Infixation as Morpheme Absorption*

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This article examines data from the languages Palauan and Akkadian where identical infixes and prefixes respond differently to feature cooccurrence restrictions (OCP). In both languages, OCP is enforced on the root domain. While prefixes are not subject to OCP, identical infixes need to conform to OCP restrictions. To explain the asymmetry between identical infixes and prefixes, I propose that infixes are part of the root morpheme in the output while prefixes are outside of the root domain. Infixes become part of the output root morpheme via a process of what I will call morpheme absorption. Empirical consequences of this proposal are explored.

1. Introduction

The interaction of phonology and morphology is fundamental to the study of sound patterns and morphological processes (Kiparsky 1982, Mohanan 1982, McCarthy & Prince 1996, Yip 1989, among others). It has been observed that phonological processes are often affected by morphological structure and vice versa. In this article, I will investigate the relation between infixation and feature cooccurrence restrictions in Palauan and Akkadian, and present phonological evidence for the morphological structure of an infix.

The study of infixation has received a lot of attention in recent phonological theory (Blevins 1999, Buckley 2000, Crowhurst 1998, 2001, Downing 1998, Klein 2005, McCarthy 2000a, McCarthy & Prince 1993ab, Majors 1997, Nelson 2003, Prince & Smolensky 1993, Yu 2003, 2004ab). The standard view of infixation in Optimality Theory (Prince & Smolensky 1993) is that an infix is a separate affix in the input and retains its affixal status in the output, known as 'Consistency of Exponence'. Most infixes are regarded as prefixes or suffixes displaced from their edgemost position for prosodic or phonotactic reasons (Buckley 2000, Crowhurst 1998, 2001, Downing 1998, McCarthy 1982, McCarthy & Prince 1996, 1993ab, Prince & Smolensky 1993).

In this article I will examine root cooccurrence restrictions (OCP_{ROOT})[1], which will provide evidence for the resulting root morpheme in the output. I will show that infixes in Palauan (Finer 1985, Flora 1974ab, Josephs 1975, 1990, Wilson 1972, Zuraw 2002) and Akkadian (Beesley & Karttunen 2000, Barthélemy 1998, Caldwell et al. 1977, Huehnergard 1997, McCarthy 1979, 1981, 1986, 1993, Reiner 1966, Streck 2003, Von Soden 1965) are subject to root-domain OCP while segmentally identical prefixes are not. To explain the asymmetry between identical infixes and prefixes, I will propose that infixes are part of the resulting root morpheme rather than a separate morpheme. They become part of the root morpheme in the output via a process of morpheme absorption. Prefixes, on the other hand, are separate from the root. This solves the problem of different responses to feature coocurrence

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[1] Alderete (1997), Bakovic (to appear), Boersma (2000), Frisch (1996), Frisch et al. (2004), Fukazawa (1999), Goldsmith (1976), Gouskova (2004), Hayes (1995), Hewitt & Prince (1989), Itô & Mester (1998), Keer (1999), Leben (1973), MacEachern (1999), McCarthy (1981, 1986, 1988, 1989), Myers (1987, 1997), Odden (1988, 1994), Pierrehumbert (1993), Rose (2000), Suzuki (1998), Walker & Rose (2004), Yip (1988, 1989, 1995, 1998).

restrictions by one and the same affix in different positions in a word. I will also show that feature coocurrence restrictions and morpheme absorption explain why the [-ta-] affix in Akkadian alternates between an infix and a prefix. It becomes a prefix to avoid morpheme absorption and consequential violation of feature cooccurrence restrictions.

In addition, I will present an OT analysis of infix absorption. Constraints on morpheme locality and morpheme faithfulness will be examined to explain this process. This article continues the line of research begun by others, whereby morphological structure can be altered in the output (see Section 3).

The organization of this article is as follows. Section 2 presents Palauan data. Section 3 describes the proposal. Section 4 applies the proposal to Palauan. Section 5 discusses another case of morpheme absorption - metathesis in Akkadian. Section 6 concludes the article with an overview of the results.

2. Palauan Verb Marker Affix

In Palauan (Finer 1985, Flora 1974ab, Josephs 1975, 1990, Wilson 1972, Zuraw 2002), an Austronesian language spoken in the Palauan Islands of western Micronesia, there is a verb marker [-m-] which alternates between an infix and a prefix. When infixed, it is located after the first consonant of the stem. In this case, the choice between prefixing and infixing is determined by the morphosyntactic features of the verb, and is not predictable on phonological grounds. This is shown in (1). (The code following each item marks the source and page number where the item was found: F for Flora, FN for Finer, and J for Josephs.)[2]

(1) Palauan Verb Marker (Finer 1985, Flora 1974b, Josephs 1975, 1990)

a. Prefixation

dakt	‘fear’	**mə**-dákt	‘be/get fearful’ F 212
rur	‘shame’	**mə**-rúr	‘be/get ashamed’ F 212
ʔúu	‘shadow’	**mə**-ʔúw	‘be/get shady’ F 212
latk	‘remembrance’	**mə**-látk	‘been/gotten remembered, recalled’ F 218
dasaʔ-	‘carve’	**mə**-dásəʔ	‘been/gotten carved’ F 215
loʔad-	‘break cord’	**mə**-lóʔəd	‘been/gotten broken (cord) by pulling’ F 218

b. Infixation

láŋəl	‘crying’	l̩-**m**-áŋəl	‘cry’ F 222
lúut	‘return’	l̩-**m**-úwt	‘return’ F 221
rurt	‘running’	rə-**m**-úrt	‘run’ J 456 (1990)
latk	‘remembrance’	l-**m**-átk	‘remembered (pl, 3rd non-hum)’ F 218
loʔad-	‘break cord’	l-**m**-óʔəd	‘broken cord (pl. 3rd non-hum)’ F 218
dakul-	‘bury’	θ-**m**-ákl	‘buried (pl. 3rd non-hum)’ F 218

[2] The verb marker is a prefix in stative intransitive verbs and in active transitive verbs in the imperfective and middle aspects. It is an infix in active transitive verbs in the perfective aspect and in a class of active intransitive verbs. As reported by Flora (1974b), similar affixes are found across other Polynesian languages, such as Timugon Murut, Yami and Tagalog (see McCarthy & Prince 1995, Crowhurst 1998, 2001).

As shown in (2), the verb marker undergoes a process of labial dissimilation when immediately adjacent to a labial consonant (Finer 1985, Joseph 1975). The verb marker dissimilates to a rounded vowel [o] or [u]. Adjacent labials trigger dissimilation of both the infixed and prefixed verb marker.[3]

(2) Local Dissimilation

a. Prefixation

búrək	'swelling'	**o-b**úrək	'be/get swollen' J 30 (1990)
bóes	'gun'	**o-b**óes	'be/get shot' FN 100
báil	'article of clothing'	**o-b**áil	'be/get clothed' FN 100
bəkáll	'action of driving'	**o-b**əkáll	'be/get driven' FN 100
baloʔ**-**	'shoot'	**o-b**áləʔ	'been/gotten shoot' F 216
basaʔ-	'count'	**o-b**ásəʔ	'been/gotten counted' F 216
buŋut-	'curl'	**o-b**únt	'been/gotten curled' F 216

b. Infixation

tá**bə**k	'patch'	t-**o-bə**kíy	'patched (3^{rd} sg.)' F 219
se**b**ok-	'kick'	s-**o-bə**kíy	'kicked (3^{rd} sg.)' F 219
do**b**aʔ-	'halve'	d-**o-bə**ʔíy	'halved (3^{rd} sg.)' F 219

As shown in (3), non-adjacent labials trigger dissimilation only of the infixed verb marker. The prefixed verb marker stays the same.[4]

(3) Non-local Dissimilation

a. Prefixation

kekədé**b**	'short'	**mə-**(ke)kədé**b**	'be/get short' J 116 (1975)
du**b**	'poison'	**mə**-dú**b**	'be/get poisoned/bombed' J xxxi (1990)
sés**əb**	'fire'	**mə**-sés**əb**	'been/gotten burnt' F 215
tá**b**ək	'patch'	**mə**-tá**b**ək	'been/gotten patched' F 215
ki**m**ud-	'cut hair'	**mə**-kí**m**d	'been cut (hair)' F 215
ʔaro**m**-	'taste'	**mə**-ʔár**əm**	'been tasted' F 215

b. Infixation

ré**bə**t	'action of falling'	r-**u**-é**bə**t	'fall (from)' F 221
ʔár**m**	'suffering'	ʔ-**u**-ár**əm**	'suffer' F 221
sis**əb**áll	'entrance'	s-ó-is**əb**	'go into' FN 101
se**b**ok-	'kick'	s-**u**-é**bə**k	'kicked' (pl. 3^{rd} person non-human) F 219
teʔ**ib**-	'pull out'	t-**u**-éʔ**əb**	'pulled out' (pl. 3^{rd} person non-human) F 219
dalo**m**-	'plant'	d-**u**-ál**əm**	'planted (pl. 3^{rd} person non-human)' F 219

[3] See Flora (1974a) for the generalization.
[4] Flora (1974ab) adopts the practice of marking the dissimilated [u] verb marker as a glide [w].

As shown in (4), only affixes dissimilate. There is no dissimilation in simple roots.

(4) No dissimilation in simple roots

má**m**əd	'bedding given to visitors' FN 102
má**m**əs	'type of fish (silvery in color and larger than sardine)' J 140 (1990)
bá**b**	'area or space above' J 4 (1990)
beá**b**	'rat' J 7, FN 102
mətá**b**	'dead fish in trap' J 200 (1990)

In the examples above, there exists an asymmetry in dissimilation between segmentally identical infixes and prefixes in cases of non-adjacent labial consonants in the root morpheme. Infixes dissimilate but identical prefixes do not. We need to provide an explanation of why nonadjacent labials trigger dissimilation only of the infixed verb marker. Under the standard view of infixation (Prince & Smolensky 1993), there should be no difference in the way identical prefixes and infixes respond to OCP violations since neither is associated with the root morpheme in the output. They should either both dissimilate or neither should undergo dissimilation.[5]

One attempt to account for this asymmetry (Finer 1985) gives two separate rules of dissimilation for prefixes and infixes. But since they are one and the same affix it does not provide a uniform account.

I propose that this asymmetry between identical prefixes and infixes gives evidence for their different morphological affiliation in the output. Specifically, I propose that infixes are part of the output root morpheme and thus respond to root cooccurrence restrictions while prefixes are outside of the root domain and thus not subject to OCP_{ROOT}. Infixes become part of the root morpheme via a process of morpheme absorption, whereby the affix is incorporated into the root morpheme.[6]

3. The Proposal: Morpheme Absorption in Optimality Theory

In this section I show that feature cooccurrence restrictions provide evidence for the morphological structure of an infix and define morpheme absorption.

3.1 The Argument

Palauan contributes to the body of evidence for similarity avoidance on place of articulation for labial consonants. Cross-linguistically, there are restrictions on place of articulation co-occurring within a certain domain (McCarthy 1986, Yip 1988, 1989). Some

[5] When the infix follows a stem initial labial, in many cases the infix becomes a prefix (e.g., báis→o-máis 'wander, walk around' J 5, bákəs→o-mákəs 'walk, take a step' J 5), or coalesces with the stem initial consonant (e.g., bíkəl→ míkəl 'raise' J 258, bitəkíll→ mítəʔ 'capsize' J 259). There are also a small number of words where the verb marker is realized as [o] but the initial consonant is other than a labial, which I will treat as exceptions (Finer 1985).

[6] The asymmetry between infixes and prefixes is not a function of distance from the labial consonant (see (3)). Thus, I argue it is a function of the content of the root morpheme. Additional evidence for the infix+root unit comes from Ce- reduplication where the verb marker infix remains in the base under reduplication rather than surfacing as a prefix. In comparison, a verb marker prefix appears external to reduplication (see Finer 1986, p. 129, 115-6).

researchers argue for a cognitive basis for feature cooccurrence restrictions (Pierrehumbert 1993). The standard term is Obligatory Contour Principle or OCP.[7]

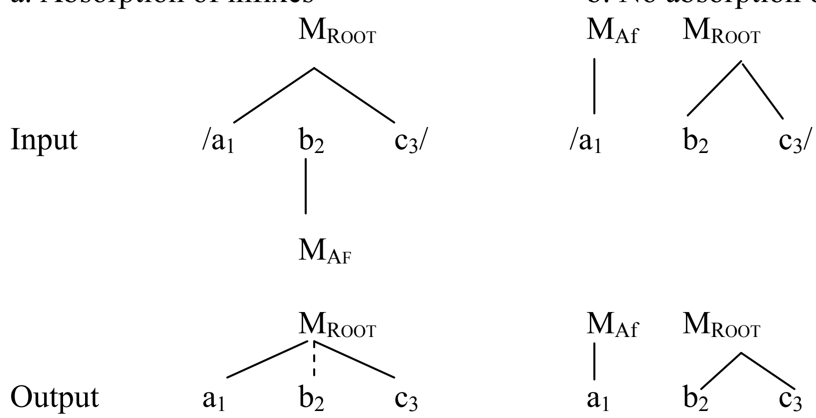
As shown in Section 2, adjacent labials trigger dissimilation of the infixed and prefixed verb marker. Non-adjacent labials trigger dissimilation only of the infixed verb marker. I propose that there exists a constraint against more than one labial consonant within the root domain, formulated as follows:

(5) OCP_{ROOT}(C-lab)
Avoid more than one labial consonant within the root domain.[8]

The importance of domain for OCP evaluation has been discussed in great detail in the works of McCarthy (1986, 1989), Mester & Itô (1986), and Yip (1988, 1989). In this article, the relevant domain is the root morpheme.

The asymmetry in the way infixes and prefixes respond to OCP_{ROOT} restrictions provides evidence for the content of the root morpheme in the output. I propose that infixes are part of the output root morpheme and thus respond to OCP restrictions while prefixes are not. Infixes become part of the output root morpheme via a process of morpheme absorption, illustrated below. In this paper, I will follow Horwood (2002, 2004) and assume that the affix is already infixed in the input by the morphosyntax.[9]

(6) Morpheme absorption
a. Absorption of infixes b. No absorption of prefixes



In the representation of infixes (6(a)), the input affix is incorporated into the root morpheme in the output. No such incorporation takes place for prefixes (6(b)).[10]

This interpretation is parallel to other proposals where morphological structure may be altered in the output, including tier conflation in autosegmental phonology and root-and–pattern

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[7] See section 1 for references. Alderete (1997), Itô & Mester (1998), and MacEachern (1999) formulate OCP as self-conjunction of markedness constraints. Pierrehumbert (1993) replaces OCP with *REPEAT.

[8] Labial cooccurrence restrictions are also found in Cantonese language games (Yip 1989), Akkadian affixes (McCarthy 1986), and Tagalog (McCarthy 2003b).

[9] An alternative is to propose alignment constraints that refer to specific morphemes and via ranking result in the infixed output pattern (see McCarthy and Prince 1993). See Horwood (2002) for arguments in favor of morpheme ordering by the morphosyntax over parochial alignment.

[10] Though the input affix morpheme is not realized as such in the output, its content is realized as part of the output root morpheme. I follow Kurisu (1998) and assume that this does not violate Morpheme Realization.

morphology (McCarthy 1986, 1989, Yip 1989), bracket erasure in lexical phonology (Kiparsky 1982, Mohanan 1982), work on prefixes in Athabaskan languages (Hargus 1987, Speas 1984), and morphological haplology (McCarthy and Prince 1995, de Lacy 1999). The idea that morphological or syntactic structure is retrievable from phonological evidence is also found in Selkirk (1984, 1995).

3.2 Morpheme Absorption in OT

This section defines morpheme absorption in Optimality Theory (Prince & Smolensky 1993, McCarthy & Prince 1993). In OT the morphological structure of the input cannot be altered in the output, called "Consistency of Exponence". However, morpheme absorption argues that an input affix can be absorbed by the root morpheme in the output. In effect, the input morphological structure is reassigned in the output. See Walker & Feng (2004), McCarthy & Wolf (2005), Horwood (2002), and Legendre et al. (1998) for related proposals.

In the remainder of this section, I define the markedness constraint that compels morpheme absorption and the faithfulness constraint that militates against it.

3.2.1 Morpheme Locality

Palauan gives phonological evidence that morpheme absorption is a property of the grammar. In Palauan, an input affix becomes part of the root morpheme in the output. Formally, there must be a constraint that compels morpheme absorption. I propose that it is a markedness constraint against discontinuous morphemes, called Morpheme Locality.

(7) MORPHEME LOCALITY (M-LOC)
Let M_i be a morpheme and xyz be segments, where $xyz \in Output$,
If xyz are adjacent and $x \ \& \ z \in M_i$,
then $y \in M_i$.
Informally: No discontinuous morphemes.

This constraint rules out any segment that intervenes between segments of a morpheme and that is not itself part of the same morpheme. In terms of evaluation, a star is assigned for any segment that intervenes between segments of a morpheme that is not itself part of the same morpheme.

This constraint is similar to Morpheme-Output-Contiguity (Landman 2003) which requires that "the portions of the output standing in correspondence and belonging to the same morpheme (in the output) form contiguous strings". One difference is that Morpheme-Output-Contiguity is a faithfulness constraint (see Landman 2003) and defines contiguity with reference to the input. Morpheme Locality (see (7)), on the other hand, is a markedness constraint and defines contiguity with no reference to the input.[11]

[11] For the purposes of the argument in this paper, either constraint would work. The differences emerge when we allow epenthetic segments to be absorbed by the output morpheme. While Morpheme Locality prohibits any discontinuous morphemes, Morpheme-Output-Contiguity only limits contiguity of segments standing in correspondence. Morpheme-Output-Contiguity also disallows internal epenthesis even if epenthetic segments are absorbed by the output morpheme, while Morpheme Locality allows such structures. This study opens avenues for future research, including the study of the morphological affiliation of epenthetic segments, the results of morpheme alternations other than absorption (i.e., splitting or coalescence), among others. Thanks to Maria Gouskova for a discussion of this point.

It has been shown in the literature that contiguous domains play an essential role in a number of phonological and morphological processes. Contiguity has been used to account for morphologically-derived environment effects involving epenthesis and deletion (Landman 2003), morpheme structure conditions (Kenstowicz 1994, Spencer 1993), the relation between epenthesis, deletion, and syllabification (Alber 2001, Alber & Plag 2001, Lamontagne 1996), blocking of a phonological process (Bakovic 1994), base-reduplicant identity effects (McCarthy & Prince 1995), and the locality of reduplication (Hendricks 1999, Riggle 2004). This article extends contiguous domains to morpheme absorption.

3.2.2 Morpheme Faithfulness

In addition to a constraint on morpheme locality, a constraint is needed to prevent morpheme absorption. If morpheme absorption were freely allowed, there would be no reference to morphological boundaries in the output (see Kiparsky 1982, McCarthy 1982). There would be no concept of distinct output morphemes, which is contrary to the evidence. As has been shown there exist processes that are restricted to apply only in morphologically derived environments. If morpheme boundaries were erased in the output, no such restrictions would be enforced in an output-oriented model of phonology.

I propose a faithfulness constraint on morpheme dependency which guarantees that input and output morpheme affiliation does not change. A segment cannot belong to different morphemes in the input and output (cf. McCarthy 2000a).[12]

(8) MORPHEME DEPENDENCY (M-DEP)
Let M_i be a morpheme and S_j be a phonological element in two related morpho-phonological representations,
M_1 and $S_1 \in$ Input,
M_2 and $S_2 \in$ Output,
$M_1 \Re M_2$, and
$S_1 \Re S_2$,
If $S_2 \in M_2$, then $S_1 \in M_1$.
Informally: Only a segment whose input correspondent belongs to the morpheme M_i belongs to the morpheme M_i in the output.

This constraint bans morpheme absorption. It is a faithfulness constraint that preserves morphological affiliation of non-epenthetic input and output segments. One star is assigned for any phonological element in the output morpheme whose input correspondent belongs to a different morpheme. Morpheme Dependency is a violable constraint, which means that new morphological affiliation may be acquired. This is a significant departure from the assumption that morpheme information available in the input does not change in the output.

Constraints on morpheme faithfulness have already been proposed in the literature in the form of morpheme contiguity (see references in the previous section), morpheme identity (Walker & Feng 2004), M-PARSE constraints (McCarthy & Wolf 2005), constraints on morpheme linear order (Horwood 2002), and constraints on morpheme realization (Kurisu 1998,

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[12] This constraint is vacuously satisfied by epenthetic segments. Further research may require this constraint to be extended to epenthetic segments. If this would be the case, the constraint would be formulated as: $\forall$ y such that $y \in$ Output, $y \in M_i$ only when $\exists x$ s.t. $x \in$ Input, $x \Re y$ and $x \in M_i$.

among others). See especially Walker & Feng (2004) on a model of morpho-phonological correspondence.

3.2.3 The Typology

In Palauan infixes are absorbed by the root morpheme in the output but prefixes are not. This is when morpheme markedness (M-LOC) outranks morpheme faithfulness (M-DEP). Under this ranking, an infix becomes part of the root morpheme in the output. I will illustrate it with the word [l**m**átk] 'remembered, pl, 3rd non-hum' (shown in (1b)).

In the representation of the candidates, I will indicate separate morphemes by separate bracketing. For instance, a candidate with a single bracket [l**m**atk] indicates that there is a single morpheme in the output. A candidate with a nested structure [l[**m**]atk] indicates that there are two separate morphemes and one of them is contained within the other. A candidate with two sequential brackets indicates that there are two morphemes in a sequential order, [**mə**][dákt]. The original affix morpheme, including the epenthetic schwa, is in bold font.

(9) Morpheme Absorption for infixes: M-LOC >> M-DEP

/l-**m**-atk/	M-LOC	M-DEP
☞a. [l**m**atk]		*
b.[l[**m**]atk]	*!	

Candidate (a) wins since it satisfies the markedness constraint on morpheme locality. The candidates in (9) are phonetically homophonous. Let us recall that the argument for positing different morphological structures comes from OCP-violations (see section 3.1).

There is no absorption for prefixes since prefixes are outside of the root domain and vacuously satisfy morpheme locality.

(10) No Morpheme Absorption for prefixes: M-LOC >> M-DEP

/**m**-dakt/	M-LOC	M-DEP
☞a. [**mə**][dakt]		
b.[**mə**dakt]		*!

Candidate (b) loses since it incurs an unnecessary violation of faithfulness. There are no discontinuous morphemes and thus no reason to violate morpheme faithfulness.

There are various ways to satisfy morpheme locality. Two alternatives will be discussed in this article: morpheme absorption (Section 4) and morpheme reordering (Section 5). I will propose that reordering violates a constraint on precedence relations, called LINEARITY (see Section 5 for definition, also McCarthy & Prince 1995, Horwood 2002). There are also cases where infixes are not absorbed. This is when faithfulness constraints outrank the constraint against discontinuous morphemes. The following table shows the typology of alternations induced by Morpheme Locality. The constraint ℂ in (11cd) blocks the unmarked repair.

(11) M-LOC-driven Alternations

Ranking	Result
a. M-LOC, LINEARITY >> M-DEP	Morpheme Absorption
b. M-LOC, M-DEP >> LINEARITY	Morpheme Reordering
c. ℂ, M-LOC >> LINEARITY >> M-DEP	Two Repairs: Absorption Unless Blocked by ℂ
d. ℂ, M-LOC >> M-DEP >> LINEARITY	Two Repairs: Reordering Unless Blocked by ℂ
e. M-DEP, LINEARITY >> M-LOC	Faithful: No morpheme absorption or reordering

As will be shown in the next section, Palauan follows the constraint ranking in (a). In Palauan, due to morpheme absorption, infixes dissimilate when there is another labial in the root domain. Prefixes resist dissimilation. In Akkadian, as will be shown in Section 5, the ranking in (c) holds. An infix becomes a prefix to avoid morpheme absorption and consequential OCP violation.[13]

4. Application to Palauan

In this section I show how the proposal works for Palauan.

4.1 Overview of the Analysis

As we saw in Section 2, in Palauan, the verb marker [–m-] is either infixed or prefixed to the verb stem depending on the class of verbs. The verb marker alternates between [mə], [m], [o] and [u]. Following Flora (1974b), I assume that the schwa vowel is epenthetic (cf. Finer 1985). The vowel alternants of the verb marker are a result of labial dissimilation (Flora 1974b). Both prefixes and infixes dissimilate when the labial is adjacent to the verb marker. But when there is a non-adjacent labial consonant anywhere in the stem, the infixed verb marker dissimilates but the prefixed verb marker does not undergo dissimilation. Below, I repeat the data on non-local dissimilation.[14]

(12) Non-adjacent labial dissimilation in infixes (cf. (3b))

ré**b**ət	'action of falling'	r-**u**-é**b**ət	'fall (from)' F 221
ʔár**m**	'suffering'	ʔ-**u**-ár**əm**	'suffer' F 221
se**b**ok-	'kick'	s-**u**-é**b**ək	'kicked' (pl. 3rd person non-human) F 219
dalo**m**-	'plant'	d-**u**-ál**əm**	'planted (pl. 3rd person non-human)' F 219

(13) No non-adjacent labial dissimilation in prefixes (cf. (3a))

du**b**	'poison'	**mə**-dú**b**	'be/get poisoned/bombed' J xxxi
sés**əb**	'fire'	**mə**-sés**əb**	'been/gotten burnt' F 215
tá**b**ək	'patch'	**mə**-tá**bə**k	'been/gotten patched' F 215
ki**m**ud-	'cut hair'	**mə**-kí**m**d	'been cut (hair)' F 215

[13] The relevance of prosodic, morphological and syntactic structure on similarity avoidance has been discussed in the work of Frisch et al. (2004), Yip (1989, 1998), McCarthy (1986). Yip (1998) shows that in Hindi OCP is only active within the same phonological phrase. McCarthy (1986) shows that OCP(labial) in Akkadian affects prefixes but not suffixes.

[14] It is common for dissimilation to be stronger or more necessary, the closer together two segments are to each other in a phonological string. See Frisch et al. (2004), Hyman & Mchombo (1992), Odden (1994), Pierrehumbert (1993).

The infixed verb marker in (12) dissimilates to a rounded vowel. The prefixed verb marker resists dissimilation. In the rest of this section I will account for this asymmetry.

Following Finer (1985), I propose that dissimilation in this case is the result of avoidance of more than one labial consonant in the root domain.

(14) OCP$_{\text{ROOT}}$(C-lab)
Avoid more than one labial consonant within the root domain.

The argument for OCP to be (C-lab) rather than (labial) is because dissimilation is not triggered by rounded vowels. When there is a rounded vowel in the word, the infix remains a bilabial nasal.[15] Dissimilation is a repair for OCP violations. Due to dissimilation, the infix loses its consonantal place of articulation and becomes a rounded vowel.

Furthermore, I propose that OCP$_{\text{ROOT}}$(C-lab) is satisfied vacuously when [mə] is a prefix, since the prefix is a separate morpheme from the root morpheme in the output. Identical infixes, on the other hand, are subject to OCP$_{\text{ROOT}}$(C-lab) since they are part of the root morpheme in the output. They become part of the output root morpheme via a process of morpheme absorption.

(15) The Proposal
a. Infixation

Root

d **m** a l ə **m**

b. Prefixation

Pref Root

m ə d u **b**

For dissimilation to occur, OCP outranks faithfulness to consonantal place of articulation.

(16) Dissimilation takes place
OCP$_{\text{ROOT}}$(C-lab) >> IDENT(place)

4.2 Root and Affix Faithfulness

There is one more fact we need to take into account before showing the full analysis. As was shown in Section 2, dissimilation in Palauan takes place only under affixation. Underlying root segments do not dissimilate. This is reviewed below.

(17) No dissimilation of underlying root segments (cf. (5))

má**m**əs	'type of fish (silvery in color and larger than sardine)' J 140
beá**b**	'rat' J 7, FN 102
mətá**b**	'dead fish in trap' J 200

[15] The same distinction between rounded consonants and vowels exists in Akkadian labial dissimilation (McCarthy 1986) (but see Cantonese, Yip 1989).

The difference between (12) and (17) is in the morphological affiliation of the relevant segment in the input. The absorbed infix, as in (12), is an input affix whereas the root segments, as in (17), belong to the root in the input. Following McCarthy & Prince (1995), Beckman (1998), and Smith (1997), I propose there are separate faithfulness constraints for roots versus affixes and root faithfulness outranks affix faithfulness. Unlike McCarthy & Prince (1995), I define the domain of the constraints in the input rather than the output. I will refer to them as I-IDENT.[16]

(18) I-IDENT$_{ROOT}$(F)
An input segment in a root morpheme and its output correspondent must have identical feature specifications.

(19) I-IDENT$_{AFFIX}$(F)
An input segment in an affix morpheme and its output correspondent must have identical feature specifications.

The following ranking accounts for the difference between affix and root segments in their response to OCP restrictions.

(20) ROOT over AFFIX faith (McCarthy & Prince 1995)
I-IDENT$_{ROOT}$(place) >> OCP$_{ROOT}$(C-labial) >> I-IDENT$_{AFFIX}$(place)

Given this ranking, it is more important to retain the identity of input root segments than it is to satisfy OCP. The opposite is true of input affix identity. This analysis not only explains why roots can violate OCP but also determines which segment is affected in dissimilation.[17]

4.3 The Analysis

The formal analysis is represented in the following tableaux. Let us first consider dissimilation of the infix. The following tableau shows three candidates, two with dissimilation and one with no dissimilation.

(21) Dissimilation of the infix

/d-**m**-alo**m**/	I-IDENT$_{ROOT}$(place)	OCP$_{ROOT}$(C-labial)	I-IDENT$_{AFFIX}$(place)
☞a. [d**u**ál**ə**m]			*
b. [d**m**ál**ə**m]		*!	
c. [d**m**ál**əu**]	*!		

[16] It is only possible to define the domain for a constraint in the input when the domain is contrastive in the input. McCarthy (2000) uses this type of formulation when proposing symmetric Anchoring constraints from input to output and from output to input to account for prosodic circumscription. Gouskova (2000) uses root faithfulness in a similar way to account for syllable contact phenomena.

[17] Another way to account for this is to use comparative markedness (McCarthy 2003a) by distinguishing old and new OCP$_{ROOT}$ constraints. The idea would be that only new OCP$_{ROOT}$ violations are resolved but old OCP$_{ROOT}$ violations are not changed (OCP$_{ROOT-NEW}$>>Ident(place)>>OCP$_{ROOT-OLD}$). This requires defining old and new OCP violations and their domains. I do not pursue this alternative here. The comparative markedness analysis would not be able to determine without additional constraints why it is the affix that dissimilates.

In all candidates the infix is absorbed by the root morpheme in the output. The candidate where the infix dissimilates, candidate (a), wins. It satisfies OCP at the cost of affix identity. The competing candidate, candidate (b), incurs a fatal violation of OCP. Candidate (c), where the root labial dissimilates is ruled out by I-IDENT$_{\text{ROOT}}$(place).

Let us now consider prefixes. The tableau below shows two candidates, one with dissimilation, and the other remaining faithful to the input. Neither undergoes absorption.

(22) No dissimilation of the prefix

/**m**-du**b**/	I-IDENT$_{\text{ROOT}}$(place)	OCP$_{\text{ROOT}}$(C-labial)	I-IDENT$_{\text{AFFIX}}$(place)
a. [**o**][dú**b**]			*!
☞b. [**mə**][dú**b**]			

The candidate with no dissimilation, candidate (b), wins. The competing candidate, candidate (a), incurs an unmotivated violation of faithfulness.

Finally, underlying root segments are allowed to violate OCP. This is explained by high-ranking root faithfulness. The following tableau shows a candidate with dissimilation, candidate (a), and one without dissimilation, candidate (b).

(23) No dissimilation of the root

/**m**a**m**es/	I-IDENT$_{\text{ROOT}}$(place)	OCP$_{\text{ROOT}}$(C-labial)	I-IDENT$_{\text{AFFIX}}$(place)
a. [**m**a**u**əs]	*!		
☞b. [**m**a**m**əs]		*	

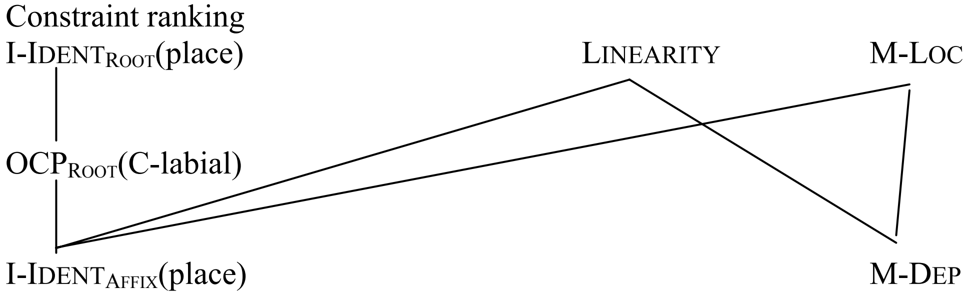
The candidate with dissimilation, candidate (a), violates I-IDENT$_{\text{ROOT}}$ and thus is eliminated.

Another obvious alternative to dissimilation would be to re-order the morphemes in the output so that the infix becomes a prefix and is outside the root domain. This alternative and its analysis are discussed in detail in the next section. As shown in the next section, morpheme re-ordering incurs a violation of LINEARITY. In Palauan, I propose that LINEARITY is ranked above affix identity (I-IDENT$_{\text{AFFIX}}$(place)), and thus re-ordering does not take place.

In addition, the infix could resist absorption, satisfy OCP and thus avoid dissimilation. To rule this out, I assume that the constraint against discontinuous morphemes, M-LOC, outranks I-IDENT$_{\text{AFFIX}}$(place), so that it is more important to avoid discontinuous morphemes than to avoid dissimilation. It is also crucial that the faithfulness constraint against absorption, M-DEP, be ranked below M-LOC and LINEARITY so that discontinuous morphemes are avoided through absorption (see Section 3).

The following constraint ranking has been established in this section. This is followed by summary tableaux.

(24) Constraint ranking



(25) Summary tableaux[18]

I: /[d-**m**-alo**m**]/	I-ID$_{RT}$(pl)	OCP$_{RT}$(C-lab)	LINEARITY	MLOC	I-ID$_{AF}$(pl)	MDEP
☞a. [d**u**ál**ə**m]					*	*
b. [d**m**ál**ə**m]		*!				*
c. [**mə**][dal**ə**m]			*!			
d. [d[**m**]ál**ə**m]				*!		

II: /**m**-du**b**/	I-ID$_{RT}$(pl)	OCP$_{RT}$(C-lab)	LINEARITY	MLOC	I-ID$_{AF}$(pl)	MDEP
a.[**o**][dú**b**]					*!	
☞b. [**mə**][dú**b**]						
c. [**mə**dú**b**]						*!

III: /**ma**m**e**s/	I-ID$_{RT}$(pl)	OCP$_{RT}$(C-lab)	LINEARITY	MLOC	I-ID$_{AF}$(pl)	MDEP
a. [**mau**ə**s**]	*!					
☞b. [**mam**ə**s**]		*				

IV: /l-**m**-atk/	I-ID$_{RT}$(pl)	OCP$_{RT}$(C-lab)	LINEARITY	MLOC	I-ID$_{AF}$(pl)	MDEP
☞a. [l**m**atk]						*
b. [l[**m**]atk]				*!		
c. [**mə**][lakt]			*!			

As shown in the above tableaux, infixes are absorbed by the root morpheme in the output (tableaux I and IV) but prefixes are not absorbed (tableau II). When there is an OCP violation as a result of absorption, the infix dissimilates (tableau I). Underlying roots do not dissimilate (tableau III). This explains why infixes in Palauan undergo dissimilation but identical prefixes do not. The infix is part of the output root morpheme and thus needs to dissimilate to satisfy OCP. The prefix is outside of the root domain and thus not subject to OCP. This also accounts for the fact that underlying root segments do not dissimilate.

5. Metathesis in Akkadian

In this section I argue that morpheme absorption and feature cooccurrence restrictions explain why the [–ta-] infix in Akkadian sometimes becomes a prefix.

5.1. The Data

Akkadian is a northeastern Semitic language spoken in the area of modern Iraq from 2500 B.C. until 1 A.D. In Akkadian, there is a process of [–ta-] infixation (Beesley and Karttunen 2000, Barthélemy 1998, Caldwell et al. 1977, Huehnergard 1997, McCarthy 1979, 1981, 1986, 1993, Reiner 1966, Streck 2003, Von Soden 1965). The [–ta-] infix marks (i) perfect tense (see (26a)), and verb stem modifications (see (26b) and (26c)). In each case, I give the infinitive followed by

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[18] The optimal candidate in (25 (II)) also incurs a violation of DEP-V since it involves schwa insertion. I assume that schwa insertion takes place for phonotactic reasons.

the verb form with the [–ta-] infix. The [-ta-] infix is often realized as [-t-] due to vowel deletion (see McCarthy 1986). For the ease of presentation, I will underline the stem.[19]

(26) Infixation (Caldwell et al. 1977, Huehnergard 1997, Von Soden 1965)

a. Perfect Tense

Infinitive		Infixed Form	
šakān-um	'to settle'	i-š-**ta**-kan	'he has settled' H 155
kanāš-um	'to subject'	i-k-**ta**-nuš	'he has subjected' C 78
šarāq-um	'to steal'	i-š-**ta**-riq	'he has stolen' H 155
maqāt-um	'to fall'	i-m-**ta**-qut	'he has fallen' H 155
qerēb-um	'to draw near'	i-q-**te**-rib	'he has drawn near' C 78

b. Gt-stem

magār-um	'to agree'	mi-**t**-gur-um	'to agree with one another' H 393
maḫār-um	'to face'	mi-**t**-ḫur-um	'to face one another' H 393
maḫāS-um	'to strike/hit'	mi-**t**-ḫūS-um	'to fight with one another' C 117
rakāb-um	'to mate'	ri-**t**-kub-um	'to lie upon one another' H 393
akāl-um	'to eat'	a-**t**-kul-um	'to devour one another' C 116
alāk-um	'to go'	a-**t**-luk-um	'to go forever' C 116

c. Gtn-stem

apāl-um	'to answer'	a-**ta**-ppul-um	'to answer, pay repeatedly' H 412
babāl-um	'to carry'	i-**ta**-bbul-um	'to carry repeatedly' H 412
maqāt-um	'to fall'	mi-**ta**-qqut-um	'to fall again and again' H 411
alāk-um	'to walk about'	a-**ta**-lluk-um	'to be in motion, walk about' H 411
palāḫ-um	'to fear'	i-p-**ta**-llaḫ	'he lived in constant fear' C 138

As shown in (27), when the root initial consonant (first radical) is a coronal obstruent (d, T, s, S, z, but not š), [-ta-] surfaces as a prefix rather than an infix. Prefixation in Akkadian is considered to involve metathesis (McCarthy 1979). The process of metathesis takes place in non-prefixed forms of Gt, Dt, Gtn, and Dtn stems, which are infinitive, imperative and verbal adjectives.[20]

[19] There are four basic stems in Akkadian (G, D, Š, and N). Each can be modified with the [–ta-] infix. The modified stems are referred to as Gt, Dt, and Št stems (commonly, Xt-stems). If a further modification occurs, we obtain Gtn, Dtn, Ntn and Štn stems (commonly, Xtn-stems). The meaning of Xt-stems is passive, reciprocal, reflexive, causative, and separative (see (26b)), and of Xtn-stems iterative, distributive and augmentative (see (26c)). In the presentation of the data, vowels with a diacritic indicate a long vowel, symbols T and S stand for emphatic consonants, ḫ with a hook is compared to the pronunciation of *ch* in German 'ach' or Scottish 'loch' (H 2). In addition to the [-ta-] affix, we can distinguish three additional morphemes: [-um] case ending suffix, [i-] third person singular prefix, and [-ī] feminine singular ending in the imperative.

[20] Recent work on metathesis includes Blevins & Garrett (2004), Hume (2001), (2004), McCarthy (2000b).

(27) Metathesis

Infinitive		Actual	Expected	
Sabāt-um	'to quarrel'	**t**-iSbut-um	*Si-**t**-but-um	'to touch one another' C 118
saqār-um	'to speak'	**t**-isqar-ī	*si-**t**-qar-ī	'pronounce forever!' V 124
zakār-um	'to speak'	**t**-izkur-um	*zi-**t**-kur-um	'to speak' H 530
dakāš-um	'to swell'	**t**-idkuš-at	*di-**t**-kuš-at	'is swollen' C 118

As shown in (28), when [-ta-] and the root initial coronal consonant (d, T, s, S, z) are strictly adjacent, [-ta-] remains an infix and the consonant of the infix assimilates to the first root consonant. This takes place in prefixed forms of Gt, Dt, Gtn and Dtn stems which include durative, perfect, preterite, and participle, as well as in perfect tense of the G stem.[21]

(28) Total Assimilation

Infinitive		Actual	Expected	
damāq-um	'to improve'	i-d-**da**-miq	*i-d-**ta**-miq	'he has improved' H 155
Tarād-um	'to send'	i-T-**Ta**-rad	*i-T-**ta**-rad	'he has sent' H 155
saḫāp-um	'to cover'	i-s-**sa**-hap	*i-s-**ta**-hap	'he has covered' H 155
Sabāt-um	'to seize'	i-S-**Sa**-bat	*i-S-**ta**-bat	'he has seized' H 155
zak-ûm	'to be clean'	i-z-**za**-k-um	*i-z-**ta**-k-um	'he has cleared' H 155

The infix [-ta-] is located after the first CV of the innermost stem. The stem includes derivational but not inflectional prefixes. Multiple infixation is possible. Affixation in Akkadian is analyzed in McCarthy (1993) as negative prosodic circumscription of the initial mora. Similar to Palauan, I will assume the [–ta-] affix as already infixed in the input in the actual position by the morphosyntax of the language.

In the rest of this section, I will show that metathesis in Akkadian is a result of dissimilation. An infix becomes a prefix to avoid morpheme absorption and consequential OCP violation. The argument is parallel to the Palauan case presented in the previous section. I will also explain why total assimilation takes place.

5.2 The Analysis

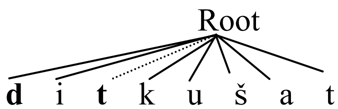
Semitic roots avoid adjacent homorganic consonants (Greenberg 1950, Frisch et al. 2004, Frisch and Zawaydeh 2001, McCarthy 1986, 1988, 1994). One class of such consonants are coronal obstruents. I formulate this restriction as an OCP constraint against adjacent coronal obstruents in the root domain.

[21] Other assimilations involving the [-ta-] infix include (i) regressive total assimilation when the infix is immediately followed by {d, T, s, S, z, š} (ḫi-**s**-sas instead of *ḫi-**t**-sas 'consider! (ms)' H 391), (ii) voicing assimilation after the first radical g (i-g-**da**-mar instead of *i-g-**ta**-mar 'he has finished' H 156), and (iii) nasal and glide assimilation where the initial radical n and w assimilate to [t] (i-**t**-**ta**-din instead of *i-**n**-**ta**-din 'he has delivered' C 79, i-**t**-**ta**-bal instead of *i-**w**-**ta**-bal 'he has carried away' C 79). The nasal and glide delete in word- initial position.

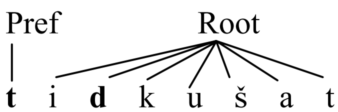
(29) OCP_{ROOT}(cor-obs)
Avoid adjacent coronal obstruents within the root domain.[22]

The proposal here is that infixes are absorbed by the root morpheme in the output, so infixes and roots form one domain for OCP evaluation. Prefixes, on the other hand, are outside of the root domain so prefixes and roots form two separate domains for OCP evaluation. OCP is violated when [-ta-] is an infix but satisfied when [-ta-] is a prefix. I propose that, in order to satisfy OCP within the root domain, prefixation takes place. This is shown below. The relevant affix and the coronal obstruent in the root are in bold font.[23]

(30) The Proposal
a. Infixation



b. Prefixation



Since infixes are contained in the root domain, infixed [–ta-], as in di-t-kušat (30(a)) violates OCP. Prefixed [ta-], as in t-idkušat (30(b)), satisfies OCP because prefixes are outside of the root domain. As in the section on Palauan, I will represent separate morphemes with separate bracketing.

For prefixation to occur, OCP must outrank a faithfulness constraint that militates against metathesis, called LINEARITY (McCarthy & Prince 1995, Horwood 2002). I assume that morphemes have linear relations in the input and, when the input infix becomes a prefix in the output, it incurs a violation of LINEARITY.[24]

(31) LINEARITY ("No Metathesis")
S_1 is consistent with the precedence structure of S_2, and vice versa.
If $x, y \in S_1$; $x', y' \in S_2$; $x\Re x'$ and $y\Re y'$; then $x < y$ iff $x' < y'$.

The ranking is given below followed by the relevant tableau.

(32) OCP_{ROOT}(cor-obs) >> LINEARITY

[22] The definition of OCP here is similar to Rose (2000) and McCarthy (1986) – intervening vowels do not count for the purposes of the OCP, but consonants do. Other OCP(coronal) restrictions are attested in Berber, Chumash, and English, among others (Bakovic to appear, Yip 1989).
[23] For representation of Semitic roots, see Gafos (1998), Graf (2004), Ussishkin (1999) or McCarthy (1986), Prunet et al. (2000) for an alternate view.
[24] See Horwood (2002), McCarthy (1989), and McCarthy (2003b) on the linear order of morphemes. In the following tableaux, I will assign a single violation to LINEARITY whenever an infix becomes a prefix. See Horwood (2002) on how to count violations of LINEARITY.

(33) Prefixation takes place

/**Si**-**ta**-butum]/	OCP$_{ROOT}$(cor-obs)	LINEARITY
a. [**Sit**butum]	*!	
☞b. [**t**][i**S**butum]		*

Candidate (a) violates OCP since the infix is absorbed by the root morpheme and there is another coronal obstruent in the root domain. Candidate (b) wins since it satisfies OCP. The prefix is outside of the root domain.

Similar cases are discussed in Yip (1998). Yip argues that extraposition in Classical Greek and Hindi takes place to avoid OCP violation. A constituent moves out of its original domain. Other similar cases include resolution of stress clash (Hayes 1995) and tone flop (Clements and Ford 1979).

5.3 Assimilation

There is another way in which OCP violations are repaired in Akkadian. When the [–ta-] infix and the coronal obstruent are adjacent, total assimilation takes place. The consonant in the infix assimilates in voicing, emphasis and stridency to the adjacent root obstruent. I will assume that total assimilation violates a faithfulness constraint against coalescence, called UNIFORMITY (McCarthy & Prince 1995).

(34) UNIFORMITY ("NO Coalescence")
No element of S_2 has multiple correspondents in S_1.

Since Akkadian shows both metathesis and total assimilation as repairs of OCP, we need to account for how the choice is made between them. I propose that it is better to assimilate than to metathesize, but assimilation is not always an option, and that is when metathesis takes place. To capture this idea I propose the following ranking:

(35) LINEARITY >> UNIFORMITY

This is illustrated in the following tableau.

(36) Total assimilation is favored over prefixation

/i-**z**$_1$-**t**$_2$**a**-kum/	LINEARITY	UNIFORMITY
☞a. [i**z**$_{12}$ **a**kum]		*
b. [**t**][i**za**kum]	*!	

Candidate (b) loses since it violates LINEARITY, the constraint against metathesis.

But total assimilation is not always an option. Here, I follow Gafos (1998, 1999) and assume that articulatory locality is a necessary condition for phonological assimilation. In CVC sequences the two consonantal gestures are not contiguous and thus, no Consonant-to-Consonant spreading takes place over a vowel. I call this constraint Articulatory Locality, A-Loc.[25]

(37) Articulatory Locality (A-Loc)
No C-to-C spreading across a vowel.

A-Loc compels violation of Linearity. That is, when assimilation is not an option, metathesis takes place.

(38) A-Loc >> Linearity

(39) Prefixation takes place when total assimilation is not an option

/**S**$_1$i-**t**$_2$**a**-butum/	A-Loc	Linearity
☞a. [**t**$_2$][i**S**$_1$butum]		*
b. [**S**$_1$i**S**$_2$butum]	*!	

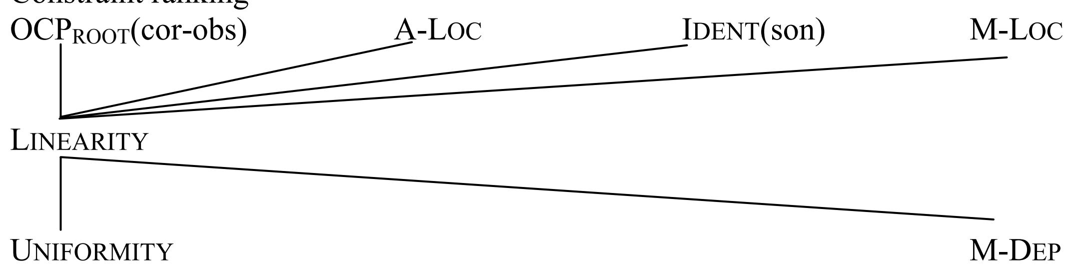
Candidate (b) loses since it violates locality.

Unlike in Palauan, in Akkadian the infix does not dissimilate to avoid OCP violation (/**S**i-**t**a-but/→***S**i**n**but). In terms of constraints, I propose that feature identity, Ident(sonorant), outranks Linearity so that it is more harmonic to re-order the morphemes than it is to dissimilate.

Finally, the infix could simply resist absorption, satisfy OCP and thus, avoid movement. To rule this out, I propose that the constraint against discontinuous morphemes, M-Loc, outranks Linearity. According to this ranking, it is more important to avoid a discontinuous morpheme than to avoid movement. Since not all infixes undergo metathesis, Linearity must outrank M-Dep. It is better to absorb the morpheme than to metathesize. But absorption is not an option when it would necessitate dissimilation.

The following constraint ranking has been established in this section. This is followed by summary tableaux.

(40) Constraint ranking



[25] See also Gafos & Lombardi (1999), NiChiosain & Padgett (1997, 2001), and Walker (2000a). Gafos & Lombardi (1999) show that some consonantal gestures can propagate over a vowel, as long as they do not conflict with the articulation of the intervening vowel. See also Walker (2000ab), Walker & Rose (2004) for non local C-to-C assimilation as copying.

(41) Summary tableaux

I: /**S**i-**ta**-butum/	OCP$_{RT}$	ALOC	ID(son)	MLOC	LINEARITY	UNIFORMITY	MDEP
a. [**S**i**t**butum]	*!						*
☞b. [**t**][i**S**butum]					*		
c. [**S**i**S**butum]		*!				*	*
d. [**S**i**n**butum]			*!				*
e. [**S**i[**t**]butum]				*!			

II: /i-**z**-**ta**-kum/	OCP$_{RT}$	ALOC	ID(son)	MLOC	LINEARITY	UNIFORMITY	MDEP
a. [i**zta**kum]	*!						*
b. [**t**][i**za**kum]					*!		
☞c. [i**zza**kum]						*	*
d. [i**zna**kum]			*!				*
e. [i**z**[**ta**]kum]				*!			

III: /i-š-**ta**-kan/	OCP$_{RT}$	ALOC	ID(son)	MLOC	LINEARITY	UNIFORMITY	MDEP
a. [iš[**ta**]kan]				*!			
b. [**t**][išakan]					*!		
☞c. [iš**ta**kan]							*

As shown in the above tableaux, infixes metathesize in order to avoid morpheme absorption and consequential OCP violation (tableau I). When the infix and the coronal obstruent are adjacent, the consonant in the infix assimilates to the obstruent (tableau II). When OCP is satisfied, infixes are absorbed by the root morpheme in the output (tableau III). In summary, to avoid adjacent coronal obstruents within the root domain, either total assimilation takes place, or [–ta-] becomes a prefix. Prefixation takes place when total assimilation is not an option. This analysis gives further evidence for the different morphological affiliation of identical prefixes and infixes.

6. Conclusion

In this article, I have analyzed data from Palauan and Akkadian where identical infixes and prefixes respond differently to feature cooccurrence restrictions on the root domain. In Palauan, infixes dissimilate while identical prefixes do not. In Akkadian, an infix becomes a prefix. From this analysis the following typology has emerged:

(42) OCP-driven alternations

Palauan:	OCP-ROOT, LINEARITY >> IDENT	Dissimilation	Section 4
Akkadian:	OCP-ROOT, IDENT >> LINEARITY	Metathesis	Section 5

To explain the asymmetry between identical infixes and prefixes, I have argued that infixes are part of the output root morpheme and thus respond to OCP while prefixes are outside of the root domain and thus not subject to OCP. In this proposal, infixes become part of the resulting root morpheme via a process of morpheme absorption.

I have also developed an OT analysis of morpheme absorption. A markedness constraint against discontinuous morphemes, MORPHEME LOCALITY, interacts with a morphological faithfulness constraint, MORPHEME DEPENDENCY. Morpheme absorption takes place when the markedness constraint outranks the faithfulness constraint, thus compelling a single morphological affiliation of contiguous segments in the output.

This work builds on research begun by others, where a certain amount of information about morphology is retrievable from the phonology (see references in Section 3). In this article, similarity avoidance gives evidence for the morphological structure of an infix. It also contributes to the line of research whereby morphological structure can be altered in the output.

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