Morphology class 4: Reduplication


5.1 Introduction

Example (1) or Papago (South central Arizona. 60 villages on 7 reservations. Also spoken in Mexico) plural formation:

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>bana</td>
<td>ba:bana 'coyote'</td>
</tr>
<tr>
<td>bahi</td>
<td>ba:bhai 'tail'</td>
</tr>
<tr>
<td>to:na</td>
<td>to:tona 'knee'</td>
</tr>
<tr>
<td>tfiho</td>
<td>tfi:ho 'cave'</td>
</tr>
</tbody>
</table>

Reduplication both shares aspects of ‘regular’ affixation and diverges from it in important aspects.

Remark: in one aspect reduplication is not like affixation.

*Base+Sfx+Reduplicant


Reduplication can be total (in which case it may be impossible to tell whether it is prefixing or suffixing reduplication) or partial. In case it is partial, the reduplicant is defined in terms of prosodic categories, such as syllable, foot, etc.

Remark: If reduplication is total, it cannot be defined in terms of a prosodic category; instead it must be defined in terms of a morphological category.

Never:  
badupi → ha:badupi  
bladupi → bi:labadupi  
adupi → ad:adupi

“Mapping onto the template”: McCarthy & Prince 1986: Prosodic Morphology. E.g. Hungarian diminutive names (‘hipochoristics’).

Template:  

<table>
<thead>
<tr>
<th>F</th>
<th>Map these names:</th>
</tr>
</thead>
<tbody>
<tr>
<td>σ</td>
<td>Andrea</td>
</tr>
<tr>
<td>σ</td>
<td>Zsuzsanna Kálmán</td>
</tr>
<tr>
<td>1</td>
<td>Imre Albert</td>
</tr>
<tr>
<td></td>
<td>Viktória Lilla</td>
</tr>
<tr>
<td></td>
<td>Gabriella Eva</td>
</tr>
</tbody>
</table>

This “mapping” can also apply to reduplication. In the mapping process, marked phonological material is often eliminated (e.g. clusters, codas, complex segments, vowel length, geminates). That is, the unmarked emerges. (McCarthy & Prince 1994) (E.g. recall Axininca Campa osampi-sampi, where the ONSET violation is repaired in the R)

One proposal: cancellation of marked properties (Steriade) (5)

Optimality Theory: The Basic Model

`/input/ + RED`  
[output] + [reduplicant]  
Base-Reduplicant Identity

(cf. (10))

over/underapplication. Recall the copying of the augmented material in Axininca Campa: naTa-raTa-waiTaki

Identity constraint (7). Compare Reduplicant = Base

Reduplicant is not a morphological category! Reduplicant has a number of segments, but it is not a phonological category (although it has phonological structure)? An inserted segment does belong to the reduplicant but not to Stem, for instance.

Reduplication is prefix/suffix/infix 'internal reduplication' (13)

Correspondence constraints: MAXIMALITY, DEPENDENCE, IDENTITY

(17) MAX(BR)

Every element in B has a correspondent in R

If elements are deleted from the Reduplicant that were in the Base, this constraint is violated.

Note: They don’t have to be identical correspondents, e.g. (15d) satisfies MAX.

If a Markedness constraint (e.g. NoCODA (19)) dominates MAX(BR) partial reduplication may be the result. If, additionally, an IO-faithfulness constraint (e.g. MAX-IO (21)) dominates the markedness constraint, violating marked structures in the input are preserved.

Ref:  
TETU: The Emergence of the Unmarked: even in languages that permit closed syllables, the effects of a (universal) markedness constraint may come out in circumstances like reduplication.

(22) **DEP**(BR)
    Every element in R has a correspondent in B

If segments are added to the Reduplicant that are not in the Base, this constraint is violated. E.g. (23); analysis is unclear.

(24) **IDENT-BR[F]**
    Let α be a segment in B, and β be a correspondent of α in R.
    If α is [f], then β is [f]

If segments change in reduplication, this constraint is violated. E.g. [m] in the R can be a correspondent of [n] in the B. Such a situation satisfies **MAX** and **DEP**, but violates **IDENT**.

Recall the paradigmatic constraints of Pulleyblank on segmental structure. Some segments are more marked than others. In reduplication the unmarked segments also come out on top. Ex. (25, 29). Another example:

Chaoyang onomatopoeia (Yip 2001: 209) [no glosses given]

\[
\begin{align*}
\text{ki} & \text{ki}a \\
\text{ti} & \text{tok} \\
\text{tsi} & \text{tsia} \\
\text{pin} & \text{pin} \\
\text{ki} & \text{kiak} \\
\text{kn} & \text{kom} \\
\text{hi} & \text{hop}
\end{align*}
\]

All vowels in the R are /i/. Analysis: **LABDORS** (It’s better to have an /i/ as a nucleus than /a/).

Note: (29d), which eliminates markedness in the B but not in the R, violates all constraints: it can never win, under no constraint ranking. In no language. This is a prediction that rule-based frameworks could never make.

5.2.4 **ANCHORING** and **CONTIGUITY**

ANCHORING is violated in Sanskrit reduplication: ka-skanda (35)

The left edge of the (prefixing) reduplicant is not the left edge of the Base

CONTIGUITY is violated in Sanskrit reduplication: pa-prat’a (“NoSkipping”) (39)

The reduplicant does not form a contiguous substring of the Base

(43) **general ranking schema for TETU effects in reduplication**

5.3 General template theory (GTT)

Prosodic, morphological and Reduplication notions are all available in the output, and constraints can refer to these all at the same time. In this sense, constraints like **RSROOT**, **SFX-TO-PrWd**, **R=SFX** (v. Axininca Campa) are expected.

Same for (48) **RED=σµµ**

GTT tries to do away with such stipulations; but derives constraints on reduplicants on independent constraint rankings of the language. Ex.: Diyari: all syllables are light; then also reduplicated syllables are light: You don’t have to stipulate the form of the reduplicant.

5.4 From circumscription to alignment

Data in (63) McCarthy & Prince 1990: “Prosodic circumscription” (cf. extrametricality in stress)

Here: Alignment of **RED** with a Prosodic category (69)

5.6 Over- and underapplication

5.6.2. Normal application in Washo

(84) *VOICED-CODA* (like Russian, Polish, Dutch)

5.6.3 Overapplication on Malay

Vowels after nasal consonants are always nasal. This is achieved by constraints (92-94). See (96, 97).

Overapplication is a result of high-ranking **BR-identity**: (98), (100)

5.6.4. Underapplication in Japanese

(108) **NOVOICEDVELARSTOPS**

(109) No word-initial velar nasals
(113) gara-gara ‘rattle’

Underapplication is the result of the blocker constraint (109), which blocks the creation of velar nasals. Since the B and R have to be similar if IDENT-BR ranks high, the process unexpectedly does not apply: (111, 112, 117).

Here the Reduplicant is kept identical to the Base. The Base can also be altered to keep resembling the Reduplicant.

5.6.5. Back-copying: Southern Paiute

Note: exercises.
For this course you need to write a short essay. You might consider doing one of these exercises to get you started. In that case, be sure to look up additional literature on the languages involved.

Golston & Thurgood, Reduplication as Echo: Evidence from Bontok and Chumash

Bontok: Philippines
Chumash: Native American (Southern California, extinct)

Interest:
- data
- critique of “Basic Model”, given above, esp. BR-constraints
- type of solution

Bontok: three types of reduplications: see (1):
- light syllable
- heavy syllable
- a whole foot (two syllables)

Chumash: monomorphemic reduplicants!
(every language will have this to some extent, e.g. English etc.) *mama, papa;* or word-internally e.g. *haplolepy*

§ 3.3: an entirely new set of constraints is needed for reduplication. Since these constraints are tentatively universal, they could show effects in all languages, which leads to a number of false predictions.

§ 5: Important: “Desiderata”, see (33).
Insight: to say anything you require to violate some constraints (“Communication burns calories”, § 5.2). Underlying forms can thus be understood as sets of constraints that you must violate to get a particular meaning across. One of these constraints can be *Echo*; now see tableau (41).