Factorial Typology and Accentual Faithfulness

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1. Introduction

In many languages, the stress pattern of a complex word resembles the stress of its morphological base or another related word. I refer to this phenomenon as *accentual faithfulness* (cf. Alderete 1999). A classic example comes from the English word *orìginálity*, which resembles the accentual profile of its immediate subconstituent *oríginal* (cf. monomorphemic words like *Mèditerránean*). This paper addresses the following question: what types of constraints evaluate accentual faithfulness?

I explore this question through the analysis of stress-morphology interactions in a large group of Pama-Nyungan and other Australian Aboriginal languages. I discuss two types of possible analyses: *base-driven* approaches, which acknowledge the role of a morphological base to which the derivative is faithful (e.g. Kenstowicz 1998, Steriade 2013) and *alignment-based* approaches, in which these interactions are due to constraints governing the alignment of metrical constituents with respect to morpheme boundaries (e.g. Crowhurst 1994, McCarthy & Prince 1994, Kager 1997, Berry 1998, Pensalfini 1999; see also Poser 1989). Both analyses account for the typology of Australian stress-morphology interactions, but their predictions regarding the broader typology diverge significantly.

In §2 I present a new base-driven analysis of several Australian languages, drawing on work by Kenstowicz (1998) and Steriade (2013). I discuss the results of a factorial typology based on the proposed constraint set, and show that it accurately characterizes the broader typology of accentual faithfulness. §3 presents an alignment-based analysis of the same languages (based on work by Crowhurst 1994, Kager 1997, Berry 1998, Pensalfini 1999, etc.), and discusses the results of Alderete's (2009) factorial typologies for alignment-based approaches to Australian stress. I show that the base-driven approach, but not the alignment-based approach, makes accurately restrictive predictions regarding the broader typology of accentual faithfulness.

2. Base-driven analysis

The analyses in this paper focus on a group of 23 Pama-Nyungan and related Australian aboriginal languages, as they are a large group of accentually similar languages differing in how morphology affects stress. In these languages, stress in monomorphemic words follows the same pattern: stress falls on the initial syllable and all odd non-final syllables.[1] Relevant data, from Warlpiri, is in (1).

(1) Stress in monomorphemic forms

a.	σ́σ	wáti	'man'	Nash 1980: 102
b.	σ́σσ	wátiya	'tree'	Nash 1980: 102
c.	σ́σσ̀σ	mánangkàrra	'spinifex plain'	Nash 1980: 102
d.	σ́σσ̀σσ	wíjipìtirli	'hospital'	Berry 1998: 37

An analysis of this pattern uses five foot-free markedness constraints, defined in (2). A tableau demonstrating the analysis, for *wíjipìtirli*, follows (3).

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[1] Some of the languages included exhibit minor variations on this pattern. In Jingulu (Pensalfini 1997), stress is to some extent lexically specified; Gooniyandi (McGregor 1990) is to some degree a weight-sensitive system. These differences are specific to stress in monomorphemic forms and do not influence the behavior of derivatives.

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(2) Foot-free markedness constraints (2d: Kager 2001; others: Gordon 2002 and references there)
- a. STRESSL: one * if the initial syllable is stressless.
- b. *CLASH: one * for each sequence of two adjacent stressed syllables.
- c. NONFINALITY: one * if the final syllable is stressed.
- d. LAPSE@END: a * for each sequence of two stressless syllables not at the right edge
- e. *EXTENDEDLAPSE (*EXTLAPSE): a * for each sequence of three stressless syllables

(3) Tableau for *wíjipìtirli* (σ́σσ̀σσ)

σ́σσ̀σσ	STRESSL	*CLASH	NONFINALITY	LAPSE@END	*EXTLAPSE
> a. σ́σσ̀σσ					
b. σσ́σσ̀σ	*!				
c. σ́σσ̀σ̀σ		*!			
d. σ́σσ̀σσ̀			*!		
e. σ́σσσ̀σ				*!	
f. σ́σσσσ				*!*	**

In suffixed forms, the languages' stress patterns diverge. The base-driven account attributes morphological effects on stress to constraints regulating Base-Derivative (BD) relations (see also Kenstowicz 1998, Steriade 2013; cf. Benua 1997). Differences among languages can be characterized according to two dimensions: the base that derivatives correspond with (= *type* of BD correspondence), and the degree of identity between bases and their derivatives (= *degree* of BD faithfulness).

In some languages, like Diyari (Austin 1981 [2013], Poser 1989), complex forms stand in correspondence with the exponent of their immediate syntactic subconstituent (the derivative's *local base*). In others, like Dyirbal (Dixon 1972), stems of complex forms correspond with their isolation forms (the derivative's *remote base*). This difference is formalized using two violable base preference constraints (see Stanton & Steriade 2014, Steriade & Yanovich to appear): CORRB$_L$ and CORRB$_R$ (4). Subscripts L and R represent 'local' and 'remote', respectively[2].

(4) Base preference constraints
- a. CORRB$_L$: a * if a derivative does not correspond with its local base.
- b. CORRB$_R$: a * if the stem of a complex form doesn't correspond with the stem in isolation.

In systems where CORRB$_L$ >> CORRB$_R$, like Diyari, complex forms stand in correspondence with their local bases (5a). In languages where CORRB$_R$ >> CORRB$_L$, like Dyirbal, stems of complex forms stand in correspondence with their isolation forms (5b).

(5) Relative ranking of the CORRB constraints

a. *CORRB$_L$ >> CORRB$_R$: local Bs preferred*

σσσ-σ-σ B$_L$: σσσ B$_R$: σσσ-σ	CORRB$_L$	CORRB$_R$
> a. σσσ-σ$_L$ -σ		*
b. σσσ$_R$ -σ-σ	*!	

b. *CORRB$_R$ >> CORRB$_L$: remote Bs preferred*

σσσ-σ-σ B$_L$: σσσ B$_R$: σσσ-σ	CORRB$_R$	CORRB$_L$
a. σσσ-σ$_L$ -σ	*!	
> b. σσσ$_R$ -σ-σ		*

Languages vary as a function of how faithful derivatives are to their bases. The degree of BD faithfulness is determined by the ranking of BD-IDENT(stress) (6) and the accentual phonotactics. In Diyari, derivatives are entirely faithful to their bases (BD-IDENT(stress) >> all M). In Dyirbal and others, derivatives are only partially faithful to their bases (some M >> BD-IDENT(stress) >> other M).

(6) BD-IDENT(stress): assign a * for each pair of correspondent syllables differing in stress.

[2] The definition of 'remote base' given here is a simplification, and differs from definitions provided by Stanton & Steriade (2014) and Steriade & Yanovich (to appear). See those works for more details.

The next two subsections sketch analyses of stress-morphology interactions in Diyari (§2.1) and Dyirbal (§2.2), which differ from each other according to both the type of BD correspondence involved and the degree of BD faithfulness observed. For further analyses, see Stanton (2014).

2.1. Correspondence with local bases

In Diyari, complex forms correspond with, and are faithful to, their local bases. In all forms, monosyllabic suffixes are stressless (7a-c), but polysyllabic suffixes are stressed like stems (7b-c).

(7) Diyari stress (a,c: Berry 1998:38-39, b: Alderete 2009:20; cf. Austin 1981[2013], Poser 1989)

a.	σ́σ-σ-σ	máda-la-nthu	'hill-CHARAC-PROP'
b.	σ́σσ-σ-σ̀σ	púluru-ni-màta	'mud-LOC-IDENT'
c.	σ́σσ-σ̀σ-σ̀σ-σ	yákalka-yìrpa-màli-rna	'ask-BEN-RECIP-PART'

(7a,b) show that BD-IDENT(stress) >> *EXTLAPSE and LAPSE@END: *máda-la-nthu* resembles the presumed[3] stress of its local base, *mada-la* 'hill dweller' (Austin 2013: 48), even though this results in a extended lapse (σ́σ-σ$_L$ -σ ≻ *σ́σ-σ́$_L$ -σ). As final stress is not licensed in order to satisfy *EXTLAPSE, we know that NONFINALITY >> *EXTLAPSE. Both arguments just presented are illustrated below (8).

(8) NONFINALITY, BD-IDENT(stress) >> *EXTLAPSE, LAPSE@END

σσ-σ-σ B$_L$: σ́σ-σ	NONFINALITY	BD-IDENT(stress)	*EXTLAPSE	LAPSE@END
> a. σ́σ-σ$_L$ -σ			*	*
b. σ́σ-σ̀$_L$ -σ		*!		
c. σ́σ-σ$_L$ -σ̀	*!			

(7a,b) also show that complex forms prefer to correspond with their local bases. Forms like *máda-la-nthu* show that establishing correspondence with the local base (σ́σ-σ$_L$ -σ) is more important than corresponding with the remote base, even when the latter option would lead to an accentually preferable derivative (σ́σ$_R$ -σ̀-σ). The ranking CORRB$_L$ >> CORRB$_R$ captures the default preference for complex forms to correspond with their local bases. CORRB$_L$ >> *EXTLAPSE, LAPSE@END captures the fact that correspondence with local bases is preferred at the expense of M violations (9).

(9) CORRB$_L$ >> CORRB$_R$, *EXTLAPSE, LAPSE@END

σ́σ-σ-σ B$_L$: σ́σ-σ B$_R$: σ́σ	CORRB$_L$	CORRB$_R$	*EXTLAPSE	LAPSE@END
> a. σ́σ-σ$_L$ -σ		*	*	*
b. σ́σ$_R$ -σ̀-σ	*!			

2.2. Correspondence with remote bases

Stress in Dyirbal complex forms represents a second type of BD relation: stems of complex forms are faithful to the stress of their isolation forms, subject to the influence of some M constraints (10).

(10) Dyirbal complex forms (Berry 1998: 40, see also Dixon 1972)

a.	σ́σσ̀-σ	búrgurùm-bu	'jumping ant-ERG'
b.	σ́σσ-σ̀-σσ	mándalay-mbàl-mbila	'play-COM-LEST'
c.	σ́σσ-σ̀-σ-σ	bánagay-mbà-rri-ɲu	'return-COM-REFL-P/P'

A comparison between (10a) and (10b,c) reveals that the stress-morphology interaction in Dyirbal is not a classic cyclic effect. If *mandalay-mbal-mbila* were faithful to the stress of its presumed local

[3] Stress for *mada-la* is not reported, but I assume it to be σ́σ-σ.

base, *mándalày-mbal* (σ́σσ̀-σ)[4], we would expect the doubly suffixed form to be stressed as *mándalày-mbal-mbíla* (σ́σσ̀-σ-σ̀σ). But instead we have *mándalay-mbàl-mbila* (σ́σσ-σ̀-σσ), a form that deviates from the stress pattern of its local base and, in doing so, incurs a violation of LAPSE@END.

Reference to the bare stem in isolation allows us to analyze the faithfulness effect in (10b,c). Stress shifts off the stem in (10b,c) because the resulting pattern, e.g. σ́σσ-σ̀-σσ for (10b), is faithful to the stress pattern of the stem as an independent word ([σ́σσ]). (10b,c) showw us that CORRB$_R$ >> CORRB$_L$: in Dyirbal, it is more important for a derivative's stem to resemble its isolation form than it is for the entire derivative to resemble its local base. As correspondence with the remote base is established at the expense of a LAPSE@END violation, we know also that both BD-IDENT(stress) and CORRB$_R$ >> LAPSE@END: correspondence with and faithfulness to the remote base is prioritized even when M-improvements are possible through correspondence with a local base (11).

(11) CORRB$_R$, BD-IDENT(stress) >> CORRB$_L$, LAPSE@END

σσσ-σ-σσ B$_L$: σ́σσ̀-σ B$_R$: σ́σσ	CORRB$_R$	BD-IDENT(stress)	CORRB$_L$	LAPSE@END
> a. σ́σσ$_R$ -σ̀-σσ			*	*
b. σ́σσ̀$_R$-σ-σ̀σ		*!	*	
c. σ́σσ-σ̀$_L$ -σ̀σ	*!			

In addition, (10a) demonstrates that *EXTLAPSE >> BD-IDENT(stress), as *búrgurùm-bu* (satisfying *EXTLAPSE) is preferred to **búrgurum-bu* (satisfying BD-IDENT(stress)) (12).

(12) *EXTLAPSE >> BD-IDENT(stress)

σ́σσ-σ B: σ́σσ	*EXTLAPSE	BD-IDENT(stress)
> a. σ́σσ̀-σ		*
b. σ́σσ-σ	*!	

2.3. Factorial typology

To assess the typological predictions of the base-driven approach to accentual faithfulness, I explored a factorial typology using the constraints necessary for a full analysis of the Australian languages. See Stanton (2014) for details. The factorial typology predicts all 23 Australian languages in the survey. There is some overgeneration caused by unlikely interactions between accentual phonotactics and constraints sensitive to morphological structure; see Stanton (2014). The remainder of this section focuses on predictions made regarding the broader typology of accentual faithfulness.

Regarding the degree to which derivatives are faithful to their bases, the factorial typology predicts three types of systems: ones where derivatives are completely faithful to the stress of their bases (BD-IDENT(stress) >> all M), ones where derivatives are partially faithful to the stress of their bases (some M >> BD-IDENT(stress) >> other M), and ones where derivatives are unfaithful to the stress of their bases (all M >> BD-IDENT(stress)). All three types of system are instantiated (13).

(13) Degree of BD faithfulness

Total: *BD-ID >> all M*	Partial: *some M >> BD-ID*	None: *all M >> BD-ID*
Diyari (Austin 1981 [2013], Poser 1989)	Dyirbal (Dixon 1972) Gooniyandi (McGregor 1990) Warlpiri (Nash 1980) Jingulu (Pensalfini 1997)	Pintupi (Hansen & Hansen 1969)

[4] A possible alternative explanation for (10b) is that the suffixes *–mbal* (COM) and *–mbila* (LEST) are added as a single unit, so that *mandalay-mbal* isn't a licit output form and therefore cannot serve as a potential base (cf. Benua 1997: 29). While the exact form *mandalay-mbal* is not given, however, COM more generally can end words, e.g. *ɽubi-man* (eat.meat-COM-PRES/PAST); see Dixon 1972: 96-97 for examples.

Regarding the possible types of BD correspondence, the factorial typology again predicts three types of systems: ones in which correspondence with the local base is prioritized over all M constraints (CORRB$_L$ >> all M), ones in which correspondence with a remote base is prioritized over all M constraints (CORRB$_R$ >> all M), and ones in which correspondence with some base is preferred, but correspondence with other bases is possible when necessary to improve the accentual profile of the derivative (some M >> CORRB$_{L/R}$). The first two predictions are instantiated, as illustrated by the discussion of Diyari (CORRB$_L$ >> all M) and Dyirbal (CORRB$_R$ >> all M) derivatives in §2.

While no languages in the survey instantiate the third prediction, this type of split-base effect[5] (cf. Steriade 1999) is attested elsewhere. In English, for example, complex forms prefer to correspond with their local bases: *orìginálity* resembles its local base *oríginal*, not its remote base *órigin*, suggesting that CORRB$_L$ >> CORRB$_R$ (14).

(14) CORRB$_L$ active in English

origin + al + ity B$_L$: orìginálity B$_R$: órigin	CORRB$_L$	CORRB$_R$
> a. orìginál$_L$ ity		*
b. òrigin$_R$ álity	*!	

In a set of predictable circumstances, however, the preference to correspond with a local base can be overridden. Consider *apòstolícity*, which resembles its remote base *apóstle*, not its local base *àpostólic*. If *apostolicity* were faithful to the stress of *àpostólic*, a violation of *CLASH would result (**àpostòlícity*). In order to avoid a *CLASH violation, correspondence with *apostle* is established instead; in English, *CLASH >> CORRB$_L$. A simplified tableau for *apòstolícity*, in (15), demonstrates.

(15) *CLASH >> CORRB$_L$ in English

apostle + ic + ity B$_L$: àpostólic B$_R$: apóstle	*CLASH	CORRB$_L$
> a. apòstol$_R$ ícity		*
b. àpostòlíc$_L$ ity	*!	

See Stanton & Steriade (2014) for further justification of *CLASH >> CORRB$_L$, and Steriade (1999), Raffelsiefen (2004) for earlier versions of similar claims. Other split-base effects are argued to exist in French (Steriade 1999), Romanian (Steriade 2008), Ukrainian and East Slavic (Steriade & Yanovich to appear). Thus the factorial typology's prediction that there should be languages where M >> CORRB, while not borne out in Australian languages, is instantiated more generally.

A summary of the analysis's predictions regarding the possible types of BD correspondence, with examples of languages instantiating each prediction, is given in (16).

(16) Type of BD correspondence

Local base preferred *(CORRB$_L$ undominated)*	Remote base preferred *(CORRB$_R$ undominated)*	Split-base effects *(some M >> CORRB)*
Diyari (Austin 1981 [2013]) Warlpiri (Nash 1980) Gooniyandi (McGregor 1990)	Dyirbal (Dixon 1972) Jingulu (Pensalfini 1997) Chamorro (Crosswhite 1998) Indonesian (Steriade 2013, cf. also Cohn 1989)	English (refs above) French Romanian Ukrainian, East Slavic

The base-driven account predicts precisely the types of accentual faithfulness effects that are attested. I investigate now the question of whether or not other accounts achieve the same typological

[5] The term 'split-base effect', as used by Steriade (1999), can refer to one of two things: either one derivative corresponds with two bases, or two or more bases are available for correspondence (and the decision between them is made according to some priority principle). The effects documented here belong to the latter class.

fit, by discussing alignment-based analyses of stress in Australian langauges, and comparing the results of a factorial typology using those constraints (Alderete 2009) to the results just presented here.

3. Alignment-based account

In alignment-based accounts of accentual faithfulness, morphological effects on stress are due to interactions between morphology and prosodic structure (Crowhurst 1994, others in §1). Under these analyses, effects attributed in §2 to BD relations are attributed instead to constraints penalizing the misalignment of feet and morpheme boundaries. §3.1 sketches alignment-based analyses of stress in Diyari and Dyirbal. §3.2 discusses results of a factorial typology using this constraint set (Alderete 2009). The alignment-based account generates all of the attested systems, and some of the unattested systems, predicted by the base-driven account (see Stanton 2014). The discussion here focuses on several types of unattested system predicted by the alignment-based account that pose ranking paradoxes for the base-driven account.

3.1. Analysis

The pattern of stress in monomorphemic words for the Australian languages discussed here, originally illustrated in (1), is repeated with feet as (17) below.

(17) Stress in monomorphemic forms

a.	(σ́σ)	wáti	'man'	Nash 1980: 102
b.	(σ́σ)σ	wátiya	'tree'	Nash 1980: 102
c.	(σ́σ)(σ̀σ)	mánangkàrra	'spinifex plain'	Nash 1980: 102
d.	(σ́σ)(σ̀σ)σ	wíjipìtirli	'hospital'	Berry 1998: 37

A foot-based analysis of this pattern requires a different set of constraints than the one proposed in (2). The relevant constraints are defined in (18), and a tableau follows in (19) for *wíjipìtirli* (σ́σσ̀σσ).

(18) Foot-based constraint set

a. FootBinarity (FtBin): one * for each foot that is not disyllabic.
b. Parse-σ: one * for each syllable not parsed into a foot.
c. AllFtL: one * for each syllable separating a foot boundary from the word's left edge.

(19) Tableau for *wíjipìtirli*

σσσσσ	FtBin	Parse-σ	AllFtL
> a. (σ́σ)(σ̀σ)σ		*	**
b. (σ́σ)σ(σ̀σ)		*	***!
c. (σ́σ)(σ̀σ)(σ̀)	*!		**,****

In order to account for effects of morphology on stress, additional constraints are necessary. Recall that, in Diyari suffixed forms, monosyllabic suffixes are stressless while polysyllabic suffixes are stressed like stems. Data illustrating this, from (7), is repeated with feet as (20) below.

(20) Diyari stress

a.	(σ́σ)-σ-σ	máda-la-nthu	'hill-CHARAC-PROP'
b.	(σ́σ)σ-σ-(σ̀σ)	púluru-ni-màta	'mud-LOC-IDENT'
c.	(σ́σ)σ-(σ̀σ)-(σ̀σ)-σ	yákalka-yìrpa-màli-rna	'ask-BEN-RECIP-PART'

Crowhurst (1994) and Kager (1997) account for the Diyari pattern by appealing to an additional constraint, Tautomorphemic-Foot (21), penalizing feet that cross morpheme boundaries. In Diyari, Tauto-F >> Parse-σ: unparsed syllables are preferable to feet straddling morpheme boundaries (22).

(21) Tautomorphemic-Foot (Tauto-F): one * if a foot crosses a morpheme boundary.

(22) Tableaux for Diyari stress

σσσ-σ-σ	Tauto-F	Parse-σ
> a. (σ́σ)σ-σ-σ		***
b. (σ́σ)(σ̀-σ)-σ	*!	*

To account for stress in Dyirbal (data from (10), repeated with feet as (23)), additional constraints are necessary. Unlike in Diyari, the ban on feet crossing morpheme boundaries is not active. In each form in (23), there is a foot that crosses a morpheme boundary.

(23) Dyirbal complex forms (Berry 1998: 40, see also Dixon 1972)

a.	(σ́σ)(σ̀-σ)	búrgurùm-bu	'jumping ant-ERG'
b.	(σ́σ)σ-(σ̀-σ)σ	mándalay-mbàl-mbila	'play-COM-LEST'
c.	(σ́σ)σ-(σ̀-σ)-σ	bánagay-mbà-rri-ɲu	'return-COM-REFL-P/P'

In order to explain why the parse for (23b) is (σ́σ)σ-(σ̀-σ)σ, and not *(σ́σ)(σ̀-σ)-(σ̀σ), the latter of which better satisfies Parse-σ (and equally violates Tauto-F), Kager (1997) proposes a more specific version of Tauto-F: Tauto-F(Root) (defined in (24), cf. Alderete 2009), penalizing feet that cross the root-suffix boundary. A tableau illustrating the ranking Tauto-F(Root) >> Parse-σ is in (25).

(24) Tauto-F(Root): one * if a foot crosses the root-suffix juncture.

(25) Tauto-F(Rt) >> Parse-σ, AllFtL

σσσ-σ-σσ	Tauto-F(Root)	Parse-σ
> a. (σ́σ)σ-(σ̀-σ)σ		**
b. (σ́σ)(σ̀-σ)-(σ̀σ)	*!	

To explain the violation of Tauto-F(Root) in (σ́σ)(σ̀-σ) (23a), Berry (1998) proposes that there is an undominated constraint in Dyirbal banning sequences of two unparsed syllables. Thus (σ́σ)(σ̀-σ), with a foot crossing the root-suffix boundary, is preferable to *(σ́σ)σ-σ, with a sequence of two unparsed syllables. The relevant markedness constraint, Parse-σ2 (cf. Alderete 2009) is defined in (26), and the ranking Parse-σ2 >> Tauto-F(Root) is illustrated in (27).

(26) Parse-σ2: one * for each sequence of two unparsed syllables.

(27) Parse-σ2 >> Tauto-F(Root)[6]

σσσ-σ	Parse-σ2	Tauto-F(Root)
> a. (σ́σ)(σ̀-σ)		*
b. (σ́σ)σ-σ	*!	

For more details, and analyses of other languages, see Poser (1989), Crowhurst (1994), Berry (1998), Kager (1997), Pensalfini (1999), and work cited there. In what follows, I explore how the typological predictions of this theory differ from those of the base-driven analysis in §2.

3.2. Factorial Typology (Alderete 2009)

Alderete (2009) discusses results of factorial typologies explored using constraint sets necessary for full alignment-based accounts of Australian stress systems (Alderete 2009: 19). Alderete's paper assesses the necessity and predictions of three types of constraints commonly used in the analysis of Australian stress: gradient alignment (e.g. Alber 2005), stringency (e.g. Prince 1997), and prosodic recursion (e.g. McCarthy & Prince 1994). In this section we focus on the results of the (-R(ecursive),+S(tringent),+Gr(adient)) typology, one of the two factorial typologies that Alderete

[6] I assume that the candidate σ(σ́σ)-σ is eliminated due to a violation of a constraint demanding the left edges of morphemes to be aligned with feet. See Crowhurst 1994 for a discussion of this effect in Australian systems.

(2009: 15-16) endorses as being simultaneously restrictive and predictive of the full range of variation seen in Australian stress systems.

Like the factorial typology for the base-driven constraint set, (-R,+S,+Gr) predicts all attested systems. It also predicts others, which I divide here into two sets. The first set of unattested systems consists of those characterized in §2.3 as exhibiting "split-base" effects. The second set of unattested systems consists of two distinct types of patterns that the base-driven account does not, and cannot, predict. In the following two subsections I provide examples of these patterns, and show why they are ranking paradoxes for the base-driven account.

3.2.1. Unattested type #1: correspondence paradox

The first type of unattested system (ex. in 28) cannot be analyzed in a base-driven account because it exhibits an inconsistent ranking between CORRB$_L$ and CORRB$_R$: some forms are faithful to their local bases, and others to their remote bases, for no phonological or morphosyntactic reason.

(28) Correspondence paradox

a. *Unsuffixed forms*	b. *Singly suffixed forms*		c. *Doubly suffixed forms*	
σ́σσ	σ́σ-σ	σ́σσ́-σ	σ́σ-σ́-σ	**σ́σσ́-σ-σ**
σ́σσ́σ	σ́σ-σ́σ	σ́σσ-σ́σ	**σ́σ-σ-σ́σ**	<u>σ́σσ-σ́-σσ</u>
			σ́σ-σ́σ-σ	σ́σσ-σ́σ-σ
			σ́σ-σ́σ-σ́σ	σ́σσ-σ́σ-σ́σ

The bolded forms in (28c) suggest that CORRB$_L$ >> CORRB$_R$: σ́σ-σ-σ́σ, for example, resembles its local base σ́σ-σ at the expense of a LAPSE@END violation, not its remote base σ́σ (tableau 29a, below). The underlined form in (28c), however, suggests the opposite: σ́σσ-σ́-σσ resembles its remote base σ́σσ, also at the expense of a LAPSE@END violation, not its local base σ́σσ́-σ (tableau 29b, below).

(29) Tableaux for the correspondence paradox

a.

σσ-σ-σσ B$_R$: σ́σ B$_L$: σ́σ-σ	CORRB$_L$	CORRB$_R$
> a. σ́σ-σ$_L$ -σ́σ		*
b. σ́σ$_R$ -σ́-σσ	*!	

b.

σσσ-σ-σσ B$_R$: σ́σσ B$_L$: σ́σσ́-σ	CORRB$_R$	CORRB$_L$
> a. σ́σσ$_R$ -σ́-σσ		*
b. σ́σσ́-σ$_L$ -σ́σ	*!	

The rankings necessary to account for (28c) pose a ranking paradox for the base-driven account. This system however is possible to analyze in an alignment-based framework. Accounting for σ́σ-σ-σ́σ and σ́σσ-σ-σ́σ requires two crucial rankings. First, σ́σ-σ-σ́σ shows that TAUTO-F >> ALLFTL: avoiding cross-morpheme boundary feet is more important than aligning all feet with the left edge of the word (tableau in 30a, below). Second, σ́σσ-σ́-σσ shows that ALLFTL >> PARSE-σ: minimizing the number of ALLFTL violations takes priority over parsing all syllables into feet (tableau in 30b, below)[7].

(30) Alignment-based analysis for (28)

a.

σσ-σ-σσ	TAUTOF	ALLFTL
> a. (σ́σ)-σ-(σ́σ)		***
b. (σ́σ)-(σ́-σ)σ	*!	**

b.

σσσ-σ-σσ	ALLFTL	PARSE
> a. (σ́σ)σ-(σ́-σ)σ	***	**
b. (σ́σ)(σ́-σ)-(σ́σ)	**,**!**	

3.2.2. Unattested type #2: faithfulness paradox

The second type of system I focus on here (ex. in 31) cannot be analyzed in a base-driven account because it exhibits an inconsistent ranking between M and BD-IDENT(stress): some forms appear to be more faithful to their bases, and others less so, for no discernible reason.

[7] I assume that other candidates (σ́σ)σ-σ-(σ́σ), (σ́σ)σ-σ-σσ are eliminated by violations of high-ranked PARSE-σ2.

(31) BD-IDENT(stress) paradox

a. Unsuffixed forms	b. *Singly suffixed forms*		c. *Doubly suffixed forms*	
σ́σσ	σ́σ-σ	σ́σσ́-σ	σ́σ-σ́-σ	σ́σσ́-σ-σ
σ́σσ́σ	σ́σ-σσ	**σ́σσ-σ́σ**	**σ́σ-σ-σ́σ**	σ́σσ́-σ-σ́σ
			σ́σ-σ́σ-σ	<u>σ́σσ́-σσ́-σ</u>
			σ́σ-σ́σ-σ́σ	**σ́σσ-σ́σ-σ́σ**

The bolded forms in (31b,c) suggest that BD-IDENT(stress) >> LAPSE@END: σ́σ-σ-σ́σ, for example, incurs a violation of LAPSE@END through identity with its local base, σ́σ-σ (tableau 32a, below). The underlined form, however, suggests the opposite: σ́σσ́-σσ́-σ satisfies LAPSE@END but is unfaithful to its local base, σ́σσ-σ́σ (tableau 32b, below).

(32) Tableau for the paradox in (31b,c)

a.

σσ-σ-σσ B$_L$: σ́σ-σ	BD-ID	L@E
> a. σ́σ-σ$_L$ -σ́σ		*
b. σ́σ-σ́$_L$ -σσ	*!	

b.

σσσ-σσ-σ B$_L$: σ́σσ-σ́σ	L@E	BD-ID
> a. σ́σσ́-σσ́$_L$ -σ		***
b. σ́σσ-σ́σ$_L$ -σ	*!	

This system poses a ranking paradox for a base-driven account because BD-IDENT(stress) must both dominate, and be dominated by, LAPSE@END. In an alignment-based approach, however, σ́σ-σ-σ́σ shows that TAUTO-F >> ALLFTL: aligning all feet with the left edge is less important than avoiding tautomorphemic feet (tableau 33a, below). σ́σσ́-σσ́-σ shows that PARSE-σ >> TAUTO-F: parsing all syllables into feet is more important than avoiding heteromorphemic feet (tableau 33b, below).

(33) Alignment-based analysis for (31)

a.

σσ-σ-σσ	TAUTOF	ALLFTL
> a. (σ́σ)-σ-(σ́σ)		***
b. (σ́σ)-(σ́-σ)σ	*!	**

b.

σσσ-σσ-σ	PARSE	TAUTOF
> a. (σ́σ)(σ́-σ)(σ́-σ)		**
b. (σ́σ)σ-(σ́σ)-σ	*!*	

4. Discussion and conclusion

I close by highlighting some major differences between the base-driven and alignment-based approaches. The base-driven approach makes two predictions that the alignment-based approach does not; these are laid out in (34) and (35).

(34) *Prediction 1 of the base-driven approach: type of BD correspondence is consistent*
All complex forms in a given language prefer to correspond with one base. This preference can be overridden but not reversed. (Relative ranking of CORRB$_L$, CORRB$_R$ does not change.)

(35) *Prediction 2 of the base-driven approach: degree of BD faithfulness is consistent*
All derivatives in a given language display the same degree of faithfulness to their base. (Relative ranking of BD-IDENT(stress) and M does not change.)

More broadly, the base-driven approach predicts that base-related properties, like the type of BD correspondence and the degree of BD faithfulness, are properties that can vary *among* systems but not *within* them. While the approach predicts the contrast between Diyari (where all forms correspond with their local bases) and Dyirbal (where all forms correspond with their remote bases), it does not predict systems where forms appear to arbitrarily correspond with either a local or a remote base (as in §3.2.1). The base-driven approach predicts that the rankings among accentual M constraints and BD-IDENT(stress) are subject to crosslinguistic variation, but it does not predict individual languages where some derivatives are more faithful to their bases and others are less so (as in §3.2.2). Alignment-based approaches, when viewed through the lens of a base-driven approach, predict that the type and degree of BD relations are properties that can vary not only *among* systems, but also *within* them.

On a more global scale, alignment-based accounts also underpredict: an analysis invoking only constraints governing the alignment of prosodic constituents cannot account for cyclic effects of the type seen in English. The relationship between *oríginal* and *orìginálity*, for example, or *apóstle* and *apòstolícity*, is one that must be regulated by base-derivative faithfulness constraints. In order to analyze the full typology of accentual faithfulness in alignment-based frameworks, it is therefore necessary to incorporate base-driven constraints. This move would likely enlarge the factorial typology, as adding constraints increases the number of possible grammars. The patterns in §3.2.1 and §3.2.2 (and others like them) would also still be predicted, as the alignment constraints responsible for their existence can outrank all base-driven constraints.

In sum: to the best of my knowledge, the predictions in (34) and (35) accurately characterize the overall typology of accentual faithfulness. There are no attested languages that resemble the systems discussed in §3.2.1 or §3.2.2, where base-related properties vary system-internally. The main point here is that the base-driven approach, but not the alignment-based approach, makes strong, restrictive, and accurate predictions regarding the global typology of stress-morphology interactions.

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