

- Safir, Ken. 1983. Small clauses as constituents. *Linguistic Inquiry* 14: 730–735.
- Stowell, Tim. 1981. Origins of phrase structure. Doctoral dissertation, MIT, Cambridge, Mass.
- Stowell, Tim. 1983. Subjects across categories. *The Linguistic Review* 2/3:285–312.

A-TEMPLATIC REDUPLICATION
Diamandis Gafos
Haskins Laboratories/Yale
University

In this squib I discuss an unusual type of reduplication in which the reduplicant varies not only in terms of its phonemic composition but also in terms of its prosodic shape. The variability in the shape of the reduplicant results from a grammar that does not impose any constraint particular to the shape of the reduplicant per se. Further, I demonstrate that even in cases where the reduplicant is shape invariant, this shape may also arise from a grammar that does not impose a constraint on the form of the reduplicant. In both cases all relevant aspects of the reduplicant's realization arise from constraints that apply to the language in general.

1 Templatic Reduplication

In the theory of word formation, the program of Prosodic Morphology (McCarthy and Prince 1986) has established that grammatical categories, usually in the domain of root-and-pattern and reduplicative morphology, are often expressed by invariant prosodic shapes or *templates*. The central claim of the program, known as the Prosodic Morphology Hypothesis, is that these “[t]emplates are defined in terms of the authentic units of prosody: mora (μ), syllable (σ), foot (F), prosodic word (PrWd)” (McCarthy and Prince 1995b:318).

There are two well-documented species of templatic specification: templatic specification of the affix and templatic specification of the base. Templatic specification of the affix is found in ordinary reduplication, where the morphology imposes an invariant shape on the reduplicative affix (Marantz 1982). In Ilokano, for example, the morphological category carrying the meaning ‘covered/filled with a *Noun*’ is expressed by prefixing a reduplicant specified to be a light syllable, as in (1a). Compare this with the heavy syllable template of the reduplicant in the plural, as in (1b). Data are drawn from McCarthy and Prince 1995b; McCarthy and Prince cite Hayes and Abad 1989 as their source.

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- (1) a. Affix σ_{μ} Base *si* + σ_{μ} + base
 bu.neŋ **si-bu**-bu.neŋ ‘carrying a buneng’
 jya.ket **si-jya**-jya.ket ‘wearing a jacket’
- b. Affix $\sigma_{\mu\mu}$ Base $\sigma_{\mu\mu}$ + base
 pu.sa **pus**-pu.sa ‘cats’
 kal.diŋ **kal**-kal.diŋ ‘goats’

The second species of templatic specification, base templaticism, is illustrated in (2). In forming the plural and diminutive forms of Arabic nouns, the morphology imposes a light-heavy bisyllabic template, an iambic foot, on the (left side of the) singular noun base, as shown by the boldface portions of the forms (McCarthy 1979, 1993, McCarthy and Prince 1990).

- (2) Singular Plural Diminutive
- | | | | |
|--------|-----------------|-----------------|--------------|
| ħukm | ħakaam | ħukaym | ‘judgment’ |
| ʕinab | ʕanaab | ʕunayb | ‘grape’ |
| šaaɡil | šawaagil | šuwayɡil | ‘engrossing’ |
| jundub | janaadib | junaydib | ‘locust’ |

Note, however, that the Prosodic Morphology Hypothesis does not state that *every* morphological category has a templatic target. Rather, the claim is that *if* there is a templatic target, *then* that target should be expressible in terms of the units of prosody. As expected, then, there are also cases where the morphology specifies no template at all. As an illustration, consider the different shapes of some verbal stems in Yawelmani Yokuts, given in (3) (McCarthy and Prince 1995b, Archangeli 1991). The heavy σ and iamb foot shapes, shown in the second and third columns, are instances of templaticism imposed on the left side of the output (in boldface).

- (3)
- | | No template | Heavy σ | Iamb | |
|-----------------------|-------------|----------------|---------------|----------|
| Shapes of biliterals | CvC | CvC | CvCv | |
| | c`um | c`uum | c`umuu | ‘devour’ |
| Shapes of trilaterals | CvCC | CvCC | CvCvC | |
| | hiwt | hiiwt | hiwiit | ‘walk’ |

Prince (1990) argues that the system instantiates a third option, the CvC(C) shape shown in the first column, which “is just the minimal prosodic expression of the Yawelmani root” (p. 383). For the verbs that appear in the first column, then, the morphology itself imposes no template at all, a state of affairs known as *a-templaticism* (McCarthy 1993). Other examples of a-templaticism have been argued to exist in Arabic, Akkadian, Chaha (McCarthy 1993), and Modern Hebrew (Bat-El 1989, 1994).

All examples of a-templaticism reported so far are cases where the morphological constituent with no templatic specification is a (part of a) base. It is interesting to ask whether lack of templatic specification is found with reduplicative affixes as well. A possible case, pointed out by McCarthy (1993), is total reduplication (emphasis in italics mine): “The most obvious, *almost trivial* case of a-templatic prosodic

morphology is total reduplication . . . like the Indonesian plural: harian-harian ‘newspapers’, keruhasan-keruhasan ‘riots’. In total reduplication, unlike partial reduplication, there is copying of segments but no templatic limitation on the canonical form of the result’ (p. 190). Note, however, that in total reduplication, although invariance in the reduplicant’s form cannot be identified in terms of prosodic units, it could be identified in terms of morphological units: the reduplicant is a copy of the morphological constituent “base” or “stem.” This can be expressed formally in various ways, and indeed total reduplication has sometimes been analyzed as whole-morpheme reduplication (see, e.g., McCarthy 1982, Marantz 1982).

We must ask then whether there are any nontrivial and more robust cases of a-templatic reduplication. A genuine instance of what we seek to identify must be such that no shape invariance of the affix can be found in terms of either prosodic or morphological units. In the next section I argue that such cases of a-templatic reduplication do exist, and I show how the surface properties of these reduplicants could emerge from the interaction of a small set of simple constraints.

2 A-Templatic Reduplication in Temiar Verbal Morphology

Temiar [tmɛr] is one of the main Austroasiatic languages of Malaysia (Benjamin 1976). It belongs to the Central Aslian (or Senoic) branch of Mon-Khmer, a group of about twenty languages with rather intricate morphological systems.¹ In the verbal morphology of Temiar, there are two aspects, the simulfactive (SIM) and continuative (CONT). Each aspect exhibits two patterns, one for a biconsonantal base and another for a triconsonantal base (“.” stands for syllable boundary; copies of consonants are shown in boldface). The forms in (4) are in the active voice.

(4)	<i>Biconsonantal</i>	<i>Triconsonantal</i>
a. Base	c^1vc^2 kɔw ‘to call’ gəl ‘to sit down’ rec ‘to eat’	$c^1.c^2vc^3$ s.lɔg ‘to lie down’ s.maaŋ ‘to ask a question’ s.luh ‘to shoot’
b. Simulfactive	$c^1a.c^1vc^2$ ka .kɔw ga .gəl ra.rec	$c^1a.c^2vc^3$ sa.lɔg sa.maaŋ sa.luh
c. Continuative	$c^1c^2.c^1vc^2$ kw .kɔw gl .gəl rŋ.rec (Southern Temiar) ²	$c^1c^3.c^2vc^3$ sg.lɔg sŋ.maaŋ sh .luh

¹ For past theoretical treatments of Temiar see McCarthy 1982, Broselow and McCarthy 1983, Sloan 1988, Shaw 1993, and Gafos 1995, to appear. Except for mine, and abstracting away from the details of their contemporary theoretical frameworks, all past analyses stipulate the shapes of the Temiar reduplicants

Let us begin by noticing an important property of the simulactive and continuative forms concerning the locus of affixation. In all forms, some affixal material, /a/ in the simulactives or a copy of a consonant in the continuatives, appears immediately to the left of the final syllable of the base. I propose to capture this robust property of Temiar morphology with a constraint from the Generalized Alignment theory of McCarthy and Prince (1993a), requiring that the right edge of the affix be aligned with the left edge of the stressed syllable of the base, denoted as $\acute{\sigma}$ (stress is always final), as in (5). *Aff* ranges over the set {SIM, CONT}. ((5) is henceforth called α -HEAD, where HEAD is meant to indicate the syllabic head of the PrWd.)

- (5) ALIGN(Aff, R, $\acute{\sigma}$, L) The right edge of an Affix must be aligned with the left edge of the stressed syllable.

Two other constraints that I employ in the following analysis are given in (6). They are the two basic constraints that formalize reduplication in the Correspondence Theory of McCarthy and Prince (1995a). MAX^{BR} demands copying of all base (B) segments, and DEP^{BR} requires every segment in the reduplicant (R) to be a copy of some base segment.

- (6) MAX^{BR} Every segment of B has a correspondent in R.
 DEP^{BR} Every segment of R has a correspondent in B.

It is to be kept in mind that an independent set of these two constraints holds for the Input/Output correspondence relation, namely, MAX^{IO} and DEP^{IO} . For the development and some applications of Correspondence Theory, see McCarthy and Prince 1995a.

2.1 *Continuative*

Consider first the continuative aspectual paradigm. Two relevant forms, repeated from (4), are *kɔɔw* ‘to call’ → *kw.kɔɔw* and *s.lɔg* ‘to lie down’ → *sg.lɔg*. Clearly, both continuative outputs obey α -HEAD: a copied consonant, shown in boldface, always appears aligned with the left edge of the final syllable. In what follows I assume that the continuative affix is lexically specified as a reduplicative morpheme. The goal is to show that this is all that needs to be said about the affix; that is, no template is necessary.

An interesting observation about the continuative patterns is that only consonants are copied; that is, the vocalism of the base is never copied. This reflects a well-known property of Temiar and of Mon-Khmer languages in general, whereby full vowels are disallowed in prefinal positions. I return to the formal expression of this property

by positing templates. I am not interested here in comparing past analyses with the present one. See Gafos 1995 for explicit comparisons.

² Voiceless stops do not occur as codas of prefinal syllables because they become voiced in Northern and nasalized in Southern Temiar (Benjamin 1976: 143). See Gafos 1995 for relevant discussion.

below. First, some examples of words containing vowelless prefinal syllables, also known as “minor” syllables as opposed to the unique final stressed “major” syllable of each word, are given in (7b–f). The form in (7a) consists of just a major syllable. In the rest of the forms, the segments parsed in minor syllables appear in boldface.

- (7) a. *deek* ‘house’
 b. **t.l**ɛk ‘to teach’
 c. **br**.caaʔ ‘to feed’
 d. **cb**.niib ‘going’
 e. **s.ng**.lɔg ‘knot’
 f. **k.rn**.waak ‘frame’

Minor syllables have a simple structure. They can consist of one or two consonants: C, as in (7b), or CC, as in (7c). According to Benjamin (1976), in the former case the C is the onset of the syllable, and in the latter case the first C is the onset and the second C is the coda (complex onsets and codas are disallowed). Following standard representational assumptions and adopting the terminology of Prince and Smolensky (1993:sec. 6.2), I assume that syllables always have a daughter Nuc node: the universally undominated constraint Nuc (“Syllables must have nuclei”) enforces the presence of the Nuc position. I also follow Prince and Smolensky in assuming that the Nuc position may be empty, as is the case with minor syllables in Temiar. For example, the minor syllable *.br* is composed of an Ons node associated to /b/, an empty Nuc node, and a Cod node associated to /r/.

Returning to the Mon-Khmer generalization that full vowels are disallowed in prefinal syllables, it suffices, for current purposes, to assume the constraint *PREFINAL-V in (8), which simply states that generalization. This generalization is just another instance of the tendency of languages to reduce the number of vowel contrasts in unstressed positions. See Hayes 1995:23 for a list of representative languages, and also Steriade 1995, Beckman 1995, and—specifically for the Southeast Asian languages Burmese, Kammu, and Temiar—Gafos 1996b for proposals on how to express such generalizations formally. I emphasize that *PREFINAL-V is used as a cover name for the set of constraints that may lie behind the Temiar and Mon-Khmer generalization.³

³ Temiar and other Senoic languages (like Semai and Jah-Hut) share the property, not found in the rest of Mon-Khmer, of having a large number of bisyllabic words with phonologically specified penultimate vowels (e.g., *halab* ‘to go downriver’, *sindul* ‘to float’; Benjamin 1976:170). These verbs show an impoverished morphology, their combinatory possibilities being limited to the prefixation of a clitic (e.g., *bə-halab*). Nevertheless, they are lexical exceptions to the prosodic regularity expressed by *PREFINAL-V whose proper treatment is a difficult issue, and they will have to remain outside of the scope of the present analysis.

- (8) *PREFINAL-V Prefinal (= unstressed) vowels are not allowed.

Noting that the continuative affix is invariantly realized in all forms with a copy of at least one base consonant, as in *sg.lɔg* derived from {CONT^{RED}, sɔg}, one might suggest that it should be some sort of consonantal infix. However, this fact is a manifestation of the generalization just pointed out. Indeed, if the affix were realized by a copy of a vowel, a prefinal syllable with a vowel would be created, violating *PREFINAL-V.

In formal terms, the situation is expressed in tableau (9). Candidate (9a) realizes the affix with a copy of the base vowel /ɔ/, a violation of *PREFINAL-V, whereas (9b) attempts to copy everything but the vowel, incurring more violations of another constraint, MARKEDNESS, than those of the optimal candidate in (9c). MARKEDNESS can be seen for the moment as a constraint penalizing the mere presence of segments in the output.

- (9) Continuative of triconsonantals; *PREFINAL-V and MARKEDNESS

CONT ^{RED} , sɔg	*PREFINAL-V	MARKEDNESS	MAX ^{BR}
a. sɔ.lɔg	*!	*****	***
b. s.lg.lɔg		*****!	**
c. ³³ sg.lɔg		*****	***

Note that the candidate *s.lɔg*, with the affix unrealized, would best satisfy MARKEDNESS. This candidate is excluded, however, because of a superordinate constraint, REAL-μ, dictating that the reduplicative morpheme (or any affix) must be realized. An equivalent requirement is implicitly assumed in the “generalized template” approach of McCarthy and Prince (1994), where a generalized templatic requirement is imposed on affixes (and hence on reduplicants as well), as in AFFIX ≤ σ. An unrealized reduplicative affix would satisfy this constraint. Thus, the independent constraint REAL-μ, requiring morpheme realization, is necessary. See also Raimy and Idsardi 1997 and Samek-Lodovici 1992 for other analyses that employ an equivalent requirement.

Consider next the continuative biconsonantals, *kw.kɔw*. In the candidates of tableau (10), the placeholder symbol “_” indicates the position of the minor syllable nucleus so as to make clear the syllabic roles of the copied consonants. For example, in (10a) /w/ is placed in the coda position of the minor syllable as required by α-HEAD. The candidate in (10a) realizes the affix with a copy of a base consonant placed in the coda position of an onsetless syllable, causing a fatal violation of ONS. The second candidate, (10b), provides an onset by copying a base consonant but fails to align that consonant with the left edge of the major syllable: /k/, being in the onset position of its minor syllable, is separated from the left edge of the major syllable

by the empty Nuc node of the minor (indicated by “_”).⁴ The optimal candidate in (10c) satisfies both ONS and α -HEAD by copying two base consonants.

(10) Continuative of biconsonantals

CONT ^{RED} , kɔɔw	ONS	α -HEAD	MARKEDNESS	M _{AX} ^{BR}
a. _w.kɔɔw	*!		****	**
b. k_.kɔɔw		*!	****	**
c. [☞] k_w.ɔɔw			*****	*

2.2 Simulfacitive

As with the continuative, I will assume that the simulfacitive affix is lexically specified as a reduplicative morpheme, which furthermore includes in its lexical specification (input) the vocalism /a/ (henceforth, a^{RED}). I show below that this is all that needs to be said about this affix.

Consider first the simulfacitive of biconsonantal bases, {a^{RED}, kɔɔw} → ka.kɔɔw (see (4b)). In contrast to the other simulfacitive output of triconsonantal bases, exemplified by sa.lɔg, affixation of /a/ in the former is accompanied by a copy of a base consonant. The situation is depicted in tableau (11). The suboptimal candidate in (11) fails to provide an onset for the prefinal syllable. That onset is present in the optimal candidate, incurring an extra MARKEDNESS violation.⁵

(11) Biconsonantals: {a^{RED}, kɔɔw} → ka.kɔɔw

a ^{RED} , kɔɔw	ONS	MARKEDNESS	M _{AX} ^{BR}
a. a.kɔɔw	*!	****	***
b. [☞] ka.kɔɔw		*****	**

In the case of triconsonantals, shown in tableau (12), ONS is not at stake because the base already contains a consonant that can serve that role. The lower-ranked MARKEDNESS is now decisive and suppresses copying of “unnecessary” segments.

(12) Triconsonantals: {a^{RED}, slɔg} → sa.lɔg; MARKEDNESS in action

a ^{RED} , slɔg	ONS	MARKEDNESS	M _{AX} ^{BR}
a. s.la.lɔg		*****!	***
b. [☞] sa.lɔg		*****	*****

⁴ Alignment, then, between the affix and the base syllable is strict in the sense that no syllabic constituent, segmentally filled or empty, may intervene between them.

⁵ Evidently *PREFINAL-V is violated in all simulfacitives, which have /a/

This completes the main part of the analysis of the Temiar active aspect morphology.⁶ To sum up: The simulfactive and continuative affixes are reduplicative morphemes. The only difference between the two is that the simulfactive affix includes in its lexical specification the vowel /a/. These affixes illustrate precisely the type of affixation we seek: they are reduplicative and have no templatic requirement.

3 Invariance without a Template

It is a striking property of the Temiar affixes that they are realized with copies of isolated segments of the base in various shapes and quantities. The continuative, for instance, copies one or two consonants of the base. No obvious template exists for this affix, and indeed it was shown that no such template is necessary. I now show that even when the shape of the reduplicant is invariant, that fact does not necessarily imply the presence of a template.

I must first elaborate on an aspect of the Temiar analysis that leads to the analytical detail needed for the goals of this section. Recall that in Temiar the constraint ONS is satisfied by copying (e.g., *ka.kɔɔw*). An alternative to copying would be epenthesis of an unmarked consonant /ʔ/, as in *ʔakɔɔw*. The epenthetic glottal stop /ʔ/ would be chosen on the basis of the Markedness Hierarchy (heretofore MARKEDNESS), $*\text{PL/LAB}, *\text{PL/DOR} \gg *\text{PL/COR} \gg *\text{PL/PHAR}$ (Prince and Smolensky 1993, Smolensky 1993, Lombardi 1996), because it incurs one violation of the lowest-ranked constraint $*\text{PL/PHAR}$. Recall, however, that because of the correspondence relation between the reduplicant and the base, the constraint DEP^{BR} requires that all segments in the affix have a correspondent in the base. The ranking $\text{DEP}^{\text{BR}} \gg \text{MARKEDNESS}$ ensures that copying and not epenthesis is the optimal way to provide the prefinal syllable with an onset.⁷

in the prefinal syllable (e.g., *sa.lɔg*). However, the simulfactive affix is different from the continuative in that its lexical specification includes the vocalism /a/. The fact that /a/ is invariantly part of the output can only mean that $\text{MAX}^{\text{AFFIX-IO}} \gg *\text{PREFINAL-V}$. The prosodic regularity expressed by $*\text{PREFINAL-V}$ is thus violated under specific morphological conditions, that is, the presence of a vowel, part of the simulfactive affix. It is nevertheless evident in the rest of the language, and it was seen to play a crucial role in deriving the shape of the continuative affix.

⁶ A minor issue is what determines the choice of the copied consonant(s). In all forms where copying takes place, the generalization that stands out is that copied consonants have the same syllabic role as their correspondents in the base, a well-known property of reduplication (Steriade 1988). The constraint responsible for this generalization is S-ROLE , ‘‘A segment in the Reduplicant and its correspondent in the Base must have identical syllabic roles’’ (McCarthy and Prince 1993b), which I assume to be undominated in Temiar.

⁷ Note that /a/, the segment in the input of the simulfactive affix, has no correspondent in the base; hence, it incurs a violation of DEP^{BR} . This implies the ranking $\text{MAX}^{\text{AFFIX-IO}} \gg \text{DEP}^{\text{BR}}$, ensuring that /a/ surfaces in the output despite the violation of DEP^{BR} .

The final case of reduplicative a-templaticism illustrates a refinement of this ranking schema. The data come from the formation of the Tübatulabal telic stem from the atelic, shown in (13) (Alderete et al. 1996).

(13) *Monosyllabic reduplication in the Tübatulabal telic*

- a. pi:fɪn → ʔi:-pi:fɪn 'he is snoring'
- b. piʔita → ʔi-piʔita 'to turn over'
- c. ʔo:m → ʔo:-ʔo:m 'to string beans'
- d. to:yan → ʔo:-doyan 'he is copulating'
- e. toha → ʔo:-doha 'to hunt'
- f. le:win → ʔe:-le:win 'to pack it'

The telic involves partial reduplication, in which the reduplicant is monosyllabic, beginning with a default glottal stop and followed by a copy of the first base vowel. I will focus chiefly on the monosyllabic nature of the reduplicant, putting aside the issue of the voicing alternation in the base-initial C and the vowel length in the reduplicant. Both of these are discussed by Alderete et al. (1996), and if the authors are right in claiming that they are systematic properties of the language, not particular to telic reduplication, then what seems arbitrary about the telic reduplicant is that it begins with a /ʔ/ and that it is always monosyllabic. Especially the latter property would seem to necessitate a templatic analysis (e.g., employing a constraint like $RED \leq \sigma$).

On closer scrutiny, however, the relevant aspects of the telic reduplicant are derivable. There are no onsetless syllables in Tübatulabal; hence, following Alderete et al. (1996), the presence of the consonant in the reduplicant can be attributed to ONS. However, the means of ONS satisfaction are different from those in Temiar. In Tübatulabal the markedness hierarchy is ranked higher than DEP^{BR} , and more accurately, higher than DEP^{BR-C} , because the consonant emerges as the default /ʔ/, but the vowel is always a copy of the base vowel: hence the ranking $DEP^{BR-V} \gg MARKEDNESS \gg DEP^{BR-C}$, shown in tableau (14) (only the relevant part of the Markedness Hierarchy is shown as the example includes only coronal and glottal consonants).⁸ The other rankings in (14), that is, $ONS \gg MARKEDNESS \gg MAX^{BR}$, are the same as those met in the Temiar analysis. Finally, for all constraints except ONS, violations are indicated not by the usual ‘*’ but by the segment incurring the violation. Undominated $REAL-\mu$ is not shown in the tableau.

⁸ The analysis departs here from that of Alderete et al., who ascribe the emergence of a default C versus the copying of a V to the ranking $MAX^{BR-V} \gg MARKEDNESS \gg MAX^{BR-C}$. This ranking predicts that all vowels of a base are copied in the case of a disyllabic base. For instance, the telic of /toyan/ is falsely predicted to be *[ʔo(:)?a-doyan]. The analysis in the text solves this problem.

(14) Emergent monosyllabism of the reduplicant

RED + toyan/	ONS	DEP ^{BR} -V	*COR	*PHAR	DEP ^{BR} -C	MAX ^{BR}
a. o:-doyan	*!		d,y,n			d,y,a,n
b. do:-doyan			d!,d,y,n			y,a,n
c. 𐎠𐎢𐎽𐎢𐏁 ʔo:-doyan			d,y,n	?	?	d,y,a,n
d. ʔo(:)ʔa:doyan			d,y,n	?,?!	?,?	d,y,n

Candidate (14a) violates ONS fatally. (14b) incurs a more serious violation of markedness than the optimal (14c); and (14d) loses to (14c) because *PHAR \gg MAX^{BR}. It is the latter ranking that derives the invariantly monosyllabic shape of the reduplicant.⁹ To conclude: Invariance in the shape of a reduplicant does not necessarily imply the presence of a corresponding templatic requirement.

4 Comparison with Other Approaches

It is worth pointing out some recent interesting proposals of a similar but also crucially different character. Most notably, Urbanczyk (1996a,b), developing proposals by McCarthy and Prince (1994), argues for replacing reduplication-specific templates such as RED = σ by ‘generalized templates’ of two sorts: (a) morphological templates that state whether the reduplicant is an Affix or a Root (RED = Affix or RED = Root), and (b) independent requirements ascribed to Affixes and Roots such as AFFIX $\leq \sigma$. The latter species of constraints, crucially employed in these proposals (e.g., Urbanczyk 1996a:430), states an upper bound on the size of Affix, and hence of the reduplicant as well. Clearly, then, templates are employed. Broadly speaking, however, insofar as these proposals attempt to derive the shapes of reduplicants from independent and presumably language-wide regularities, they concur with the present aims. Nevertheless, the point of the squib should be clear: there are cases of reduplication where no templatic requirement whatsoever is necessary. Such cases are instances of true reduplicant a-templaticism in the same sense of the term as originally coined by McCarthy (1993) for bases.

5 Summary and Conclusion

I have argued that there are nontrivial cases of reduplicant a-templaticism, where no templatic requirement is stated on the shape of the

⁹ In some cases, the reduplicant surfaces with a coda consonant, as in *ʔun-dumu:ga* ‘to dream’. Alderete et al. analyze these cases by assuming that the coronal nasal is a copy of the base /m/ (place assimilated to the following stop). Though MARKEDNESS (here *COR) \gg MAX^{BR}, the coronal specification of the nasal is shared with the following stop, and hence no additional violation of *COR is incurred by copying an extra base consonant. Note the invariance: the reduplicant is always monosyllabic.

reduplicative affix. Furthermore, what seem to be clear cases of templatic reduplication may also reduce to a-templaticism. The reductionist approach in deriving a reduplicant's shape in this squib takes into account constraints of segmental markedness, general constraints on prosody, and an independently necessary morpheme realization constraint (REAL- μ). As one of the reviewers remarks, reduplicant a-templaticism is a large issue. Further work should seek to provide a better estimate of its empirical extent and develop its implications for morphophonology.

References

- Alderete, John, Jill Beckman, Laura Benua, Amalia Gnanadesikan, John McCarthy, and Suzanne Urbanczyk. 1996. Reduplication and segmental unmarkedness. Ms., University of Massachusetts, Amherst.
- Archangeli, Diana. 1991. Syllabification and prosodic templates in Yawelmani. *Natural Language & Linguistic Theory* 9:231–283.
- Bat-El, Outi. 1989. Phonology and word structure in Modern Hebrew. Doctoral dissertation, UCLA, Los Angeles, Calif.
- Bat-El, Outi. 1994. Stem modification and cluster transfer in Modern Hebrew. *Natural Language & Linguistic Theory* 12:571–596.
- Beckman, Jill. 1995. Shona height harmony. In *University of Massachusetts occasional papers 18: Papers in Optimality Theory*, 53–76. GLSA, University of Massachusetts, Amherst.
- Benjamin, Geoffrey. 1976. An outline of Temiar grammar. In *Austroasiatic studies, vol. II*, ed. Philip Jenner, Lawrence Thompson, and Stanley Starosta, 129–187. Honolulu: University Press of Hawaii.
- Broselow, Ellen, and John McCarthy. 1983. A theory of infixing reduplication. *The Linguistic Review* 3:25–98.
- Gafos, Diamandis. 1995. On the proper characterization of “non-concatenative” languages. Ms., Cognitive Science Department, The Johns Hopkins University, Baltimore, Md. Rutgers Optimality Archive ROA-106, <http://ruccs.rutgers.edu/roa.html>.
- Gafos, Diamandis. 1996a. The articulatory basis of locality in phonology. Doctoral dissertation, The Johns Hopkins University, Baltimore, Md. [To appear, Garland, New York.]
- Gafos, Diamandis. 1996b. On “minor” syllables in South-East Asia. Paper presented at The 1996 GLOW Workshop on Weight Effects, Athens, Greece, 20 April 1996.
- Gafos, Diamandis. To appear. Eliminating long-distance consonantal spreading. *Natural Language & Linguistic Theory* 16.
- Hayes, Bruce. 1995. *Metrical stress theory*. Chicago: University of Chicago Press.
- Hayes, Bruce, and May Abad. 1989. Reduplication and syllabification in Ilokano. *Lingua* 77:331–374.

- Lombardi, Linda. 1996. Why place and voice are different. Ms., University of Maryland, College Park.
- Marantz, Alec. 1982. Re reduplication. *Linguistic Inquiry* 13:435–482.
- McCarthy, John. 1979. Formal problems in Semitic phonology and morphology. Doctoral dissertation, MIT, Cambridge, Mass. [Published by Garland, New York, 1982.]
- McCarthy, John. 1982. Prosodic templates, morphemic templates, and morphemic tiers. In *The structure of phonological representations, part I*, ed. Harry van der Hulst and Norval Smith, 191–224. Dordrecht: Foris.
- McCarthy, John. 1993. Template form in Prosodic Morphology. In *Papers from the Third Annual Formal Linguistics Society of Mid-America Conference*, 187–218. Indiana University Linguistics Club, Bloomington.
- McCarthy, John, and Alan Prince. 1986. Prosodic Morphology. Ms., University of Massachusetts, Amherst, and Brandeis University, Waltham, Mass.
- McCarthy, John, and Alan Prince. 1990. Foot and word in Prosodic Morphology: The Arabic broken plurals. *Natural Language & Linguistic Theory* 8:209–282.
- McCarthy, John, and Alan Prince. 1993a. Generalized Alignment. In *Yearbook of morphology*, ed. Geert Booij and Jaap van Marle, 79–153. Dordrecht: Kluwer.
- McCarthy, John, and Alan Prince. 1993b. Prosodic Morphology I: Constraint interaction and satisfaction. Ms., University of Massachusetts, Amherst, and Rutgers University, New Brunswick, N.J.
- McCarthy, John, and Alan Prince. 1994. An overview of Prosodic Morphology. Handout of talk presented at the Utrecht Prosodic Morphology Workshop, Utrecht, June 22–24, 1994. Rutgers Optimality Archive ROA-59, <http://ruccs.rutgers.edu/roa.html>.
- McCarthy, John, and Alan Prince. 1995a. Faithfulness and reduplicative identity. In *University of Massachusetts occasional papers 18: Papers in Optimality Theory*, 249–384. GLSA, University of Massachusetts, Amherst.
- McCarthy, John, and Alan Prince. 1995b. Prosodic Morphology. In *The handbook of phonological theory*, ed. John Goldsmith, 318–366. Cambridge, Mass.: Blackwell.
- Prince, Alan. 1990. Quantitative consequences of rhythmic organization. In *CLS 26. Vol. 2, Parasession on the Syllable in Phonetics and Phonology*, 355–398. Chicago Linguistic Society, University of Chicago, Chicago, Ill.
- Prince, Alan, and Paul Smolensky. 1993. Optimality Theory: Constraint interaction in generative grammar. Ms., Rutgers University, New Brunswick, N.J., and University of Colorado, Boulder.
- Raimy, Eric, and William Idsardi. 1997. A minimalist approach to reduplication in Optimality Theory. In *NELS 27*, 369–382. GLSA, University of Massachusetts, Amherst.

- Samek-Lodovici, Vieri. 1992. A unified analysis of crosslinguistic morphological gemination. Ms., Rutgers University, New Brunswick, N.J. [Also in *Proceedings of CONSOLE-1*, Utrecht.]
- Shaw, Patricia. 1993. The prosodic constituency of minor syllables. In *Proceedings of the Eleventh West Coast Conference on Formal Linguistics*, 117–132. Stanford, Calif.: CSLI Publications. [Distributed by Cambridge University Press.]
- Sloan, Kelly. 1988. Bare-consonant reduplication: Implications for a prosodic theory of reduplication. In *Proceedings of the Seventh West Coast Conference on Formal Linguistics*, 319–330. Stanford, Calif.: CSLI Publications. [Distributed by Cambridge University Press.]
- Smolensky, Paul. 1993. Optimality, markedness, and underspecification. Paper presented at the Rutgers Optimality Workshop I, Rutgers University, New Brunswick, N.J.
- Steriade, Donca. 1988. Reduplication and syllable transfer in Sanskrit and elsewhere. *Phonology* 5:73–155.
- Steriade, Donca. 1995. Underspecification and markedness. In *The handbook of phonological theory*, ed. John Goldsmith, 114–174. Cambridge, Mass.: Blackwell.
- Urbanczyk, Suzanne. 1996a. Morphological templates in reduplication. In *NELS 26*, 425–440. GLSA, University of Massachusetts, Amherst.
- Urbanczyk, Suzanne. 1996b. Patterns of reduplication in Lushootseed. Doctoral dissertation, University of Massachusetts, Amherst.

ON THE PLACEMENT OF SERBO-
CROATIAN CLITICS: EVIDENCE
FROM VP-ELLIPSIS

Sandra Stjepanović

University of Connecticut

In this squib I present evidence against the syntactic accounts of the second-position effect in Serbo-Croatian (SC) (see, among others, Franks and Progovac 1994, Čavar and Wilder 1994b, Progovac 1996, Roberts 1994, Halpern 1992, 1995, Schütze 1994). Most of these syntactic accounts of the second-position effect crucially assume that in overt syntax SC clitics are found in a cluster adjoined to each other and very high in the tree, allowing enough space for at most one element to precede them. Considering the behavior of SC clitics in VP-ellipsis, I show, however, that in overt syntax clitics need not be adjoined to each other and that each clitic may be located in a separate maximal projection. I further show that these new facts fit nicely into Bošković's (1995a,b, 1997a,b) account of the second-position effect.

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