

CONTRASTIVE FOCUS REDUPLICATION IN ENGLISH
(THE SALAD-SALAD PAPER)*

ABSTRACT. This paper presents a phenomenon of colloquial English that we call Contrastive Reduplication (CR), involving the copying of words and sometimes phrases as in *It's tuna salad, not SALAD-salad*, or *Do you LIKE-HIM-like him?* Drawing on a corpus of examples gathered from natural speech, written texts, and television scripts, we show that CR restricts the interpretation of the copied element to a 'real' or prototypical reading. Turning to the structural properties of the construction, we show that CR is unusual among reduplication phenomena in that whole idioms can be copied, object pronouns are often copied (as in the second example above), and inflectional morphology need not be copied. Thus the 'scope' of CR cannot be defined in purely phonological terms; rather, a combination of phonological, morphosyntactic, syntactic, and lexical factors is involved. We develop an analysis within the parallel architecture framework of Jackendoff (1997, 2002), whereby CR is treated as a lexical item with syntactic and semantic content and reduplicative phonology. We then sketch an alternative analysis, based on current assumptions within the Minimalist Program, which involves movement into a focus-like position with both the head and the tail of the resulting chain spelled out.

1. INTRODUCTION

This paper presents a phenomenon of colloquial English that has previously received scant attention in the literature, which we call Contrastive Reduplication (CR). Examples of this construction are given in (1):¹

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¹ Most of the examples in this paper come from a corpus we have gathered of examples occurring in natural speech, written texts, or in films and television shows (available at <http://www.umanitoba.ca/linguistics/russell/redup-corpus.html>). Examples drawn from the corpus are indicated by the sign ©. All examples show the reduplicant in small caps, even when not in the original text.



- (1)a. I'll make the tuna salad, and you make the SALAD–salad. ©
- b. LIKE-'EM-like-'em? Or, I'd-like-to-get-store-credit-for-that-amount like-'em?² ©
- c. Is he French or FRENCH–French?
- d. I'm up, I'm just not UP–up. ©
- e. That's not AUCKLAND–Auckland, is it? ©
- f. My car isn't MINE–mine; it's my parents'.
- g. Oh, we're not LIVING-TOGETHER–living-together.

As illustrated in these examples, CR targets nouns (1a), verbs (and optionally pronominal material to their right) (1b), adjectives (1c), verb particles (1d), proper names (1e), pronouns (1f) and lexicalized expressions (1g).

The semantic effect of this construction is to focus the denotation of the reduplicated element on a more sharply delimited, more specialized, range. For instance, *SALAD–salad* in (1a) denotes specifically green salad as opposed to salads in general, and, in the context in which (1e) was used, *AUCKLAND–Auckland* denotes the city in New Zealand as opposed to other cities that may happen to have this name. For a first approximation, we characterize this effect as denoting the prototypical instance of the reduplicated lexical expression.

CR is quite common in North American English. We have recorded it used by speakers in their 20s and in their 70s; by speakers of British English, and even by native speakers of other languages (when speaking English). The phenomenon is of course much rarer in written corpora (though we have one example from John Steinbeck, (3e) below); we have however found numerous instances of it in film and television transcripts.

CR is of interest for a number of reasons. First, although reduplication has been studied in many languages of the world, it has rarely been cited as a grammatical phenomenon of English. In fact, CR is not the only reduplication process in English: there are at least six others of various degrees of productivity:

² This example also contains an instance of another construction, the 'you-can-put-anything-you-want-before-the-head' construction. Our corpus of CR, especially in the television scripts, is rife with such examples, which also deserve analysis. See note 27 for some discussion.

- (2)a. 'Baby-talk' reduplication, e.g., *choo-choo, wee-wee*.
- a. Multiple partial reduplications, e.g., *hap-hap-happy* (as in song lyrics)
- c. Deprecative reduplication, e.g., *table-shmable*.
- d. 'Rhyme combinations': *super-duper, willy-nilly, pall-mall, okey-dokey, hanky-panky, ...*
- e. 'Ablaut combinations': *flim-flam, zig-zag, sing-song, pitter-patter, riff-raff, mish-mash, ...*
- f. Intensive reduplication:³ *You are sick sick sick!*

A second reason CR is of interest is its semantics. Crosslinguistically, reduplication phenomena are used to express such factors as plurality, distributivity (*each X*), perfective aspect, continuous/progressive/habitual aspect (*keeps Ving, is Ving, Vs habitually*), diminutives (*little X*), augmentatives (*big X*), intensification (*really X*), variety and similarity (*all*

³ (2f) shows Intensive Reduplication (IR) with adjectives. It also occurs with verbs (i.a), nouns (i.b), prepositions/adverbs (i.c), and pronouns (i.d, e):

- (i)a. Let's get out there and win win win!
- b. All Sandy thinks about is sex sex sex!
- c. Prices just keep going up up up.
- d. All you think about is you you you.
- e. It's mine mine mine!

At first glance these may appear simply to be examples of the general ability in English to repeat modifiers, as in *You are a sick, sick man* or *You're really really sick*. But IR can apply to categories (e.g., verbs) and in positions (e.g., sentence-finally) that modifier repetition cannot. IR is subject to an interesting constraint: an instance of IR must have at least three items:

- (ii)a. You are sick sick sick.
- b. *You are sick sick.

One might think that English IR is like the Telegu and Mokilese reduplication patterns discussed by Moravcsik (1978) that may be triplicated but not duplicated. But it turns out to be more interesting. Sentence-final IR has two possible prosodic patterns. The first (iii.a) has balanced stress on each item and the potential for pauses between them. The second (iii.b) has an alternating strong-weak-strong stress pattern covering an odd number

different kinds of X, X and such), ‘out of control’, and various other kinds of derivational meaning (e.g., agentive nominal) (this list compiled largely from Moravcsik 1978). All of these uses, of course, are also expressed in other languages by ordinary closed-class morphemes. The prototypical/contrastive focus meaning we find for English CR adds a new item to this list. We will see in section 2.2 that parallels to English CR exist in other languages, both as reduplicative phenomena and as ordinary closed-class morphemes.

What makes CR more than just another curiosity, though, is its difference from other reduplicative phenomena. One of the results of the Prosodic Morphology research program (beginning with McCarthy and Prince 1986) is that in cases of partial reduplication, the reduplicant always forms a well-defined prosodic constituent, such as a foot or a heavy syllable. Each reduplicative morpheme specifies a prosodic category (i.e., it has a prosodically defined ‘template’ in original Prosodic Morphology or it is subject to a prosodic size constraint in Optimality Theory), and as much material as possible will be copied from the base, subject to the prosodic conditions on the reduplicant. From this point of view, there need be nothing qualitatively different about total reduplication: it is simply reduplication where the reduplicant forms a prosodic word rather than a foot or a type of syllable.

Unlike the cases of reduplication examined in the Prosodic Morphology tradition, English CR cannot be defined in prosodic terms. This is already of items. It is not possible to have any kind of alternating stress pattern with an even number of items (iii.c, d):

- (iii)a. You are SICK, SICK, SICK, SICK.
- b. You are SICK-sick-SICK (-sick-SICK).
- c. *You are SICK-sick-SICK-sick.
- d. *You are sick-SICK-sick-SICK.

The alternating stress pattern is not available for pre-nominal modifiers, as seen in (iv.a). However, many speakers can use an alternating stress pattern if the noun occurs in final stressed position, as in (iv.b). Overall, then, IR seems to require the construction of binary feet:

- (iv)a. ??You are a SICK-sick-SICK-sick-SICK man.
- b. You are a SICK-sick-SICK-sick MAN.

A variant of (i.e) is *It is mine, mine, all mine*, in which case the final repetition is slightly elaborated.

evident from (1b, g), which consist of more than a single word. Much of our discussion in this paper will concern how the ‘scope’ of CR is to be defined.

The organization of the paper is as follows. Section 2 develops the semantics of CR in more detail, showing a number of alternate meanings it permits, and some crosslinguistic parallels. Section 3 works through the considerable problems in specifying the ‘scope’ of CR, i.e., the permissible units that can be reduplicated. Section 4 works out a solution in the parallel architecture framework of Jackendoff (1997, 2002), along the way showing how reduplication is to be treated in that framework. On this analysis, CR is a lexical item with syntactic and semantic structure and with reduplicative phonology. What is unusual about its syntactic structure is that it can be adjoined either to a full word, inside an X^0 , or to some larger phrasal constituent. Section 5 sketches an analysis that is more consistent with the assumptions of the Minimalist Program (Chomsky 1995, 2000): the reduplication in CR is treated as a version of head movement where both head and tail of the chain are retained at PF.

2. THE SEMANTICS OF CR

In this section we first discuss the range of meanings of CR based on our corpus of examples. We conclude that these meanings, taken together, are a kind of contrastive focus. We then present and briefly discuss examples of CR from other languages in order to show that this construction is not found only in English.

2.1. *Specifying the Interpretation*

Let us explore the semantics of CR in more detail. The use of a word or phrase often leaves open some vagueness, lack of precision, or ambiguity. CR is used as one way to clarify such situations, by specifying a prototypical denotation of the lexical item in contrast to a potentially looser or more specialized reading. This is clearest when CR is applied to simple nouns:

- (3)a. I’ll make the tuna salad and you make the SALAD–salad. ©
- b. Look at all the yellow vans on the road. Not vans like ours [i.e., minivans], but VAN–vans. ©
- c. She wasn’t a fancy cow, a Hereford or Black Angus or something, just a COW–cow. ©

- d. Should I wear a HAT-hat? [as opposed to a yarmulke] ©
- e. And Charley is no more like a DOG-dog than he is like a cat.
©
- f. I had a JOB-job once. [a 'real' 9-to-5 office job, as opposed to an academic job] ©

This characterization is precisely the informal one given by Horn (1993). He briefly discusses CR (which he labels, following Dray (1987), the 'double construction') stating: "As a rough approximation, we can say that the reduplicated modifier singles out a member or subset of the extension of the noun [or verb, or adjective, or preposition – JG et al.] that represents a true, real, default, or prototype instance" (p. 48).

As already seen in (1), CR can apply to not only to nouns, but to a range of lexical categories. Regardless of the lexical category, however, reduplication signals that the "real" or prototypical meaning of the lexical item is intended:

- (4)a. Are you LEAVING-leaving? [i.e., are you "really" leaving (for good), or are you just stepping out for a minute]
- b. A: Are you nervous?
B: Yeah, but, you know, not NERVOUS-nervous. [i.e., not "really" nervous] ©
- c. Lily: You have to get up.
Rick: I am up.
Lily: I mean UP-up. ©

The meaning of the construction is nicely illustrated by the following example, from a novel written in English and translated into German, which lacks CR. In the German version the reduplicated sequence *RICH-rich* gets translated as *richtig reich*:⁴

- (5)a. They are rich, of course; obscenely rich by the world's standards; but not RICH-rich, not New York City rich. ©
[Michael Cunningham, *The Hours*, Picador: New York. 1998, p. 91]

⁴ We thank Roland Pfau for both noting the English example and then looking up the relevant sentence in the German translation.

- b. aber nicht richtig reich, nicht nach den Maßstäben von New York City.
 ‘but not really rich, not by the standards of NYC’

If the function of CR is to restrict the meaning of an item to its central or prototypical meaning, and if functional items lack the appropriate sort of semantic variation, then CR should not occur with functional items. This prediction is borne out by the ungrammatical examples below:

- (6)a. *Are you sick, or ARE-are you sick? [Auxiliary]
 b. *I didn’t just read the book, I read THE–the book! [Determiner]

This hypothesis is nicely confirmed with the class of prepositions, where some prepositions fall on the more contentful side while others have purely functional uses. As expected, the more contentful prepositions can undergo CR (7a), while the functional ones cannot (7b):

- (7)a. A: I was sitting across from your husband at dinner.
 B: Really?
 A: Well, not ACROSS–across (but close by). [contentful preposition]
- b. A: Did you go to Montreal?
 B: *Well, not TO–to. [functional preposition]

It may be surprising that CR is possible with proper names, which, as rigid designators, should not be ambiguous. But there are three contexts in which CR occurs with proper names, all involving some context-dependent ambiguity. The first is where a noun is ambiguous between proper and common.

- (8) A: So then who’s coming through the Stargate?
 B: Gods.
 A: Huh?
 B: Not as in GOD–God. Ra played a god, the sun god. ©

The second is when the discourse participants know more than one individual with the same name. In this case CR picks out the most salient (important or well-known) referent:

- (9)a. So did you go to the movie with DAVE–Dave, or with Dave? [i.e., the Dave best known to the speaker and hearer]
- b. We call him psycho Marcus in order to distinguish him from normal Marcus and MARCUS–Marcus. ©
- c. Oh, that’s BEACON-STREET–Beacon-Street! [uttered by a person being given directions, who has just realized that the Beacon Street in West Newton is in fact a continuation of the well-known Beacon Street in Boston] ©

Third, CR may contrast an individual’s typical behavior against abnormal and uncharacteristic behavior, or one’s inner self against a public persona, or one’s ‘true’ self in cases where a person has been cloned, replaced by a robot, transferred into another body, possessed by supernatural beings, or fallen victim to one of the many other identity-clouding fates that so often befall film and TV characters:

- (10) A: That doesn’t sound like Murray.
B: Remember that he joined that cult the Spiritologists.
A: MURRAY–Murray!?! ©

Even pronouns may be reduplicated in analogous situations, when the nature of the individual being denoted is in question:

- (11)a. It might have been me, but it wasn’t ME–me.
- b. You see me for a couple of hours out of every day, and you think you know me? The ME–me? ©

Lawrence Horn (p.c.), in more recent work on CR (which he now calls ‘lexical cloning’), categorizes the semantics of this construction into four types: (a) prototype meaning (which we have already discussed), (b) literal meaning, (c) intensified meaning, and (d) ‘value-added’ meaning. An example of literal meaning appears in (12), where reduplication signals that a literal rather than euphemistic interpretation of *coming in for coffee* is intended:

- (12) [Dialogue between a married couple, recently separated and now living apart.]

A: Maybe you'd like to come in and have some coffee?

B: Yeah, I'd like that.

A: Just COFFEE-coffee, no double meanings. ©

The intensified type of meaning is illustrated in (13) (= 4b):

- (13) A [to B, who is about to give a recital]: Are you nervous?

B: Yeah, but, you know, not NERVOUS–nervous. ©

The 'value-added' meaning is illustrated in (14), adapted from Dray (1987) as cited by Horn (1993, p. 50.13): *living together* is taken in the sense 'living together as lovers'.

- (14) A: I hear you guys are, um, living together now.

B: Well, we're not LIVING TOGETHER–living together.

As Dray and Horn note, the choice of reading for CR can be determined by context. Consider (15), a slightly different reply by B to A's remark in (14). Here the context requires the literal reading for *living together*, 'living together as roommates':

- (15) B: Well, we're only LIVING TOGETHER–living together.

When used with the more specialized, innuendo-laden meanings, the CR construction is frequently spoken with a distinctive intonation contour, which Horn notes and marks with a "raised eyebrow" diacritic. Another such "raised eyebrow" example is (16):

- (16) A: I'm late, Lois.

B: Well, if you didn't spend so much time on your hair . . .

A: No, I mean LATE–late! ©

The relationship between CR and potential ambiguity is so strong that it can force listeners to infer the ambiguity of a term even when they were not previously aware of any. Given only the use of CR in the following exchange, A was forced to conclude that there was, after all, more than one type of bowling:

- (17) A: I've been invited to go bowling tonight.

B: BOWLING–bowling? ©

(B was in fact contrasting regular bowling with ‘bingo bowling’ and ‘glow bowling’, barbarisms which we need not go into here.)

Finally, there are two examples in our corpus where the meaning of CR seems to be ‘the obvious one’, i.e., merely very high salience with no hint of prototypicality, ambiguity, or contrast:

- (18)a. A: Did you check out the leak in the bathroom?
 B: What leak?
 A: The LEAK–leak. [drags her into the bathroom] ©
- b. A: Just loosening up. Doing a little bit of kong-chi.
 B: . . . What the hell does kong-chi mean?
 A: Kong-chi!
 B: Huh?
 A: You know, KONG-CHI–kong-chi! It’s an ancient oriental artform of loosening up. ©

Given this variation in the use of CR, it is not clear to us whether CR is itself polysemous or whether it can pick out contextually salient readings in addition to objectively prototypical ones. In this sense, saying that CR signals the ‘prototypical’ reading is too restricted, but we will continue to use it for lack of a better characterization.

Our claim that CR serves to restrict the denotation of a lexical item to its prototype bears a strong resemblance to Lasersohn’s (1999) account of linguistic imprecision and his description of pragmatic “slack regulators”.⁵ Lasersohn’s term applies to a word like *exactly* in the sentence *Mary arrived at exactly 3 o’clock*, or the word *perfectly* in a sentence like *This ball is perfectly spherical*. The idea is that these sentences differ from their counterparts without slack regulators (*Mary arrived at 3 o’clock*; *This ball is spherical*) in that they allow for less deviation from the truth, or, in Lasersohn’s terms, less ‘pragmatic slack’. Without a slack regulator like *exactly*, and in a context in which precision is not important, it is possible to say *Mary arrived at 3 o’clock* even if she arrived at a few minutes before or after 3. Lasersohn calls the set of objects that is associated with the denotation of a proposition (or lexical item), but differs from it in pragmatically ignorable ways, a ‘pragmatic halo’. Slack regulators serve to shrink or tighten the pragmatic halo of the expressions they combine with.

⁵ Thanks to an anonymous reviewer for bringing this article to our attention. Lasersohn’s ‘slack regulators’ appear to be the semantic converse of ‘hedges’ such as *sort of*, discussed by Lakoff (1972). Lakoff also mentions phrases such as *strictly speaking*, which are precisely slack regulators in Lasersohn’s sense.

What CR and Lasersohn's slack regulators have in common is that they both have a set-shrinking effect, the effect of narrowing down the range of appropriate referents of a lexical item. How they differ (putting aside the fact that CR cannot apply to propositions) is in the types of sets involved. Lasersohn defines a pragmatic halo in truth-theoretic terms: his slack regulators make fewer truth-conditionally *false* statements appropriate in a given context. By contrast, CR rules out not denotations that are truth-conditionally false (not FALSE–false), but rather denotations that are less prototypical: many things are salads but not SALAD–salads.

The notion of a set of alternatives against which an expression is evaluated usually comes up in discussions of contrastive focus, and there is certainly some similarity between CR and contrastive focus. In many cases CR is explicitly paired with a non-reduplicated version of the same phrase nearby in the discourse. The copy has a focus accent just like that of a contrastively focused modifier: *not a RED book, not a BOOK–book*. The semantic difference between the two is illustrated by the following pairs of sentences:

- (19)a. I didn't give the book to JOHN. [Contrastive focus]
 Contrast set: {John, Bill, Dave, Sue, ... }
- b. I didn't give the book to JOHN–John. [CR]
 Contrast set: {John₁, John₂, ... }
- (20)a. It wasn't a GOAT. [Contrastive focus]
 Contrast set: {goats, horses, pigs, sheep, ... }
- b. It wasn't a GOAT–goat. [CR]
 Contrast set: '{prototypical goats, non-prototypical or non-literal (euphemistic, figurative) goats}'

Contrastive focus on a word signals that it is being contrasted with other words of the same type. CR, on the other hand, signals that one meaning of the word is being contrasted with other possible meanings.

2.2. CR in Other Languages

CR is not limited to English. Wierzbicka (1991) discusses syntactic reduplication or 'raddoppiamento' in Italian – a phenomenon that is very similar, if not identical, to CR in English. Wierzbicka carefully distinguishes Italian syntactic reduplication from two seemingly similar phenomena. She states that a reduplicated expression like *adagio adagio*

‘slowly slowly’ can be distinguished from repetition (e.g., *adagio, adagio*) in that the former is a pauseless expression while the latter, as indicated by the use of the comma, is not. She also distinguishes reduplication from what she calls ‘clausal’ repetition (e.g., *Come in, come in! All right, all right!*) based on the fact that the illocutionary force of this type of repetition involves a sense of urgency. Most of the properties that Wierzbicka attributes to Italian reduplication are precisely those we find for CR in English: both processes apply to more than one lexical category (e.g., adjectives, adverbs, nouns) and both operate on “words rather than on morphemes” (p. 255).⁶

As for the meaning, Wierzbicka notes that the characterization given in Italian grammars, as well as for a similar phenomenon in Vulgar Latin (Grandgent 1908, p. 32) is ‘intensification’. One problem with such a characterization, however, is that intensifiers like *molto* ‘very’ are restricted to gradable qualities while reduplication is not. Citing Lepschy and Lepschy (1984), Wierzbicka proposes instead that the communicative import of syntactic reduplication is to insist on the validity of what is said. She writes that “[i]n calling someone’s eyes *neri neri* the speaker insists that these eyes were ‘really’ black, literally black” (p. 264) and later gives further examples of nominal reduplication such as: “*brodo brodo* ‘broth broth’, i.e. genuine broth, and *lana lana* ‘wool wool’, i.e. genuine wool” (p. 265). This characterization seems compatible with the one given in the previous subsection.

Spanish and Russian also appear to have CR. Horn (1993) gives the following example from Spanish taken from the movie *Women on the Verge of a Nervous Breakdown*:

- (21) No es una CASA–casa.
 ‘This isn’t a real [sic] house.’ [Horn 1993, p. 49.10a]

Asya Pereltsvaig (p.c.) has pointed out the following example from Russian, in which the first hyphenated element looks much like CR. She observes that the stress falls on the first element in both *zheltyj-zheltyj* and *limonno-zheltyj* since they are being used contrastively. However, compounds in Russian are usually right-dominant, suggesting that, as in

⁶ One possible area for future research would be to examine to what extent Italian and English reduplication overlap. For instance, as we have noted, CR in English can apply to proper names and pronouns while Wierzbicka makes no mention of whether this is possible in Italian. On the other hand, she considers the syntactic reduplication of adjectives and adverbs (but not nouns) in Italian to have an added ‘emotional’ component (p. 266), while we have found no evidence of this in English.

English (see section 3.1, note 8), this process is distinct from compounding:

- (22) On zheltyj-zheltyj, a ne limonno-zheltyj.
he yellow-yellow, and not lemon-yellow
 It's YELLOW–yellow, not lemon–yellow.

Persian, too, has something akin to CR, as pointed out by Arsalan Kahnemuyipour (p.c.), who provided the following examples:

- (23)a. loxt-e loxt ke na-bud
naked-EZ naked FOCUS NEG-be.PAST.3SG
 S/he wasn't NAKED-naked.
- b. bi-kâr-e bi-kâr ke nist,
without-job-EZ without-job FOCUS NEG.be.PRES.3SG,
naqqâsh-e
painter-3SG
 S/he isn't UNEMPLOYED–unemployed, s/he's an artist.

In contrast to CR in English, Persian permits this type of copying only with adjectives. The meaning differs also, perhaps as a consequence of this fact, and is better characterized as 'completely X' rather than 'really X'. A notable fact about these examples is that the *Ezafe* vowel intervenes between the two copies. This vowel appears between nominal heads and their modifiers in Persian but does not appear within compounds (see, for example, Ghomeshi 1997).

Mutaka and Hyman (1990) observe that Kinande, unlike other neighboring Bantu languages, has a form of CR, restricted to nouns, e.g. *o.ku-gulu* 'leg', *o.ku-gulu.gulu* 'a real leg'.

Just as the semantics of other reduplicative phenomena are paralleled by morphological affixes in other languages, the semantics of CR can also be expressed morphologically. To take one example, Poser (1991) discusses a prefix *ma-* in Japanese that "restricts the denotation of the base form to ... a canonical point that represents the absolute state" (p. 453):

- (24) JAPANESE (Poser 1991, pp. 449–450)
- | | | | |
|-------------|----------|----------------|------------------|
| <i>mae</i> | 'front' | <i>maNmae</i> | 'right in front' |
| <i>fuyu</i> | 'winter' | <i>mafuyu</i> | 'dead of winter' |
| <i>siro</i> | 'white' | <i>massiro</i> | 'snow white' |
| <i>kita</i> | 'north' | <i>makita</i> | 'due north' |
| <i>aka</i> | 'red' | <i>makka</i> | 'deep red' |

Ma- can also attach to terms that denote a class, and the *ma-* prefixed form picks out the most common or prototypical member of the class – what Poser calls ‘the cognitive reference point’, following Rosch (1975):

(25) JAPANESE (Poser 1991, p. 454)

<i>kamo</i>	‘wild duck’	<i>magamo</i>	‘the mallard duck’
<i>azi</i>	‘horse mackerel’	<i>maazi</i>	‘the horse mackerel <i>Trachurus trachurus</i> ’ ⁷
<i>koti</i>	‘flathead’	<i>magoti</i>	‘the common flathead’

We have also found cases in the literature where a similar focus meaning is marked by potentially non-local copying, i.e., the two copies need not be adjacent, as they must be in English CR. We discuss these briefly in section 5.

3. THE SCOPE OF CR

In this section we provide a descriptive account of the properties of CR. First, we briefly introduce the problem of the scope of CR. We then consider in more detail the cases where the reduplicated constituent is less than a phonological word (3.2) and the cases where the reduplicated constituent is longer than a word (3.3). In 3.4 we present a descriptive generalization that can account for the range of cases found in our corpus. Finally, in section 3.5 we discuss the prosodic constraints on CR, some of which vary from speaker to speaker.

3.1. *The Problem*

What makes CR most interesting from a theoretical point of view is the fact that its scope (or domain of copying) is not altogether straightforward. The phonologically-based reduplications that have been studied in depth

⁷ It is amusing, though probably nothing more than coincidence, that the Latinate species names used by biologists often involve the repetition of the genus name for the prototypical species belonging to the genus – something that looks very much like CR. Consider the following examples:

- | | |
|--|--|
| (i) <i>Vulpes zerda</i> (fennec fox) | (v) <i>Mephitis macroura</i> (hooded skunk) |
| (ii) <i>Vulpes velox</i> (swift fox) | (vi) <i>Mephitis mephitis</i> (striped skunk) |
| (iii) <i>Vulpes pallida</i> (African sand fox) | (vii) <i>Bison bonasus</i> (European bison, or wisent) |
| (iv) <i>Vulpes vulpes</i> (red fox) | (viii) <i>Bison bison</i> (the real thing) |

all result in the more or less perfect copying of a legitimate prosodic constituent, such as a heavy syllable, a foot, or a prosodic word. However, this is not the case with CR.

On the one hand, the copied constituent can be smaller than a phonological word, as when on occasion a word reduplicates without its inflection:

- (26) ... and here are the GLOVE–gloves. ©

We take up these cases in section 3.2.

On the other hand, there are two circumstances where CR applies to sequences longer than a word. The first – and the more problematic – is that of the verb plus its clitics to the right-hand side:

- (27)a. I don't LIKE-HIM–like-him.
 b. ... you mean thought-about-it considered it or just
 CONSIDERED-IT–considered-it. ©

We take up these cases in section 3.3. The second case where CR extends beyond a word involves idioms:

- (28)a. OUT-OF-HER-MIND–out-of-her-mind
 b. OVER-THE-HILL–over-the-hill
 c. SLEEPING-TOGETHER–sleeping-together

Indeed, copying just a single word of these idiomatic phrases is impossible:

- (29)a. *OUT–out of her mind/*out of her MIND–mind
 b. *OVER–over the hill/*over the HILL-hill
 c. *SLEEPING–sleeping together/*sleeping TOGETHER–
 together [in intended sense]

By contrast, syntactically parallel but nonidiomatic strings cannot undergo CR:

- (30)a. *I didn't put it OVER-THE-STOVE–over-the-stove.
 b. *I didn't hide it UNDER-THE-SOFA–under-the-sofa.
 c. *We weren't SLEEPING-APART–sleeping-apart.
 d. *We weren't SINGING-TOGETHER–singing-together.

The challenge presented by CR is to find an analysis that encompasses all these possibilities.⁸

3.2. *Scope of CR Smaller than a Word*

Let us examine more closely the cases where the scope of CR is smaller than a word. Basically, CR can copy less than a word by leaving out inflectional suffixes and copying only the stem. Technically, the copy is still a word, but it is smaller than the word that it ‘copies from’. Our corpus contains many examples of both uncopied and copied inflectional affixes, such as those in (31) and (32) respectively. (Statistically, it is more common for the verb past tense suffix to copy and the noun plural suffix not to copy.)

- (31) Examples where inflectional morphology does not copy:
- a. ... and here are the GLOVE–gloves. [real boxing gloves as opposed to smaller practice ones] ©
 - b. We’re not one of those COUPLE–couples. ©
 - c. Not vans like ours [i.e., minivans], but VAN–vans. ©
 - d. In fact I barely talked to him. Not TALK–talked. ©
 - e. But how can we tell when the growing pains stop and the PAIN–pains take over? ©
 - f. [I] didn’t have a lot of FRIEND–friends. Girlfriends. ©
 - g. Those GUY–guys, y’know? Those guys with skills? ©
 - h. Not KID–kids, men-kids. ©
- (32) Examples where inflectional morphology copies:
- a. There’s a guy who collects fans, these are not sports fans but FANS–fans. ©

⁸ We can see already that CR, despite the resemblance of its prosody to compounds (compare *SALAD–salad* and *TUNA salad*), does not submit to analysis as an unusual form of compound. Aside from its prosody, it bears no resemblance to other forms of compounding in English. In particular, there is no form of compounding that involves phrases along the lines of (27) and (28); moreover, compounding typically excludes overt inflection on the first element as is found in, for instance, *CRIED–cried* (see (32) below). And compounding involving pronouns as in *MINE–mine* and *ME–me* is unknown. So we can discard an analysis in terms of compounding as a nonstarter.

- b. You mean **CRIED**–cried, or cried because something heavy fell on you? ©
- c. It has will-have-going-to-have-happened happened. But it hasn't actually **HAPPENED**–happened yet ... actually. ©
- d. I think she's **OLDER**–older.[in reference to relative sibling ages] ©
- e. No. I'm not **LEAVING**–leaving. ©
- f. We should approve tonight's minutes ... **TONIGHT'S**–tonight's minutes. ©

For some cases of deleted inflection, there may seem to be a phonotactic motivation. For example, *TALK*–*talked* instead of *TALKED*–*talked* avoids a difficult consonant cluster. But failure to copy inflectional suffixes cannot be attributed solely to phonotactics, given other examples such as *GUY*–*guys* that would not seem to have called for simplification. Furthermore, phonotactically identical sequences inside single morphemes are not simplified (**AC*–*act*, *PRI*–*prize*), so the conditions on CR that allow *GUY*–*guys* do somehow have to make reference to morphological constituency.

Irregular inflectional morphology always has to copy. Compare the attested examples of CR in (33), where the irregularly inflected word has copied whole, with the ungrammatical examples in (34b), where only the stem has copied:

- (33)a. When you say she's getting better, do you mean **BETTER**–better? ©
 - b. D'you mean a lot of **PEOPLE**–people, or a lot of women–people? ©
-
- (34)a. **GEESE**–geese b. ***GOOSE**–geese
 - TAUGHT**–taught ***TEACH**–taught
 - SEEN**–seen ***SEE**–seen

Derivational morphology also necessarily copies in CR, as illustrated in (35):

- | | | | |
|--------|---------------------------|----|-------------------------------|
| (35)a. | RELATIONSHIP–relationship | b. | *RELATION–relationship |
| | ACTOR–actor | | *ACT–actor |
| | MARRIED–married | | *MARRY–married [as adjective] |

Examples of derivational morphology in our corpus include those in (36). The only case of non-copying derivation in our corpus is that in (37), which may be related to the suffix *-ing*'s status on the borderline between inflection and derivation.

- (36)a. I could never be with a guy in a RELATIONSHIP–relationship. ©
- b. Well, not SURPRISING–surprising. ©
- c. BOWLING–bowling? ©
- d. He's a Christian, I mean a CHRISTIAN–Christian. ©
- e. A: Actually, we're done. B: DONE–done. ©
- f. There's cool-geeky and there's GEEKY-geeky. I'm only ever going to be GEEKY-geeky. ©
- (37) I like wind-surfing not SURF–surfing. ©

It is possible to copy entire compounds, as in (38):

- (38)a. A: When was the last time you had a boyfriend?
B: You mean a BOYFRIEND–boyfriend?
- b. We have a FIREPLACE–fireplace in the living room. [in discussion of a bricked up fireplace in the speaker's kitchen] ©
- c. Oh, that's BEACON-STREET–Beacon-Street. ©
- d. GREEN-TEA–green-tea ... [in the context of drinking green tea with rice in it] ©
- e. AIR-CANADA–Air-Canada or Canadian-Air Canada? ©

But it is impossible to copy only part of an established, lexicalized compound, as shown in (39):

- | | | | | | |
|--------|---------------------|----|-----------------|----|--------------------|
| (39)a. | BOYFRIEND–boyfriend | b. | *BOY–boyfriend | c. | *boy-FRIEND–friend |
| | FIREPLACE–fireplace | | *FIRE–fireplace | | *fire-PLACE–place |
| | PINK-SLIP–pink-slip | | *PINK–pink-slip | | *pink-SLIP–slip |

The only potential counterexamples to this in our corpus are:

- (40)a. Totally SELF–self directed. ©
 b. Wednesday is my WORK–work day. ©

Example (40a) comes from a newspaper ad for tax-deductible retirement investment funds, and copies only part of the lexicalized technical term *self-directed*. Nobody we have checked with finds this example acceptable, suggesting that it is one more example of a copywriter trying to use a colloquial construction for its cachet without worrying about getting it right. (40b) is more interesting: it is not a reduplication of the lexicalized compound *workday*, but a newly-produced compound meaning ‘my day for prototypical (or serious) work’.

Summarizing these facts, the definition of the scope of CR must contain some factor of optionality. This optionality permits CR either to apply to a whole word, or else to ignore regular inflectional affixes and apply only to the stem. However, neither irregular inflection nor derivational affixes can be ignored by CR. Judging from the single example of (40b), CR appears to be able to go inside a compound just in case the compound is made up on the spot. Combining these facts with the applicability of CR to idioms, seen above in (28), we see that status as a stored lexical unit plays an important role in defining the scope of CR.

3.3. CR and Object Pronouns

The other case of optionality in CR is when object pronouns and similar complements are optionally⁹ copied along with a head (usually a verb).

- (41) Object pronouns copied:
- a. LIKE-’EM–like-’em? Or, I’d-like-to-get-store-credit-for-that-amount like-’em? ©
 - b. ... you mean thought-about-it considered it or just CONSIDERED-IT–considered-it? ©
 - c. I mean, I know him, but I don’t KNOW-HIM–know-him. ©
 - d. Do I LIKE-YOU–like-you? No. You’re a little too neurotic for that. ©

⁹ There are speakers for whom the copying of some object pronouns is obligatory. See section 3.4.

- (42) PP containing object pronoun copied:
- a. I didn't SLEEP-WITH-HER–sleep-with-her.
 - b. I talked to him that week, but I didn't TALK-TO-HIM–talk-to-him. ©
 - c. Did you TALK-ABOUT-IT–talk-about-it, or did you just mention it?
- (43) Larger combinations copied:
- a. Well, he didn't GIVE-IT-TO-ME–give-it-to-me (he only lent it to me).
 - b. ... after we had finally BROKE-IT-OFF–broke-it-off, I found out he had bought me an engagement ring. ©

It is impossible to copy just the preposition but not the following pronoun (44a–c). However, it is possible to copy an object pronoun but not a following PP (44d):

- (44)a. *I didn't SLEEP-WITH–sleep-with her.
- b. *I never TALKED-TO–talked-to him.
- c. *He didn't GIVE-IT-TO–give-it-to me.
- d. He didn't GIVE-IT–give-it to me/Harry. [OK for some but not all speakers]

Copying of object pronouns and complement PPs is not limited to verbs, but is also found with adjectives (*AFRAID-OF-HIM–afraid-of-him*) and prepositions (*ACROSS-FROM-HER–across-from-her*). For some reason we have been unable to find fully acceptable cases of nouns with their complements, even when pragmatically plausible (e.g., *??NEWS-ABOUT-HER–news-about-her*).

However, if a complement is non-pronominal, it cannot be included in the scope of CR (45a, b). And if the complement is pronominal but focused, CR cannot include it either (45c, d):

- (45)a. I can't say I LIKE–like Mary.
- b. *I can't say I LIKE-MARY–like-Mary.
- c. I like HIM, but I LIKE–like HER.
- d. *I like HIM, but I LIKE-HER–like-HER.

In all the acceptable cases, the post-head material has been in some sense cliticized to the head, though not in the phonological sense. Object pronouns have both a full, stressed form (which, however, need not bear a pitch-accent) and a phonologically reduced, unstressed form which cliticizes onto the verb. But a verb+pronoun sequence can undergo CR regardless of whether the object pronoun is in its full or reduced form:

- (46)a. Does he LIKE-THEM–like-them?
 b. Does he LIKE-’EM–like-’em?

A few other verb+X sequences may undergo CR; and again this does not depend on the X being phonologically reduced and cliticized onto the verb. Indeed, many speakers find the unreduced forms preferable. Compare the copying of the full infinitival [tu:] with the slight oddness of copying a cliticized *wanna*:

- (47)a. Do you want-[tu:] or WANT-[tu:]-want-[tu:]?
 b. ?Do you wanna or WANNA–wanna?

The question arises of whether this optionality in CR can be characterized phonologically, say by optionally allowing CR to incorporate clitics on the right of the element to be copied. We think not, for several reasons. First, it is impossible to copy just any unstressed syllable that happens to be phonologically cliticized onto the verb, e.g., the indefinite article in the following:

- (48)a. I wouldn’t DATE–date a linguist.
 b. *I wouldn’t DATE-A–date-a linguist.

One possibility in accounting for this might be to refer to the clitic group, a constituent proposed by Hayes (1989) and Nespor and Vogel (1986) as a level of the Prosodic Hierarchy intermediate between the word and the phrase. Hayes defines a clitic group as a prosodic word plus the clitics to its right or left. When a clitic falls between two prosodic words, it belongs to the clitic group of the one to which it is more closely related syntactically.¹⁰

¹⁰ Recently, the more usual practice in phonology has been to use ‘recursive prosodic words’ to handle cases that were previously analyzed using clitic groups. For arguments for the clitic group as a unique level of the prosodic hierarchy, see Vogel (1990); for arguments against, see Selkirk (1996) and Peperkamp (1997). Essentially the same strengths and weaknesses carry over if the possible analysis under discussion were to be recast in terms of recursive prosodic words.

So in (48), *date* and *a* do not form a copyable clitic group, since *a* must belong to the same clitic group as *linguist*. However, Hayes' definition of clitic group includes clitics on the left as well as the right, and these never reduplicate:¹¹

(49) *I wouldn't date [CG A-LINGUIST]–[a linguist]

Even restricting optional incorporation to right-hand clitics, it is not clear that unreduced pronouns such as in (46a) should count as clitics, not to mention disyllabic prepositions such as *about* in (42c). And even were we to develop a sufficiently generous interpretation of 'clitic' to accommodate these cases, there would be no obvious generalization to the optionality observed with inflectional morphology, where the reduplicant in, e.g., *GUY–guys* is less than the prosodic word that it reduplicates. Nor would there be a natural generalization to idioms such as *LIVING-TOGETHER–living-together* and *OVER-THE-HILL–over-the-hill*, which contain multiple prosodic words and are therefore larger than a clitic group.

A telling example involves the discontinuous idiom *take NP to task*, which has an open direct object slot. It is possible to reduplicate the idiom if the direct object is an unstressed pronoun (50a). But if it is a proper name or a stressed pronoun, CR is impossible (50b); and of course it is impossible to reduplicate just part of the idiom instead (50c, d):

- (50)a. TAKE-HER-TO-TASK–take-her-to-task
 b. *TAKE-SANDY/HER-TO-TASK–take-Sandy/her-to-task
 c. *TAKE–take Sandy to task
 d. *take Sandy to TASK–task.

This example shows that the distinction between unstressed pronouns and other noun phrases holds of positions other than just the right periphery of the reduplicated item. This leads us to question whether the scope of CR has to do with prosody at all. We therefore turn to a (morpho)syntactic characterization; we return to some secondary prosodic considerations in section 3.5.

¹¹ The exception to this is when the determiner is part of a lexicalized proper name, as in *The Hague* or *The Pas*. These can undergo CR: *The casino isn't in THE-PAS–The-Pas*, but in *Opaskwayak*. (The reserve of the Opaskwayak Cree Nation includes land that is in the northern Manitoba town of The Pas, but not legally part of it.)

3.4. *The Generalization*

Another dimension of the distinction between unstressed pronouns and other NPs is that unstressed pronouns are non-contrastive closed-class items. These characteristics are shared by unstressed prepositions, of whatever length. More importantly, they are also shared by inflectional affixes. Thus a characterization in these terms brings out a parallelism between optional object pronouns and optional inflectional affixes in CR.

In order to generalize across these two, however, we have to step back and look at the scope of CR in (morpho)syntactic terms. First, an invariable condition of CR is that its scope must include a full lexical item, to whose meaning the semantic effect of CR is applied. This allows CR to apply to stems to which regular inflectional affixes are attached. And, it allows CR to apply to idioms, which are lexically listed. But it excludes reduplication of part of an idiom, since the words within an idiom do not have their normal meaning. It also (perhaps more controversially) excludes words composed by derivational morphology, since the meaning of the stem is (typically) not transparent and is not available for contrast within the meaning of the whole word.

Next let us turn to the size of the base. First consider examples without optional material. The smallest unit that CR applies to is an X^0 inside a word such as *GLOVE*–[_N *glove*]-s. The largest unit that CR applies to is in idioms such as *OVER-THE-HILL*–[*over the hill*]. Characterizing this unit depends on one's theory of phrase structure. In older X-bar theory it was characterizable as X^1 , the constituent of XP containing the head and its complements, and not containing the specifiers. In more contemporary approaches to phrase structure it is XP, the complement of a functional category. We will use the neutral notation XP^{\min} to stand for this unit.

Strikingly, CR never applies to idioms larger than XP^{\min} . For instance, one might imagine applying CR to the sentential idiom *My goose is cooked*, to mean something like (51a); but it is ungrammatical (51b), and as usual, no part of the idiom can be reduplicated either (51c):

- (51)a. I'm not just sort of in trouble, my goose is really cooked.
 b. *MY-GOOSE-IS-COOKED–my-geese-is-cooked.
 c. *My goose is COOKED–cooked.

So one important part of the optionality in CR comes from choice in the syntactic size of the base: CR applies to either X^0 or XP^{\min} .¹²

¹² We have a few examples in the corpus where something to the left of the head is within the scope of CR. Most of them, for example *GREEN-TEA*–*green-tea* and *ALL-DONE*–*all-*

That the same operator should apply to both X^0 and XP is not without precedent. An example is English *-ing*, which can be applied productively to a verb to form a noun (52a), or to a VP to form an NP (52b) (Jackendoff 1977, chapter 9; we leave aside here the process by which *-ing* is attached to the verb rather than to the outside of the VP):

- (52)a. [DP/NP his compulsive [_N [_V drink]-ing] of beer]
 b. [DP/NP his [_{NP} [_{VP} compulsively drinking beer]]]

There is another example of a reduplication that can apply to bases of variable size: Kannada echo-reduplication (ER), as described by Lidz (2001). In ER, an element X is repeated with the first CV syllable replaced by *gi-* or *gi:-*, expressing the meaning ‘ X or related things’. Like CR, the size of the copy in Kannada ER can range from part of a word to an entire phrase. All three of the following sentences (Lidz 2001, pp. 378–379) mean ‘Don’t say that I closed the door or did related activities’. (In (53), the base has been enclosed in brackets and the reduplicant is in boldface.)

- (53)a. baagil-annu [much]-**gich-** id- e anta heeLa-beeDa
door-ACC close-REDUP-PAST-ISG that say-PROH
- b. baagil-annu [much-id-e]- **gichide** anta heeLa-beeDa
door-ACC close-PAST-ISG- REDUP that say-PROH
- c. nannu [baagil-annu much-id-e] **giigilannu muchide** anta
I-NOM door-ACC close-PAST-ISG REDUP that
 heeLa-beeDa
say-PROH

Again, in (53a), this reduplication looks like morphology; in (53c), like syntax. In the in-between case (53b), there is no way to tell.¹³

We now return to the issue of the ‘extra’ reduplicated material: the inflectional affixes, the unstressed pronouns, and the PPs with unstressed pronouns. As mentioned at the outset of this subsection, all of it seems

done, are arguably compounds and may not offer a problem. If it should prove necessary, an alternative would be to enlarge the scope of CR to include left-hand adjuncts, though still excluding specifiers.

¹³ The constraints on the base of Kannada ER differ from those for CR in two respects. First, as seen in (53c), ER allows more than one non-functional morpheme to be reduplicated; compare ?*Well, I didn’t OPEN-THE-DOOR–open-the-door. Second, it permits parts

to belong to the class of ‘grammatical’ or ‘functional’ morphemes. To be sure, the boundaries of this class are somewhat uncertain. However, we find that this hazy boundary is reflected in CR: as we shade from clearly grammatical morphemes to more contentful alternatives, our judgments of CR get worse (or more of us find the examples dubious). Example (54) illustrates this gradation with pronouns: *see it* is fine, *see one* may be worse, *see some* is definitely worse:

- (54)a. An alien, huh? Did you actually SEE-IT–see it, or just sort of guess it was there?
- b. ?Aliens, huh? Did you actually SEE-ONE–see-one, or just sort of guess one was there?
- c. ?* Aliens, huh? Did you actually SEE-SOME–see-some, or just sort of guess they were there?

The examples in (55)–(56) illustrate the same thing with more- versus less-contentful prepositions. The prepositions in (55) are more or less grammatical, that is, they are more or less default prepositions for the verb they occur with. Those in (56), however, add information that would not be predicted by the verb. We find them worse in CR; note especially the minimal pairs (55–56a) and (55–56b):

- (55)a. Did you SIT-ON-IT–sit-on-it, like, squash it?
- b. Did you LOOK-AT-IT–look-at-it, or just sort of glance at it?
- c. Did you TALK-ABOUT-IT–talk-about-it, or just mention it?

of idioms as well as whole idioms to be reduplicated. The acceptable example (ii) would be paralleled in CR by the ungrammatical *Hari kicked the BUCKET–bucket*:

- (i) Hari kannu much-id -a
Hari eye close-PSAST-3SG:M
 ‘Hari died’ (lit. ‘Hari closed his eyes’)
- (ii) Hari [kannu]-**ginnu** much-id-a
 ‘Hari died and did related things’
- (iii) Hari [kannu muchida] **ginnu muchida**
 ‘Hari died and did related things’

- (56)a. ?*Did you SIT-NEAR-IT–sit-near-it, or just sort of hang around it?
- b. ?*Did you LOOK-IN-IT–look in it, or just stick your hand in?
- c. ?*Did you RUN-AROUND-IT–run-around-it, or just sort of jog?
- d. *Does Superman’s X-ray vision really work, like, can he SEE-THROUGH-HER–see-through-her?

Our conclusion is that in addition to a single contentful lexical item, the scope of CR may include only non-contrastive “functional/grammatical morphemes” (however the latter is to be defined).

Putting together all the conditions on CR so far, we get the following definition:

- (57)a. The scope of CR is either X^0 or XP^{\min} .
- b. The scope of CR must include a full lexical item, to whose meaning the semantic effect of CR is applied.
- c. In addition to a single contentful lexical item, the scope of CR may include only noncontrastive functional/grammatical morphemes.

We summarize the results of this section by showing how the scope of CR is defined in a variety of cases we have discussed. In each case, the scope of CR is marked by underlining, the contentful lexical item is marked in bold, and the leftover functional/grammatical morphemes are marked in italics:

- (58)a. [_N glove]_s ⇒ GLOVE–gloves
- b. [_V talked]_i ⇒ TALKED–talked
- c. [_{PP}_{min} off the wall]_i ⇒ OFF-THE-WALL–off-the-wall
- d. [_{VP}_{min} talk about it]_i ⇒ TALK-ABOUT-IT–talk-about-it
- e. [_{AP}_{min} proud of her]_i ⇒ PROUD-OF-HER–proud-of-her
- f. [_{VP} [_{VP}_{min} give it] to him]_i ⇒ GIVE-IT–give-it to him¹⁴

¹⁴ The bracketed constituent over which CR has scope in this example is based on an analysis under which double complements in VP have a recursive left-embedded structure, a precedented but not uncontroversial assumption. We will not argue the point here. Recall also that speakers’ judgments differ on this example.

- g. [_{VP^{min}} **take her to task**] ⇒ TAKE-HER-TO-TASK–take-her-to-task (cf. (50a))
- h. [_N [_N **work**] [day]] ⇒ WORK–work day (‘a day where I do real work’, cf. (40b))

Condition (57c) is violated if contentful material is substituted for the italicized material in (58), e.g., **TALK-ABOUT-MATH–talk-about-math*, **PROUD-OF-DAVE–proud-of-Dave*. Condition (57b) is violated if the scope is less than a contentful lexical item, e.g., one element of a lexicalized compound (**BOY–boyfriend*), one word of an idiom (**KICKED–kicked the bucket*), or the stem of a word containing derivational affixes (**RELATION–relationship*). Condition (57a) is violated in **A-LINGUIST–a-linguist* (cf. (47)): although the determiner is a grammatical morpheme, it is outside of NP^{min}, so it cannot be within the scope of CR. Similarly, as mentioned earlier, sentential idioms such as *my goose is cooked* are impossible because they involve more than VP^{min}.¹⁵

¹⁵ In section 6 of this paper we briefly discuss the similarity we have found between CR and modification by words like *really* (for verbs and adjectives) and *real* (for nouns). If we view CR as being of the same class as these modifiers, some of the restrictions on its scope fall into line. That is, the restriction ruling out **A-LINGUIST–a-linguist* may be the same one that dictates the order *a real linguist* rather than **real a linguist*. And the restriction ruling out **MY-GOOSE-IS-COOKED–my-geese-is-cooked* is the same one that rules out *Really my goose is cooked* (with the relevant reading of *really*). More specifically, within a framework in which the functional categories Det and I are heads of phrasal categories of which NP and VP respectively are complements, CR falls in with the class of modifiers that can only adjoin to NP and VP – the lexical rather than functional categories. Assuming that this restriction can be stated for the whole class of modifiers, the construction-specific conditions on CR are then the following:

- (a) CR can adjoin below the X⁰-level, provided its sister is a contentful lexical item.
- (b) In addition to a single contentful lexical item, the scope of CR may include only noncontrastive functional/grammatical morphemes.
- (c) The adjunction structure of CR cannot be dominated by any node licensed by a lexical entry (or a node that is coindexed with a constituent in the semantics).

The first two conditions account for the facts regarding inflectional morphemes and object pronouns. The third condition rules out the application of CR to parts of compounds or idioms. That is, unlike *really* CR cannot apply within a sentential idiom (*My goose is really cooked. vs. *My goose is COOKED cooked.*) Since this alternative view of CR is more difficult to work out within the parallel architecture model, we will pursue the version that is in the main text.

3.5. *Prosodic Constraints on CR*

Although on our story the scope of CR is defined primarily in morpho-syntactic terms, there do seem to be some prosodically based preferences which have a gradient effect on the acceptability of CR. These vary among speakers.

First, there is a group of speakers for whom the copying of inflectional affixes is completely optional, while the copying of object pronouns is strongly preferred. Such speakers judge (59a) and (59b) to be equally acceptable, but prefer (60a) to (60b):

- (59)a. GUYS–guys
 b. GUY–guys
- (60)a. LIKE-’EM–like-’em
 b. ?LIKE–like’em

While this may seem puzzling if taken as a fact about inflectional morphemes vs. object pronouns, it is less so if considered as a fact about prosody. Indeed, when an inflectional affix constitutes a separate syllable, these same speakers prefer to copy it. Hence, in (61)–(62), they make a distinction in the (a) examples, where the affix is syllabic, but not in the (b) examples, where it is not (> signifies ‘more acceptable than’; = signifies ‘equally acceptable’).

- (61)a. PEACHES–peaches > ?PEACH–peaches
 b. APPLES–apples = APPLE–apples
- (62)a. VOTED–voted > ?VOTE–voted
 b. PLAYED–played = PLAY–played

Moreover, if the affix always constitutes a syllable, such speakers strongly prefer the version of CR in which it is copied along with the stem. (63) illustrates this with the *-ing* forms of verbs and *-est* forms of adjectives:

- (63)a. I was talking to him that week, but I wasn’t TALKING–talking
 [*TALK–talking].¹⁶

¹⁶ Not everyone dislikes examples involving the omission of *-ing*, suggesting that the constraint on syllabic parallelism may be stronger or weaker for some. For those of us who

- b. I've been reading *Finnegan's Wake*. My friends told me it's the hardest book in the English language. Not the HARDEST-hardest [*HARD–hardest]. ©

This suggests that the relevant constraint is to prefer an application of CR which results in parallel prosodic structure in the reduplicant and the prosodic constituent containing the base.

Two further phonological preferences we have found among speakers pertain to length and prosodic contour. Many speakers report degraded judgments correlating with increased length, as shown in (64a). A few speakers (RJ among them) prefer initial main stress over late main stress preceded by secondary stress. The distinction in (64a) is a matter of prosodic contour as well as length, but (64b,c) are minimal pairs differing in prosodic contour alone:¹⁷

- (64)a. BÉACON-STRÈET-Beacon-Street > CÒMMONWEALTH-ÁVENUE-Commonwealth-Avenue
- b. BÁSSET-HÒRN-basset-horn > ÈNGLISH-HÓRN-English-horn
- c. CLÁRINÈT-clarinet > CLÀRINÉT-clarinet

These prosodic constraints on CR are summarized informally as (65):

- (65)a. The reduplicant preferably contains the same number of syllables as the prosodic constituent containing the base of CR. [some speakers]
- b. The scope of CR should not be too long. [many speakers]
- c. The scope of CR preferably has early main stress rather than late main stress. [a few speakers]

find an example like *TALK–talking* acceptable, we do not accept it in a context where the suffix *-ing* is derivational rather than inflectional. For example, in reference to someone who is a professional dancer one could say *When I said his dancing drove me nuts I didn't mean his DANCING–dancing! *DANCE–dancing*.

¹⁷ (Both pronunciations of *clarinet* in (64c) are available in RJ's dialect, the initial-stressed variant being 'clarinetplayerspeak'.)

The phenomenon of stress shift, or switching of primary and secondary stresses in order to avoid stress clash (as in *nínètèen-nínety* rather than *nìnetéen-nínety*), has had a long history in phonological theory since Liberman and Prince's (1977) proposal of the Rhythm Rule for English. It may be that the preference some speakers show against final main stress in CR is simply a special case of English stress shift.

It is worth mentioning two factors that may contribute to this variation among speakers. First, CR most often occurs in either questions or sentences containing negation, i.e., contexts in which main verbs will not be inflected. The rarity of fully inflected candidates for CR may explain why there is variation with respect to whether inflectional material gets copied.

A second factor that muddies the water has to do with the fact that CR marks contrastive focus. As such, there is a preference for reduplicated expressions to occur alone, sentence-finally.¹⁸ To illustrate, here are some examples from our corpus in which material that is presupposed (shown here struck out) has been elided:

- (66)a. Felix: Tim! I'd be careful. That's instant glue you're using.
 Tim: It's not like INSTANT–instant [~~glue~~]. ©
- b. That's ok, I'm familiar with these young ladies. Well, I'm not FAMILIAR–familiar [~~with these young ladies~~], I know them.
 ©
- c. In fact I barely talked to him. Not TALK–talked [~~to him~~]. ©

Because contrastively focused words tend 'to occur' finally, it is difficult to determine the scope of CR beyond the "word" (X^0) – not only for the linguist but presumably for speakers/learners also. Hence, it is possible that speakers will vary as to the kinds of constraints they adopt for the construction. These constraints can be phonological (e.g., length restrictions), syntactic (e.g. whether the scope of CR is restricted to X^0 or beyond), semantic/pragmatic (e.g., whether non-focus-bearing elements can copy), or some combination of these, UG being silent on the matter.

4. AN ANALYSIS OF CR IN THE PARALLEL ARCHITECTURE FRAMEWORK

We seek an analysis of CR into which it is possible to incorporate its meaning, its syntactic conditions, its reduplicative phonology, and, for those speakers who have them, its prosodic conditions. The syntactic conditions must make it possible for CR to apply to phrases as large as XP^{\min} and as small as stems minus their inflectional affixes; thus we seek a framework

¹⁸ The association between sentence-final position and new information/rheme/focus has long been noted in the literature. Recent analyses offering a syntactic account for this correlation include Vallduví (1995) for Catalan, Zubizarreta (1998) for Spanish, and Alboiu (2000) for Romanian.

where morphosyntax and phrasal syntax are not distinguished by being in separate impenetrable modules. One such framework is the parallel architecture of Jackendoff (1997, 2002); we will work out an analysis of CR as a test of this framework on an unusual phenomenon. In order to present the analysis, we first review some basics of the parallel architecture and show how it might be applied to reduplication in general; we are then in a position to state an analysis of CR.

4.1. *Basics of the Parallel Architecture*

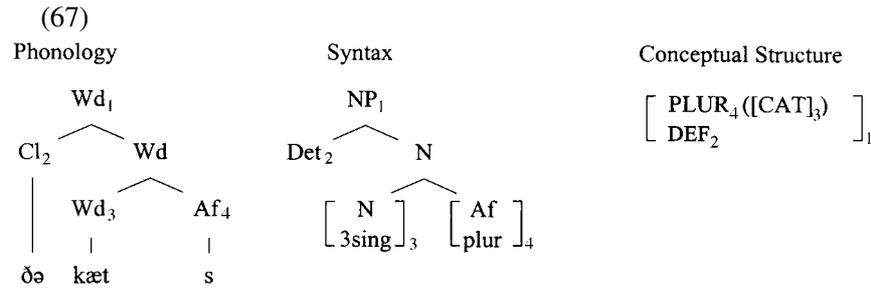
A fundamental postulate of the parallel architecture framework is that phonological, syntactic, and semantic/conceptual structures are each the product of a set of combinatorial primitives and principles of combination. The role of syntax is thus not as prime generative power but rather as an intermediate structure that aids in more precise mapping between phonology and meaning. In order for the three independent structures to form a unified representation for linguistic expressions, it is necessary to establish how the parts of each one correspond to parts of the others. This connection between structures is accomplished by ‘correspondence rules’ or ‘interface rules’, rules that have structural conditions in two (or more) domains. Overall, a sentence is well-formed when its phonological, syntactic, and semantic/conceptual structures are all well-formed and a well-formed correspondence among them has been established by the interfaces.

One of the primary interface rules between phonology and syntax is that the linear order of units in phonology corresponds to the linear order of the corresponding units in syntax. One of the primary interface rules between syntax and semantics is that a syntactic head corresponds to a semantic function, that the syntactic arguments of the syntactic head correspond to the arguments of the semantic function, and that syntactic adjuncts correspond to semantic modifiers.¹⁹ The upshot of these two primary interface principles is that for the most part, syntax has the linear order of phonology but the embedding structure of semantics. An additional important interface connects prosody in phonological structure to the department of semantics dealing with information structure, i.e., phenomena like topic and focus. Thus there is no need for syntax to be involved in cases such as *The DOG chased the cat*, which contains no special morphemes or word orders that call for syntactic intervention.

An illustration of some of these properties of the parallel architecture appears in (67). This is the structure of the phrase *the cats*; the subscripting

¹⁹ This interface rule is defeasible, i.e. there are alternative ways to map from syntactic phrases to semantic expressions. See Jackendoff (1997, chapter 3); (2002, chapters 6 and 12).

indicates the connections established by the interfaces between the parts of the three structures. Notice that the lowest nodes in the syntactic tree are syntactic features, not the customary notation *the cat-s*. This is because, in the parallel architecture, syntax contains not full lexical items, but rather only their syntactic features. The phonological and semantic features are in their respective trees. For the semantics we use the Conceptual Structure notation of Jackendoff (1983, 1997, 2002); readers invested in other frameworks should feel free to substitute their own notations.



An important feature of the parallel architecture is the role it assigns to the lexicon. In mainstream generative grammar, lexical insertion or Merge incorporates lexical items into a syntactic tree, complete with all their phonological and semantic features as well as its syntactic features. The phonological features are handed off to the phonological component at one interface (in the Minimalist Program, Spell-Out), and the semantic features are handed off to the semantic component at another interface (since the 1980s, LF). That is, lexical items are totally passive in the derivation, although they may have features that require certain rules to move them or to move things to them.

In the parallel architecture, a lexical item is still an association of phonological, syntactic, and semantic features (or structures). However, it is not inserted into a syntactic tree. Rather, a lexical item tells the grammar that its three sets of features can be placed in correspondence in the three independent linguistic components. That is, a lexical item is a small-scale interface rule that plays an active role in licensing the construction of sentences. Unlike in mainstream generative grammar, there is no reason to confine the syntactic structure of lexical items to X^0 size: idioms may be XP^{min} or larger, and productive morphological affixes may be treated as lexical items syntactically smaller than X^0 (Jackendoff 2002, chapter 6).

(68) shows the three lexical items from which (67) is built. The only connection in (67) that does not come from the lexical items is the sub-

script *l* on the entire constituent, which comes from principles of phrasal correspondence:

(68)	Phonology	Syntax	Conceptual structure
a.	Cl_l $ $ $\delta\text{ə}$	Det_l	DEF_l
b.	Wd_j $ $ $k\text{æ}t$	$\left[\begin{array}{c} N \\ 3 \text{ sing} \end{array} \right]_j$	CAT_j
c.	Wd $\swarrow \quad \searrow$ $Wd_k \quad Af_m$ $ $ z	N^0 $\swarrow \quad \searrow$ $N_k^0 \quad \left[\begin{array}{c} Af \\ plur \end{array} \right]_m$	$[PLUR_m ([X_k])]$

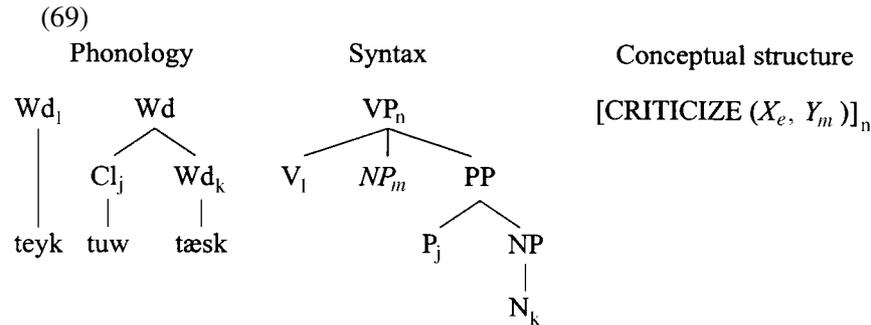
The grammar works overall as a constraint-based system: the lexical items and the rules of grammar are best not thought of as ‘generating’ structures but rather as *licensing* them. Alternatively, one can ‘generate’ structure by unifying lexical items with pieces of larger structure in all three components, where these larger pieces of structure are licensed by phrasal constraints. Thus this approach is on the whole compatible with such approaches as HPSG, LFG (which has an extra syntactic ‘tier’ of f-structure), and Construction Grammar (see Jackendoff 2002 for comparisons).

A crucial piece for our purposes here is the regular plural suffix (68c). The parts in italics are contextual features: they show how the affix attaches to a stem in phonology and syntax, how it applies as an operator to its stem in semantics, and how the stem corresponds in the three components. Similar contextual features can also be used to specify the connection between syntactic subcategorization of verbs and semantic argument structure. More generally, the formal devices for encoding morphological composition are altogether parallel to those for phrasal composition.

At the same time, this approach does not preclude there being differences between morphosyntax and phrasal syntax. Such differences will be reflected in the grammar (and quite possibly UG) by different sorts of compositional principles for units smaller than X^0 (morphosyntax) than for units of X^0 and larger (phrasal syntax). The point is that it is not neces-

sary to say that (all) morphology ‘takes place in the lexicon’ (or in some other component altogether distinct from the syntax), as is the practice in HPSG, for example. Rather, regular morphology is as much a matter of free (potentially online) composition as are phrases. (For the important distinction between regular and “semiregular” morphology, see Jackendoff (2002, chapter 6).)

The matching among phonology, syntax, and semantics in (67) and (68) is straightforward. To see a slightly less canonical case, (69) shows the idiom *take NP to task*:



First look at the syntax-semantics correspondence. The verb, preposition, and noun are not coindexed with anything in the conceptual structure; rather, only the entire VP is coindexed with a conceptual structure, namely ‘x criticize y’. This coindexing relationship is precisely what it means for something to be an idiom: the syntactic parts do not contribute to the meaning of the whole. Next look at the two arguments of *CRITICIZE*, which bear subscripts. The first argument has the subscript e , which by convention picks out the external argument; the second argument is subscripted to the direct object in the idiom’s syntax, which is to be filled in by an argument.

Finally, look at the syntax-phonology correspondence. The verb, preposition, and noun are coindexed with phonological content, as expected. However, the variable for the direct object is not coindexed with phonological content. Such a coindexation is unnecessary, because when an actual direct object fills in the variable, it will carry its own index to phonological structure. In turn, since the direct object falls between the verb and the PP in syntax, its phonology will have to fall between that of the verb and that of the PP, because of the general interface principle that linear order corresponds in syntax and phonology.

This brief exposition puts into place most of the pieces we need to approach CR in the parallel architecture. The one remaining piece is a treatment of reduplication.

4.2. *A Treatment of Reduplication in the Parallel Architecture*

A standard treatment of reduplicative morphology (Marantz 1982; McCarthy and Prince 1986) sees it as the realization of an abstract affix whose phonological content is an empty (or partially empty) frame; its segmental content is copied from the base in accordance with various phonological constraints.²⁰

The emphasis in phonological theory has been on the mechanics of the copying: the nature of the empty frame and the phonological constraints that result in the reduplicated form. What is often neglected is the role of the reduplication construction in the grammar as a whole. But it is clear that reduplicative morphology is (often) associated with a meaning to be expressed; that is, a reduplicant is (often) the phonological realization of a morpheme with a meaning. As mentioned in section 2.2, reduplication can express a wide range of possible meanings crosslinguistically (and in some languages, such as Tagalog, there are many different reduplicative morphemes). Some of these meanings, for instance plural and past, correspond to traditional inflectional morphemes; others, such as forming verbs from nouns, fit in with derivational morphology. But the meanings are typical for affixal morphemes: the literature does not cite reduplicative phenomena that express things like ‘picture of X’ or ‘sit on X’ that are typically expressed by open-class items.

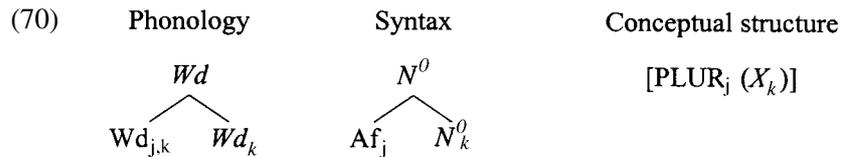
From the point of view of morphosyntax and semantics, then, it makes sense to view reduplicative constructions as ordinary morphological affixes. The only difference is that instead of ordinary phonological content, they have empty phonological frames or some “metaphonological” content COPY X, where ‘X’ specifies the base to be reduplicated. In this larger context, the discussion of reduplication in phonological theory concerns what UG needs in order to realize this metaphonological content properly across the languages of the world.

English CR might therefore be seen as such a morpheme. We are encouraged in this approach by the fact that, like other reduplicative morphemes, CR is paralleled semantically by an ordinary morpheme, in this case the Japanese *ma-* prefix discussed in section 2.2. The fact that CR is realized phonologically as reduplication will be taken to be a consequence of its having the metaphonological content that, in the con-

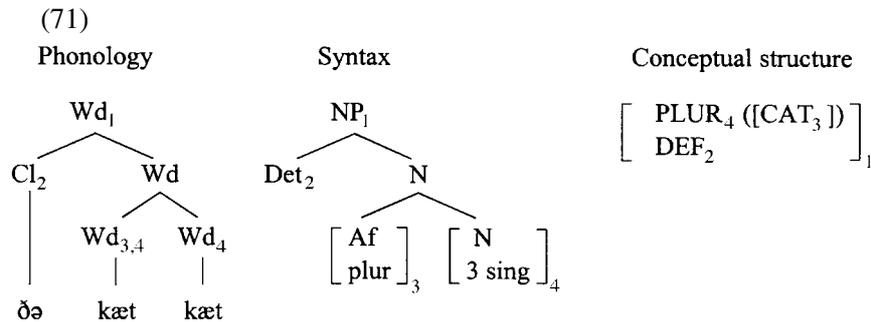
²⁰ This view of reduplication is not universally accepted. For example, Inkelas and Zoll (2000) argue that all cases of reduplication involve the copying of a bundle of morphosyntactic features, not the copying of phonological material – even those cases which are the classic examples of the need for phonological copying. However, they do not elaborate on how they think the morphosyntactic copying is accomplished.

text of an appropriate base, triggers automatic reduplication processes in phonology.

There turns out to be a straightforward formal way to express COPY X in the parallel architecture. A reduplicative morpheme, like any other affix, has to specify the base to which it attaches. The base will have an index that connects its phonological content to its syntactic content. In order to create reduplication, we can attach this very same index to the phonology of the affix. (70) is a hypothetical reduplicative plural prefix. It is virtually the same as the English plural, except for its phonological content:



The important difference here is that the prefix has no specified phonological content. The phonological content is still coindexed with the syntactic prefix, so we know the reduplicant is a realization of the prefix. But it is also coindexed with the base; hence the base's phonological content shows up in the prefix as well. If (70) were substituted for the English plural (68c) in the expression *the cats*, the result would be (71), *the cat-cat*:



4.3. Formulating CR

We now have most of the tools we need to formulate CR as a free reduplicative morpheme in the parallel architecture. There are still a few problems to be solved, though, some notational and some substantive. One thing that is different from the cases of reduplication so far is that the base is of variable size, in both syntax and phonology. The syntactic structure of CR will have to stipulate that either X^0 or XP^{\min} is possible (condition

Some examples from section 2 provide a useful illustration; we append here the conceptual structure of the focused element:

- (73)a. It wasn't a GOAT. [Contrastive focus]
 Contrast set: {goats, horses, pigs, sheep, ... }
 GOAT
 [CONTRAST]
- b. It wasn't a GOAT-goat. [CR]
 Contrast set: {prototypical goats, non-prototypical or non-literal goats }
 GOAT
 P/E/S
 [CONTRAST]

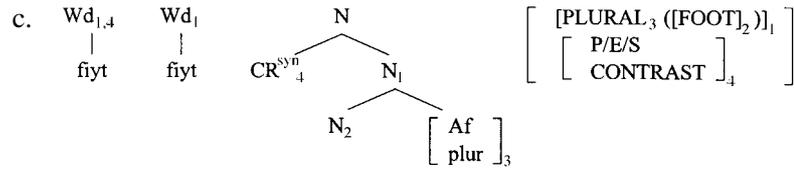
Given this representation, we can formulate a version of CR containing semantics as follows:

$$(74) \quad P_{j,k} \quad P_k \quad \begin{array}{c} X^0/XP^{min} \\ \diagup \quad \diagdown \\ CR^{syn}_j \quad X^0/XP^{min}_k \end{array} \quad \left[\begin{array}{c} Z_k \\ P/E/S \\ [CONTRAST]_j \end{array} \right]$$

If the meaning of the base does not offer an appropriate contrast, for instance if it is a grammatical morpheme or a piece of an idiom that lacks independent meaning, P/E/S will be a semantically anomalous modifier, exactly parallel to **green ideas* or contrastive **KICK the bucket* with idiomatic meaning. Thus this formulation automatically accounts for condition (57b) of section 3.4: the scope of CR must contain a full lexical item.

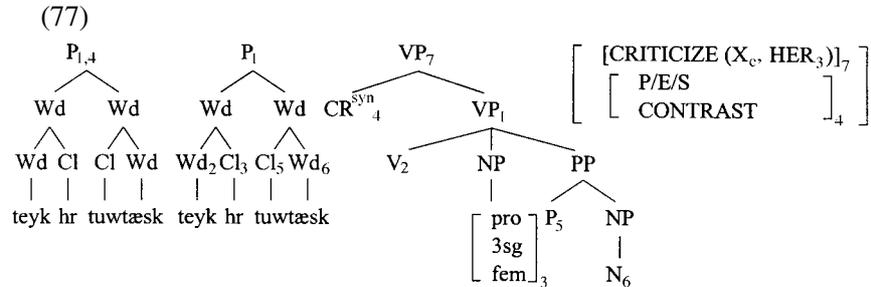
(74) contains nothing that specifies the special stress pattern of CR, because this is taken care of automatically. Recall that there is a component of interface rules that correlates information structure (topic/focus) directly with stress and prosody. These rules are responsible for the contrastive stress and intonation in (73a) and in sentences like *It's not a REAL dog*, where the modifier is contrastive. Thus these rules can apply also to the CONTRAST feature marked by CR. The contrasting constituent in semantics is subscripted *j*; therefore the stress will go on the constituent subscripted *j* in phonology, i.e., the reduplicant. We thereby see the virtue of the double subscripting in reduplication: the segmental content comes from the base, and the stress comes from the meaning of the reduplicative affix.

One important piece is missing: we still have not accounted for condition (57c), which requires no more than one contentful lexical item. (74)



Notice that in the parallel architecture, *feet* is sort of a phonological counterpart of an idiom: it has the syntactic structure of a normal plural, but its constituents in syntax are not coindexed with anything in phonology. Rather the inflected noun is coindexed with the phonology as a whole. Now, since CR must apply to a base that appears in both syntax and phonology, it cannot apply to the inner N in (76c) to produce **FOOT-feet*. Thus the formulation in (74) automatically explains how CR applies to irregularly inflected forms.

(76) shows X^0 -size cases of CR. (77) shows an XP^{min} -size case: *TAKE-HER-TO-TASK-take-her-to-task*. It builds on the structure of the idiom given above in (69):



Her in (77) is a noncontrasting functional item. If a phrase with lexical content is substituted for it, for instance *take Susan to task*, condition (75) is violated and therefore CR cannot apply. Similar considerations apply to rule out all nonfunctional complement phrases. We should also note why CR cannot apply to the inside of the idiom, say **take her to TASK-task*. This is because CR's sister in syntax must be coindexed with a constituent in semantics. As observed in section 4.1, what makes an idiom idiomatic is precisely that its internal syntactic constituents are *not* coindexed to semantic constituents. Hence CR cannot apply in a well-formed fashion.

Our conclusion is that an approach to CR in the parallel architecture is altogether feasible. Its parallelisms with other forms of affixation and with other reduplicative phenomena emerge quite naturally. In addition, the ways in which CR diverges from other known phenomena are clear and formally expressible in a natural fashion: in particular, its ability to

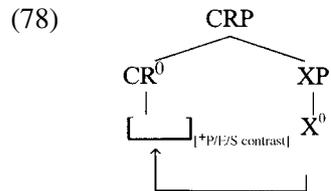
adjoin to either X^0 or X^{\min} is easily statable, because the framework does not require a strict division of modules between morphology and syntax. The contrastive stress with CR appears as an automatic consequence of its semantics. The fact that irregular inflected forms must reduplicate *in toto* is a consequence of the way such forms are lexically encoded. The only serious difficulty we see is the stipulation in (75), which as far as we can see is shared by accounts in any other framework (we leave it to the reader to check this out in his or her favorite).

5. A MINIMALIST PROGRAM APPROACH TO CR

For those of different theoretical tastes, we now sketch a preliminary account of CR based on the Minimalist Program. The basic idea is that the reduplication in CR results from the spelling out of both the head and the tail of a chain created by head movement.

Perhaps the prime virtue of a Minimalist analysis is that almost all the tools required are already available. Head movement – movement of an X^0 to a c-commanding Y^0 to check features – is a core part of the Minimalist Program. Focus features in general, and the feature [+contrastive focus] in particular, have been employed to trigger movement (though not necessarily head movement) and/or to require checking (see, for example, Brody 1995; Rizzi 1997; Erteschik-Shir 1997; Kiss 1998; Zubizarreta 1998). Finally, the idea that traces are copies of a moved element (Chomsky 1995) has been adopted by many, if not most, Minimalist syntacticians. Our point in this section, then, is that a copy theory of movement buys us a movement theory of copying.

The analysis goes as follows. The CR morpheme consists of the features [P/E/S, +contrast], but no phonology. Akin to a modifier of category A (adjective or adverb), it heads a CR phrase that can take any lexical phrase (NP, VP, AP, etc.) as its complement (see footnote 15). Assuming that the features of the CR morpheme are strong, they must be associated with a syntactic head that is lexically filled. These features trigger head-movement of the adjacent X^0 :



Prior to the (re)introduction of the copy theory of movement, it was always the *head* of a chain created by overt syntactic movement that was taken to be pronounced. The idea that lower copies may be relevant for interpretation at LF (e.g., for “reconstruction”) opened up the possibility that the interface levels (PF and LF) may be choosy about which copy they “privilege”. Thus, Richards (1997), for example, has recast overt and covert movement (a distinction attributable to strength of features) in terms of which copy of a chain gets pronounced:

- (79)a. PF must receive unambiguous instructions about which part of a chain to pronounce.
- b. A strong feature instructs PF to pronounce the copy in a chain with which it is in a feature-checking relation. (Richards 1997, pp. 122.3–4)

More recently, Bobaljik (2002) has argued that all four possible privileging options (head vs. tail; PF vs. LF) are attested.

So far the idea that more than one copy may be pronounced has not been explored, though it has not been explicitly ruled out either. Richards (1997) assumes “for the sake of simplicity” (fn. 1, p. 122) that only a single element in a chain will be pronounced, but acknowledges that it could be otherwise. Indeed, a copy theory of movement should be more credible if cases where more than one copy is pronounced are found. The question, in the case of CR, is why this should be so. Let us consider the possibilities. Given head movement of an X^0 to the head of the CR phrase there are three options: (a) that the tail alone will be pronounced; (b) that the head alone will be pronounced; or (c) that both the head and the tail will be pronounced:

- (80)a. [$[\mathfrak{X}^0]_{[+P/E/S \text{ contrast}]}$ [X^0]]
- b. [[X^0]_[+P/E/S contrast] [\mathfrak{X}^0]]
- c. [[X^0]_[+P/E/S contrast] [X^0]]

The first option is ruled out if we assume, following Richards, that strong features serve as instructions to pronounce the item they check or are checked by. The second option can be ruled out for functional reasons, specifically, (80b) is indistinguishable from a situation in which an unduplicated X^0 is contrastively focused. (That is, *It wasn't RED-red* would sound exactly the same as *It wasn't RED*, which we have already seen has a different meaning). Having ruled out the possibility of pronouncing only

the head or tail of the chain resulting from movement to check the [+contrast] feature, we are left with the option of pronouncing both. In other words, relatively uncontroversial Minimalist assumptions provide a derivational explanation for the copying that characterizes CR.²³ Apart from the fact that this analysis makes use of independently motivated features of the Minimalist Program, it also accounts for some of the features of CR in a natural way. It also invites parallels with other, non-local, copying phenomena, which may be amenable to a similar sort of analysis.

One such example is offered by Koopman (1984): in Vata, a Kru language spoken in the Ivory Coast, a focused verb appears at the front of the sentence, with a copy remaining in the base position.²⁴

- (81)a. pā́ n̄ ka' mÉ pa' ā́
throw you FUT-A it throw Q
 Are you going to THROW it? (Koopman 1984, p. 155 (4a))
- b. zālī́ n' zālī́ zàmú
redde I redde sauce
 I really REDDENED the sauce. (1984, p. 157 (11g))

Another example is found in ASL, as discussed by Petronio and Lillo-Martin (1997). The authors discuss the ‘double construction’ – a construction used for focus or emphasis in ASL – in which elements such as modals, quantifiers and verbs can be doubled sentence-finally, as shown in (82).²⁵

²³ In previous versions of this work we have entertained the idea that the CR “slot” does not project to a phrase and is simply adjoined to the head being modified. This idea draws on the proposal made in Travis (1988) that adverbs and prenominal adjectives may be base-generated in head-adjunction structures. In fact, in her recent work on reduplication, Travis (2001) explicitly puts forth this view of CR (though she does not adopt a head-movement analysis). However, as an anonymous reviewer points out, if the modifier slot is head-adjoined, then head movement will result in a situation in which the antecedent and its trace mutually c-command each other. The reviewer goes on to make the intriguing suggestion that this may be why both copies must be spelled out. While this looks like a promising alternative to pursue, we leave it aside for now.

²⁴ Koopman shows that many of the properties that hold of wh-constructions in Vata also hold of this construction; hence she argues that both involve movement to CP. As to why ‘Focus-V-movement’ (her name for the construction), unlike wh-movement, must leave a copy, Koopman argues that the copy is a ‘resumptive verb’ that appears to satisfy the ECP.

²⁵ Petronio and Lillo-Martin use standard conventions for transcribing ASL:

- An uppercase English word is used as a gloss to represent an ASL sign.
- Capital letters with dashes between them indicate a fingerspelled word.

- (82)a. _____ cond
 KNOW PROBLEM SITUATION, CANNOT J-U-R-Y CAN-
 NOT
 ‘... If [you] are aware of the problem, the situation, then [you]
 CANNOT be on the jury’
 (P & L-M 1997, p. 30.25)
- b. MY HIGH SCHOOL FIVE DEAF KID FIVE
 ‘My high school had [only] FIVE deaf kids’. (P & L-M 1997,
 p. 30.29)
- c. _____ t
 HE HATE LIGHTS-FLASHING-ON HATE
 ‘He HATES the lights flashing on and off’. (P & L-M 1997,
 p. 30.31)

Petronio and Lillo-Martin (1997), based on Petronio (1993), propose that the final double is base-generated in the head of a [+F] (for focus) CP. It is unclear whether a plausible movement analysis would ultimately be possible instead.²⁶ Nevertheless, the phenomenon resembles CR and Vata ‘Focus-V-movement’ in that in all three cases there is a connection between copying and focus.

For a third case, Rosen (to appear) proposes that the surface position of demonstratives in Michif can be derived through different pronunciation instructions at PF. Demonstratives in Michif and Cree (the source language for Michif demonstratives, Michif being a French-Cree mixed language) may be pre- or post-nominal, as in (83a, b). But in Cree, the demonstratives are sometimes doubled (83c). Rosen suggests that all three possibilities are derived from a single syntactic structure and that in (83c) both copies are pronounced:

• A line above the signs represents the cooccurrence of a nonmanual marker, and the symbol at the end of the line indicates the types of marker: cond (conditional) = brow raise, side tilt on the antecedent clause; hn (assertion) = head nods; t (topic) = brow raise, upward head tilt.

²⁶ Matsuoka (1997) proposes an analysis of a similar construction of ASL, the so-called ‘verb sandwich’, where the verb is repeated (possibly non-locally) later in the clause, the second time with aspect marking. Unlike English CR and the doublings discussed by Petronio and Lillo-Martin, verb sandwiches seem not to be motivated by focus considerations. But the mechanics of Matsuoka’s analysis is nearly identical to ours: the verb undergoes head-movement to Asp⁰, and the copy left behind may optionally fail to be deleted.

- (83) Cree
- a. awa iskwêsis
DEM girl
this girl
 - b. iswêsis awa
girl DEM
this girl
 - c. awa nisîmis awa
DEM my younger sister DEM
this little sister here of mine

It is a virtue of the Minimalist analysis, therefore, that it can link CR with other syntactic phenomena (e.g., cases of non-local copying connected with focus) rather than other phonological phenomena (e.g., partial reduplication) – a virtue given that CR cannot be purely phonologically defined.

The Minimalist analysis of CR is relatively straightforward, relying on existing assumptions within the theory. Indeed, many of these current assumptions appear to be ideal for a phenomenon such as CR. On the other hand, this analysis cannot account for some of the core properties of CR. As we have seen in section 3, CR optionally copies inflectional morphology, something that is hard to explain with a head-movement account. Specifically, it is unclear how inflectional morphemes such as plural marking or tense marking can show up on the *tail* of a chain and not on the *head* if movement to check both inflection and CR is upwards. It is possible, however, that Minimalism augmented with a theory of post-syntactic morphology, such as Distributed Morphology (Halle and Marantz 1993), may be able to solve this puzzle.

Another problem for a head-movement account is that it requires all strings that undergo CR to be X^0 s. For VPs and APs with object pronouns and PPs, this would require a well worked-out theory of clitic adjunction or the like, a task far beyond the scope of our analysis here. The fact that head movement moves X^0 s is also problematic for idioms (cf. Jackendoff 1997, 2002): while it may just be possible to insert *over the hill* as a single X^0 , it stretches credulity to do the same for a syntactically transparent idiom like *take X to task*, which, as we have seen, has an open position and still can (in our judgments) undergo CR (*I didn't TAKE-HIM-TO-TASK–take him to task*).

In other words, although the Minimalist account deals nicely with the central cases where a single word is reduplicated, it does not so easily extend to the cases smaller and larger than a word. We leave an amplification of this approach for future research.

6. FINAL REMARKS

We would like to reflect briefly on why the parallel architecture analysis may offer the virtues it does. One reason is that it allows us to integrate the phonological, syntactic, and semantic constraints of CR in a natural fashion. A second concerns the scope of CR. Because CR applies both within words and to phrasal-size constituents, it creates difficulties for any theory that makes a strict difference between morphology and phrasal syntax, say by putting morphology in the lexicon but leaving syntax as an independent combinatorial component. Notice that when CR applies inside a word, it looks like a morphological process, paralleling for instance the semantically similar Japanese affix *ma-* cited in section 2.2. On the other hand, when it applies to an XP^{\min} , it looks more like a syntactic phenomenon: it can often be paraphrased by *real(ly)* and is often contrasted with other modifiers. This is shown in (84), where the reduplicants can be paraphrased by the expressions in square brackets. In cases where the contrast is made explicitly, we have underlined the counterpart to the reduplicant:

- (84)a. It is part of the HIGHWAY–highway [real/concrete highway],
not the *information* highway. ©
- b. Yeah, but, you know, not NERVOUS–nervous [really/very
nervous]. ©
- c. LIKE-’EM–like-’em [really/genuinely like ‘em]? Or,
I’d-like-to-get-store-credit-for-that-amount like ‘em? ©
- d. So when you say you’ve considered it ... you mean
thought-about-it considered it or just CONSIDERED-IT–
considered-it? [superficially considered it] ©

CR especially looks like a syntactic modifier in (84c, d), in that the contrasting slot is filled by an entire phrase such as *I’d-like-to-get-store-credit-for-that-amount* or *thought-about-it*.²⁷

²⁷ However, before drawing any strong conclusions on the basis of these examples, one would have to think more carefully about the status of the “you-can-put-anything-you-

The overall point is that it is not appropriate to ask whether CR is morphological or syntactic: there is no fact of the matter. Rather, when applying to its smallest scope, X^0 inside of a word, it has the feel of other things that attach there, i.e., morphological affixes; when applying to its largest scope, XP^{min} idioms, it has the feel of other things that attach there, i.e., syntactic modifiers. At the in-between scope of a single word, the stereotypical application of CR, the choice makes no difference. Notice that there is nothing in the *semantics* of CR that demands it be either morphological or syntactic. We commonly find doublets of morphological want-before-the-head construction, already mentioned in note 2. We have found brief mentions of this construction in a number of papers but no serious analysis. The shared insight among those who discuss this construction is that it involves a phrase that acts like a word. For instance, Carnie (2000) focuses on cases where a 'sentence' functions as a verb, even taking verbal affixes such as the past tense marker *ed*, as in:

- (i) He I-don't-cared his way out of the room.
- (ii) She I'm-from-New-Yorked her way into the men's room. (Carnie 2000, p. 91.66)

Déchaine and Wiltschko (2002) address the issue of why examples such as the following are possible if there is a general ban against using first and second person pronouns in compounds:

- (ii) a me-first attitude; a holier-than-thou attitude; a I-don't-give-a-flying-fuck attitude (Déchaine and Wiltschko 2002, fn. 16)

They suggest that such examples should be considered 'phrasal compounds' (cf. Di Sciullo and Williams 1987) whereby an XP, even one including functional categories, can serve as the input to compounding. Haiman (1991) notes the orthographic convention, adopted by many authors, of using hyphens to suggest that phrasal modifiers have the status of words.

- (iv) But now those Democrats can find easy cover in the weak-kneed it's-just-not-politically-feasible argument. (David Corn, *The Nation*, 1989)
- (v) A: Show business is a dog-eat-dog world.
B: No, it's worse. It's a dog-doesn't-return-the-other-dog's-phone-calls world.
(Woody Allen, *Crimes and Misdemeanors*) (Haiman 1991, p. 54)

The idea that phrases are acting like 'words' in the above examples seems to be different from the way in which phrasal idioms are word-like. The above modifiers are not all well-established idioms, and most instances of them in speech and writing have a novel, one-time-only flavour. The sense in which they are word-like seems to be in terms of their syntax. In short, it seems to be possible for a zero-level modifier position to host a phrase (provided the right 'quotation' pragmatics are present).

affixes and syntactic constructions with the same meaning, for example *rewrite* and *write over*, or phrasal versus morphological causatives.

Because the parallel architecture regards all free combination, whether below the word level or above, as accomplished online by the same process of unification, the issue of dividing CR between syntax and morphology need not arise. The issues that arise within this framework lie for the most part in finding the appropriate formal categories to state the generalizations. These issues include the precise characterization of the category XP^{\min} that determines the largest possible scope of CR, the syntactic features of CR, and the precise characterization of the phonological category that is sufficiently general to encompass the various cases of CR from large to small. We have been very clear about hedging in addressing many of these questions.

The major substantive issue concerns how the ‘lexicality constraint’ (75) is stated so as to permit grammatical morphemes to fall within the scope of CR. We can for the moment find no non-stipulative way to deal with this problem, so we leave it as a puzzle for the field.

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