

## ***The Issues***

- **How are word-internal morphemes ordered?**
- How does the grammar **distinguish** between **prefixes** and **suffixes**?

## ***The Aim***

**To present a theory**

- in which **Direction of Attachment** is a **Property of Affixes**,
- ... **Not of Constraints** (*cf McCarthy & Prince 1993*)
  - but still set within Optimality Theory

# The Theory

## ➤ Background:

A *string* is a set of positions that map onto features:

	Features:	k	æ	t
/k æ t/ 'cat' =				
	Positions:	1	2	3

## (II) Proposal:

➤ **Not all input positions have to map onto features:**

	Features:	Λ	n	
/Λ n □/ 'un -' =				
	Positions:	1	2	3

➤ But all output positions must map onto something.

➤ Correspondence Constraints determine how the output mapping takes place.

# Implementation

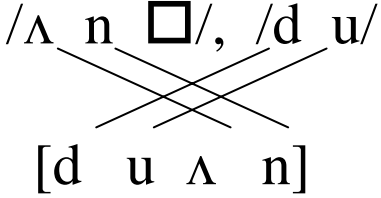
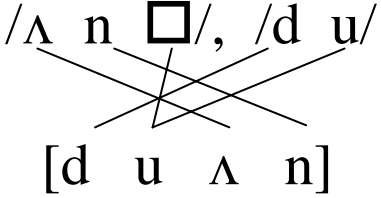
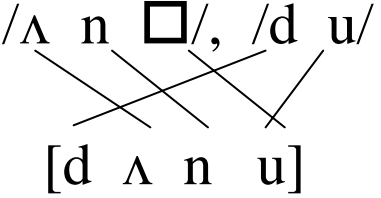
**Input:** *un-*, *do*: / $\Lambda$  n  $\square$ /, /d u/

**Output:** [ $\Lambda$  n d u]

➤ This is the *most harmonic* output:

- ☐ All input positions have output correspondents
- ☐ No featural material is lost

## Failed Candidates:

<p style="text-align: center;">/<math>\Lambda</math> n <math>\square</math>/, /d u/    [d u <math>\Lambda</math> n]  - <math>\square</math> does not correspond to anything!  <i>MAX violation</i></p>	<p style="text-align: center;">/<math>\Lambda</math> n <math>\square</math>/, /d u/    [d u <math>\Lambda</math> n]  - Order is not preserved:  <math>\square</math> follows /n/ in the input, but precedes it in the output.  <i>LINEARITY violation</i></p>	<p style="text-align: center;">/<math>\Lambda</math> n <math>\square</math>/, /d u/    [d <math>\Lambda</math> n u]  - Adjacency is not preserved:  /d/ and /u/ are adjacent in the input, but not in the output.  <i>CONTIGUITY violation</i></p>
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# Consequences

## (I) The Prefix-Suffix Asymmetry

If a language has prefixes it also has suffixes, but not vice-versa.

(Greenberg 1957, 1966; Hawkins & Gilligan 1988; Bybee, Pagliuca, and Perkins 1990; Hall 1992)

↪ *Positional Faithfulness*: Correspondence Constraints can refer to *Root-Initial* position, but not *Root-final* position (Beckman 1998, and others).

↪ Prediction: UNIFORMITY-1: “A root-initial segment cannot have more than one input correspondent.”

The ranking  $||\text{UNIFORMITY-1} \gg \text{LINEARITY}||$  means that underlying **prefixes** will surface as **suffixes**:

↪ Root: /piki/, Affix: /ta□/ (*only relevant correspondence relations are shown*)

$/t a \square_1 /, /p_2 i k i_3/$	UNIFORMITY-1	LINEARITY
☞ $t a p_{1,2} i k i$	x!	
$p i k i_{3,1} t a$		x

... but **underlying suffixes** will surface as **suffixes**:

☞ Root: /piki/, Affix: /□ta/

$/\square_1 t a /, /p_2 i k i_3/$	UNIFORMITY-1	LINEARITY
$t a p_{1,2} i k i$	x!	x!
☞ $p i k i_{3,1} t a$		

☞ There is no ranking that bans suffixes and allows prefixes.

## (II) The Affix Ordering Generalisation

Class II Affixes cannot appear closer to the Root than Class I affixes

\*Af<sub>I</sub>+Af<sub>II</sub>+Root (no direction implied) (Siegel 1974)

e.g. \*in<sub>I</sub>-non<sub>II</sub>-legible, \*tender-ness<sub>II</sub>-ous<sub>I</sub>

- Constraints on class II affixes outrank constraints on class I affixes (Benua 1997).
- Therefore, || UNIFORMITY-CLASS II » UNIFORMITY-CLASS I ||
- UNIFORMITY-I(I): “If  $x$  is an output position and  $x$  belongs to a class I(I) affix,  $x$  must not correspond to more than one input element.”
- ❖ *ness* (II) + *ous* (I)

$/\square_1 n \text{ ə } s_2 /, / \square_3 \text{ ə } s_4 /, \text{Root}$	UNIFORMITY-II	UNIFORMITY-I
(a) $\text{Root}_{\underline{1}} n \text{ ə } \underline{s}_{2,3} \text{ ə } s_4$	x x!	x
☞ (b) $\text{Root}_{\underline{3}} \text{ ə } \underline{s}_{4,1} n \text{ ə } s_2$	x	x x

- ❖ This shows that the order [Root+class I + class II] *harmonically bounds* the order [Root+class II+class I].
- ❖ Therefore, class II affixes will never appear between class II affixes and the root.

===== *The End* =====