

# A reassessment of word prominence in Mapudungun: Phonological vs. morphological activation

BENJAMIN MOLINEAUX  
THE UNIVERSITY OF EDINBURGH

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## 1 Introduction

‘Morphological stress systems, particularly of the stem-stress type, are fairly common but in my opinion have played a less significant role in the development of parametric metrical theory, since the greatest strength of the metrical approach has been in describing rhythmic influences on stress.’ (Hayes 1995: 32)

If words tend to have an internal rhythm, as much of metrical phonology assumes, then it stands to reason that this layer of structure will be most easily observed in longer words, where the patterns have a better chance of being robustly instantiated.<sup>1</sup> Languages with longer words, therefore, have often been sought out as loci for observing rhythmic patterns. This has been the case for Mapudungun (ISO 639-3, ARN), the focus of this chapter, which does indeed have

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<sup>1</sup>I am very grateful to the Mapudungun speakers of the Rucapangue and Rupahue communities near Cholchol (Chile), who acted as my consultants; especially to Mr. Sergio Catricura. I would also like to thank Bob Ladd for a number of stimulating conversations about the data presented here. Additional thanks go to Aditi Lahiri, Larry Hyman, Franz Plank and other participants at the Oxford MORPHON mini-symposium in October 2017, for abundant feedback and encouragement with my analyses. Finally, I am also indebted to the editors and one anonymous reviewer for their thought-provoking comments, all of which have substantially improved the final text.

longer words – mostly verbs – while also figuring prominently in the literature on stress assignment.<sup>2</sup>

Unfortunately, researchers' appetite for clear-cut cases of rhythmic behaviour has led to hurried generalisations about the word-prosodic system of Mapudungun, seeing it as a perfect grid of unstressed and stressed syllables (an iterative, left-right, quantity-insensitive iamb). As de Lacy (2014) has already shown, accounts of this language are all based on a single highly-unrepresentative data set: a three-page article from 1965, by Echeverría & Contreras. More importantly for the purposes of this chapter, such descriptions of Mapudungun prominence also fail to acknowledge the complex nature of the language's morphological structure and the problematic notion of wordhood as it applies to the language as a whole. In what follows, I will review other first-hand reports on Mapudungun prosody and present new data on prominence. This done, I will engage with the literature on stress systems and complex words in the language and present an account where morphological complexity plays a crucial role in the assignment of prosodic prominence.

## 1.1 Mapudungun as a morphologically complex language

Mapudungun is the ancestral language of the Mapuche people of the Southern Cone of the Americas. There are an estimated 250,000 speakers in Chile (Simons & Fennig 2018, Zúñiga & Olate 2017) and 8,400 in Argentina (INEC 2005). Despite its fairly large numbers, language transmission has seen sustained decline (Zúñiga 2007, Gundermann et al. 2009), with Spanish-dominant bilingualism the norm today for all age-groups except the very elderly, while bilingual education programs remain incipient (cf. Loncon 2011).

In the absence of convincing arguments for the genetic affiliation of Mapudungun (see Pache 2014 for an overview), I take it to be an isolate. Internally, dialectal variation is fairly limited, especially considering the language's vast geographical spread (see Lenz 1897,

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<sup>2</sup>Under the now-dispreferred name *Araucanian* (cf. Díaz-Fernández 2006), Mapudungun is discussed, amongst others, by Hyman 1977: 41-2; Kager 1993: 409; 2007: 205-6; Hung 1993: 177-80; 1994; Kenstowicz 1994: 556; Hayes 1995: 266; Gordon 2002: 522; 2011a: 143; McGarrity 2003: 59-61; Tesar 2004: 220-21; Wetzel & Meira 2010: 356-7; Hermans 2011: 982-4; Goedemans & van der Hulst 2013; Goedemans, Heinz & van der Hulst 2014; van der Hulst 2014; Martínez-Paricio & Kager 2015; Hyde 2002, 2011, 2016 and Song 2018: 223.

Croese 1980, 1985, Salas 1992). The main outlier is the southernmost variety, Huilliche, which is also the most poorly preserved (cf. Álvarez-Santullano Busch 1992, Sadowsky et al. 2015). The basis for most contemporary descriptions of the language — including the one below — is Central Mapudungun, spoken in the Mapuche heartlands of Chile’s Araucanía and Los Lagos regions.

Under most accounts, Mapudungun is unambiguously polysynthetic (cf. Baker, Aranovich & Golluscio 2005, Bickel & Nichols 2013, Zúñiga 2017). Insofar as such a category can be considered useful (see Fortescue, Mithun & Evans 2017, for a discussion), its fundamental locus of instantiation in Mapudungun is the verb, which displays — aside from intricate, polypersonal (obligatory and optional) inflectional morphology — a wide array of derivational and compounding processes. While a few partially-grammaticalised word-initial verbal roots (*pepi-* ‘be able to’, *kiipa-* ‘desire’) could be taken for prefixes, these are rare in the language overall. Instead, a vast repertoire of verbal suffixes carries most of the inflectional and derivational load. Indeed, Smeets (2008: 149) distinguishes at least 100 different verbal suffixes, with independent functions and meaning. She also establishes 36 separate slots based on the relative position of suffixes within the word. Salas (1992) and Zúñiga (2006b,a) distinguish suffixes as marking mood, tense, evidentiality, polarity, directionality, voice, aspect, ‘modality in a broad sense’ (immediacy of the action, suddenness, broken implicature), as well as person and number of core arguments.

Minimally, a finite Mapudungun verb consists of a root — overwhelmingly mono- or disyllabic — followed by obligatory suffixes marking mood, person and number. In the case of non-finite verbs, the root is followed by an obligatory non-finite marker.

This richness of verbal morphology is in stark contrast with the noun, where, barring compounding (which is highly productive), morphological structure is notably sparse, displaying no consistent inflectional marking. Indeed, while the overall morpheme-to-word ratio of Mapudungun is rather low (estimated at 2.2), if we consider finite verbs alone, the same relation points strongly toward a synthetic system (at 4.71, cf. Zúñiga 2017: 711).

The language also falls in well with more restrictive contemporary theories of polysynthesis, which relate this morphological type either to the ‘ability to incorporate productive noninflectional concatenation’ (de Reuse 2006: 745) or to the parameter by which ‘every argument of a head element must be related to a morpheme in the word containing that head’ (Baker 1996: 14). The incorporation of non-inflectional

material is most clearly exemplified in Mapudungun by NP incorporation (i.e. the inclusion of the NP argument within the head verb — cf. 1) and serial verb construction (the concatenation of multiple verbal roots followed by a single obligatory inflection — cf. 2). Baker’s requirement for head-argument indexation, on the other hand, is met by the language’s strict head-marking direct/inverse morphology (cf. 3), as well as by NP incorporation.

**Nominal incorporation:** A well-described feature of Mapudungun (Harmelink 1992, Baker, Aranovich & Golluscio 2005, Baker 2009, Zúñiga 2017) is that speakers have the option of incorporating one or more arguments into the verb structure. This may occur either with a single noun (1a), or an entire noun phrase (1b), the latter being a rare feature among younger speakers today (cf. Zúñiga 2006a, Bickel & Zúñiga 2017).<sup>3</sup>

(1) Examples of Mapudungun nominal incorporation (from Zúñiga 2006b: 181)

a. [kaʃi-kaʃu-me-a-j]

cut-grass-AND-FUT-IND.3

‘He (she, it, they) will go there to cut grass.’

b. [aθkin-tu-we-ŋiʎa-n-mansun-kijaw-i]

look-TR-new-buy-PTCP-ox-PERAMB-IND.3

‘He (she, it, they) is going around watching recently bought oxen.’

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<sup>3</sup>In order to ensure comparability throughout this chapter, I have updated the various phonetic scripts and spelling conventions of individual authors to fit an IPA-based, broad phonetic transcription. The following glossing conventions are used in this paper (Zúñiga 2006b, Smeets 2008): AND: andative, APPL: applicative, BI: broken implicature, CAUS: causative, CONT: continuative, DU: dual, EP: epenthetic, FP: focal person, FUT: future, HAB: habitual, IND: indicative, INV: inverse, IMP: imperative, NEG: negative, PASS: passive, PL: plural, PROG: progressive; PERAMB: perambulative; PSIST: persistent; PTCP: participial; REFL: reflexive, REST: restorative, REP: reportative, SIM: simulative, SP: satellite person, SG: singular, TR: transitivity; TRLOC: translocative; 1: first person; 2: second person, 3: third person. Additional abbreviations include D: dependant, H: heavy syllable / head, L: light syllable, R: root, S: stem, σ: any syllable, ω: prosodic word, full stop (period) in the parsing line: syllable boundary.



- (3) Person marking in Mapudungun, intransitive and transitive direct/inverse forms (based on Zúñiga 2006b: 120)
- a. [leli-j-u]  
watch-IND.1-DU  
  
‘We both watched.’
  - b. [leli-fi-j-u]  
watch-3<sub>SP</sub>-IND.1-DU<sub>FP</sub>  
  
‘We both watched him (her, it, them).’
  - c. [leli-e-j-u-mew]  
watch-INV-IND.1-DU<sub>FP</sub>-3<sub>SP</sub>  
  
‘Us both, he (she, it, they) watched.’

The morphological complexity of Mapudungun, therefore, seems fairly robust, a feature that can be characterised as polysynthetic and appears to be tied up with its head-marking properties (cf. Nichols 2017). Mapudungun can, furthermore, be considered agglutinative, in that it displays a clear dispreference for phonological or semantic coalescence among morphemes. An ideal agglutinating language is characterised by the fact that ‘the boundaries between morphemes in the word are always clear-cut’ (Comrie 1989: 43), which overwhelmingly applies to Mapudungun.

## 2 Earlier descriptions of Mapudungun prominence

All major accounts of Mapudungun, going back to the early 17th century, describe a stress language, where prominence is non-contrastive and somewhat weak. While the details of the earliest accounts are beyond the scope of this chapter (but see Molineaux 2018), it is worth spending some time on the more recent sources.

**Suárez, 1959:** While valuable as a first phonemic analysis of Mapudungun, Suárez’s account of stress does little more than restate earlier observations, in particular those made by Rudolf Lenz (1897: XXIV; 6; 388). He claims that (a) stress is not very strong, (b) it occasionally shifts, and (c) it generally falls on the penultimate syllable of a

vowel-final word and on the final syllable of a consonant-final one. This might be taken as evidence for a moraic trochee aligned to the right edge of the word,<sup>4</sup> however, Suárez is skeptical of a straightforward word-level rule, and speculates that stress might be assigned with reference to morphological structure.

**Echeverría, 1964:** More methodologically transparent and rigorous in his analyses, Echeverría's description of stress is inconclusive. His native-speaker elicitation data and his forced decision perception test find too much inconsistency to validate Lenz and Suárez's trochaic pattern in longer utterances (cf. 4a), however, for words in isolation his transcripts broadly confirm the right-edge pattern (cf. 4b). Echeverría ultimately casts doubt on the existence of word-level stress assignment rules in the language, but also fails to find phrase-level patterns. This aporetic result leads him to suggest that there might be morphologically-determined stress or that some morphemes may be inherently stressed (p.47). An aspect of the system that he is clear about is that speakers only recognise stressed and unstressed syllables, assigning no hierarchical organisation of stressed syllables (p.48), a point I will return to in my own analysis.

(4) Example stress patterns in Echeverría (1964)

a. Stress in longer utterances (46–8):

- i. [ej.'mu e.'pu wi.'ja θu.ŋu.j.-'m-u]  
 you.DU two yesterday speak-IND-2-DU

'You two spoke yesterday.'

- ii. [iŋ.'tʃe u.maw.-tu.-'le-n]  
 I dream-VBZ-PROG-IND.1SG

'I'm dreaming.'

b. Stress in words in isolation (51–2):

- i. ['ku.ra] 'stone'  
 ii. [ŋa.'muŋ] 'foot'  
 iii. [ma.'wi.θa] 'wilderness'

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<sup>4</sup>Following Hayes (1995): a moraic trochee has the structures (L L), (H) and sometimes (L), where underlining represents the position of stress/prominence, while quantity-insensitive iambs (claimed for the data in Echeverría & Contreras 1965, below) may be represented as (σ σ).

iv. [a.li.'wen] 'tree' (p.35)

**Echeverría & Contreras 1965:** This is practically the only source for Mapudungun prominence cited in typological surveys. The likely practical reason for this is that the description is (a) short, (b) in English, and (c) widely accessible (it was published in *IJAL*). The article also uses the outdated exonym 'Araucanian' to designate the language, which is likely to have thrown off researchers's attempts at checking further sources. However, the main theoretical reason for the spread of the article's content is its contentious evidence for a purported right-headed quantity-insensitive foot: an even iamb. Although the article appears to be based on the same data-set as Echeverría (1964), the later paper's conclusions on stress assignment are diametrically opposed to what we find in the earlier one. In this case we are told that stress *is* predictable, specifically with reference to the phonological word. The general rule the authors give is stated in (5), with their much-cited examples in (6).

(5) 'a phonological word [which has anything from one to six syllables] has main stress on the second syllable and, if applicable, secondary stresses on the fourth and sixth syllables' (134).

(6) Stress assignment in Echeverría & Contreras (1965: 134 – glosses added)

- a. [wu.'le]  
'tomorrow'
- b. [tri.'pan.to]  
'year'
- c. [e.'lu.-mu.-j-u]  
give-2<sub>SP</sub>.INV-IND.1-DU<sub>FP</sub>  
'You give us (both).'
- d. [e.'lu.-a.-e.-n-ew]  
give-FUT-INV-IND.1SG<sub>FP</sub>-3<sub>SP</sub>  
'She/he/they will give me x.'

- e. [ki.'mu.-fa.ɫu.-wu.-ɫa-j]  
know-SIM-REFL-NEG-IND.3

‘She/he/they (herself/himself/themselves) pretended not to know.’

At this point, it seems that Echeverría & Contreras’ stress assignment system is fundamentally syllable-counting, weight-insensitive and parsed from left to right. However, the system becomes more complex with the addition of four ‘special rules’, which are rarely brought up in the literature:

- (7) ‘Special rules’ for stress assignment (Echeverría & Contreras 1965: 134 – glosses added)
- a. Three-syllable words ending in a consonant have a secondary stress on the last syllable: [θu.'ŋu.-ɫa-n] (speak-NEG-IND.1SG) ‘I do not speak’.
  - b. Two-syllable words ending in a vowel may be stressed on either syllable, except particles (adverbs, pronouns, prepositions) which are always oxytone: [ʼru.ka] ~ [ru.'ka] ‘house’; but [wu.'ja] ‘yesterday’, [wu.'le] ‘tomorrow’, [in.'tʃe] ‘I’, [ej.'mi] ‘you’, [few.'la] ‘now’, etc.
  - c. One-syllable words are stressed if an unstressed syllable follows, and vice versa: [ʼpu me.'ta.we] ‘in the jar’ vs. [pu ʼru.ka] ‘in the house’.
  - d. If the negative suffix [-la] occupies the fifth syllable, the secondary stress is shifted from the fourth to the fifth syllable, and the sixth (if any) loses its secondary stress: [ɫa.'ŋ-i.m-i.wu.-ɫa-j] (die-CAUS-REFLEX-NEG-IND.3) ‘he did not kill himself’.

While the general rule portrays prominence as fundamentally lexical and rhythmic, the special rules hint at what appear to be lexical, grammatical, phrasal and even morphological sensitivities for prominence placement.

Taken at face value, Echeverría & Contreras’ general rule is not devoid of controversy either, since it seems to describe a quantity-insensitive (even) iamb. However, a number of influential foot inventories — particularly Hayes (1995) — stipulate the only quantity-insensitive foot is the syllabic trochee, while its iambic mirror-image is

explicitly ruled out (purportedly, a consequence of the Iambic-Trochaic Law, Hayes 1985). Indeed, when dealing with the ‘Araucanian’ data, Hayes himself is pushed to describe the language’s footing as a ‘defective iamb’ for its surface lack of quantity sensitivity (see Hayes 1995: 266-8 and Molineaux 2014: 56-8, for a critique). More importantly, the iambic analyses (as found in Gordon 2002: 522, 545, Kager 2007: 205-6 and Hyde 2011: 1055, among others) fail to explain the unexpected stress on the final CVC syllable (as in (7a) [θu.ŋu.'lan] and (7d) [la.ŋi.mi.wu.'laj]), as well as the alternation of stress in disyllabic content words (as in (7b) ['ru.ka] ~[ru.'ka]).

**Smeets, 2008:** As regards stress, Smeets’ grammar<sup>5</sup> provides a general rule that seems to support the trochaic pattern in Suárez (1959). Nevertheless, this initial clarity becomes muddled by three additional rules stating that trisyllables have stress on the penult (8a<sup>6</sup>), that longer words stress ‘every second and every last vowel’ (8b) and that some longer words may have two main stresses (8c). A number of disyllabic words and individual morphemes, Smeets further claims, have ‘unpredictable’ (i.e. lexical) stress.

(8) Example stress patterns in Smeets (2008)

a. [ku.'ŋi.faʎ]

‘orphan’

b. [af.'ma.-tu.-la-n]

admire-REFL-NEG-IND.1.S

‘I did not admire.’

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<sup>5</sup>Although the publication date for this grammar is 2008, the work represents Ineke Smeets’ previously unpublished doctoral dissertation. The fieldwork for this description was conducted between 1977 and 1981 and the thesis was submitted in 1989. This explains why the entry on Smeets’ analysis of prominence is placed before that of Adalberto Salas (1978–1992).

<sup>6</sup>Note that although Smeets gives this as a simplex word, it can also be analysed as an adjectival construction [kupi] ‘to care’ followed by the adjectival suffix [faʎ], to mean ‘worthy of care’, where stress is now on the final syllable of the first root.

- c. [ki.θa.w-el.-<sub>1</sub>me.-we.-<sub>1</sub>la.-fi.-j-i-n]  
work-PROG-AND-PSIST-3<sub>SP</sub>-IND-1-PL<sub>FP</sub>

‘We did not work there for him any more.’

Smeets assessment seems to be a hybrid one, taking some elements from the traditional view of Lenz (1897) and Suárez (1959), and Echeverría & Contreras (1965). More problematically, main stress seems to be calculated at times from the right edge of the word and at times from the left. All in all, even if we disregard the inconsistencies in the relative positioning of primary and secondary stress, we must recognise that a simple set of parametric rules at the morphosyntactic word level simply will not explain stress assignment in this data.

**Salas, 1978-1992:** Throughout his work on Mapudungun, Salas describes primary stress in the traditional right-aligned moraic trochaic terms of Suárez, though he emphasises that ‘stress can change position within certain domains of the word’ (1992: 73). This latter claim is only exemplified with vowel-final disyllables such as [ru.ka] ~ [ru.ka] ‘house’. Secondary stress is claimed to fall on the first syllable of consonant-final trisyllables such as [a.tʃa.waɫ] ‘hen’. In longer words secondary stress is claimed to alternate between the first and second syllable, if the latter ends in a vowel (9a) and on the second syllable alone, if it ends in a consonant (9b).

(9) Stress on longer words (Salas 1992: 84 – detailed glosses added):

- a. [<sub>1</sub>wa.su.-tu.ku.-jaw.-ke-r.ka-j] ~ [wa.<sub>1</sub>su.-tu.ku.-jaw.-ke-r.ka-j]  
huaso-wear-PERAMB-HAB-REP-IND.3

‘They say he goes around dressed as a huaso (Chilean cowboy).’

- b. [pi.<sub>1</sub>naṅ.-tu.ku.-le-l.-ŋe.-ke-r.ka-j]  
stick-put.in-PROG-APPLIC-PASS-HAB-REP-IND.3

‘She/he/they say that this is stuck back on him.’

As we shall see further along, the two-syllable window that Salas describes at the left edge of the word coincides with the domain of the root in verbs. Evidently, this generalisation is also compatible with

some aspects of the account in Echeverría & Contreras (1965). Crucially, however, Salas’ analysis does not seek out an iterative pattern for stress, but relates it to word-edges alone.

**Zúñiga, 2002-2017:** Much in line with Salas’ work, Zúñiga’s grammar (2006b: 63-5) presents Mapudungun stress as falling on a right-aligned trochee, in a pattern he identifies as explicitly moraic (Zúñiga 2006a: 487). For longer words, he also follows Salas’ (1992) two-syllable secondary-stress window at the left edge. Importantly, Zúñiga acknowledges that most of these rules are applicable only to words in isolation, and that in running speech, prominences ‘behave according to more intricate patterns that are not well understood yet’ (Zúñiga 2014: 162). Furthermore, in more recent work he finds that the boundaries of the phonological word (p-word) in Mapudungun do not always align squarely with the boundaries of the morpho-syntactic word (g-word), with the former being defined, amongst other factors, by the position of stress (Zúñiga 2014, 2017, Bickel & Zúñiga 2017).

**Summary:** Having examined the major contemporary accounts of Mapudungun stress, we find that in almost all cases, main stress is considered to belong to a window of two syllables at the right edge of the word, with weight being a crucial consideration in its placement. The main exception to this assessment is the one publication that has been taken up by typological surveys of stress: Echeverría & Contreras (1965). The stark contrast between these two version of Mapudungun prominence can be summarised as in Table 1.

	FOOT	WEIGHT	DIRECTION	ITERATION
ECHEVERRÍA & CONTRERAS	Iambic	Insensitive	Left-Right	Yes
OTHER ACCOUNTS	Trochaic	Sensitive	Right-Left	No

Table 1: Two competing accounts of stress placement in Mapudungun

Suggestions are provided in several of the accounts regarding the possibility that the internal structure of words might shed light on the overarching prominence-assignment system. In particular, we noted that both nominal and verbal roots are overwhelmingly mono- and

disyllabic, making them largely coextensive with the domain of left-edge stress (either primary or secondary) described in the literature. There is also the suggestion throughout that prominence is somewhat variable in its positioning, especially where words are not presented in isolation.

In what follows, I will provide new data for Mapudungun prominence which elaborates on the role morphological structure plays in its assignment. While the data I present may well be analysed under the guise of misalignment between morphosyntactic and prosodic words (*à la* Bickel & Zúñiga 2017), I will argue that, rather, what should be reconsidered is the idea that Mapudungun prominence is a purely word-level phenomenon. In doing so I will re-evaluate the role of rhythm in the language — which is certainly not a simple grid — and propose a more important role for morphological demarcation.

### 3 New data for Mapudungun prominence

The main body of data presented here (for further details see Molineaux 2014, 2017) is from a series of interviews and guided elicitation tasks conducted in the Rucapangue and Rapahue Mapuche communities near the town of Cholchol, in Chile's Araucanía Region. Seven subjects (four male, three female) were interviewed, all native speakers of Mapudungun also fluent in Spanish. Their ages ranged from 55 to 83 and no hearing or speech impairments were reported.

Data was elicited via picture naming, general knowledge questions and translation of Spanish sentences. Consultants were also prompted to discriminate the position of prominences in their own utterances. Crucially, speakers show reliable intuitions regarding the position of prominences in words in isolation, probably facilitated by awareness of stress in Spanish (cf. Molineaux 2017 for a detailed study). For morphologically simplex words, only one main prominence was usually identified, providing no evidence for a perceptually relevant secondary prominence. Conversely, longer, more complex words often prompted the identification of two prominences with unclear hierarchical organisation.

An acoustic comparison of stressed vs. unstressed syllables in simplex disyllabic words was also conducted. This found that the only significant correlate to stress – in the syllables speakers themselves identified as prominent – was a pitch maxima (see Molineaux 2014: 80-6

for details).<sup>7</sup> In running speech, pitch maxima were also found consistently on the same syllable as in words in isolation, across different positions in the utterance,<sup>8</sup> thus revealing these to be lexically-based prominences and not only phrasal ones (Molineaux 2014: 103–9). In what follows I present an overview of relevant word and morphological categories and their prominence patterns.

### 3.1 Morphologically simplex words

Most non-verbal categories in Mapudungun are monomorphemic. Such words are also by and large disyllabic, with occasional mono- and trisyllables. Examples of the main group, nouns, are presented in Table 2. Everywhere but in disyllables ending in a vowel (c–d), prominence placement seems weight-sensitive, falling on the head of a right-aligned moraic trochee: prominence is assigned either to a final closed syllable (a–b and e–f, cf. [a.t̪ja.(ˈwaʎ)]) or to the penult, if the final syllable is open (g–i), either with a branching foot made up of two light syllables (cf. [pup.(ˈpu.ja)]), or as a heavy syllable followed by an unfooted light (cf. [pi.(ˈfiʎ).ka]).<sup>9</sup> For simplex nouns, then, this analysis is more parsimonious than the left-aligned quantity insensitive iambic analysis of many typological accounts, which predicts second-syllable stress. Indeed, trisyllables ending in a closed syllable (2e–f) present a challenge to the iambic analysis, even if they are a relatively infrequent type of monomorphemic word.

Disyllabic nouns ending in a vowel (such as Table 2 c–d), as we have said, alternate the position of prominence. Thus, the quantity insensitive iambic analysis fits when prominence is final, and the quantity sensitive trochaic one fits when prominence is initial. In our data, this pattern — familiar from the literature — shows a slight preference (62%) for initial stress. It is also reported that penultimate stress is judged by speakers as ‘more correct’ than the alternative, and may thus be register-bound. Furthermore, the placement of stress seems

<sup>7</sup>Vowel duration, intensity and mean pitch were also tested, but were not significantly correlated.

<sup>8</sup>The only exception to this pattern are vowel-final disyllabic nouns, which vary in the position of stress, both in isolation and in different grammatical contexts, with no identifiable preference.

<sup>9</sup>Throughout this chapter, I follow the syllabification practices in Echeverría (1964), Salas (1976, 1992) and Zúñiga (2006b) which claim surface onset and coda clusters are avoided, while onsets are maximised. Heavy syllables end in a consonant or diphthong and bear two morae, while light syllables end in a vowel and carry a single mora.

Disyllables		Trisyllables			
a.	[pu.'kem]	‘winter’	e.	[a.t̪ja.'waʌ]	‘hen’
b.	[ʌaf.'keŋ]	‘sea’	f.	[a.t̪juʌ.'peŋ]	‘ash’
c.	[ma.pu]~[ma.'pu]	‘land’	g.	[ma.'wi.θa]	‘woodland’
d.	[piw.ke]~[piw.'ke]	‘heart’	h.	[puŋ.'pu.ja]	‘armpit’
			i.	[pi.'fiʌ.ka]	‘two-tone flute’

Table 2: Prominence-placement in Mapudungun simplex nouns

not to be governed by the word’s position in the phrase or utterance, but fluctuates relatively freely.

Other simplex non-verbal categories, however, do not follow the nominal pattern. Indeed, adjectives, adverbs and pronouns — which never extend beyond two syllables — always have final prominence, irrespective of the final syllable’s weight (as in 10). While this category may well be analysed as iambic, it could also simply be described as right-edge.

(10) Prominence in Mapudungun adjectives, adverbs and pronouns:

- a. [e.'ɲum] ‘hot’
- b. [we.'θa] ‘bad’
- c. [wu.'le] ‘tomorrow’
- d. [iɲ.t̪je] ‘I/me’

### 3.2 Minimally inflected verbs

The basic pattern for right-edge verbal stress can be observed in minimally inflected finite verbs: a verbal root plus an “obligatory finite inflection” (OFI, cf. Salas 1992: 112–6) made up of the three right-most morphological slots, marking mood, person, and number. While there is a small set of portmanteau morphemes (/-(i)n/ ‘IND.1SG’, /-t̪ji/ ‘IMP.1SG’, /-ɲe/ ‘IMP.2SG’ and /-pe/ ‘IMP.3SG’), the individual morphemes of the OFI are generally transparent. Crucially, however, the syllabic structure of the OFI varies quite radically not only on the basis of the combination of the relevant morphemes, but also in relation to the final segment of the preceding root. Indeed, following

the language’s syllabic structure, tautosyllabic clusters are broken up by [i]-epenthesis (cf. 11g) and sequences of vowels are avoided via glide formation (i.e. /i/->/j/, cf. 11d–g).

(11) Prominence in minimally inflected verbs

- a. [ki.ˈm-in]  
‘know-IND.1SG’
- b. [tʃi.ˈpa-n]  
‘enter-IND.1SG’
- c. [ki.ˈm-i.-m-i]  
‘know-IND-2-SG’
- d. [tʃi.ˈpa-j.-m-i]  
‘enter-IND-2-SG’
- e. [ˈkim.-Ø-j-u]  
‘know-IMP-1-DU’
- f. [tʃi.ˈpa.-Ø-j-u]  
‘enter-IMP-1-DU’
- g. [tʃi.ˈpa-j.-m-i-n]  
‘enter-IND-2-EP-PL’

As seen in (11), the minimally complex verbal forms appear to follow the general stress pattern established for simplex nouns: promote the syllable containing the penultimate mora of the word. An apparent exception to this pattern is (g). Here, the final vowel appears by all accounts to be epenthetic (cf. Molineaux 2018: 523) and invisible to prominence-assignment rules.<sup>10</sup> This latter pattern is important insofar as it suggests that prominence assignment is interspersed with other phonological processes. The general pattern, furthermore, shows that prominence must be computed following inflection, exclusively on the basis of the phonological structure of the final syllables. The result is that prominence may fall on either a suffixal vowel (11a,c) or on the final syllable of the root (11b,d–g).

<sup>10</sup>The pattern in (11a) also appears to have an epenthetic vowel, however, I have argued elsewhere — Molineaux 2018: 549–550 — that at this historical stage, the /-in/ ~ /-n/ alternation for the IND.1SG must be allomorphic.

### 3.3 Complex verbal forms

In line with the claims made by Salas (1992: 84), Zúñiga (2006b: 64) and Smeets (2008: 49), speakers I interviewed had intuitions for more than one prominence in ‘longer words’, which crucially for our purposes are also substantially more complex words, morphologically. As before, the right-edge prominence window corresponds with that outlined for minimally complex words. The phonological domain for left-edge prominence, however, is less obviously defined, falling on either the first or the second syllable. The examples in (12) provide the basic patterns, where, despite there being two stresses, subjects are unable to consistently identify a main prominence.

(12) Morphologically complex verbs: root (R) and word ( $\omega$ ) in brackets

- a. [[<sup>1</sup>lef.]<sub>R</sub>-pu.-<sup>1</sup>le-j] <sub>$\omega$</sub>   
run-TRLOC-PROG-IND.3  
‘She/he/they is/are running here.’
- b. [[ $\theta$ ew.<sup>1</sup>ma.]<sub>R</sub>-ka.-<sup>1</sup>ke-j] <sub>$\omega$</sub>   
make-CONT-HAB-IND.3  
‘She/he/they is/are usually making.’
- c. [[i.<sup>1</sup>ʃif.]<sub>R</sub>-tu.-pu.-ke.-<sup>1</sup>la-j.-m-i] <sub>$\omega$</sub>   
throw-REST-TRLOC-HAB-NEG-IND-2-SG  
‘You don’t usually throw X back here.’
- d. [[<sup>1</sup>ʃi.pa.]<sub>R</sub>-ke.-<sup>1</sup>la-j.-m-i] <sub>$\omega$</sub>   
exit-HAB-NEG-IND-2-SG  
‘You don’t usually go out.’

While examples in (12) show the right edge follows the familiar trochaic pattern, there appears to be no easy foot-based generalisation for the left edge, where an initial heavy syllable sometimes bears prominence (a) and sometimes not (b), and where a second syllable may be prominent both when its heavy (c) and when its light (d). A quick look at the morphology, however, shows us that, consistently, it is the final syllable of the root that displays prominence, irrespective of weight considerations. As verbal roots tend to be disyllabic (though there are exceptions, as in 12a), the iambic analysis in Echeverría &

Contreras (1965) seems more applicable here, with root-prominence falling in with the pattern of adjectives, adverbs and pronouns.

Occasionally, however, root-prominence is missing for complex verbs, falling instead on a small category of fairly productive diathesis-changing suffixes (cf. underlined elements in 13)<sup>11</sup>. Due to their core semantics, their immediate adjacency to the root, their ability to induce root-allomorphy, as well as their attraction of prominence, these may be usefully treated as a unit with the root, that is, as a verbal stem (cf. Molineaux 2014: 161-2). This, in turn, may be the broadest domain for the realisation of left-edge prominence, which we now may more properly term *stem prominence* and analyse as right-aligned to the stem edge.

(13) Prominence on complex verbal stems:

- a. [[[tu.ku.]<sub>R</sub>-ʔe.]<sub>S</sub>-la-ʔ-j]<sub>ω</sub>  
place-PASS-NEG-BI-IND.3

‘She/he/it/they didn’t used to be placed.’

- b. [[[la.ŋ]<sub>R</sub>-im.]<sub>S</sub>-ke-ʔ-j]<sub>ω</sub>  
die-CAUS-HAB-3<sub>SP</sub>-IND.3<sub>FP</sub>

‘She/he/it/they usually killed him/her.’

- c. [[[pe]<sub>R</sub>-ɲ.ma.]<sub>S</sub>-la-ʔ-j]<sub>ω</sub>  
see-APPL-NEG-3<sub>SP</sub>-IND.3<sub>FP</sub>

‘She/he/it/they did not see him/her/it/them (for the benefit/detriment of someone).’

In many cases, the expected position for stem and right-edge prominence domains seem to overlap or to be immediately adjacent (i.e. clash). Where overlap occurs, as in some of the minimally inflected verbs in 11 (b-f), it is impossible to determine which prominence-assignment system wins out. Where clash is expected, it is usually resolved in favour of the right edge (cf. 11a and 14a-b). The main exception to this pattern seem to be complex stems (stem = root + diathesis-changing suffix), which tend to be stressed in place of the right edge (cf. 14c-d).

<sup>11</sup>I use the term *diathesis* here to refer to ‘a pattern of mapping of semantic arguments onto syntactic functions (grammatical relations)’ (Kulikov 2010: 370). Here, the relevant suffixes change either the valency or voice of the verbs they attach to.

(14) Clash resolution in verbs:

- a. [[le.li.]<sub>S</sub>-<sup>1</sup>fi-j.-m-i]<sub>ω</sub>  
 watch-3<sub>SP</sub>-IND-2-SG<sub>FP</sub>  
 ‘You (SG) watch him/her/it/them.’
- b. [[e.li.]<sub>S</sub>-<sup>1</sup>fi.-j]<sub>ω</sub>  
 watch-3<sub>SP</sub>-IND.3<sub>FP</sub>  
 ‘She/he/it/they watch(es) him/her/it/them.’
- c. [[[e.lu-n.<sup>1</sup>ma.]<sub>S</sub>-fi-j.-m-i]<sub>ω</sub>  
 give-APPL-3<sub>SP</sub>-IND-2-SG<sub>FP</sub>  
 ‘You (SG) give him/her/it/them x.’
- d. [[[la.ŋ]-<sup>1</sup>im.]<sub>S</sub>-fi-j]<sub>ω</sub>  
 die-CAUS-3<sub>SP</sub>-IND.3<sub>FP</sub>  
 ‘She/he/it/they kill(s) him/her/it/them.’

Although there may be a number of ways of establishing the basic prosodic units and processes leading to stress positioning in Mapudungun verbs, it is clear that there is a place for the moraic trochee in the system, as well as for morphological structure playing a fundamental role. As we shall see in the following section, these traits are not limited to the verbal system.

### 3.4 Nominal compounds

The only important non-verbal morphological process in Mapudungun is the concatenation of free nominal stems. Interestingly, the language allows for both head-initial and head-final compounds (cf. Baker & Fasola 2009: 598).

(15) Prominence and headedness in nominal compounds:

- a. [tʃa.<sup>1</sup>fo]<sub>D</sub>-[ku.<sup>1</sup>ʃan]<sub>H</sub>  
 cough-disease  
 ‘a cold’
- b. [tʃa.<sup>1</sup>ŋuʌ]<sub>H</sub>-[ŋa.<sup>1</sup>muŋ]<sub>D</sub>  
 finger-foot  
 ‘toe’

- c. [ku.θi]<sub>D</sub>–[<sup>1</sup>fo.ro]<sub>H</sub>  
 mortar–bone  
 ‘spine’
- d. [fo.<sup>1</sup>ro]<sub>H</sub>–[t̪saŋ.wa]<sub>D</sub>  
 bone–fish  
 ‘fishbone’

As in the verbal system, compounds in (15a,b) follow verbs in promoting the penultimate mora of the word and the final syllable of the first root, irrespective of weight. A further pattern emerges in cases such as (15c,d), where clash is predicted between the two prominence-assignment systems. Unexpectedly, here only the head of the compound preserves prominence, revealing a pattern where the word-internal prosody reflects morphosyntactic structure.

### 3.5 Summary of new data

The data presented in this section strongly suggest that Mapudungun has two basic patterns of prominence assignment. The first, followed by nouns and verbs, is one where prominence is assigned to the last syllable of the word, if it ends in a consonant, or on the penult, if the word ends in a vowel. The second pattern is followed by adjectives, adverbs and pronouns, as well as verbal stems and the first elements of compounds. In this case, prominence appears to be assigned to the right edge as well, though it does so on the absolute final syllable. The interaction between prominences, where they occur in adjacent syllables, prioritises the rightmost prominence in verbs, as well as the head of a nominal compound. The exception to this pattern are complex verbal stems, where stem-final prominence is preserved in clash, at the expense of right-edge prominence.

## 4 A reassessment of Mapudungun prominence

Disagreement in the basic descriptions of Mapudungun prominence (cf. Table 1, above), can be attributed — at least partly, I believe — to failure to consider the interaction of two levels of linguistic structure:

the phonology and the morphology. This is unsurprising, as their relations are not immediately transparent, given the various domains at play in the system, as well as a certain amount of variability.

Another reason for lack of consensus is, doubtless, a bias towards viewing all non-tonal prominence systems as canonical stress systems, which are fundamentally rhythmic and hierarchical in nature. This bias is likely fuelled both by theories of metrical stress — as already suggested in de Lacy (2014) — and by the strong perceptual and analytical biases of researchers themselves. Indeed, it is no surprise that descriptions of Mapudungun have long been conducted only by individuals who are best acquainted with European languages instantiating relatively prototypical stress systems.

The new data presented here, however, helps us disambiguate some of these issues. Ultimately I will claim that Mapudungun is best characterised as a stress system lacking some prototypical traits. Stress is right-aligned to a domain. At the word-level it is trochaic and weight sensitive, while at the stem-level it is simply final.<sup>12</sup> There is no iteration of stress, though clash-avoidance creates the percept of rhythmic alternation. Perhaps most interestingly, the prominence system of Mapudungun — particularly in compounds and verbs — makes reference to several levels of morphological structure. Even though stress is perceptually ‘weak’, and has little effect upon the phonological system overall, we can also see (as claimed in Molineaux 2014, 2018) that it plays an important role in highlighting — demarcating — morphological structure, precisely where said structure is most complex.

## 4.1 Stress or pitch accent?

As we saw in §2, primary sources of Mapudungun all describe the language as having stress. However, observations in the literature and in my own data show a number of characteristics that do not line up

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<sup>12</sup>Here I remain agnostic about the foot structure underlying stem stress. One possible analysis is presented in Molineaux (2014), where I propose moraic trochees for both the word and the stem edge, with a constraint against stressing an initial syllable (initial syllable extrametricality) guaranteeing stem-final stress in most forms. An alternative interpretation of the facts, would be a ‘non-cohering’ metrical system (such as those proposed for some Panoan languages by González 2016) where the word-level right-aligned moraic trochee of nouns and verbs stands alongside a right-aligned iambic foot in stems, adjectives, adverbs and pronouns. See van der Hulst (this volume §7.3) for another analysis.

with those of canonical stress systems.<sup>13</sup>

- (16) Canonical stress features missing in Mapudungun
- a. CULMINATIVITY: Native speakers lack intuitions regarding a prominence hierarchy within words.
  - b. RHYTHMICITY: Prominences relate only to morphosyntactic edges — there is no iteration.
  - c. DISTINCTION: Prominences do not create lexical contrasts.
  - d. Only pitch cues the position of prominence.
  - e. No evidence for vocalic reduction or neutralisation in unstressed position (Sadowsky et al. 2013: 93–4).
  - f. No stress-based phonotactic asymmetries (Salas 1992, Zúñiga 2006b).
  - g. No attested stress-based processes in the synchronic or diachronic phonology (Molineaux 2014, 2018).

Unsurprisingly, then, Ladd (2017) has suggested that Mapudungun prominence patterns, such as those in my own dataset, do not represent a clear stress system and might best be described as a type of pitch-accent system, specifically a ‘boundary-marking non-tonal language’ (p.14). This analysis focuses on the language’s lack of specifically metrical phenomena such as iteration and culminativity, and the fact that the sole cue to prominence is pitch itself. While this approach is tempting in its simplicity, it fails to describe a number of aspects of the Mapudungun system that *are* fundamentally stress-like. Furthermore, from a theoretical standpoint, Ladd’s analysis creates a proliferation of prominence systems where ‘pitch-accent’ actually encapsulates systems as distinct as the Japanese-like lexically-based patterns and the Mapudungun-like demarcational ones.

I follow Hyman (2006, 2009), therefore, in claiming that so-called pitch accent systems are better viewed as a collection of features from canonical tonal and stress-languages. There are therefore no features which may be said to be unique to pitch-accent systems. As such, the category is not independently justified and languages within it

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<sup>13</sup>Lists of prototypical stress language features are proposed in Hyman (2006, 2009, 2014).

should be described as either predominantly stress-like or predominantly tone-like, with an array of variants spanning between canonical poles.

By this rubric, Mapudungun ought to be considered a stress language, even if it lacks some common features of such systems. Importantly, the language has what Hyman (2006: 231) takes to be the tell-tale trait of the stress systems: ‘OBLIGATORINESS’, meaning that ‘every lexical word has *at least* one syllable marked for the highest degree of metrical prominence’. This main feature goes hand-in-hand with two other important stress-language ones: PRIVATIVITY, the requirement that a syllable is either stressed or not stressed, and DEMARCATION, the use of prominence to mark the edges of morphosyntactic constituents.

Lack of CULMINATIVITY — meaning that ‘every lexical word has *at most* one syllable marked for the highest degree of metrical prominence’ (Hyman 2006: 231) — is perhaps the most unexpected feature of Mapudungun prominence, if it is to be considered a stress language (but see Bogomolets’s chapter in this volume for a similar situation in Plains Algonquian languages). However, according to Hyman culminativity need not be definitional. Furthermore, while there is no direct hierarchy in the level of stresses themselves, clash reveals a certain hierarchical organisation of prominences which may be thought of as a peripheral type of culminativity. The other pattern that appears to be missing is RHYTHMICITY, as my data seems to show no evidence for stress iteration.<sup>14</sup> Again, more loosely understood, the very existence of clash does result in words with two stressed positions being tolerated only when these aren’t immediately adjacent, a pattern that could be characterised as rhythmic, if not iterative.

To any analyst, then, it must be clear that Mapudungun is much nearer to the stress type of prominence than to tonal systems. The prominence patterns lack the lexically or morphologically specified nature of tones and so-called ‘lexical pitch-accents’ of the Japanese type. Indeed, as we have seen, Mapudungun stress assignment must take into account the phonological outcomes of morphological concatenation, and is interspersed with other phonological processes such as epenthesis (as in 11g).

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<sup>14</sup>For other approaches, such as that of van der Hulst 2014, this volume, rhythmicity is not definitional to stress systems, as it is taken to be a post-lexical phenomenon, rather than an element of the lexical phonology.

## 4.2 Prominence and the grammatical word

A key observations to be made, given stress patterns in the data, is that in this language words from small classes, such as adjectives, adverbs and pronouns (cf. Smeets 2008: 71–76; 99–101), tend to follow the same stress pattern as stems embedded in longer morphosyntactic words. If we consider the fact that Mapudungun phrasing tends to be head-final, the pattern is somewhat less surprising. Indeed, in cases where the first element in a phrase is an adjective, there is no clear stress-based way of distinguishing more compound-like structures from a series of independent words, as in (17). Indeed, it might be the case that the separate-word analysis of many of these cases is spurious, and the general tendency is for the first element to be treated as a stem in a larger word. As a result, even out of this context, the stress-behaviour of these elements is likely to mirror that of stems.<sup>15</sup>

- (17) [fi.'tʃa we.'ɲij] ~ [fi.'tʃa.–we.'ɲij]  
      'big/old friend'      'old friend'

Seeing as how simplex nouns may also occupy similar positions in both complex verbs and nouns (cf. 1, 15), it is not surprising that disyllables ending in a vowel are prone to shift stress, at times behaving like independent lexical items, and at times like stems within a larger word (cf. Table 2 d, e). A more thorough investigation of other cues to phonological cohesion in longer words may be necessary, however, to substantiate these claims. Whether this assessment is accurate or not, these preliminary results make clear that the received notion of a 'Mapudungun word' is problematic at best, as already pointed out by Zúñiga (2014, 2017) and Bickel & Zúñiga (2017).

A key realisation brought about by the stress phenomena is that some sub-lexical (grammatical) domains are clearly demarcated in Mapudungun. In particular, nominal and verbal stems are highlighted within the prosodic word via final stress. In this sense, as we shall see, Mapudungun stress plays the key function of providing 'a guiding point in the speech flow' (van Coetsem 1996: 32). Where the word level shows a few demarcational phenomena, such as optional /u/

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<sup>15</sup>In the case of pronouns the reasons for final stress in disyllables must be different. Following Smeets (2008: 99), it is likely that most personal pronouns are, at least historically, more complex forms, many of which have a second element [tʃe] 'person', such that this constitutes the head of the element, and therefore bears stress, as in [ɲp.'tʃe] 'I/me'.

lowering to /o/, glide prothesis, and penultimate mora stress (Bickel & Zúñiga 2017: 174), the stem seems to have only stress to demarcate it, hence perhaps its stricter adherence to the edge syllable, rather than the edge foot. Furthermore, the distinction in the position of stress at the edge of the grammatical verb or noun and at the end of the stem shows that these two domains are not equivalent in a straightforward way, and cannot simply be treated as two layers of phonological wordhood.

The fact that the trochaic pattern at the right edge of Mapudungun words is roughly comparable with the position of primary stress in Spanish could lead us to believe that the basic stress pattern of the language is that of the stem, and that a new contact-induced pattern has taken hold in the main word categories of the language. This, however, is unlikely, as historical evidence — presented in Molineaux (2018) — shows that from the earliest accounts onwards, the right-edge trochaic pattern surfaces as the default position for stress. If anything, it is the final syllable stress pattern (as in stems) which appears to be spreading through the language. In this scenario, contact with Spanish may actually have the effect of inhibiting change to the incoming stress-assignment system.

## **5 Conclusions: Structure and function in Mapudungun prominence assignment**

The bulk of linguistic work on word prosody is predicated on the identification of structural properties as they relate to the language's phonology (often in the form of parameters). While such accounts tend to acknowledge the fact that not all languages place the same value on rhythm, they quickly place the less rhythmically-inclined systems aside and press on with the analysis, abstracting away from the phonetic and communicative aspects of stress, in order to concentrate solely on its phonological characteristics. In Hayes's (1995) terms: 'In a rhythmic stress system, stress is based on purely phonological factors, such as syllable weights or limitations on the distance between stresses and between stress and word boundaries' (Hayes 1995: 31). In such an approach, the issue of culminativity is axiomatic, anchoring rhythmic organisation onto the edge of a prosodic unit. Furthermore, a number of other segmental and phonotactic processes are predicted to fall out from the position of stress. These positional prominence and non-

prominence effects are predominantly related to enhancement and reduction of segmental contrasts under the influence of stress and lack of stress, respectively (cf. van Coetsem 1996, Gordon 2011b).

Where stress does not follow a predominantly rhythmic pattern, it can be said to display morphological properties. Indeed, according to Hayes (1995): ‘In a morphological system, stress serves to elucidate the morphological structure of the word’ (32). The key property of stress in this type of analysis, I would argue, is that of *demarcation*. Such a view is typical of functional approaches to stress such as those we find in Prague School (Garde 1967, Martinet 1964).

## 5.1 Phonological and morphological activation of stress

Mapudungun, as we have seen, lacks some of the more typical features of canonical stress systems, such as English. Using the framework proposed by van Coetsem (1996), we can describe Mapudungun as a *non-dominant* (ND) accent language, that is, a language where prominence does not create significant asymmetries in the phonological structure of word, especially as relates to reduction phenomena. Indeed, from a phonological standpoint, there seems to be no distinction between the segmental inventories of Mapudungun syllables reported as stressed versus those reported not to be stressed.<sup>16</sup> This differs fundamentally from *dominant* (D) accent systems, where prominence creates rhythmic alternations within words such that stressed and unstressed positions license different inventories and processes.

Given a language with complex concatenative morphology, a ND accentual system allows for greater transparency of the individual morphemes, facilitating their identification. Indeed, from a functional standpoint, lack of major stress-based asymmetries in the phonological system means that dynamic assignment of demarcational stress will not expand the number of phonological alternants for each morpheme, thus facilitating their parsing in the speech signal. This view is in line with the idea of a “Distinctiveness Condition” (Kiparsky 1982), which claims that, in the face of phonological change, there is a tendency for relevant information to be retained in surface structure. In Mapudungun, morphological distinctiveness is retained, at least in part

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<sup>16</sup>In an acoustic study, Sadowsky et al. (2013) report a consistently higher F1 for stressed vowels, although this has no major implications for their phonological distribution.

it appears, via a ND stress system which does not impose structural asymmetries on stressed vs. unstressed syllables.

Another way of thinking of the dominance relations of stress might be to follow Hyman (2014) in noting that the phonology of some languages ‘cares’ more than others about stress. This idea is based on the general representational principle proposed by Clements (2001), according to which a given feature in a particular language may be phonologically active or not, meaning that languages differ as to whether the description of said language’s phonology needs to make reference to that feature. By this metric, Mapudungun phonology does not seem to *care* about stress in any significant way other than in its relation to domain edges. In this sense we might extend Clements’ *activation* account to more accurately say that Mapudungun stress is strongly active in the morphology, and only marginally so in the phonology.

From a typological perspective, an interesting question is whether ND accent (or low phonological activation of stress) is generally correlated with languages in the synthetic and agglutinating spectra. This is an empirical question, which studies like those in this volume will certainly help to address. I have provided evidence here for the interaction of morphological complexity and the phonological/morphological activation of stress in Mapudungun. It is suggestive to note that one of the main examples of ND languages in van Coetsem (1996) is Finnish, while Hyman (2014) proposes Hungarian and Turkish as languages with only marginal phonological activation for stress. Of course, all these are languages with complex agglutinating morphology, much as Mapudungun.

Our close examination of Mapudungun has ultimately shown the pitfalls of using a single structural approach to analyse the prominence patterns of typologically distinct languages. By contrast, a functional view yields a clearer perspective on the nature of prominence in this language, in particular as regards the parsing of complex morphological structure. The assignment of stress invokes phonological units such as the syllable and the mora, but once assigned, it has little further effects on the sound-system. Stress also depends on morphophonological processes such as morpheme concatenation, but crucially, it is not assigned on a purely surface (post-lexical) level, given that epenthetic elements are never stressed. The result is a system which seems to care little about stress in the phonology, while being strongly active

in the morphology, demarcating the word and stem domains.

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