid: 31), besides, discusses the basic typology of word stress rules as: (a) Free versus Fixed stress; (b) Rhythmic versus Morphological stress; (c) Bounded and unbounded stress.

As the CSB data indicate, the stress system is fixed in this language, since the location of stress is predictable: primary stress falls on the last heavy syllable while penult or antepenult heavy syllable takes the secondary stress. As in the examples below:

- (24) a. /\_˘\_˘\_˘/    *wà:dʒæ-j-ĩ* (complex noun)  
man-HIAT-INDF  
'a man'
- b. /\_˘\_˘\_˘/    *pogol-a:n* (complex noun)  
frog-PL  
'frog'
- c. /\_˘\_˘\_˘/    *sa:dæ̀g-tér* (complex noun)  
simple-COMPR  
'simpler'
- d. /\_˘\_˘\_˘/    *koʃi:t-én* (complex noun)  
[[kick]<sub>past stem</sub>[[INFMS]]]<sub>INF</sub>  
'to kick'
- e. /\_˘\_˘\_˘/    *kòŋt-terĩn* (complex noun)  
dull-SUPR  
'dullest'

The gathered data highlight that the stress system in CSB is mix of the morphological and rhythmic stress systems. It has rhythmic stress system while stress in most structures is based on phonological factors, such as syllable

weight or limitation on the distance between stress and word boundaries. Also CSB has morphological stress system. Stress pattern in complex words show that the suffixes attract the primary stress. Further in negative and prohibitive forms of verbs the prefix *næ-* and *mæ-* get the primary stress:

- (25) a. /\_ \_ \_ / *pǝr-terǝn* (complex noun)  
old-SUPR  
'older'
- b. /\_ \_ \_ / *drǝht-a:n* (complex noun)  
tree-PL  
'trees'
- c. /\_ \_ \_ / *hǝnd-ǝg* (complex noun)  
[[laugh]<sub>Present stem</sub>[[INFMS]]<sub>INF</sub>]  
'to laugh'
- d. /\_ \_ \_ / *tǝrppǝl-ók* (complex noun)  
[[chicken]<sub>N</sub>[[DIM]]<sub>N</sub>]  
'small chicken'
- e. /\_ \_ \_ / *nǝ-gerǝt* (Past simple –negative)  
NEG-take.PRES.3SG  
He did not take.

As CSB data marks, stress system in this language is bounded, since the stress falls within the particular distance of a boundary or another stress. Almost all final heavy syllables get the primary stress and secondary stress falls on the heavy penult or ante penult syllable. Such as in the examples below:

- (26) a. /\_ \_ \_ / *hǝrtóg* (monomorphemic adjective)  
'short'
- b. /\_ \_ \_ / *bǝnda:* (monomorphemic adverb)  
'tomorrow'

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- c. / ˘ ˘ ˘ /    *jaːj-æːg* (complex noun)  
[[come]<sub>Present stem</sub>[[INFMS]]]<sub>INF</sub>  
‘to come’  
*dɛl siːjaːh* (compound noun)  
[[heart]<sub>N</sub>[[black]<sub>Adj</sub>]<sub>Adj</sub>  
‘stone heart’
- d. / ˘ ˘ ˘ /    *nòk-tér* (complex noun)  
new-COMPR  
‘newer’

The data prove that CSB is a language with iambic feet that means the second syllable is the most prominent one. Iambic feet are right headed and the most left align is unstressed. Consider the following examples:

- (27) a. / ˘ ˘ ˘ /    *rænɔ́ɔ̃-ĩ* (complex noun)  
[[pain]<sub>N</sub>[[NMS]]]<sub>N</sub>  
‘dieses’
- b. / ˘ ˘ ˘ /    *hòstér* (monomorphemic noun)  
‘camel’
- c. / ˘ ˘ ˘ /    *pæ-s-aːn* (complex noun)  
sheep-PL  
‘sheep’
- d. / ˘ ˘ ˘ ˘ /    *naːhòn tʃĩn* (compound noun)  
[[nail]<sub>N</sub>[[paring]<sub>N</sub>]<sub>N</sub>  
‘nail trimmer’
- e. / ˘ ˘ ˘ ˘ ˘ /    *tæhl-ĩn gædqùːk* (syntactic phrase)  
bitter-ATTR-almond  
‘bitter almond’

However; there are structures among CSB data which have a different behavior, their first syllables take the primary stress: Pair words, simple past, negative and prohibitive form of the verbs. As in the following examples:

- (28) a. / ˌ ˌ ˌ ˌ / *ʃæp o rù* (pair words)  
Night and day  
'night and day'
- b. / ˌ ˌ / *wa:pt-ít* (simple past)  
sleep.Past-2PL  
'You slept.'
- c. / ˌ ˌ ˌ ˌ / *næ-wa:pt-æ-j-ít* (negative past perfect)  
NEG-sleep.COP.Past-PP-HIA.2PL  
'You had not slept.'
- d. / ˌ ˌ ˌ / *mæ-gehá:s* (prohibition)  
PROH-yawn.Present.2SG  
'Do not yawn!'

While iambic feet is the dominant structure in this language, some structures as the examples in (28) show, follow the trochaic law. The law states that elements contrasting in intensity naturally form grouping with initial prominence (Hayes, 1995). Furthermore, there are quantity-insensitive trochaic feet (See: 28). The observation of trochaic feet in CSB remains as a question, whether it might be a language in which two types of feet are mixed.

Feet in CSB are quantity sensitive, i.e. heavy syllable attracts the stress. There is a distinction between heavy and light syllables in this language. By this, it means that all syllables may be grouped into two such classes and this character of syllables determines the syllable's influence on stress. CSB data indicate that stress vowels tend to lengthen, increasing syllable weight, conversely, vowels in unstressed syllables tend to be shortened or reduced, decreasing syllable weight. Even in monosyllabic mono- morphemic content words, the only syllable is heavy. Following examples show this phonological phenomenon in CSB.

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- (29) a. (CVC)      *pét* (monomorphemic noun)  
                           ‘father’
- b. (CV:C)      *ma:t* (monomorphemic noun)  
                           ‘mother’
- c. (CCV:C)      *prá:h* (monomorphemic adjective)  
                           ‘wide’
- d. (CVCC)      *moʃk* (monomorphemic noun)  
                           ‘mouse’
- mæʃʃ* (monomorphemic noun)  
                           ‘palm tree’
- e. (CCV:CC)      *bʃi:l* (monomorphemic noun)  
                           ‘palm’

In bisyllabic and trisyllabic structures, the quantity sensitivity is observed as well. For example:

- (30) a.  $\hat{\_}\_ \acute{\_}$       *bĩ:bi:* (monomorphemic noun)  
                           ‘grandmother’
- b.  $\_ \_ \acute{\_}$       *koʃæ:k* (monomorphemic noun)  
                           ‘dog’
- c.  $\hat{\_}\_ \acute{\_}$       *hòrma:g* (monomorphemic noun)  
                           ‘date’
- d.  $\hat{\_}\_ \_ \acute{\_}$       *tèhl-terĩn* (complex word)  
                           bitter-SUPR  
                           ‘bitterest’
- e.  $\_ \_ \hat{\_}$       *ʃu:h-ĩn drèht* (syntactic phrase)  
                           big-ATTR tree  
                           ‘big tree’

## 5. Conclusion

In this study, a study of stress pattern system of Central Sarawani Balochi has been carried out based on the data recorded from language consultants' speech from Central Sarawan, a part of Sistan and Baluchestan province in the Islamic Republic of Iran. The position of primary and secondary stress in mono-morphemic words (nouns, adjectives, adverbs), verbal paradigms, compound words, complex words, pair words and simple transitive and intransitive sentences have been illustrated based on the Hayesian (1995) treatments.

CSB data illustrate that the stress pattern system in this language is almost totally systematic. It is a language with iambic feet where the second syllable is the most prominent one, in addition feet are a quantity sensitive i.e. heavy syllables attract the stress. However, there are structures among data which have different behavior and follow trochaic feet, i.e. their first syllable takes the primary stress: negative and prohibitive forms of the verb, simple past tense and pair words. Correspondingly, while an iambic foot is the dominant structure in CSB, some structures follow the trochaic law.

Moreover CSB data show that the stress is culminative at the phonological level, i.e. syllable. Furthermore, stress is rhythmically distributed: all final heavy syllables attract the primary stress and secondary stress falls on the penult or antepenult heavy syllable. The absence of stress assimilation is supported by CSB as well. In addition, stress system is fixed in this language, since the location of stress is predictable.

The gathered data highlight that stress system in CSB is mix of morphological and rhythmic stress system. Stress pattern in complex words show that the suffixes attract the primary stress. Further, in negative and prohibitive forms the verb prefixes *mæ-* and *næ-* get the primary stress.

## **Abbreviations**

1	1 <sup>st</sup> person
2	2 <sup>nd</sup> person
3	3 <sup>rd</sup> person
ADJ	Adjective
AMS	Adjective maker suffix
ATTR	Attributive
COMP	Comparative
COP	Copula
DEF	Definite marker
DIM	Diminutive
HIATS	Hiatus
INDF	Indefinite
INF	Infinitive
INFMS	Infinitive making suffix
Lit.	Literally
N	Noun
NEG	Negation
NMS	Noun making suffix
OBL	Oblique
PL	Plural
PP	Past participle
PROG	Progressive
PROH	Prohibitive
SG	Singular
SUPR	Superlative
V	Verb

## References

- Baranzehi, A. N. (2003). "The Sarawani dialect of Balochi and Persian influence on it", in Jahani, C. and Korn, A. (eds.), *The Baloch and Their Neighbors, Ethnic and Linguistic Contact in Balochistan in Historical and Modern Times*, Wiesbaden, pp. 75-111.
- Booij, G. (2007). *The Grammar of Words, An Introduction to Linguistic Morphology*, Oxford, Text books in linguistics.
- Burquest, D. A. (2001<sup>2</sup>). *Phonological Analysis, A Functional Approach*, Dallas: SIL.
- Chomsky, N., and Morris, H. (1968). *The Sound Pattern of English*, Harper and Row, New York.
- Elfenbein, J. (1989). "Balochi", *CLI*, pp. 350-362.
- Halle, M., and Kiparsky, P. (1977). "Towards a reconstruction of the Indo-European accent", *Hayman* (ed.), pp. 209-238.
- (1981). "Review Article: Histoire de l' accentuation slave by Paul Grade," *Language* 57, pp. 150-181.
- Halle, M., and Vergnaud, J. R. (1987). *An Essay on Stress*, MIT Press, Cambridge.
- Haspelmath, M. (2002). *Understanding Morphology*, Arnold.
- Hayes, B. (1979). "Extrametricity", *MIT Working Papers in Linguistics*, 1, pp. 77-86.
- Hayes, B. (1995). *Metrical Stress Theory, Principles and Cases Studies*, The University of Chicago Press.
- Jahani, C. (2001). "Balochi", in Garry, J. and Rubino, C. (eds), *Facts about the World's Languages: An Encyclopedia of World's Major Languages, Past and Present*, New York/Dublin, pp. 59-64.

*Stress Pattern System in Central...*

- Jahani, C., Korn, A. (2009). "Balochi", in Windfuhr, G., *Iranian Languages*, Routledge, pp. 634-692.
- Korn, A. (2003). "Balochi and the concept of North-Western Iranian", in Jahani, C. and Korn, A. (eds.), *The Baloch and Their Neighbors, Ethnic and Linguistic Contact in Balochistan in Historical and Modern Times*, Wiesbaden, pp. 49-60.
- Kager, R. (1999). *Optimality Theory*, Cambridge University Press.
- Katamba, F., and Stonham, J. (2006). *Morpholog or Morphology*, PALGRAVE MACMILLAN.
- McCarthy, J. J. (1981). "A Prosodic Theory of Nonconcatenative Morphology", *Linguistic Inquiry*, 12, pp. 373-418.
- Lerdahl, F., and Jackendoff, R. (1983). *A Generative Theory of Tonal Music*, MIT Press, Cambridge.
- Liberman, M. (1975). The Intonational System of English, Doctoral dissertation, Massachusetts Institute of Technology, Cambridge, [Distributed by Indiana University Linguistics Club, Bloomington.]
- Liberman, M., and Prince, A. (1977). "On stress and linguistic rhythm", *Linguistic Inquiry*, 8, pp. 249-336.
- Paul, L. (2003). "The position of Balochi among Western Iranian languages", in Jahani, C. and Korn, A. (eds.), *The Baloch and Their Neighbors, Ethnic and Linguistic Contact in Balochistan in Historical and Modern Times*, Wiesbaden, pp. 61-74.
- Selkirk, E. O. (1984). *Phonology and Syntax: The Relation between Sound and Structure*, MIT Press, Cambridge, Mass.
- Soohani, B. (2003). Phonology of Balochi of Sarawan Variety (South-Eastern Iran): A linear and Nonlinear Approach, (Unpublished MA thesis, Azad University: Iran).

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van Oostendorp, M. (2009). "Stress and Metrical Theory", (Unpublished class paper, Leiden University: Netherlands).