Lateral Place Assimilation in Kuman

Andrew Lamont
Indiana University

1 Introduction

Languages that enforce place agreement at coda-onset junctures typically restrict laterals from surfacing in such clusters; these clusters commonly contain only homorganic clusters of nasals and obstruents as well as geminates. There are, however, languages in which place agreement of laterals is enforced, as in Kuman and Nii (Chimbu-Wahgi), both spoken in Papua New Guinea. This paper provides an analysis that accounts for the distribution of laterals in these clusters cross-linguistically. Section 2 presents the restriction on laterals cross-linguistically; Section 3 analyzes the Kuman system; Section 4 overviews possible accounts; Section 5 presents a Contrastivist Approach; Section 6 concludes the paper.

2 Restrictions on lateral clusters

The typological tendency for languages that enforce homorganicity at coda-onset junctures to restrict laterals from surfacing in such clusters is exemplified by Ponapean (Austronesian) and Ma Manda (Finisterre-Huon).

2.1 Ponapean nasalization

Durative reduplication in Ponapean results only in homorganic nasal-obstruent clusters and sonorant geminates across syllable boundaries (Rehg and Sohl 1981, Rehg 1984). Both obstruent geminates and lateral-coronal obstruent clusters undergo nasalization surfacing as homorganic nasal-obstruent clusters as in (1).

(1) Nasalization in Ponapean[1]

	Stem	Durative	Gloss
a.	kaŋ	kaŋkaŋ	'be able'
b.	mem	memmem	'to be sweet'
c.	pap	pampap	'to swim'
d.	sel	sensel	'to be tied'
e.	tal	tantal	'to click'

Stems like *kaŋ* 'be able' (1a) and *mem* 'sweet' (1b) whose duratives contain only homorganic nasal-obstruent clusters and sonorant geminates surface faithfully as *kaŋkaŋ* and *memmem* respectively. Nasalization occurs in those words whose duratives contain either an obstruent geminate, as in *pap* 'swim' (1c) which surfaces as *pampap* **pappap*, or a lateral-coronal obstruent, as in *sel* 'to be tied' (1d) which surfaces as *sensel* **selsel* and *tal* 'to click' (1e) which surfaces as *tantal* **taltal*. Lateral geminates surface faithfully at this boundary, as in *lal* 'to make a sound' which surfaces as *lallal*, indicating the active restriction is not against laterals in coda position, but against laterals in coda-onset clusters.

2.2 Ma Manda hardening

Another language in which laterals fail to surface in clusters is Ma Manda. Affixation in Ma Manda results primarily in homorganic nasal-obstruent and obstruent-nasal clusters (Pennington 2013). When laterals come into contact with nasals, they harden to homorganic voiceless stops, as shown in (2) below.

(2) Hardening in Ma Manda

	Underlying	Surface	Gloss
a.	bai-lɨ	bailɨ	'the flute (NOM)'
b.	qaqon-lɨ	qaqontɨ	'uncle (NOM)'
c.	nam-lɨ	nampɨ	'brother-in-law (NOM)'
d.	meŋ-lɨ	meɴqə	'mother (NOM)'
e.	ul-nɨm	utnɨm	'we would hit'
f.	ul-ŋələ	uqɴələ	'we hit (MED)'

The nominative suffix *-lɨ* surfaces faithfully after a vowel-final stem as in *bailɨ* 'the flute (NOM)' (2a), but hardens to a voiceless stop homorganic to a preceding stem-final nasal as in *nampɨ* 'brother-in-law (NOM)' (2c). There is a quirk in these forms; velar nasal-lateral clusters surface with uvular place as in *meɴqə* 'mother (NOM)' (2d). Further, this process applies bidirectionally; lateral-final verbs also

[1] While only the CVC allomorph is given here, there are others, such as CVCV and CVV.

surface with voiceless stops homorganic to following nasals as in *uqɴələ* 'we hit (MED)' (2f). This regressive assimilation exactly mirrors the progressive assimilation of the suffix *-lɨ*; if the verbal paradigm contained a labial nasal-initial suffix, we would expect the lateral to harden to [p] as in *nampɨ* (2c). As in Ponapean, the morphophonological output is restricted to homorganic clusters which exclude laterals. The bidirectionality supports the notion that the clusters rather than the laterals themselves are the targets of this restriction.

3 Lateral place assimilation

The restriction demonstrated in Section 2 is not universal; Kuman presents a system in which homorganicity is enforced on laterals.

3.1 Kuman

Kuman is a Chimbu-Wahgi language spoken in the Papua New Guinea highlands. It contrasts a velar lateral /ʟ/ with a coronal lateral /l/ (Trefry 1969, Lynch 1983, Hardie 2003); its phonemic inventory is given in (3) below.

(3) Kuman phonemes (Hardie 2003:15)

	Labial		Coronal		Dorsal	
Stops	p	^{m}b	t	^{n}d	k	^{ŋ}g
Nasals	m		n			
Liquids			l	r	ʟ	
Glides	w		j			

While the coronal lateral does not appear at word boundaries outside of loan words, the distributions of the laterals overlap intervocalically as shown in (4).

(4) Lateral minimal pairs in Kuman

	/l/	Gloss		/ʟ/	Gloss
a.	kɪla	'grated food'	b.	kɪʟa	'hawk'
c.	kʊla	'pig barrier'	d.	kʊʟa	'young vegetables'
e.	alaʊ	'pandanus species'	f.	aʟaʊ	'misunderstood'

Minimal pairs like *kɪla* 'grated food' (4a) and *kɪʟa* 'hawk' (4b) indicate the distinction between /l/ and /ʟ/ is phonemic.

Because the velar lateral appears word-initially and word-finally, it is subject to a number of morphophonological alternations. Of interest here are its coronal allophones before the coronal fricative [s][2] and the coronal nasal /n/. Before [s], /ʟ/ surfaces with coronal place as shown below in (5).

(5) Place assimilation to [s]

	Underlying	Surface	Gloss
a.	ᵑgaʟ-sʊna	ᵑgalsʊna	‘shirt’
b.	ᵑgaʟ-srɛ	ᵑgalsrɛ	‘cook, then…’
c.	taʟ-sɪ	talsɪ	‘the day after tomorrow’

The velar lateral in *taʟ* ‘tomorrow’ (5c) assimilates in place to the following [s] in *sɪ* ‘to hit, act upon’ surfacing with homorganic coronal place *talsi*. Before /n/, both laterals harden to a voiceless coronal stop.

(6) Hardening before /n/

	Underlying	Surface	Gloss
a.	kaʟ-ɛ	kaʟɛ	‘his/her leg’
b.	kaʟ-na	katna	‘my leg’
c.	kaʟ-n	katn	‘your (SG) leg’
d.	maʊʟ-nɪʟ	maʊtnɪʟ	‘well’
e.	nɪʟ-nʊmbʊn	nɪtnʊmbʊn	‘pond’
f.	niʟ naro	nit naro	‘give me water’
g.	nil naro	nit naro	‘give me the nail’

The underlying /ʟ/ in the stem *kaʟ* ‘leg’ surfaces as [t] before a following /n/ as in *katna* ‘my leg’ (6b). This is very similar to the hardening process in Ma Manda described above in Section 2.2. Note that the Tok Pisin loanword *nil* ‘nail’ with a final coronal lateral, unattested in the native lexicon of Kuman, also hardens as in *nit naro* ‘give me the nail’ (6g) (Daryl Pfantz, pers. comm.).

When /ʟ/ is concatenated with stops, its realization varies depending on the place of the stop. Before /t/, there is variation between [l] and [ʟ].

(7) Variable realization before /t/

	Underlying	Surface	Gloss
a.	jaʟ-tɔm	jaltɔm ~ jaʟtom	‘poor wretch’
b.	jaʟ-trɔ	jaltrɔ ~ jaʟtrɔ	‘we plant (DU)’
c.	ɔltɔ	ɔltɔ ~ ɔʟtɔ	‘long’

While the velar lateral surfacing variably as coronal before /t/ resembles place assimilation, this analysis is difficult to maintain given the identical variation with

[2] An allophone of /t/.

an underlying coronal lateral as in *ɔltɔ* ~ *ɔʟtɔ* 'long' (7c). Before labial stops, however, /ʟ/ deletes as shown in (8) below.

(8) Deletion before /b/

	Underlying	Surface	Gloss
a.	ninaʟ-bo	ninabo	'will he eat?'
b.	ninaʟ-buka	ninabuka	'he will eat'
c.	praʟ-buka	prabuka	'he will hear'
d.	praʟ-brika	prabrika	'they (DU) will hear'

Stem-final /ʟ/ consistently deletes before /b/-initial suffixes as in *prabuka* 'he will hear' (8c), cf. *pratnga* 'you (SG) will hear' with the /ʟ/ having hardened to a [t] before the coronal nasal. In clusters with dorsal stops, /ʟ/ variably undergoes coalescence, surfacing as a dorsal fricative as shown in (9) below.

(9) Variable coalescence with /k/

	Underlying	Surface	Gloss
a.	/ʊʟka/	ɔχæ ~ ʊχa ~ ʊxka ~ ʊʟka	'bird species'

While the specification of [continuant] for laterals varies cross-linguistically (Mielke 2005), this coalescent fricative suggests /ʟ/ is specified as [+continuant] in Kuman. Taken together, these data suggest that lateral-stop clusters are subject to different phonological repairs than lateral-nasal and lateral-fricative clusters.

Beyond lateral allophony, Kuman does not have place assimilation. Heterorganic nasal-nasal and nasal-obstruent clusters are tolerated as in (10).

(10) Heterorganic nasal clusters

	Surface	Gloss
a.	nɔmnɔ	'let's eat'
b.	mbɔnma	'nice'
c.	sɪnprɛ	'pot lid'
d.	kankrɪa	'don't see'

While the heterorganic nasal-nasal clusters in *nɔmnɔ* 'let's eat' (10a) and *mbɔnma* 'nice' (10b) can be explained by appealing to a restriction on geminates in Kuman, the heterorganic nasal-obstruent clusters in *sɪnprɛ* 'pot lid' (10c) and *kankrɪa* 'don't see' (10d) suggest that nasals categorically do not undergo place assimilation. Nasal-obstruent clusters where the first member is coronal are the most common targets of place assimilation cross-linguistically (Jun 1995, 2004).

To demonstrate that the data in (5) and (6) above are consistent with place assimilation, an Optimality Theoretic analysis (Prince and Smolensky 1993/2004) follows. The analysis will first consider the (non-)assimilation patterns of nasals and laterals, then the hardening and deletion of laterals before nasals and obstruents respectively.

Along the lines of Jun (1995, 2004), IDENT(PLACE) is broken up into a family of constraints with a fixed ranking between them such that place features of stops are more faithful than place features of nasals. To account for the Kuman data, this analysis augments this constraint set, positing nasal place is more faithful than lateral place. Further, to incorporate fricatives, the faithfulness constraint IDENT(PLACE)$_{\text{STOP}}$ is generalized to include all obstruents: IDENT(PLACE)$_{\text{OBSTRUENT}}$ ≫ IDENT(PLACE)$_{\text{NASAL}}$ ≫ IDENT(PLACE)$_{\text{LATERAL}}$. These constraints can be shown to derive the bidirectional hardening in Ma Manda by ranking AGREE(PLACE) above IDENT(PLACE)$_{\text{NASAL}}$. For space, a full analysis is excluded here (see Lamont (in press) for similar cases cross-linguistically).

Given that nasal place assimilation is unattested in Kuman, AGREE(PLACE) must rank below IDENT(PLACE)$_{\text{NASAL}}$. This ranking entails that the tolerance of heterorganic clusters is preferred to the assimilation of a nasal shown in (11).

(11) Heterorganic nasal clusters tolerated

/kankrɪa/	ID(PL)$_{\text{OBS}}$	ID(PL)$_{\text{NASAL}}$	AGREE(PL)	ID(PL)$_{\text{LAT}}$
☞ a. [kan.krɪ.a]			*	
b. [kan.trɪ.a]	*!			
c. [kaŋ.krɪ.a]		*!		

As for lateral clusters, because place assimilation acts to repair heterorganic lateral-fricative clusters, AGREE(PLACE) must dominate IDENT(PLACE)$_{\text{LATERAL}}$.

(12) Lateral place assimilation

/taʟ-sɪ/	ID(PL)$_{\text{OBS}}$	ID(PL)$_{\text{NASAL}}$	AGREE(PL)	ID(PL)$_{\text{LAT}}$
a. [taʟ.sɪ]			*!	
☞ b. [tal.sɪ]				*
c. [taʟ.xɪ]	*!			

In (12) above, the optimal candidate *talsɪ* (12b) violates IDENT(PLACE)$_{\text{LATERAL}}$, which is ranked below both AGREE(PLACE) and IDENT(PLACE)$_{\text{OBSTRUENT}}$. These higher ranked constraints rule out the faithful candidate with a heterorganic cluster **taʟsɪ* (12a) as well as a candidate in which the obstruent /s/ has undergone place assimilation to repair the violation of AGREE(PLACE) **taʟxɪ* (12c). This ranking captures the assimilation of /ʟ/ and the non-assimilation of nasals.

To account for hardening before /n/, this analysis assumes that laterals in Kuman are underlying specified as [+continuant] (9). If we follow Padgett (1995) and maintain that continuant features are dependent on place features, spreading of the place node would entail spreading the continuant node as well. Spreading place features from a fricative onto a lateral results in a lateral that is still specified as [+continuant]. This accounts for the winning candidate in (12). Contrariwise, as nasals are underlying [-continuant], spreading place from a nasal would result in a [-continuant] lateral. Because this does not occur, this analysis posits a constraint marking laterals specified as [-continuant]: *[-CONT, LAT]. By ranking *[-CONT, LAT] as high as AGREE(PLACE), heterorganic clusters are just as marked as homorganic lateral-nasal clusters. Hardening to a stop is accounted for by ranking the IDENT(LATERAL) below *[-CONT, LAT] (13).

(13) Lateral hardening

/kaʟ-na/	AGREE(PL)	*[-CONT, LAT]	ID(LAT)	ID(PL)$_{LAT}$
a. [kaʟ.na]	*!			
☞ b. [kat.na]			*	*
c. [kal.na]		*!		*

In (13) above, the active markedness constraints *[-CONT, LAT] and AGREE(PLACE) rule out the candidate in which the lateral has assimilated to the following nasal **kalna* (13c) as well as the faithful candidate with a heterorganic cluster **kaʟna* (13a) respectively. The optimal candidate violates both IDENT(LATERAL) because the underlying lateral surfaces as a voiceless stop, as well as IDENT(PLACE)$_{LATERAL}$ because those place features in the input associated with a lateral differ from their corresponding place features in the output.

This ranking predicts that lateral-stop clusters will surface as obstruent geminates because hardening to a stop is the preferred repair of lateral-[-continuant] clusters. Because this is not the case in Kuman, an additional markedness constraint against geminates, *GEM,[3] occupies the highest stratum in the ranking. For lateral-labial stop clusters, deletion is the preferred repair.

(14) Lateral deletion before /b/

/ninaʟ-bo/	AGREE(PL)	*GEM	*[-CONT, LAT]	MAX	ID(LAT)
a. [ni.naʟ.bo]	*!				
b. [ni.nap.bo]		*!			*
c. [ni.naʟ^{w}.bo]			*!		*
☞ d. [ni.na.bo]				*	

[3] More precisely the relevant markedness constraint is one against obstruent-obstruent clusters. Because delateralization results in voiceless stops, a cluster like [pb] in (14b) is not a geminate.

By ranking MAX above both IDENT(LATERAL) and IDENT(PLACE)$_{\text{LATERAL}}$ (not shown in (14)) deletion is only a possible repair strategy when delateralization and place assimilation are ruled out. The candidate (14c) with a labial lateral violates *[-CONT, LAT] because spreading place features from an obstruent entails spreading the specification [-continuant]. Thus, the candidate in which the lateral has deleted, *ninabo* (14d), is chosen as optimal as the other candidates fatally violate the high-ranking markedness constraints. This ranking predicts deletion as the default repair for all lateral-stop clusters, which does not fit the full range of alternations described above (cf. 7). However, these alternations are not the focus of the present study and are left without a full analysis.

The analysis presented above demonstrates that the lateral allophony in Kuman is consistent with place agreement.

3.2 Nii

Nii, a language related to Kuman, presents a very similar pattern of lateral allophony in which /ʟ/ assimilates to following coronals (Stucky and Stucky 1973, 1976). The restriction on [-continuant] laterals is relaxed in Nii such that laterals assimilate in place not only to fricatives, but also to stops and nasals, as in (15).

(15) Place assimilation in Nii

	Underlying	Surface	Gloss
a.	taʟ	taʟ	'you plant!'
b.	taʟ-t	talt	'I am planting'
c.	taʟ-mbii	teʟmbii	'I will plant'
d.	taʟ-ŋii	taʟŋii	'they will plant'
e.	poʟ	poʟ	'you write!'
f.	poʟ-s	puls	'I wrote'
g.	poʟ-t	pult	'I am writing'

Like Kuman, underlying /ʟs/ clusters surface homorganic as in *puls* 'I wrote' (15f). Nii also allows /ʟ/ to assimilate to stops as in *talt* 'I am planting' (15b) and nasals as in *taʟŋii* 'they will plant' (15d). The other notable difference between these languages is that Nii does not delete laterals before labials; instead, the heterorganic cluster is tolerated, as in *teʟmbii* 'I will plant' (15c).

Kuman and Nii enforce homorganicity of lateral clusters, while languages like Ponapean and Ma Manda disallow it. On the hypothesis that the same phonological restrictions are active, the question is how to derive the difference.

4 Possible approaches

Given that laterals typically do not surface in homorganic clusters, their place assimilation allophony in Kuman and Nii is surprising. On the hypothesis that there is a simple unifying approach to explaining the typology, this section examines some possible explanations. These include sonority profiles, continuancy effects, a constraint on place linking, and the geometry of [lateral].

4.1 Syllable contact

As is well known from works like Vennemann (1988), languages often prefer falling sonority across syllable boundaries over rising sonority, and may try to maximize that sonority fall. The delateralization processes in Ponapean reduplication and Ma Manda affixation violate these tendencies as in (16).

(16) Sonority profiles of delateralization

	Underlying	Faithful	Sonority	Surface	Sonority
a.	ul-nɨm	*ulnɨm	Δ = -1	utnɨm	Δ = +1
b.	RED-sel	*selsel	Δ = -2	sensel	Δ = -1

In Ma Manda, an underlying lateral-nasal cluster which falls in sonority surfaces as an obstruent-nasal cluster with a sonority rise (16a). In Ponapean, an underlying lateral-obstruent cluster surfaces as a nasal-obstruent cluster with a lower fall in sonority (16b). Consequently, sonority is not a tenable explanation.

4.2 Continuancy

To account for the difference between lateral-fricative and lateral-nasal clusters in Kuman, the analysis above appealed to the continuancy specification of the lateral. This correctly derived the delateralization before [-continuant] segments. However, this argument cannot generalize to all delateralization cases. In Ponapean, laterals nasalize before both stops and fricatives as in (17) below.

(17) Nasalization and continuancy

	Underlying	Surface	
a.	RED-sel	sensel	s := [+continuant]
b.	RED-tal	tantal	t := [-continuant]

Because /s/ and /t/ contrast only in their specification for continuancy, an analysis that relies on a marked specification of continuancy does not seem viable in Ponapean and therefore does not generalize.

4.3 Place linking markedness

The restriction on allowing homorganic laterals may derive from a more general restriction on homorganic oral consonants: *PLACELINK$_{ORAL}$ (Kurisu 2013: 109). This constraint is violated by non-nasal codas that are place-linked to following obstruents. This neatly derives the nasalization in Ponapean as in (18) below.

(18) Nasalization in Ponapean as markedness

/RED-pap/	*PLACELINK$_{ORAL}$	ID(NASAL)
a. [pap.pap]	*!	
☞ b. [pam.pap]		*

/RED-tal/	*PLACELINK$_{ORAL}$	ID(NASAL)
a. [tal.tal]	*!	
☞ b. [tan.tal]		*

By ranking *PLACELINK$_{ORAL}$ above IDENT(NASAL), the nasalized candidates (18b) win over the faithful candidates (18a). While this works for Ponapean, it does not generalize to Ma Manda. Recall that laterals harden in contact with nasals (19).

(19) Hardening in Ma Manda as markedness

/ul-nɨm/	*PLACELINK$_{ORAL}$	ID(LAT)
a. [ul.nɨm]	*	
☹ b. [ut.nɨm]	*	*!

Both the faithful (19a) and surface (19b) candidates violate *PLACELINK$_{ORAL}$. Because (19a) harmonically bounds (19b), (19b) cannot be optimal and is not predicted to surface. Thus, this approach is not generalizable.

4.4 Lateral as a place feature

A similar approach to appealing to continuancy is to treat [lateral] as a place feature in the Feature Geometry. Blevins (1994) hypothesized that [lateral] is dependent on the coronal node as shown in (20) below.

(20) Lateral as a place feature

Place
|
Coronal
|
[lateral]

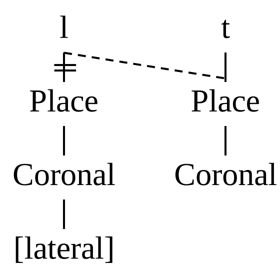
This approach offers two key insights into languages which delateralize. First, because laterals and non-laterals disagree in place features, laterals are predicted to be excluded from homorganic clusters. There is a similar phenomenon in Pali; because fricatives and stops disagree in continuancy features, fricative-stop clusters do not surface (Junghare 1979).

(21) Place agreement in Pali

	Underlying	Surface	Gloss
a.	us-ta	$vutt^{h}a$	‘sows’
b.	up-ta	vutta	‘clothes’

If lateral features like continuancy features depend on place nodes, they too are predicted to affect place agreement. The second key insight is that spreading the place node entails spreading the specification for lateral as in (22) below.

(22) Delateralization as place linking



Here, spreading the obstruent’s place node results in delateralization, as it is not specified as lateral. This correlates to the common tendency for lateral clusters to undergo gemination cross-linguistically. For example, nasal-lateral clusters in Ponapean geminate as in *lil-linenek* from the stem *linenek* ‘oversexed.’

While this approach works in those languages which delateralize, it runs into trouble with the Kuman and Nii data. In these languages, major place assimilation does not entail delateralization; in fact the correlation between delateralization and place spreading is inconsistent cross-linguistically (Yip 2004, see also Rice and Avery 1991). This is problematic if we assume a universal Feature Geometry. If we allow Feature Geometry to vary, the difference between languages like Ponapean and Kuman has to be stipulated. Alternately, following Halle et al. (2000), it may be the case that place nodes can spread independently of their dependent features. This again forces a stipulative approach wherein Ponapean must be said to spread place and those features dependent on it while Kuman must be said to spread place independent of [lateral]. Both approaches work empirically, but suffer from being ad hoc.

5 A Contrastivist Approach

One main difference between languages like Kuman and languages like Ponapean is in the phoneme inventory. Recall that Kuman and Nii contrast lateral consonants for two places of articulation. Ponapean and Ma Manda each only have one lateral, and therefore do not contrast laterals for place of articulation.

Cross-linguistically, contrastive features have been shown to behave differently phonologically from non-contrastive features. This has been stated as the Contrastivist Hypothesis: “The phonological component of a language L operates only on those features which are necessary to distinguish the phonemes of L from one another” (Hall 2007: 20). The analysis of Inuit palatalization by Compton and Dresher (2008) and Dresher (2009), recapitulated below, demonstrates the effects of contrast. Proto-Eskimo had four phonemic vowels, distinguished by three features. *a was specified as [+low], *i as [+front], *u as [+back], and *ə was not marked by any contrastive feature; this is shown in (23).

(23) Proto-Eskimo contrastive vowel features

[front] *i		[back] *u
	*ə	
	*a	[low]

Historically, *i and *ə merged phonetically into /i/ in many Inuit dialects. In some, like Barrow Inupiaq, the system still contrasts etymological *i and *ə. The so-called *strong* /i/ derives from *i and is contrastively specified as [+front], whereas *weak* /i/ derives from *ə and is unmarked phonologically. *Strong* /i/ palatalizes following consonants; *weak* /i/ does not, as in (24).

(24) Palatalization in Barrow Inupiaq

	Stem	Gloss	‘and a N’	‘N plural’	‘like a N’
a.	iki	‘wound’	iki**ʎ**u	iki**ɲ**ik	iki**s**un
b.	ini	‘place’	ini**l**u	ini**n**ik	ini**t**un

The final vowel of *iki* ‘wound’ (24a) derives from *i and is contrastively marked as [+front]. The final vowel of *ini* ‘place’ (24b) derives from *ə and while it is phonetically [+front], it is not [+front] phonologically. Therefore only contrastive [+front] features trigger palatalization in this dialect.

This intra-linguistic palatalization parallels the cross-linguistic place assimilation of laterals. Laterals that are contrastively specified for place are subject to phonological phenomena that do not target laterals in languages that do not contrast them for place. In those languages whose laterals are not contrastive for place, laterals cannot surface in homorganic clusters. Furthermore these languages often repair clusters containing laterals. This suggests that not only can these laterals not agree in place, but their very presence in clusters is marked.

Following Dresher (2009) (cf. Calabrese (2005)), there is no empirical motivation to assuming that the phonological system is blind to non-contrastive features; they merely do not participate to the same extent in the system. In an Optimality Theoretic framework, therefore, the notion of contrast is likely evaluated by CON rather than GEN. Consider the candidates in (25) below.

(25) Nasalization in Ponapean

/RED-tal/	*PLACELINK$_{ORAL}$	AGREE(PL)	ID(NASAL)
a. [tal.tal] \/ [cor]	*!		
b. [tal.tal] | | [cor] [cor]		*!	
☞ c. [tan.tal] \/ [cor]			*

This tableau assumes Kurisu's (2013) account of nasalization. There are two phonetically identical candidates **taltal* (25a-b). In candidate (25a), [l] is covertly place-linked to the following [t], thereby violating *PLACELINK$_{ORAL}$ while satisfying AGREE(PLACE). In candidate (25b), the converse holds; [l] is not place-linked to the following [t], thereby satisfying *PLACELINK$_{ORAL}$ while violating AGREE(PLACE). In (25), GEN has introduced a candidate with a homorganic [lt] cluster despite laterals not contrasting for place in Ponapean. If we reject *PLACELINK$_{ORAL}$, there must be another constraint ruling out candidate (25a). We can simply encode the contrast requirement in the markedness constraint itself:

AGREE(PLACE): For every coda-onset cluster whose members do not agree in contrastive place features, assign a violation mark.

This allows CON to filter out candidates like (25a) above without restricting GEN.

This version of AGREE(PLACE) accounts for the typology presented here. In those languages in which it is active, the only segments that are allowed in coda-onset clusters are those whose place features are contrastive. Thus, languages like Ponapean and Ma Manda will not allow laterals to surface in these clusters. In languages like Kuman and Nii, however, clusters containing laterals can satisfy AGREE(PLACE) and may therefore surface.

6 Conclusion

This paper has argued that phonemic contrast is the determining factor in whether a language allows homorganic clusters to contain lateral consonants; only in those languages in which laterals contrast for place is place agreement possible. By testing various analyses against the attested typology, it ruled out a number of general accounts of the data. The approach advocated here too should be tested out against a broader typology, not only within place agreement systems, but over segmental alternations within an Optimality Theoretic framework more generally.

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Indiana University
Department of Linguistics
Memorial Hall 322
1021 East Third St.
Bloomington, IN 47405

alamont@indiana.edu