A Stratal OT Account of Word Stress in the Mehri of Bit Thuwar[12]

Janet C.E. Watson and Abdullah Musallam al-Mahri

In this paper, we provide a synchronic account of word stress in the Modern South Arabian language, Mehri, as spoken by members of the Bit Thuwar tribe. The data is taken from the first author's own fieldwork working in Central Dhofar with members of the Bit Thuwar sub-tribes–Bit Iqhōr in Rabkut and parts of the mountains that receive the monsoon rains, and Bit Āmawsh in Dhahbun–with reference, where appropriate, to Johnstone (1987).[3] This paper is a significant expansion and a partial revision of the short discussion on word stress in Watson (2012: 34–35).

We begin with a brief background to Mehri within Modern South Arabian. We then discuss word stress patterns in Mehri, following Hayes' (1995) metrical stress theory; here we show that Mehri is a

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[2] The abbreviations used in this paper are: dim diminutive; f. feminine; fpl feminine plural; fs feminine singular; ind indicative; m. masculine; mpl masculine plural; ms masculine singular; pl. plural; s. singular; subj subjunctive.

[3] Contra descriptions of an 'Omani Mehri' made by Bendjaballah (2017), Bendjaballah & Ségéral (2014, 2017), Rubin (2010, 2018, etc.) and others, the Mahrah themselves do not distinguish varieties of Mehri on national grounds, but rather identify language varieties according to tribal affiliation and geographical location.

head-first or trochaic language, namely that in (Cv)CvCv(C) forms, stress is placed on the left-most syllable. We show that in contrast to Arabic trochaic dialects, the domain of stress is the stem and the stem with stem-level suffixes rather than the entire prosodic word. The implications for this is that Mehri exhibits an opacity with regard to stress as seen in Arabic dialects in which three consonant clusters receive vowel epenthesis after the left-most consonant, as in: *šuft*-ha > *šuf***i**tha 'she said it f.'. (These are termed vC-dialects in Kiparsky 2003, so called due to the position of the epenthetic vowel in relation to the medial consonant in a sequence of three). By opacity, we mean that word stress is not assigned as would be predicted by the stress algorithm.

In contrast to Arabic vC-dialects, however, opacity is due not to the interaction of epenthesis and syncope (cf. Kiparsky 2003), but rather to the lack of visibility of word-level suffixes to stress. In line with van Oostendorp's (2002) analysis of unstressable suffixes in Dutch, we argue that word-level suffixes are invisible to stress because they are not incorporated into the prosodic word, but rather adjoined to it. The adoption of Kiparsky's Stratal Optimality Theory approach enables us to capture Mehri stress assignment succinctly: stress is assigned at the stem-level according to weight and position, and suffixation of word-level suffixes can no longer affect stress assignment due to the high ranking of STRESSIDENT (Collie 2007), which requires stress to remain on the stressed syllable of the stem, and the low ranking of *ADJOIN, which mitigates against the

adjunction of affixes to the prosodic word. We also show that Mehri exhibits limited lexical stress, and suggest that attempts to account for stress in these cases in terms of a quantity model on the part of many researchers, including the main author of the current paper, has led to the incorrect transcription and interpretation of these elements.

1. Background to Mehri

Mehri is one of six Modern South Arabian languages. It is the most widespread of the language group, and is spoken in the southern parts of the Arabian Peninsula in eastern Yemen, western Oman, and parts of central southern and eastern Saudi Arabia. Mehri is considered moderately endangered, with around 180,000–200,000 speakers, although the number is impossible to determine with any precision since it is spoken over three state borders, separate census figures within the states concerned are not provided for ethnic communities, and many younger generation Mahrah have limited, or in some cases, no command of the language. The language is further endangered by having no traditional script; thus, written communications and education are conducted in Arabic rather than Mehri, and Mehri, together with the other Modern South Arabian languages, is not taught or recognised at any formal educational level. The paper draws primarily on data collected since 2009, much of it as part of a documentation project funded by the Leverhulme Trust, RPG-2012-

599,[4] which began in January 2013. All data was checked with Abdullah Musallam al-Mahri, the second author and a native speaker of the Bit Iqhōr variety of Mehri, and Saeed al-Mahri and Ali al-Mahri, native speakers of the Bit Samōdah variety of Mehri, as spoken in Central Dhofar.

2. A note on terminology

In this section, we define the terms nonconcatenative morphology, prosodic word, and stem.

Mehri exhibits a great deal of nonconcatenative morphology, where much derivational and inflectional morphology is expressed not through the linear concatenation of morphemes but rather through the association of elements of the consonantal root to a different prosodic template, and vowel umlaut. The degree of nonconcatenative morphology is greater than in Arabic and most other Semitic languages. For example, the adjective r*ḥ*aym[5] 'beautiful m.s.' with the prosodic template CCīC, has the masculine plural form *rīḥōm*, with the root consonants inserted into the prosodic template CīCōC, and the elative form ar*ḥām*, with the prosodic template aCCāC. Similarly, the perfect verb *syūr* 'he/they f. went' is inflected for masculine plural through vowel umlaut to give syawr 'they m. went', and the distinction between 2ms and 2fs in the imperfect is expressed by

[4] See https://www.leeds.ac.uk/arts/info/125219/modern_south_arabian_languages.
[5] < *rḥīm* with diphthongisation of /ī/ following pharyngeal /ḥ/.

vowel umlaut in the stem, as in the difference between t*ḥōm* ‘you m.s. want’ and t*ḥ*aym ‘you f.s. want’.

Following Peperkamp (1999) and others, the prosodic word is defined as the domain of word stress, phonotactics and segmental word-level rules. In Mehri, the raw stem is the vocalised core of a content word–a noun, verb, adjective, participle, pronoun or adverb(ial)–which lacks inflectional prefixes or suffixes, and may be realised independently of affixes or may form part of an affixed word. The results of nonconcatenative derivational or inflectional processes constitute a stem, thus both *tēt̲* ‘woman’ and *īnēt̲* ‘women’ constitute stems. The stem is minimally monosyllabic and bimoraic, and maximally, but rarely, trisyllabic. Thus, *šarḥ*awm ‘he/they f. were blessed with rain’ is a bisyllabic stem, which comprises the triconsonantal root {r-ḥ-m}, the derivational prefix *ša-* to derive a Š-form verb (Rubin 2018: 139), and the vocalic melody /a-ū/.[6] When it stands alone, it also functions as a prosodic word. The prosodic word *šarḥ*awm-an ‘we were blessed with rain’ comprises the vocalised stem *šarḥ*awm and the inflectional suffix -an. Similarly, *śxawlūl* ‘he/they f. sat, stayed’ is both a prosodic word and a stem, and the prosodic word *śxawlūl*-an ‘we sat’ comprises the stem *śxawlūl* plus the inflectional suffix -an; and *rīḥōm* ‘beautiful m.pl.’ is a prosodic word and a stem, while *rīḥ*am-tan ‘beautiful f.pl.’ comprises the stem *rīḥōm* plus the feminine plural suffix -tan.[7]

[6] With /ū/ > [aw] after /ḥ/. See below.
[7] /ō/ and /ē/, when shortened, are realised as [a].

3. Word stress patterns in Mehri

Mehri generally assigns word stress according to syllable weight in basic stems, and, as seen below (3.2), exhibits lexical stress in a few cases.

The syllables in Mehri can be divided into light syllables, ((C)C)v; heavy syllables, ((C)C)vv and ((C)C)vC; and superheavy syllables, ((C)C)vvC and (C)vCC.[8] The final consonant in a word does not count for weight; thus, while ((C)C)vC counts as heavy in word-medial position, it counts as light in word-final position. Note that the diphthongs /ay/ and /aw/ pattern as long vowels in final position, rather than as vC sequences, and that initial consonant clusters, including initial geminates, and vowel-initial syllables are permissible.

3.1 Mehri stress algorithm

In prosodic words comprising unaffixed stems, the stress algorithm for Mehri reads as follows:

(1) a. Monosyllables: Stress a monosyllable of the shape CvCC, (C)CvvC or Cvv:

[8] As is conventional in works on syllable structure, C stands for any consonant and v stands for any vowel.

ˈśī ‘thing’, *ˈlā* ‘no; not’, *ˈbū* ‘people’, ˈbark ‘knee’, *ˈḏē*k ‘that m.s.’, *ˈḏ*ayk ‘that f.s.’, *ˈʕiśś* ‘he got up’, *ˈśxōf* ‘milk’, ˈbʕayr ‘adult male camel’, ˈmray ‘camel with milk but no young’

b. Multisyllabic words: Stress final Cvv or CvvC, CvCC:

- Nouns: *bīˈrōk* ‘knees’, *śīˈwōṭ* ‘fire’, *ṭuwāˈdēd* ‘one [dim]’, *agˈzē* ‘sunset’, *mūˈsē* ‘rain’, *ḥāˈbū* ‘people’, *ḥabˈrē* ‘son [of]’, *ḥāˈmē* ‘mother [of]’;
- Pronouns: *aˈtēm* ‘you m.pl.’, *aˈkay* ‘we [dual]’, *aˈtay* ‘you [dual]’
- Verbs, perfect: *haśˈkūr* ‘to get lots of milk while milking’, *šūˈṯūḳ* ‘to be fixed’, *ūˈbūd* ‘to hit; to be’;
- Verbs, imperfect: *yiˈḥ*aym ‘they m. want’, *yāˈṣōṣ* ‘he is afraid’, *yāˈmēr* ‘he says [subj]’;
- Adjectives: *īˈdīn* ‘new m.s.’, *ṭīˈwōl* ‘long m.pl.’, *ṭīˈḳōl* ‘heavy m.pl.’;
- Adverbs: *ḥaˈlawk* ‘there’, *arˈḥāḳ* ‘further’, *rwāˈḥāk* ‘further [dim]’.

c. In the absence of final Cvv or CvvC or CvCC, stress the rightmost non-final heavy syllable (Cvv or CvC), as in:

- Nouns: *ˈśēḥ*az ‘frankincense’, *ˈtaywi* ‘meat; flesh’, *ˈtayyah* ‘billy goat’, *ˈxlōwaḳ* ‘dresses’;
- Verbs, perfect: (a)*sˈsōfar* ‘to travel’, ˈsatba*ṭ* ‘to hit o.s.’, ˈfaśśa*ḥ* ‘to be embarrassed’, *ˈnūka* ‘to come’, *ˈṯībar* ‘to break [intrs]’;
- Verbs, imperfect: *yiˈhaśkar* ‘he gets lots of milk while milking [subj]’, *ˈśx*awwal ‘sit m.s.!’, *yiˈġō*rab ‘he knows’;
- Adjectives: *ˈḥōwar* ‘black m.s.’, *ˈlēban* ‘white m.pl.’, *ˈḳāṣ*am ‘cold’;

- Adverbs: ˈ*rēḥaḳ* ‘far’, ˈbawmah ‘here’, bīˈyawmah ‘here [dim]’, *ṣa*ˈ*rōmah* ‘now’, *ṣarīˈyōmah* ‘now [dim]’.

d. In the absence of a final superheavy or non-final heavy syllable, stress the left-most Cv syllable of the stem, as in:
*yi*ˈ*gawar* ‘he falls [ind]’, *yi*ˈ*bawar* ‘he goes at night [ind]’,[9] ˈbihi ‘with them [dual]’, ˈšiki ‘with you/us [dual]’, ˈšihi ‘with them [dual]’, ˈhina ‘which’, ˈlahina ‘but’.[10]

3.2 Lexical stress

Final -ah, -eh, -oh, -uh, -*ɛʔ*[11] are stressed in the following lexeme types: in the perfect and subjunctive of final weak verbs, in adverbs ending in -oh or -ih, in a closed class of non-deictic nouns, in familial diminutives, and in dual verbal subject markers. In all but *ḥ*ruh, final /h/ is a non-root consonantal phoneme. Rubin (2010: 90–91, 2018: 48), Bendjaballah (2017) and Bendjaballah & Ségéral (2017), following a strictly quantity-based framework, give these endings as (underlyingly) -*ū*, -*ō* and -*ē*. Johnstone (1987) gives *bō*, with boh as an alternative, for the shortened allomorph of bawmah ‘here’. Simeone-Senelle (1997: 394, 2011: 1087) gives yeˈmoh alongside yeˈ*mō*

[9] The indicative of these verbs has the form yigawr among some members of sub-tribes of the Bit Thuwar tribe (cf. Johnstone 1987; Rubin 2018: 207), and yig*ɛ̄*ran among members of the Bit Yishōl and Bit Ḳamṣayt tribes in western Dhofar.
[10] Incorrectly given in Watson (2012) as lahinna.
[11] The short front vowel in the dual endings of the subjunctive of some verb forms is mid /e/ rather than the /a/ posited by Watson (2012: 90). The phonological re-analysis of these endings leads to an addition to the vocalic phoneme inventory of marginal /o/, /e/ and /ɛ/.

'today' and boh 'here'. Watson (2012: 85, 90, etc.) gives adverbs ending in *-ōh*, and the dual and final-weak suffixes as *-ōh* and -ah, with a note that *-ōh* (and the feminine dual suffix *-tōh*) is often realised as -oh (and the feminine dual suffix -toh) (e.g. Watson 2012: 23). Dufour (2016) generally gives the vowels as short with final /h/, although this transcription alternates with a final long vowel. Rubin (2018: 47–48) describes these endings as taking a final long vowel, which in the case of *-ō* always has final -h, which is then shortened. He claims there appears to be a general rule whereby a long vowel is shortened before final -h. Bendjaballah & Ségéral (2017: 175, note 25) acknowledge the presence of -vh# and -vʔ# in dual forms and final-weak verbs, but dismiss them as pre-pausal variants resulting from devoicing, which obtains at the phonetic level and not at the phonological level.

There are three reasons we contest the vowel-shortening claim and the claim that -vh# is simply a pausal variant of a final long vowel:

Close phonetic and phonological work with Mehri consultants shows that the vowels are phonetically and phonologically short. Contra Bendjaballah & Ségéral (2017), our field work has shown that final -h is realised not only in pause but also in strings, as in: bduh wa-bkuh wa-bkuh 'he lied and he cried and he cried', *ī*moh bkuh 'today he cried'.

In the subjunctive of transitive final-weak verbs ending in -vh#, /h/ remains on suffixation: the verb twuh 'to eat' has the subjunctive form yitah. When this takes a pronoun suffix, /h/ remains, as in: yi*ḥōm*

yita**h**s ‘he wants to eat it f.’ (cf. also examples in Rubin 2018: 54). When a vowel-initial suffix is added, the vowel is similarly realised as short and /h/ is present, as in: yi*ḥōm* yita**h**an ‘he wants to eat us’. The verb *śīni* ‘to see’ in the variety spoken by Bit Afāri in Wadi Habrūt towards the Yemeni border takes the subjunctive form *yiśnah*, which when suffixed gives yi*ḥōm yiśna***h**s ‘he wants to see it f.’.
This contrasts with the subjunctive of *śīni* ‘to see’ in the Bit Thuwar variety, *yiśnɛʔ*, which, when suffixed, lengthens the final vowel: yi*ḥōm yiśnɛ̄*s ‘he wants to see it f.’ (cf. also Rubin 2018: 48), and the subjunctive of *kūsa* ‘to find’, *yiksē*, maintains a long vowel in pausal and word-final position which, when suffixed, is maintained: yi*ḥōm* yiks***ē***s ‘he wants to find it f.’.
Finally, -vh# and -vʔ# contrast with final stressed long vowels in verbal and nominal/adverbial forms, as in: *yim*ˈ*lē* ‘he fills [subj]’, *yik*ˈ*sē* ‘he finds [subj]’ v. *yib*ˈ*dah* ‘he lies [subj]’, *yiś*ˈ*nɛʔ* ‘he sees [subj]’; *ḥ*abˈ*rē* ‘son of’ v. *ḥ*abˈrih ‘his son’, *ḥā*ˈ*mē* ‘mother’ v. *ḥā*ˈmah ‘his mother’; imˈših[12] ‘yesterday’ v. *mūˈsē* ‘rain’; bˈkuh ‘he cried’ v. *ḥā*ˈ*bū* ‘people’.
Examples of stress in these cases are given below:

(2) Lexical Stress:

- Final weak verbs: *b*ˈ*kuh* ‘to cry’, *b*ˈ*duh* ‘to lie’, *šiḳ*ˈroh ‘he/they f. hid’, *hab*ˈ*nuh* ‘he/they f. built’, *yi*ˈ*tah* ‘he eats [subj]’, *yib*ˈ*k*ah ‘he

[12] Contra Rubin (2018: 48), *imših* is realised with a short vowel in the final syllable.

cries [subj]', *yiś ˈnɛʔ* 'he sees [subj.]';

- Adverbs: *ī ˈmoh* 'today', *im ˈših* 'yesterday', *il ˈloh* 'last night', buh ~ boh 'here', *ū ˈṭoh* 'like that', *ūṭī ˈyoh* 'like that [dim]';
- Non-deictic nouns: *ṯruh* 'two', *ḥruh* 'head';
- Familial diminutives: *ḥad ˈduh* '[paternal] uncle', *xal ˈluh* '[maternal] uncle', *ʔam ˈmuh* 'grandfather', *ʔamma ˈtuh ~ ʔam ˈtuh* 'grandmother';
- Dual verbal subject markers: *ghēm* 'he went' v. *gih ˈmoh* 'they m.du went', *yig ˈhōm* 'he goes' v. *yigha ˈmoh* 'they m.dual go', *yib ˈdēd* 'he separates [subj]' v. *yibad ˈdoh* 'they m.dual separate [subj]', *t ˈhaśkar* 'she/you m.s. get lots of milk when milking [subj]' v. *thaśka ˈreh* 'they f./you [du] get lots of milk when milking [subj]'.

3.3 Stress-affecting suffixes

Stem-level suffixes attract final or penultimate stress according to quantity and position, or shift (in some cases vacuously) stress predictably due to quantity and position. We list stem-level suffixes in (3), and provide examples of these suffixes affixed to stems in (4):

(3) Stem-level suffixes:

- Derivational adjectival suffixes: -ay and *-ōy*;
- Future participle suffixes: *-ōna, -īta, -ōni,* -ayti, *-ēta*;
- Nominal number/gender markers, e.g. noun and adjectival feminine suffixes: *-ūt, -īt, -ēt, -ōt*; noun and adjectival plural

suffixes: *-ūtan*, -awtan, -tan, *-īn*;

- Diminutive suffixes: *-yēn*, *-yōt*;
- Verbal 3 person suffixes: perfect feminine singular *-ōt, -ūt, -ēt*;
- The ending -ayyan in the dual endings in the indicative or conditional of several derived verbal stems (analysed correctly as such by Bendjaballah & Ségéral 2017: 177–179).

Stem-level suffixes with long vowels attract stress onto the long vowel of the suffix, and final -tan shifts stress predictably to the heavy penultimate syllable (CvC). Examples of these stem-level suffixes affixed to stems are given below.

(4) Stem-level suffixes

- Derivational adjectival suffixes: *ḥāˈwēl* 'first' > *ḥāwaˈlay* 'first m.s.', *ḥāwaˈlōy* 'first m.pl.', *ʔam̩ˈḳ* 'middle' > *ʔamˈḳay* 'middling, medium m.s.', *ʔamˈḳōy* 'middling, medium m.pl.', ˈmahrah 'Mahrah' > *mahˈray* 'Mehri';
- Future participle suffixes: *sidˈdōna* 'will suffice m.s.', *nˈkayta* 'will come f.s.', *kasˈyawti* 'will find f.dual', mhaxalˈ*fēta* 'will change s.th. f.s.';
- Nouns:
  - Noun and adjectival feminine suffixes: baḳˈrēt 'cow', *bahˈlīt* 'word', *āfəˈrūt* 'red f.s.', *ūbaˈnīt* 'white f.s.', raḥbēˈnōt 'small town', *šinḥaˈrūt* 'complaining';
  - Noun and adjective plural suffixes: ˈḥayd 'hand' > *ḥāˈdūtan*

‘hands’, *ḥamba*ˈ*rawtan* ‘boys’, *ġig*ˈ*gīt* ‘girl’ > *ġag*ˈ*gūtan* ‘girls’, *ʾnōhar* ‘eagle’ > nahˈ*rīn* ‘eagles’, *ḥay*ˈ*ḏēn* ‘ear’ > *ḥay*ˈ*ḏ*antan ‘ears’, *rī*ˈ*ḥōm* ‘beautiful m.pl.’ > *rī*ˈ*ḥ*amtan ‘beautiful f.pl.’;

- Diminutive suffixes: *wōz* ‘female goat’ > wuz*ɛ̄*ˈ*yōt* ‘female goat [dim]’, *digrīt* ‘bean’ > digr*ɛ̄*ˈ*nōt* ‘bean [dim]’, ˈ*wōram* ‘road; way’ > wur*ɛ̄*ˈ*mōt* ‘road; way [dim]’, fray*ṣ́* ‘female camel foal’ > far*ṣ́ā*ˈ*yēn* ‘female camel foals [dim]’;
- Verbal 3 person subject suffixes:
  - Perfect fs suffixes: *ś*iˈ*nūt* ~ *šin*ˈ*yūt* ‘she saw’, *n*ˈ*kōt* ‘she came’, *har*ˈ*ḳāt* ‘it f. was stolen’, *amaḳṣa*ˈ*dēt* ~ *amaḳaṣ*ˈ*dēt* ‘she took a short cut’;
  - Dual imperfect subject suffixes: *yā*ˈ*zēman* ‘he gives [subj]’ v. y*ūza*ˈ*ma*yyan ‘they m.dual give [cond]’.

Object and possessive pronouns are stressed in a very few cases: the penultimate or final syllable is assigned stress according to quantity and position on object suffixation to the 3ms/3fpl perfect verb, on suffixation to the prepositions *hāl* ‘at, with’ bərk ‘in, among’ *bīn* ~ *mān* ‘between’, *fanwē* ‘in front of’ *sār* ‘behind’ including the sub-minimal prepositions la- ‘to, against’, bi- ‘with, in’, ka- ‘with’, which takes the pre-pronominal suffix for *š*-, and the accusative prefix ta-; on suffixation to the nouns *ḥab*ˈ*rē* ‘son of’ and *ḥā*ˈ*mē* ‘mother of’; and on suffixation to the reciprocal adverbials wa*ḥ*ˈ*śē* ‘on own’, *ṭādid*- ‘each other’, and to *ḥnōf* ‘self’ before plural pronouns. The object/possessive

pronouns take a different allomorph in suffixation to these lexemes (Rubin 2010: 36, 2018: 58; Watson 2012: 70). The suffixed allomorphs of the 3ms/3fpl verb stem and the prepositions *hāl*, *bīn ~ mān*, *sā*r (glossed above) take a different prosodic pattern from the non-suffixed allomorphs:

(5) Object and Possessive Pronouns:

- Verbs: *wzūm* 'he/they f. gave' > wuzˈ*mīs* 'he/they f. gave her', *šxa*ˈ*būr* 'he/they f. asked' > *šxab*ˈ*rūk* 'he asked you m.s.', *ġrūb* 'he knew' > *ġar*ˈ*bih* 'he knew him';
- Prepositions: *fan*ˈ*wē ḏ*a- 'before', *fan*ˈ*wīs* 'before, in front of her', *fan*ˈ*wihi* 'before them [dual]'; *sār* 'behind' > *s*ˈ*rūk* 'behind you m.s.', bərk 'in' > b*ər*ˈ*kīham* 'among them m.', *mān* 'between' > *man*ˈ*wīn* 'between us', *hāl* 'at' > *h*ˈ*nay* 'with me', ka- 'with' > ˈ*šū*k 'with you m.s.', ˈ*šī*kam 'with you m.pl.', la- 'to' > ˈ*lūk* 'to you m.s.', ˈ*līham* 'to them m.', ˈlihi 'to them [dual]', ta- > ˈ*tēham* 'them m.';
- Nouns: *ḥab*ˈ*rayš* 'your f.s. son', *ḥā*ˈ*mēs* 'her mother', *ḥā*ˈ*mah* 'his mother';
- Adverbials: wa*ḥ*ˈ*śa*y 'on my own', wa*ḥ*ˈ*śū*k 'on your m.s. own', wa*ḥ*ˈ*śī*ham 'on their m. own', wa*ḥ*ˈ*śi*h 'on his own', *ḥan*ˈ*fayham* 'yourselves m.pl.', *ḥan*ˈ*fay*yan 'ourselves', *ṭaytī*ˈ*dayki* 'each other f.dual'.

With all but two of these pronoun suffixes, stress appears to be

assigned according to quantity and position. Where the 3ms possessive suffix, -ih ~ -ah, is concerned, however, stress is assigned to this syllable irrespective of whether the word is disyllabic or monosyllabic or whether the allomorph is the less common long form *-ēh,* as in *šēh* (~ *ših*) 'with him', or the short form -ih (Watson 2012: 69), as in: *hˈnih* 'with him', ˈbih 'with him, in him', ˈlih 'to him, against him', ˈtah 'him' [direct object], *fanˈwih* 'before him', sˈrih 'behind him', *wuzˈmih* 'he/they f. gave him'.

We assume the pre-suffixal allomorph takes the pattern (Cv)CˈCē (e.g. Rubin 2018: 57); this analysis is supported by the defined allomorphs of bər 'son' > *ḥabrē* 'the son of' and *ḥāmē* 'the mother of': *ḥabrē ḏ*a-saʕīd 'Sa'id's son', *ḥāmē ḏ*a-*tfōl* 'Tfol's mother', *fnōhan* 'before' > *fanwē ḏ*a- 'before s.th.'. On suffixation of the vowel-initial allomorphs of the object/possessive pronouns, hiatus is resolved by left-most vowel deletion with association of the original stress to the preserved vowel: *wuzˈmē-ih* > *wuzˈmih* 'he gave him'; *fanˈwē-ayš* > *fanˈwayš* 'before you f.s.', *fanˈwē-ihi* > *fanˈwihi* 'before them [dual]'; *ḥabˈrē-*ay > *ḥabˈray* 'my son'.

3.4 Stress preservation and opacity

In the case of suffixation of word-level suffixes, stress remains on the original tonic syllable, irrespective of quantity and position. When a singular noun takes a possessive suffix, stress appears to be assigned according to syllable quantity and position; however, since stress is

maintained on the same syllable as on the unsuffixed noun, it is difficult to determine, from this evidence alone, whether this is a question of stress preservation or of stress assignment according to syllable quantity and position:

(6) bark ‘knee’ > *a ˈbarki* ‘my knee’; bayt ‘house’ > *a ˈbitk* ‘your m.s. house’, *a ˈbayti* ‘my house’; *ˈśxōf* ‘milk’ > *a ˈśxafs* ‘her milk’; *ī ˈbīt* ‘camel f.’ > *ḥay ˈbitk* ‘your m.s. camel’; *ḳlīˈfūt* ‘bark’ > a*ḳlīˈfats* ‘its f. bark’; *ʔāfə ˈrēt* ‘redness’ > a*ʔāfə* ˈrats ‘its f. redness’; ra*ḥ ˈbēt* ‘town’ > ar*ḥa ˈbēti* ‘my town’; *ṣā ˈrīr* > a*ṣā ˈrīrə*k ‘the back of your m.s. neck’; *ˈwō.ram* ‘road’ > *ˈḥ*ar.mək ‘your m.s. road’; ˈgawf ‘chest’ > *a ˈgawfk* ‘your m.s. chest’; *ˈṣayḥ* ‘voice’ > *a ˈṣayḥ*k ‘your m.s. voice’.[13]

3.4.1 Object suffixes

With the exception of the 3ms/3fpl perfect verb discussed above, stress is preserved on the stressed syllable of the unsuffixed stem in object suffixation. Even in case of the 3ms/3fpl perfect verb and the prepositions and adverbials examined above, assuming a pre-suffixal allomorph (Cv)C ˈCē, stress here is also preserved on the tonic vowel

[13] In the case of CvvC, the long vowel is shortened before consonant-initial suffixes where noun-final C is aspirated or ‘breathed’ (first shown in Bendjaballah & Ṡégéral 2014, who describe these consonants as ‘idle glottis’). With the exception of bayt > abitk ‘your m.s. house’, diphthongs are not shortened in this position, as in agawfk ‘your m.s. chest’. Johnstone (1987: xiv) assumes the diphthong /ay/ in bayt, which shortens to [i] on suffixation of C-initial possessive pronouns, has developed from *bīt*, as attested in Western varieties of Mehri.

of the suffixed stem.

3.4.1.1 Imperfect verb

When the imperfect verb takes object suffixes directly, stress remains on the original tonic syllable of the stem. In most cases, stress also appears to adhere to syllable quantity and position:

(7) *aˈġōrab* 'I know' > *aˈġarbə*s 'I know her', *aˈwūzam* 'I give' > *aˈwuzmə*k 'I give you m.s.', yi*ḳˈbūb* 'he roasts' > yi*ḳˈ*bibham 'he roasts them m.', *yharˈdūd* 'he takes back' > *yharˈdidham* 'he takes them m. back'.

However, evidence in favour of stress preservation in object suffixation is found when we consider affixation of an object suffix to the singular imperfect inflections of verbs ending in vvC. Here we note that the long tonic vowel of the imperfect is subject to pre-suffix shortening (Watson 2012: 41), even where a vowel-initial suffix is affixed, but that stress remains on the originally long syllable, as in:

(8) *yiśˈlū*l 'he takes' > *yiśˈl*ili 'he takes me', *tiˈḥ*aym 'you f.s. want' > *tiˈḥ*iman 'you f.s. want us', *yiˈśōm* 'he sells' > *yiˈśami* 'he sells me', *tˈkōb* 'you m.s. think' > *tˈkab*an 'you m.s. think us'[14]

[14] Shortening does not affect underlying diphthongs, as we see in *yiśaynkam* 'he sees you m.pl.'.

Three facts demonstrate that long-vowel shortening here is motivated by suffixation rather than by considerations of syllable repair: First, shortening occurs irrespective of whether the suffix is consonant-, or vowel-initial. Secondly, shortening fails to occur where the long vowel contains crucial morphological information (plural number): we see this in case of object suffixation to masculine plural forms of the perfect and imperfect verb:[15] *hadlīl* 'they m. guided' > *hadlīli* 'they m. guided me', *yikīb* 'they m. think' > *yikībham* 'they m. think them m.' and *yiśīmsan* 'they m. sell them f.' compare with y*hadlūl* 'he guides' > yhadlilan 'he guides us', *yikōb* 'he thinks' > yikabi 'he thinks me', and *yiśōm* 'he sells' > yi*śam*san 'he sells them f.'. Thirdly, shortening is not restricted to suffixation of object pronouns to the imperfect verb: it also occurs where the perfect 3fs takes an object pronoun, and where possessive pronouns are suffixed to plural nouns and to some prepositions. In these cases, pre-suffix shortening leads to the opaque assignment of stress to a penultimate or antepenultimate light syllable (Cv). Below we examine suffixation of possessive pronouns to plural nouns, affixation of subject suffixes to perfect verbs, and affixation of object pronouns to perfect verbs.

3.4.1.2 Plural nouns with possessive pronouns

[15] Rubin (2018: 61–62, 162) claims that the masculine plural verbal forms have underlying final *-ə* (< *u) 'that affects syllable structure when suffixes are added' (ibid: 61). Since this final *-ə* appears in no environment, and thus does not form part of the synchronic phonology of the language, we believe this claim should be dismissed.

When plural nouns such as *ḥaˈbūn* ‘the children’, *bīˈrōk* ‘knees’, *ḥāˈdūtan* ‘hands’ take a possessive pronoun suffix, the long vowel of the original stressed syllable is subject to pre-suffix shortening; and as for the imperfect verb, this syllable preserves stress, despite, in the case of a dual or plural possessive suffix, the following long vowel of the suffix,[16] as in: *ḥaˈbinīham* ‘their m. children’, *abīˈrakīham* ‘their m. knees’, *ḥāˈditīkan* ‘your f.pl. hands’.[17] Similarly the prepositions *nˈxāli* ‘under’ and *ˈtwōli* ‘towards’, which take the allomorphs of pronoun suffixes that typically attach to plural nouns (Rubin 2010: 36), are realised on suffixation with pre-suffix vowel shortening, as *nˈxalīsan* ‘under them f.’, *nˈxalīham* ‘under them m.’, and *ˈtwalīham* ‘towards them m.’, *ˈtwalīsan* ‘towards them f.’ respectively, with stress preserved on the original stressed syllable of the stem. Thus, both syllable shortening and stress appear to be unmotivated: shortening is not required to reduce a word-medial CvvC syllable to CvC, and stress is assigned to the antepenultimate light (Cv) syllable rather than to the penultimate heavy (Cvv) syllable.

3.4.1.3 Inflected perfect verbs

Perfect verbs inflected for the marked first or second person take stress on the same syllable as the unmarked 3ms/3fpl inflection, i.e. as

[16] Rubin (2018: 58) gives the plural possessive pronouns as *-ihəm*, etc., with short -i-. Our acoustic and phonological analysis shows the vowel to be long.
[17] On suffixation of a possessive suffix to nouns ending in the -an of nunation, -an is deleted: *ḥādūtan* > *ḥāditya* ‘hands’ > ‘my hands’ (e.g. Rubin 2018: 93).

the perfect stem. In several cases, whether we are witnessing stress assignment according to weight or through preservation of stem accent cannot be determined, since stress on the original stem syllable is identical to stress on the right-most heavy syllable, as in: *ˈktūb* ‘he/they f. wrote’ > ˈktabk ‘I/you m.s. wrote’; (a)*s* ˈ*sōfar* ‘he/they f. travelled’ > (a)*s* ˈ*saf*rak ‘I/you m.s. travelled’. The behaviour of T-stem verbs of the structure CvTCvC and of quadriliteral verbs, however, demonstrates that stress is indeed preserved on the original stressed stem syllable, as in: ˈwatxaf ‘he/they f. came in the evening’ > ˈwatxafk ‘I/you m.s. came in the evening’, ˈwatxafkam ‘you m.pl. came in the evening’; ˈ*śatūḳ* (< *ˈ*śatwaḳ* ‘he/they f. longed’) > ˈ*śatūḳ*ak ‘I/you m.s. longed’, ˈ*śatūḳ*kam ‘you m.pl. longed’; ˈġatya*ṭ* ‘he/they f. became angry’ > ˈ*ġatīṭ*kan ‘you f.pl. became angry’ (cf. Watson 2012: 34; Rubin 2018: 50). Similarly, basic quadriliteral verbs such as *a* ˈ*ṣ*an*ʔaf* ~ *a* ˈ*ṣ*anaf ‘to turn a corner’ and *a* ˈ*daġdaġ* ‘to tickle’ preserve stress on the penultimate stem syllable even where consonant-initial inflectional suffixes are added, and thus where considerations of quantity and position would demand stress assignment to the penultimate syllable, as in the unattested *amaḳ ˈṣadkam. Examples include: *a* ˈ*ṣ*an*ʔ*afkam ~ *a* ˈ*ṣ*anafkam ‘you m.pl. turned a corner’ and *a* ˈ*daġdaġkam* ‘you m.pl. tickled’.

3.4.1.4 Perfect verbs with object suffixes

Only perfect verbs inflected for the unmarked singular and feminine plural 3 person take object pronouns directly in the varieties of Mehri

spoken by tribes based in and around Dhofar.[18] In these cases, the 3ms/3fpl exhibits a different template for the pre-suffixal stem, as discussed above (3.3); in verbs in which the 3mpl is expressed nonconcatenatively rather than through suffixation,[19] the verb preserves the unsuffixed stem form and stressed syllable, and adds the suffix directly, with no long-vowel shortening, as we see for imperfect masculine plural verbs above. Examples include: *śi ˈnīw* 'they m. saw' > *śi ˈnīwham* 'they m. saw them', (a)x*x* ˈ*ṣ*ayb 'they m. sent' > (a)x*x* ˈ*ṣ*aybham 'they m. sent them m.'. The 3fs perfect verb invariably takes the object suffix directly, shortens the suffix vowel due to pre-suffix vowel shortening, as we have seen for the imperfect (3.4.1.1), and preserves stress on the shortened syllable of the 3fs subject suffix, as in: *ś*i ˈ*nūt* ~ *śin* ˈ*yūt* 'she saw' > *ś*i ˈnitham ~ *śin* ˈ*yitham* 'she saw them', ha ˈmawt 'she heard' > *ha* ˈ*mitan* 'she heard us', *ta* ˈ*bawt* 'she followed' > *ta* ˈ*bati* 'she followed me'[20] (compare ˈhimaki 'we/you [dual] heard' and ˈtabaki 'we/you [dual] followed', which exhibit the

[18] In contrast to Mahriyōt, the Mehri varieties spoken principally in far eastern Yemen (Watson 2012: 201), where all perfect verbs may take object pronouns directly.

[19] E.g. syawr 'they m. went' as opposed to ama*ḵ*ṣad-am 'they m. took a short cut', where the 3mpl is expressed through the suffix -am.

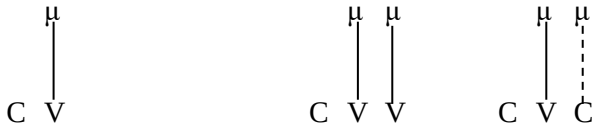
[20] Bendjaballah & Ségéral (2017: 183, note 34; also Rubin 2018: 61) argue that "[t]he case of the 1s -i# is particular. When it is suffixed to the pf 3fs, the preceding short stressed vowel is short: wəzmə̲ti she gave me, *wəzmū̲ti. This can be understood only if the morpheme is underlyingly /y#/ and not /əy#/." Rubin (2018: 163) further assumes an underlying 1pl pronoun suffix -n. Recognition of long-vowel shortening before word-level suffixes enables us to account for shortening without the positing of unmotivated underlying forms.

same syllable structure).

4. Metrical Theory

4.1 The mora

Following Hayes' (1995) metrical model for word stress assignment, short vowels are assigned a single mora, long vowels are assigned two moras, geminate consonants are assigned a single mora, and non-geminate consonants in coda position are assigned a mora through a process known as Weight-by-Position, whereby a consonant following a vowel receives a mora due to occupying the coda of a syllable (Hayes 1989: 90). Weight-by-Position is diagrammed below through a broken line. Metrical structure creation is non-exhaustive, which means that it need not exhaust the string of syllables in the word, and some syllables may be left unaccounted for by metrical structure creation (Hayes 1995: 2-3).



4.2 The minimal word

Mehri generally respects the bimoraicity principle for minimal words: in the unmarked case, stressable words have a minimum of two moras. Thus, sub-minimal non-suffixed prepositions and clitics such as min 'from', bi- 'in, with', ka- 'with', li- 'to, against' and wa- 'and' are not

assigned stress. However, final stress is assigned to -vh in the lexical cases reviewed in 3.2 above; this suggests that degenerate syllables may be permitted in strong position. The rules for Mehri stress assignment are laid out below:

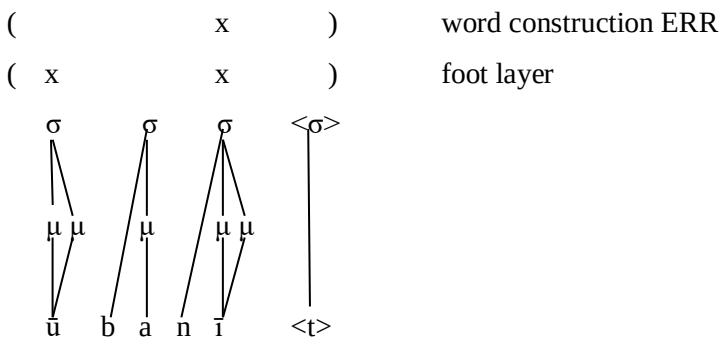
Mehri stress assignment

1. Consonant Extrametricality:[21] C > <C>/__]word;
2. Foot Construction: Assign moraic trochees from left-to-right; degenerate feet are permitted in strong position;
3. Word Layer Construction: End Rule Right–stress the head of the right-most foot.

According to these principles, the adjective *ūbanīt* 'white f.s.' is stressed as follows:

1. The final consonant <t> is rendered extrametrical;
2. Moraic trochaic feet are assigned from left to right (foot layer);
3. The head of the right-most trochaic foot is assigned stress according to End Rule Right (ERR).

[21] Consonant extrametricality assures that the final consonant in a prosodic word is not assigned moraic status, thus final CvC counts as a light syllable (3. above).



4.3 Secondary stress and stress fluctuation

Mehri exhibits secondary stress, assigned rhythmically to the head of pre-tonic trochaic feet. Thus in ˌ*ūbaˈnīt* ‘white f.s.’, the final superheavy syllable receives word stress and the initial heavy syllable is assigned secondary stress; in ˌ*xadˈmēt* ‘work’, one trochaic foot is constructed over the initial heavy syllable, and one over the final superheavy syllable; the final superheavy syllable receives word stress and the head of the initial foot, the initial syllable, is assigned secondary stress. Where a word comprises three feet, stress is assigned rhythmically,[1] with secondary stress assigned to the initial foot, and primary stress to the right-most foot, as in: ˌra*ḥ*bɛ̄ˈ*nōt* ‘little town’, ˌra*ḥ*bɛ̄ˈnawtan ‘little towns’ and ˌ*nāfˈrūr* ‘he became red’. In a metrical model, assignment of secondary stress means that foot layer of the metrical grid is not subject to conflation (Watson 2002: 121). In words comprising two heavy syllables, stress shift typically occurs

[1] Probably due to the constraint *CLASH, which mitigates against two adjacent stressed syllables (Alber 2004).

before a word with initial stress to avoid stress clash: thus, *bahlīt* ‘word’ exhibits ultimate stress in *ˈd̲īma ˌbahˈlīt* ‘this word’, but initial stress in *aˈbahˌlīt ˈd̲īmah* ‘this word’.

5 Stratal analysis

To sum up the discussion so far, stress in Mehri is assigned to a syllable in the stem according to its quantity and position, or to a stressable stem-level suffix, including the cases of lexical stress discussed above (3.2). Where an unstressable suffix is attached, the long tonic vowel is reduced, unless that long vowel contains crucial morphological information–i.e. plural number information.

A metrical model can account for stress assignment on stems and stem-level suffixes, but it cannot alone account for stress preservation. The apparent opacity in stress in Mehri can be explained within a model that makes reference to the levels within the phonology. The fact that suffixation frequently fails to shift stress demonstrates that stress is cyclical in Mehri–in order for stress to be preserved it has to have been assigned at a lower level in the first place (Collie 2007). The phonological cycle predicts that stress is inherited only from the immediately embedded word (Collie 2007: 167).

Here we propose that the stratal approach to Optimality Theory, which draws on the cyclical observations of Lexical Phonology, can provide a neat account of stress assignment and stress opacity in Mehri. Optimality Theory approaches phonological processes through a set of universal violable constraints on the output rather than phonological

rules. These constraints interact and are ranked relative to each other. Languages and dialects differ not in the nature of the constraints, but in their ranking. There are two types of constraints within Optimality Theory: markedness constraints which require the output to be structurally well-formed, and faithfulness constraints which require the output to be faithful to the input: thus, the prosthesis of a glottal stop to an onsetless syllable is motivated by a markedness constraint on onsetless syllables; and weak preservation of stress in the second syllable of English orìginálity is motivated by a faithfulness constraint preserving stress on the immediately embedded input oríginal.

The goal of Stratal Optimality Theory (henceforth Stratal OT) as opposed to classical Optimality Theory is to acknowledge phonological levels and to reduce cyclicity to faithfulness of the output (in this case the embedding word) to the input (in this case the embedded word), and opacity to the masking of constraints between levels (Kiparsky 2000, 2003). Constraint ranking in Stratal OT differs from that in classical OT in that the constraints are re-ranked across morphological levels within a language.

We follow Kiparsky's (2000, 2003) and Bermúdez-Otero's 2018) Stratal OT model in assuming two morphological levels: the stem and the word. Stem-level suffixes are affixed to the stem, and word-level suffixes to the word. In Mehri, as we have seen above in 3.3, stem-level suffixes are derivational (adjectival) suffixes, number/gender subject suffixes for the unmarked third person, gender/number suffixes in nouns and adjectives, and singular possessive pronouns;

word-level suffixes are the marked (first and second) subject pronouns in verbs, object pronouns, and plural possessive pronouns.
The following faithfulness and markedness constraints account for the data in Mehri.[2]

Faithfulness constraints:
STRESSIDENT: An accent in the input must have an accent in the output (from Collie 2007)
MORPHIDENT: Stem-internal morphological information in the input must be maintained in the output
FOOT-HEAD: Preserve the head of the foot

Markedness constraints:
PARSE-σ: Parse syllables into feet
FTBINμ: Parse syllables into binary moraic trochees
WEIGHT-STRESSPRINCIPLE: Only heavy syllables are stressed; unstressed heavy syllables are reduced
ALLFTL: Align the foot with the left edge of the domain
RIGHTMOSTALIGN: Align the strongest foot with the right edge of the domain
*ADJOIN: Do not adjoin structures to the prosodic word

[2] As is convention in Optimality Theory, a constraint preceded by an asterisk means 'does not have': thus, *HEAVYADJOIN below means Adjoined structures are NOT heavy. A constraint with no preceding asterisk means 'does have': thus, MORPHIDENT below means Stem-internal morphological information in the input MUST BE maintained in the output.

*HEAVYADJOIN: Adjoined structures are not heavy

The faithfulness constraints account for stress preservation and secondary stress at the word level: STRESSIDENT requires preservation of lexical stress, and requires stress in the embedding word to be identical to stress in the embedded word; and FOOT-HEAD requires foot heads to receive (primary or secondary) stress. MORPHIDENT prohibits vowel shortening where shortening would result in a loss of crucial morphological information.

The markedness constraints account for assignment of stress at stem level according to quantity and position, and preservation of stem-level stress at the word level: PARSE-σ requires all syllables to be parsed into feet; FTBINμ requires the creation of binary left-headed feet; ALLFTL accounts for the directionality of footing, aligning the foot with the left edge; RIGHTMOSTALIGN requires assignment of stress to the head of the right-most foot; WEIGHT-STRESSPRINCIPLE (WSP) requires all and only heavy syllables to receive primary or secondary stress, and requires the shortening of unstressed long vowels; *ADJOIN states that structures adjoined to the prosodic word are disfavoured; and *HEAVYADJOIN requires long vowels to be shortened before an adjunct.

We claim that stress opacity in Mehri results from restriction of footing and stress assignment to the stem level; syllables in word-level suffixes are not parsed into feet but rather adjoined to the prosodic word through Adjunction-to-Word, expressed here through the

markedness constraint *ADJOIN: Do not adjoin. This draws on van Oostendorp's (2002) account of the invisibility to stress of certain suffixes in Dutch resulting from adjunction of the suffix to the prosodic word. Opaque shortening of stressed long vowels at the word level is motivated by a requirement for adjoined structures to be lighter than non-adjoined structures.[3] In the tableaux below, an asterisk * signals that an output violates a particular constraint on one occasion. Where two or more * are given, this means that the output violates the constraint that number of times; the exclamation mark ! to the right of * signals the highest-ranking constraint disfavouring the loser relative to the winner (McCarthy 2008: 44). The ☞ symbol highlights the favoured candidate.

At stem level 1, RIGHTMOSTALIGN and STRESSIDENT outrank WSP and FTBINμ.

Stem level 1	RIGHTMOSTALIGN	STRESSIDENT	WSP	FTBINμ
Input: šiḳróh				
☞šiḳ.ˈroh			*	*
ˈšiḳ.roh	*!	*		

Stem	RIGHTMOSTALIGN	STRESSIDENT	FTBINμ	WSP

[3] In ADJUNCTION-TO-MORA advocated initially by Broselow (1992), the long vowel that shares a mora with the following consonant in a non-final CVVC syllable has been analysed phonetically in Arabic and Mehri as shorter than an open long vowel.

level				
Input: śīwōṭ				
śī.ˈwōṭ				*!
☞ ˌśī.ˈwōṭ				
ˈśī.wōṭ	*!			*

At stem-level 2, on suffixation of stem-level suffixes, constraints undergo reranking. RIGHTMOSTALIGN and WSP outrank FTBINμ and STRESSIDENT, assuring assignment of stress to the head of the right-most foot and shortening of the penultimate long vowel of the stem.

Stem level 2	RIGHTMOSTALIGN	WSP	FTBINμ	STRESSIDENT
Input: ūbōn, -īt, Base: [ū.ˈbōn]				
ū.bō.ˈnīt		**!		*
☞ ˌū.ba.ˈnīt			*	*
ū.ˈba.nīt	*!	***	**	
ū.ˈbō.nīt	*!	**		

Stem level 2	RIGHTMOSTALIGN	WSP	FTBINμ	STRESSIDENT
Input: ḥāwēl, -ōy, Base: [ḥā.ˈwēl]				
ḥā.wē.ˈlōy		**!		*
☞ ˌḥā.wa.ˈlōy			*	*

ḥā.ˈwa.lōy	*!	***	**	
ḥā.ˈwē.lōy	*!	**		

Stem level 2	RIGHTMOSTALIGN	WSP	FTBINμ	STRESSIDENT
Input: ḥād-ūtan, Base: [ḥayd-ūtan]				
ḥā.ˈdū.tan		*!	*	*
☞ ḥā.ˈdū.tan			*	*
ˈḥā.dū.tan	*!	*	*	

At the word level, constraints undergo reranking (Kiparsky 2000, 2003). The faithfulness constraint IDENTSTRESS and the markedness constraint *HEAVYADJOIN now outrank all other constraints ensuring stress preservation: by *HEAVYADJOIN outranking WSP, the tonic syllable of the adjoined stem is shortened; outranking of *ADJOIN permits adjunction; the footing and parsing constraints, ALLFTL, PARSE-σ and FTBINμ, are outranked due to footing not taking place at the word level. The interaction of these constraints is exemplified in the following tableaux of a suffixed 3 feminine singular perfect verb and a suffixed plural noun (distinguishing constraints only given):

Word level	IDENTSTRESS	*HEAVYADJ	*ADJOIN	WSP	FTBINμ
Input: /tabawt, -an/ Base: [ta.ˈbawt]					
ta.ˈbaw.tan		*!			

☞ta.ˈba.tan				*	*
ˈta.ba.tan	*!		*	*	

Word level	IDENTSTRESS	*HEAVYADJ	*ADJOIN	WSP	FTBINμ
Input: /ḥādūt, -īham/ Base: [ḥā.ˈdūt]					
ḥā.ˈdū.tī.ham		*!	*	**	
☞ˌḥā.ˈdi.tī.ham			*	*	*
ˈḥā.di.tī.ham	*!			*	*
ḥā.di.ˈtī.ham	*!			*	*

There remains a question as to why the stressed syllable in internally inflected masculine plural verbs fails to shorten on suffixation of object pronouns (cf. above). Here masculine plural is expressed, depending on verb type, by the long high front vowel /ī/ ([ay] following an emphatic or pharyngeal) or by the diphthong /aw/ (Johnstone 1987: xx). Examples include: *yiśtīm* ‘they m. buy’, *hātīm* ‘they m. spent the night’, yidlawl ‘they m. know’, syawr ‘they m. went’, wzawm ‘they m. gave’.

Pre-suffix shortening does not occur in case of diphthongs, as we know in the verbal system from forms such as *yiśayn*-kam ‘he sees you m.pl.’, and in the nominal system when possessive pronouns are attached to nouns ending in -aw/ayC, as in: agawf-k ‘your m.s. chest’, aṣay*ḥ*-k ‘your m.s. voice’ (see 3.1); thus, we do not expect it in the suffixation of object pronouns to yidlawl or wzawm; however, pre-

suffix shortening should occur when a verb ends in -īC. Here we claim that object suffixation to internally inflected masculine plural verbs does not result in shortening because shortening would erase crucial morphological information. This gives, for example: ti*ḥ*aym ‘you m.pl. want’ > ti*ḥ*aymsan ‘you m.pl. want them f.’, *thadlīl* ‘you m.pl. guide’ > *thadlīli* ‘you m.pl. guide me’, yidlawl ‘they m. know’ > yidlawlsan ‘they m. know them f.’. We maintain here that the internal long vowel is maintained on suffixation of object pronouns through high-ranking MORPHIDENT. In the following tableaux, only distinguishing constraints are given:

Word level	MORPHIDENT	IDENTSTRESS	*HEAVYADJ	WSP	FTBIN
Input: /tḥaym, -an/ Base: [tˈḥaym]					
☞tˈḥayman			*		*
tˈḥaman	*!			*	*
tḥaˈman	*!	*		*	*

6 Conclusion

To sum up: the complexity of word stress assignment in Mehri is attributed to a combination of lexical stress and the interaction of violable constraints that are re-rankable between stem and word levels. This model enables us to dispense with unmotivated underlying forms. At the stem level, stress in Mehri is assigned according to quantity and position or to a morpheme requiring lexical stress; thus at

stem level 1, RIGHTMOSTALIGN and IDENTSTRESS outrank other constraints assuring primary stress to the right-most foot and lexical stress. At stem level 2, on the affixation of stem-level suffixes, RIGHTMOSTALIGN and WSP outrank all other constraints, ensuring primary stress to the right-most foot and secondary stress to pre-tonic heavy syllables. The relative high-ranking of FTBINμ assures assignment of secondary stress to the head of pre-tonic feet. At the word level, on the affixation of word-level suffixes, IDENTSTRESS outranks *HEAVYADJOIN, WSP and FTBINμ, ensuring stress preservation. *HEAVYADJOIN outranks WSP and FTBINμ to ensure shortening of stressed pre-adjunct syllables. Finally, MORPHIDENT outranks *HEAVYADJOIN to mitigate against vowel shortening in case the potential target of shortening expresses crucial morphological information.

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