Infixation as Emergence of the Unmarked

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Basic Idea

Infixes are really prefixes or suffixes,
which migrate into the base
for phonological reasons

2 types of infixing:

- ▶ infixation to optimize syllable structure

- ▶ infixing by attraction
  of strong prosodic positions

Syllable-Optimizing Infixation in Ilokano

Stem	**um-Form**	
isem	**um**isem	'(threaten to) smile'
kagat	k**um**agat	'(threaten to) bite'

um is . . .

- ▶ . . . a prefix with V-initial stems

- ▶ . . . an infix with C-initial stems

Basic Ideas

- ▶ Prefixes and suffixes differ by morpheme-specific Alignment constraints

- ▶ Coda avoidance ≫ Left-Alignment

- ▶ **If necessary:** Minimal infixation to avoid coda

- ▶ **Otherwise:** Prefixation

Prefixes and Suffixes by Alignment

un-happy	mercy-**less**
un-true	penny-**less**
un-kind	power-**less**

ALIGN(**un**,L,WD,L)   The left edge of **un** should be as close
                        as possible to the left edge of a word

ALIGN(**less**,R,WD,R)   The right edge of **less** should be as close
                        as possible to the right edge of a word

Prefixes and Suffixes by Alignment

un-happy   mercy-**less**
un-true   penny-**less**
un-kind   power-**less**

ALIGN(**un**,L,WD,L)   Count 1 violation for every segment
                            between the left edge of **un**
                            and the left edge of a word

ALIGN(**less**,R,WD,R)   Count 1 violation for every segment
                            between the right edge of **less**
                            and the right edge of a word

Prefixes and Suffixes by Alignment

Input: { un, kind }

		ALIGN(**un**,L,WD,L)
☞	a. un-kind	
	b. kind-un	*!***

Input: { less, mercy }

		ALIGN(**bar**,R,WD,R)
	a. less-mercy	*!***
☞	b. mercy-less	

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Prefixes and Suffixes by Alignment: More Candidates

Input: { un, kind }

		ALIGN(un,L,WD,L)
☞	a. **un**-kind	
	b. k-**un**-ind	*!
	c. ki-**un**-nd	*!*
	d. kin-**un**-d	*!**
	e. kind-**un**	*!***

Syllable-Optimizing infixation in Ilokano

Input: { um, isem }

		ALIGN(um,L,WD,L)
☞	a. **um**-isem	
	b. i-**um**-sem	*!
	c. is-**um**-em	*!*
	d. ise-**um**-m	*!**
	e. isem-**um**	*!***

Input: { um, kagat }

		ALIGN(um,L,WD,L)
☞	a. **um**-kagat	
☛	b. k-**um**-agat	*!
	c. ka-**um**-gat	*!*
	d. kag-**um**-at	*!**
	e. kaga-**um**-t	*!***
	f. kagat-**um**	*!****

Syllable-optimizing Infixation in Ilokano

Input: { um, isem }

	|| NoCoda	Align(um,L,Wd,L)
☞	a. **u.m**i.sem || *	
	b. i.**um**.sem || *!*	*
	c. i.s**u.m**em || *	*!
	d. i.se.**um**m || *	*!**
	e. i.se.m**um** || *	*!***

Input: { um, kagat }

	|| NoCoda	Align(um,L,Wd,L)
	a. **um**.ka.gat || **!	
☞	b. k**u.m**a.gat || *	*!
	c. ka.**um**.gat || **!	**
	d. ka.g**u.m**at || *	*!**
	e. ka.ga.**um**t || *	*!***
	f. ka.ga.t**um** || *	*!****

Infixation as Prosodic Attraction

Central Idea:

Specific affixes are attracted by
prosodically 'strong' positions

(e.g. stressed syllable, most prominent foot of a word)

Infixation as Prosodic Attraction (Ulwa)

su:lu	'dog'
su:-**ki**-lu	'my dog'
su:-**ma**-lu	'thy dog'
su:-**ka**-lu	'his/her dog'
su:-**ni**-lu	'our (incl.) dog'
su:-**kina**-lu	'our (excl.) dog'
su:-**mana**-lu	'your dog'
su:-**kana**-lu	'their dog'

Infixation as Prosodic Attraction (Ulwa)

after the 1. σ

bas	bas-**ka**	'hair'	
ki:	ki:-**ka**	'stone'	**if the 1.** σ **is heavy**
su:lu	su:-**ka**-lu	'dog'	
asna	as-**ka**-na	'clothes'	

after the 2. σ

sana	sana-**ka**	'deer'	
amak	amak-**ka**	'bee'	
sapa:	sapa:-**ka**	'forehead'	**otherwise**
kululuk	kulu-**ka**-luk	'woodpecker'	
ana:la:ka	ana:-**ka**-la:ka	'chin'	
karasmak	karas-**ka**-mak	'knee'	

Generalization

after the 1. σ

(bás)	bas-**ka**	'hair'
(kí:)	ki:-**ka**	'stone'
(sú:)lu	su:-**ka**-lu	'dog'
(ás)na	as-**ka**-na	'clothes'

after main stress

after the 2. σ

(saná)	sana-**ka**	'deer'
(amák)	amak-**ka**	'bee'
(sapá:)	sapa:-**ka**	'forehead'
(kulú)luk	kulu-**ka**-luk	'woodpecker'
(aná:)la:ka	ana:-**ka**-la:ka	'chin'
(karás)mak	karas-**ka**-mak	'knee'

(after the head foot)

Alignment Constraint

ALIGN-TO-FOOT (Ulwa)

ALIGN([POSS]$_{Af}$, L, Ft', R)

The left edge of possessive affixes
should coincide with the right edge of a foot,
which is the head of a prosodic word

ALIGN-TO-FOOT: In and Out

	ALIGN-TO-FOOT
a. (bas)-ka	✔
b. (amak)-ka	✔
c. (su:)-ka-lu	✔
d. (sana)-ka	✔

	ALIGN-TO-FOOT
a. (su:)lu-ka	*
b. (siwa:)(nak)-ka	*
c. (ana:)(la:)ka-ka	*

Exceptional Suffix-Poss

'In about 10% of the nouns collected . . .,
-ka- is an actual suffix on a word
that is longer than a single iambic foot:

gobament-**ka**	'government'
abana-**ka**	'dance'
bassirih-**ka**	'falcon'
ispiri-**ka**	'elbow'

Of these, about 2/3 have doublets
where ka is infixed as expected:
bas-**ka**-sirih, is-**ka**-piri.' (McCarthy & Prince, 1993:31)

-ka as a Suffix

ALIGN-IN-STEM

ALIGN([POSS], R, Stem, R)

The right edge of possessive affixes
should coincide with the right edge of a stem

Lexicallly Triggered Reranking

		ALIGN-IN-STEM	ALIGN-TO-FOOT
☞	a. (go.ba).ment-**ka**		*
	b. (go.ba)-**ka**-ment	*!	

		ALIGN-TO-FOOT	ALIGN-IN-STEM
	a. (si.wa).nak-**ka**	*!	
☞	b. (si.wa)-**ka**-nak		*

Um vs. ag in Ilokano

Stem	**um-Form**	
isem	**um**isem	'(threaten to) smile'
kagat	k**um**agat	'(threaten to) bite'

Stem	**ag-Form**	
isem	**ag**-isem	'smiles (really)'
kagat	**ag**-kagat	'bites (really)'

⇨   **ag** doesn't infix even though
    its syllable structure is identical to **um**

Consequence

Although **um** as well as **ag** are prefixes
they are subject to different Alignment Constraints:

$\text{NOCODA} \gg \text{ALIGN}(\text{um,L,WD,L})$ ⇨   infixation

$\text{ALIGN}(\text{um,L,WD,L}) \gg \text{NOCODA}$ ⇨   no infixation

⇨   requires morpheme-specific
     (and also language-specific) constraints

⇨   Contradiction to core principles of OT