

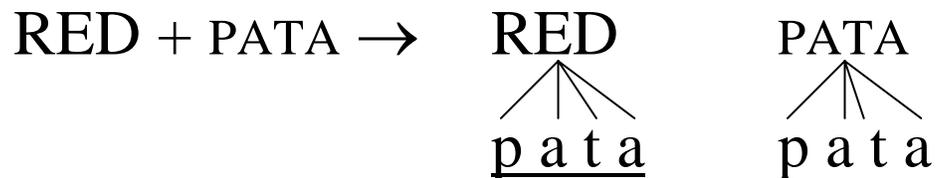
## **THE QUESTION:**

**What if a morpheme has no  
underlying phonological  
material?**

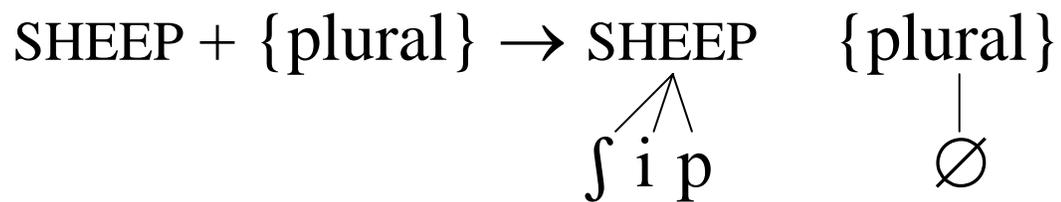
**What happens to it?**

## *Options:*

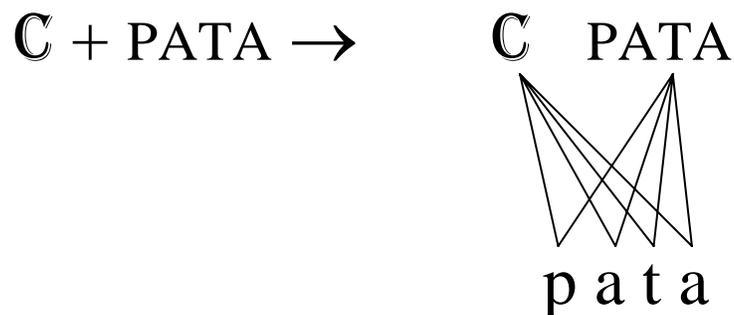
1. **COPY**: i.e. reduplication:



2. **REMAIN EMPTY**: i.e. zero morphs:



3. **COALESCE**: an (as yet) unexplored alternative:



## **Aim: To Explore the Consequences of Coalescing Morphemes...**

### **Issues:**

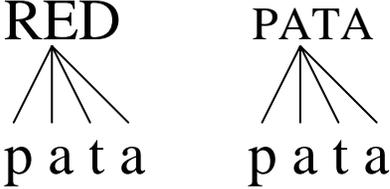
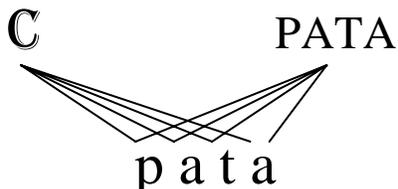
- **What phonological consequences can **C** have?**
- **How can we tell if **C** is present?**

## Preliminaries:

### Implementation in Optimality Theory

How do we get Coalescing Morphemes **C**?

➤ How are *copying* and *coalescence* different?

<p>(1) Copying:</p> 	<p>(2) Coalescence:</p> 
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Answer:

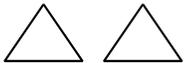
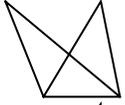
➤ Copying results in *more material* than coalescence, violating \*STRUC “Don’t have segments” more.

➤ Coalescence results in violations of

MORPHDIS:

“An output segment can belong to only one morpheme.”

So, the coalescence ranking is:

$\mathbb{C} + \text{pata}$	*STRUC	MORPHDIS
$\mathbb{C}$ PATA  patapata	X X X X!	
 $\mathbb{C}$ PATA  pata		X X X X

This is a lot like morphological haplology. In fact,  $\mathbb{C}$  can be seen as a reduplicant that has fully haplogized with its base:

Reduplication: pata +  $\mathbb{C}$  → patapata

Haplology: patapata → pata

## Lengthening in Maori

Vowel Lengthening happens in many places in

Maori:

- reduplication,
- some passivizations and nominalisations,
- and even on its own.

It always has the same character:

$CVCVCV \rightarrow CV:CVCV$

### 1. Lengthening Alone:

(I) Plural Formation:

taŋata ‘man’      → ta:ŋata ‘men’

matua ‘parent’      → ma:tua ‘parents’

## (II) Other Processes:

koneke	‘(v) slide along’	→	ko:neke	‘(n) sledge’
maru:	‘(v) rumble, reverberate’	→	ma:ru:	‘(adj) low in tone’
takai	‘(v) wrap up’	→	ta:kai	‘(n) bandage’

### PrWds in Maori:

- A PrWd boundary occurs at every Root Edge:

poro ‘cut’ + pepa ‘paper’ →

[poro]<sub>PrWd</sub>[pepa]<sub>PrWd</sub> ‘guillotine’

This is only blocked if an affix is too small to form a PrWd on its own:

$\sigma_{\mu}$  RED + kino → [kikino]<sub>PrWd</sub>, \*[ki:]<sub>PrWd</sub>[kino]<sub>PrWd</sub>

patu + {passive} → [patua]<sub>PrWd</sub>, \*[patu][a:]<sub>PrWd</sub>

*cf*

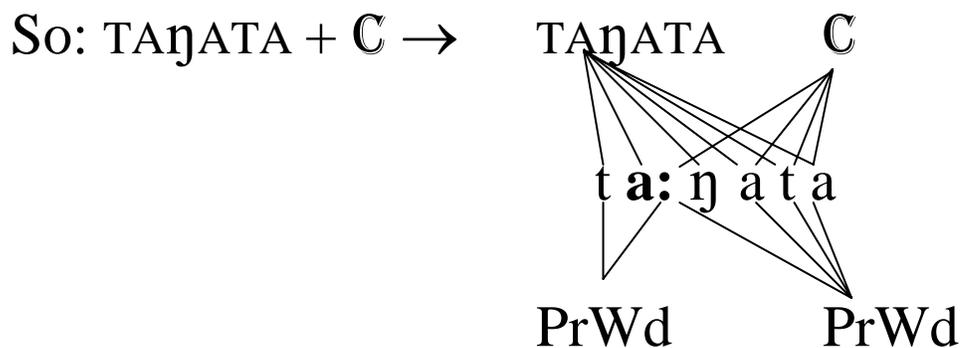
{Causative}+hoki → [faka]<sub>PrWd</sub>[hoki]<sub>PrWd</sub>

These facts explain lengthening...

## Proposal:

- There is a ‘coalescing morpheme’  $\mathbb{C}$ .
- It is a morphological *Root*.
- Because it is a Root, it must be a MinWd in size: i.e. bimoraic.
- Because it is a Root, there must be a PrWd boundary at its left edge.

Only the following structure will satisfy these requirements...



- Only this structure has PrWd boundaries at all Root edges.

- *ta* has to lengthen to *ta:* to satisfy the requirement that PrWds have two moras.
  
- Q: Why does **C** only coalesce with [ɲata] and not [taɲata]?
  
- A:
  - (1) **C**'s *size* is determined by constraints on root size (e.g. STEM=PRWD, FTBIN) which conspire to make it a foot in size.
  
  - (2) **C**'s *position* is determined by ANCHOR constraints, just like those used for reduplicants.

### **Alternatives:**

- What if plural formation simply required words to be fully parsed into feet?

This would get the right results:

taŋata → (ta:)(ŋata)

Of course, we would have to explain why the leftmost vowel always lengthened. But, putting this aside, why not?...

## Reduplication

There are Six reduplicants in Maori:

Size	Prefixed	Infixed
$\sigma_\mu$	<u>p</u> apaki, <u>h</u> ohoata	taweke → ta: <u>w</u> eweke
$\sigma_{\mu\mu}$	<u>ka</u> :kaho	kapiti → ka: <u>pi</u> :piti
Ft	<u>paki</u> paki, <u>para</u> parau	matuku → ma: <u>tuku</u> tuku

➤ How do we explain the INFIXED Sort?

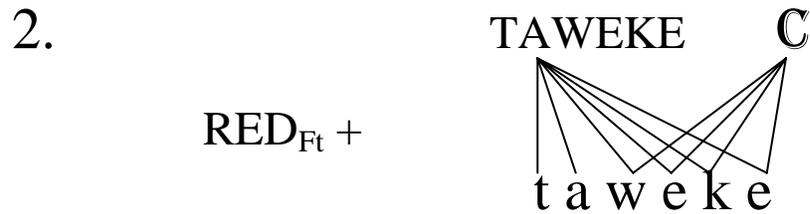
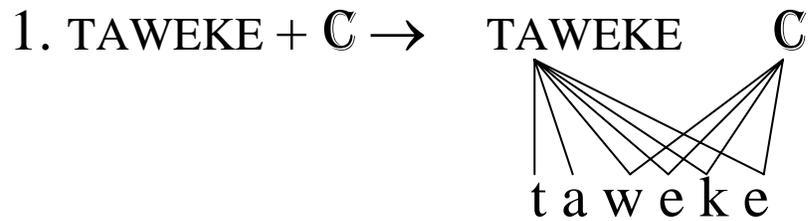
➤ Leading Ideas:

❖ The **infixes** are actually **prefixes**.

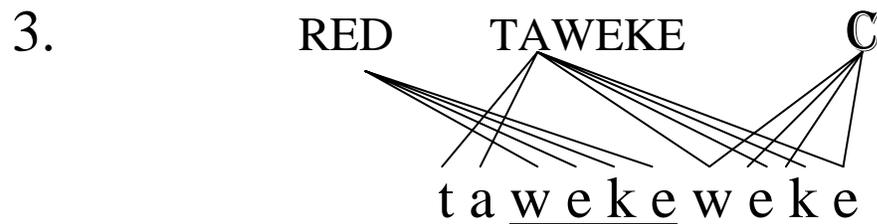
❖ Reduplicants prefix to **C**.

➤ Implementation:

For clarity, in a serial derivation style:



- RED MUST ATTACH TO C ..... SO:

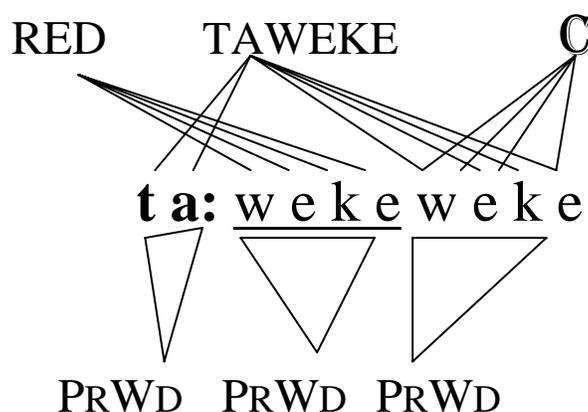


#### 4. FINAL STEP:

- In Maori, a PrWd boundary must appear at the left edge of every Root.

➤ RESULT: *LENGTHENING*:

5.



#### ALTERNATIVES: WHY DO IT THIS WAY?

- Q: Why not say there is a condition that all morphemes be parsed into feet?

A: RED- $\sigma_{\mu}$  + taweke  $\rightarrow$  ta:weke [(ta:)(wewe)ke]...

- ❖ Not all segments get parsed into feet in this form.
- ❖ Why not \*[(tata)(weke)]<sub>PrWd</sub> – i.e. separate the form into two PrWds?
- ❖ or [(tata)weke]<sub>PrWd</sub>

❖ or [(tawe)]<sub>PrWd</sub>[(keke)]<sub>PrWd</sub> ?

➤ Q: Why can't we say that this is simply prefixing to the head foot (As in e.g. Samoan)?

➤ A: Stress in Maori usually falls on the leftmost syllable. i.e. /taweke/ → (táwe)ke

If RED prefixed to the head foot, we would expect \*tawetaweke, not tawekeweke.

➤ Q: Isn't this just resurrecting circumscription?

Hasn't circumscription been explained in OT by constraint conflict (McCarthy 1997, etc.)?

➤ A: This is resurrecting circumscription in a limited way. But necessarily...

➤ Maori circumscription picks out a constituent that does not occur in the base form: i.e. you do not pick out the head foot of [(táwe)ke] and apply an operation to it. Instead, you have to parse out a rightmost foot, ignoring the base's footing.

- This ‘picking out’ circumscription is difficult to deal with in OT (McCarthy 1997).
- McCarthy (1997) deals with this by appealing to constraints that require identity of prosody and prosodic role.
- The problem: the Base and Reduplicant can have entirely different prosodic structure:
  - ❖ In [ta:][(wéwe)ke], the prosodic structure over the reduplicant *we* is entirely different to that of the base *weke*.
  - ❖ Identity of prosodic structure is almost impossible in this form: other plausible candidates: [(táta)weke], [(táwe)][(kéke)]. The first of these harmonically binds [ta:][(wéwe)ke].



or (ii)  $x$  is separated from  $y$  by the most minimal string satisfying (1).

This definition captures the idea that the Base is the *closest string* to the reduplicant that is not the reduplicant itself.

## **REFERENCES**

- de Lacy, Paul. 1996. "Circumscription Revisited: An Analysis of Maori Reduplication." Rutgers Optimality Archive #133.
- McCarthy, John. 1997. "Faithfulness and Prosodic Circumscription." Rutgers Optimality Archive #201.