Prosodic Greed

Abstract: This paper investigates the nature of displacement by looking into a process that shifts DP-internal locative adverbs to the right in Mandar (Austronesian, Indonesian). This process ignores island constraints and displays a range of restrictions that cannot be stated in the terminology of the syntax. I argue that its properties fall into place when it is viewed as an instance of movement in phonology, operating over prosodic structure in response to fundamentally phonological triggers for displacement. The ultimate force of the investigation is to make two points about the architecture of the grammar: first, displacement can occur outside of the syntax, and second, it can be driven by the principle of Greed.

Keywords:

Prosody, Word Minimality, Movement, Greed, Ellipsis

1 Introduction

The investigation of movement holds a special place in linguistic theory for the way in which it sheds light on the broader architecture of the modules where movement occurs. In the syntax, this type of investigation has driven advances in our understanding of phrase structure, locality domains, Case and Agreement, and the organization of the interfaces. This insight unfolds largely from two basic questions: what are the constraints that govern types of movement, and why should they hold as they do?

The goal of this paper is to extend these questions to a specific case of displacement in Mandar, an Austronesian language of Sulawesi. This movement targets two locative adverbs that are often selected in the noun phrase by certain demonstratives. In this use, I will call these adverbs *reinforcers*. The reinforcers immediately follow their associated noun phrases, or *associates*, when their associates appear at the right edge of a clause-like domain (1a). But when their associates are not clause-final, the reinforcers move on their own to the right edge (1b). I will refer to this as Reinforcer Postposing.

(1) *Reinforcer Postposing in Mandar*

a. Ka'bal i de' [$_{DP}$ **do** tomauweng] **o**.
invincible 3ABS they say that grey one there
"That old dude there is invincible, they say." Sikki *et al.* 1987, 541

b. U-bengang i [$_{DP}$ **do** buku] lo iAli **o**.
1ERG-give 3ABS that book to NAME there
"I gave that book there to Ali."

Reinforcer Postposing operates in a type of complementary distribution with a form of rightward focus movement in Mandar, and as a result, it initially seems to be a type of syntactic movement to the right. But on closer inspection, we will find that it diverges from nearly all types of syntactic movement in the fact that it ignores syntactic islands

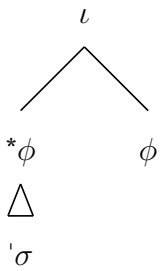
(Chomsky 1977), freely violating the Right Roof Constraint and Complex NP Constraint ((2); Ross 1967). We will also see that it ignores typical constraints on relative locality (Chomsky, 1973) and operates under an idiosyncratic ruleset of its own instead.

(2) *Reinforcer Postposing crosses Islands*

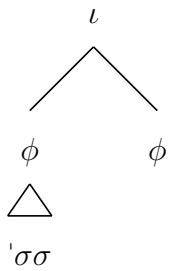
Ma'ita a' [$_{NP}$ karewa [$_{CP}$ mua' pole i **do** tau __]] di facebook **o**.
I saw news that come 3ABS that guy on facebook there
'I saw [$_{NP}$ news [$_{CP}$ that that guy there is coming]] on facebook.'

The task of this paper is then to work out a precise theory of Reinforcer Postposing: one which explains its essential properties and situates it within a theory of movement. The ensuing investigation will lead us deep into the systems of prosody, word minimality, and ellipsis and will ultimately reveal that this process must be formulated in phonological terms. I will argue that the reinforcers shift to a position in the surface constituent structure of the prosody— the right edge of the intonational phrase. I will argue further that they do so to resolve a phonological tension within them: they violate a constraint that bans monosyllabic phonological phrases (3a). To resolve this tension, they move to the sole position where such phonological phrases can exist (3c).

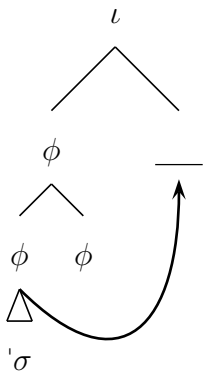
(3) a. *Constraint*



b. *General Repair*



c. *pecial Repair*



The ensuing analysis provides direct evidence for two claims at the heart of the theory of movement. First, movement must be able to occur within the phonology

(Halpern, 1995; Chung, 2003; Bennett *et al.*, 2016). Second, movement in that module must be able to be driven by the principle of Greed (Chomsky, 1995; Bošković, 1995).

Section 2 provides background information on Mandar, introduces the reinforcers, and lays out the basic facts of their distribution. Section 3 runs the reinforcers through a gauntlet of syntactic analyses and develops the shape of Reinforcer Postposing. Section 4 offers an interim summary and then sketches the goals that an analysis must meet. Section 5 then shows that it is possible to meet these goals in a precise and elegant way by situating the operation of Reinforcer Postposing in the phonological component. Section 6 then integrates the analysis into the broader phonology of the language and develops a case for Greed. Section 7 concludes the paper.

2 Background

Mandar is an Austronesian language of the South Sulawesi subfamily, spoken by 400,000 people in the province of West Sulawesi, Indonesia (Grimes & Grimes, 1987). It is a verb-initial language with a consistent basic word order of V-S-O-D-X (verb > external argument > internal argument > applied argument > adjuncts). The language allows for *pro*-drop and has no nominal case-marking, though it shows a system of agreement: transitive external arguments trigger ergative agreement on the verb, while transitive internal arguments and the sole arguments of intransitive verbs are indexed with an absolutive clitic that follows the first phonological phrase. This system interacts with transitivity alternations on the verb to yield a Western Austronesian "voice system" (Lee, 2008), in which different types of arguments are able to trigger absolutive agreement— or become the *pivot*— and raise to the highest A-position in the clause (Brodkin 2022b; elsewhere see Guilfoyle *et al.* 1992; Aldridge 2004). A ditransitive clause is shown in (4).[1]

(4) *The Shape of a Mandar Clause*

Na-alli-ang	i	[$_S$	iKaco’	]	[$_O$	iGary	]	[$_D$	iCicci’	]	dio.
3ERG-buy-APPL	3ABS		NAME			NAME			NAME		there

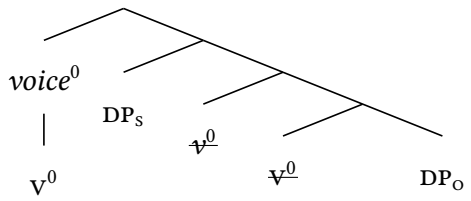
‘Kacho’ bought Gary (who is a cat) for Chichi’ there.’

Mandar has been the subject of much descriptive work by the Indonesian Language Office of South Sulawesi, including a grammar (Pelenkahu *et al.*, 1983), a description of adverbs (Sikki *et al.*, 1987), a compilation of traditional poetry (Muthalib & Sangi, 1991), and a conversational handbook (Friberg & Jerniati, 2000). The essentials of the voice system are described in Lee 2008 and the syntax of voice, Case, and agreement has been worked out in Brodkin 2021a,b, 2022a,b. Much of the word-level phonology is described in Jerniati 2005 and in the grammar of Pelenkahu *et al.* 1983; aspects of the phrasal phonology are discussed in Brodkin 2024a,b. From a comparative perspective, it can also be compared to the other languages of the South Sulawesi subfamily, which have been described in a larger body of English-language work (Friberg, 1991, 1996; Strømme, 1994; Matti, 1994; Valkama, 1995a,b; Jukes, 2006; Lee, 2008; Kaufman, 2008; Laskowske, 2016; Finer, 1997, 1998, 1999; Béjar, 1999).

The system under investigation below has not been described in prior work on the language, though its shape can be seen from data in descriptive sources. The unsourced judgments in this paper have been gathered over five years of work with Jupri Talib, a native speaker from the town of Ugibaru. These judgments have overall been decisive and consistent, and many of the patterns that emerged from this work were later reviewed and reconfirmed in the summer of 2022 with Jerniati, the former head of the Indonesian Language Office of South Sulawesi and a native speaker of Mandar. Around the same time, many were replicated live and without incident on the Mandar cultural podcast *Pada detik ini*, hosted by Ridwan Alimuddin, an author and cultural authority. It is my understanding that the data below are representative of standard Mandar.

In the investigation that follows, the main analytical work will proceed in rough independence of many other systems in the syntax of Mandar. For the sake of concreteness, however, I will assume that its basic verb-initial word order is derived by word-building head-movement, or *amalgamation* (Harizanov & Gribanova, 2019), of the verb. On this account, the verb moves just past the head which introduces the s, which I take to be v^0 (Collins, 2005; Merchant, 2013). This head-movement yields vso order no matter the identity of the pivot (*cf.* Massam 2001a,b; Pearson 2001, 2005).

(5) *The Derivation of VSO Order*



To capture the stable vso order, I will assume that the absolutive argument is spelled out in its base position. This means that the word order of the language will not be influenced by alternations in verbal voice, which position different arguments to receive absolutive Case and raise to SPEC,TP (Legate 2006; Coon *et al.* 2014). The syntax of voice and Case will have no bearing on the discussion to come.

(6) *Stable Order across Voice Frames*

a. ANTIPASSIVE: $[_{\text{TP}}$ ~~S~~ $[_{voiceP}$ V $[_{vP}$ S $[_{applP}$ $[_{\text{VP}}$ O] D]]]].

b. TRANSITIVE: $[_{\text{TP}}$ ~~O~~ $[_{voiceP}$ V $[_{vP}$ S $[_{\text{VP}}$ O]]]].

c. DITRANSITIVE: $[_{\text{TP}}$ ~~D~~ $[_{voiceP}$ V $[_{vP}$ S $[_{applP}$ $[_{\text{VP}}$ O] D]]]].

2.1 Demonstratives and Reinforcers

Mandar has two types of locative adverbs, shown in the table in (7a). The first class contains the reinforcers *e* 'here' and *o* 'there,' and the second contains several disyllabic elements. The adverbs in these classes routinely co-occur as adjuncts to the VP (7b).

(7) *Two Types of Locative Adverbs*

a.

σ	GLOSS	σσ	GLOSS
e	here	*indi*	here (closest)
o	there	*dini*	here
		dio	there
		diting	there (farthest)

b. Mala bappa i na-tarima akkatta-ta' **diting** **o**.
can hopefully 3ABS 3ERG-accept reason-2GEN there there
'Hopefully your reason can be accepted there.' Friberg & Jerniati 2000, 243

The reinforcers behave like typical lexical roots in many ways. First, they carry word-level stress and form prosodic words, like all other adverbs in the language. Second, they can be adjoined to the VP alone (8a). Third, they can carry contrastive focus (8b). Fourth, they are never obligatory in the presence of disyllabic locative adverbs (8c).

(8) *The Monosyllabic Adverbs are Regular Lexical Items*

a. Buai a' mating e!
open.for 1ABS me here
'Open up for me here!' Pelenkahu *et al.* 1983, 16

b. "Urang i o." ... "Urang toi e!"
rain 3ABS there rain also.3ABS here
'It's raining there.' 'It's also raining HERE!'

c. Masiri' ri pole dini?
ashamed JUST.3ABS come here?
'Isn't he ashamed to come here?' Sikki *et al.* 1987, 559

Both sets of adverbs can surface alongside demonstratives in the context of deixis, in the order NP > DISYLLABIC ADVERB > REINFORCER. In this use, they participate in what is known as a demonstrative-reinforcer construction (Roehrs, 2010; Bernstein, 1997); this is why, in the construction under consideration, I will refer to *e* and *o* as *reinforcers*.

(9) *The Demonstrative-Reinforcer Construction*

Na-likka' i do tommuane dio o.
will-marry 3ABS that guy there there
'That guy there is getting married.'

The reinforcers are initially interesting for the fact that they are obligatory after a subset of the demonstratives. Their distribution is shown in the table in (10b): when a NP contains the demonstrative *do* it must be followed by *o* (10a), and when a NP contains *de* or *ndi* it must be followed by *e*. The disyllabic adverbs are never obligatory in this way.

(10) *A Distributional Constraint*

a. Do tommuane o/*___.
that guy there
'That guy *(there).'

b.

DISTANCE	DEM	REINFORCER
closest	*ndi*	e
close	*de*	e
far	*do*	o
farthest	*iting*	_

This requirement persists beyond the context of deixis. In Mandar, the demonstrative *do* appears on most types of nominals that refer back to referents already introduced in the discourse. In this context, it must still be followed by *o*. This holds despite the fact that it is semantically anomalous to introduce a disyllabic adverb in this context (11b).

(11) *Reinforcers are always required*

a. Dionging ma'-ita a' tommuane na towaine pole mai.
yesterday ANTIP-see 1ABS man and woman come into town
'Yesterday I saw a man and a woman come in to town.'

b. Jawa i do tommuane (*dio) o/*___.
javanese 3ABS that guy there there
'The guy was Javanese.'

This requirement suggests that the reinforcers are lexically selected by the demonstratives *ndi*, *de*, and *do*. Formally, I assume that their presence is forced by selectional features on these heads (12). I use angle brackets to introduce the features on *ndi, de,* and *do* and bullets to introduce the roots they select (Merchant, 2019).

(12) *The Selectional Requirements of the Demonstratives*

a. *ndi*: [< • *e* • >]

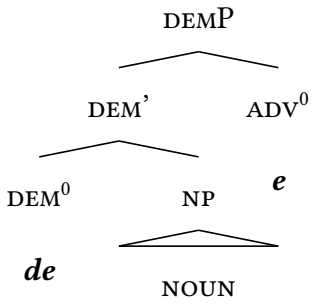
b. *de*: [< • *e* • >]

c. *do*: [< • *o* • >]

The selectional analysis captures the requirements of co-occurrence in this system: certain demonstratives must be followed by specific reinforcers, and in this context the reinforcers cannot be replaced with each other or with other adverbs. It also does not commit us to a deeper stance on why these are the co-occurrence requirements that exist, allowing for the attested flexibility across dialects of Mandar. But it also sets up an important syntactic result. Selection is a local operation (Collins & Stabler, 2016). If

demonstratives are generated in the NP and do not move out, then selected reinforcers must originate in the NP as well. I propose that they are generated as specifiers of demonstratives, which are heads in the extended projection of N^0, as shown below.[2]

(13) *The Syntax of Selection*



2.2 Separation

The reinforcers follow their associates when their associates appear at the right edge of a domain that roughly corresponds to the clause. But they are split from their associates in other contexts. If an associate is followed by an adjunct, the reinforcer must cross over the adjunct and surface at the right edge of that domain. In all cases of separation below, I will use dotted arrows to link a reinforcer to its selecting demonstrative.

(14) *An Initial Separation*

Ma'-balu	i	[$_{DP}$ **do**	tau	]	dini	**o**.
ANTIP-sell	3ABS	that	guy		here	there

'That guy there is selling stuff here.'

The same separation is forced when the associate is followed by other arguments. In VSOD clauses, a reinforcer associated with the S must cross over the O and the D (15).

(15) *Movement to the Right*

Mam-bengang	i	[$_{DP}$ **do**	tau	]	buku	passikola	**o**.
ANTIP-give	3ABS	that	guy		book	schoolkid	there

'That guy there is giving books to schoolkids.'

The same pattern holds when the associate is followed by a non-extraposed CP (16).

(16) *Crossing over CPs*

Ma'-ua i [$_{DP}$ **do** tau] [$_{CP}$ mua' monge' i] **o**.
ANTIP-say 3ABS that guy that sick 3ABS there
'That guy there said that he was sick.'

The generalization that emerges from these observations is that the reinforcers obey a strict positional constraint: they must surface at the right edge of a clause-like domain. The same constraint restricts their distribution when they are adjoined to the VP as well: in that context, they must also appear at the right edge.

(17) *Adjunct Reinforcers: Same Behavior*

Mam-bengang i (*o) iAli (*o) buku (*o) passikola (✓o) .
ANTIP-give 3ABS NAME book schoolkid there
'Ali is giving books to schoolchildren (there).'

These results sets up a case for displacement. Given the locality of selection, the reinforcers must often originate in the DP. But given the facts of linear order, they must also often shift out of the DP toward the right edge of the clause. Schematized in terms of rightward movement, this means that the reinforcers must move along the lines in (18). This is the process of Reinforcer Postposing.

(18) *Reinforcer Postposing*

[[V [DEM NP ___] ARGUMENTS ADJUNCTS CPS] REINFORCER]

3 Dealing with Separation

There are a number of ways in which the syntax might deliver the appearance of rightward movement, and the goal of this section is to investigate several such derivational paths. To this end, we will look into the ways in which the reinforcers interact with other systems in the syntax to understand how they might be placed.

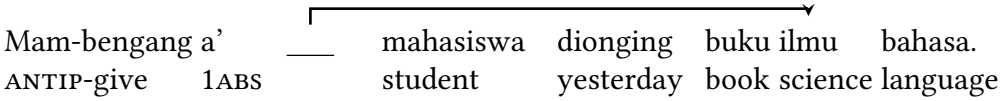
3.1 Rightward movement

The simplest analysis of Reinforcer Postposing would treat it as a rule of movement to the right, shifting the reinforcers out of the DP and into a position at the right edge of the VP. I will refer to this as the Rightward Syntactic Movement Analysis (19).

(19) *The Rightward Syntactic Movement Analysis*

The Rightward Syntactic Movement Analysis seems plausible for three reasons: it places the reinforcers in the correct position, it involves a single step of visible movement, and it can be easily formalized in terms of Attract (Chomsky, 2001). This plausibility is bolstered by a second observation: there is an independent process in the language that has the shape in (19). This is Rightward Focus Movement. Its effect is shown in the ditransitive clause in (20), where it drives a deviation from the expected order of V-DO-IO-ADJUNCTS: there, the focused object *buku ilmu bahasa* "linguistics textbooks" surfaces at the right edge.

(20) *Rightward Focus Movement*



'Yesterday I gave students LINGUISTICS TEXTBOOKS.'

Two further points strengthen the parallel between Reinforcer Postposing and Rightward Focus Movement. First, Rightward Focus Movement can draw constituents out of rightward specifiers of the DP. This can be seen from the behavior of DP possessors, which appear at the right edge of the DP. I propose that these possessors occupy a rightward specifier of the head D^0 (21a), as they must survive NP ellipsis (21b).

(21) *Another DP-Internal Specifier*

a. [$_{DP}$ [$_{D'}$ [$_{NP}$ paket] -mu] i'o]
box 2GEN 2SG

'Your box.'

b. Dini i [$_{DP}$ [$_{D'}$ paket-u] yau], tapi pole pai [$_{DP}$ [$_{D'}$ ~~paket-mu~~] i'o].
here 3ABS box-1GEN 1SG but come yet.3ABS box-2GEN 2SG

'My box is already here, but yours is yet to come.'

In Mandar, Rightward Focus Movement can shift DP-possessors out of the DP (22). This fact suggests that it may be able to reposition reinforcers, if they are specifiers too.

(22) *Rightward Focus Movement can yield Right-Branch Extraction*

U-baca i [$_{DP}$ buku-nna ___] dionging Suradi Yasil.
1ERG-read 3ABS book-3GEN yesterday NAME

'I was reading a book yesterday by (the famous Mandar poet) Suradi Yasil.'

The second point lies in the phonology. Rightward Focus Movement imposes no requirements on the length of its targets, and as a result, can target constituents that are only a single word long (23). As such, it seems that Rightward Focus Movement could plausibly target reinforcers, which form independent prosodic words.

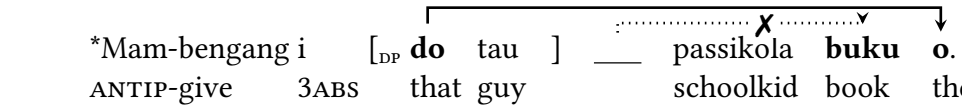
(23) *Rightward Focus Movement can target Single-Word Constituents*

U-baca i [$_{DP}$ buku-nna ___] dionging iAli.
1ERG-read 3ABS book-GEN yesterday NAME

'I was reading a book yesterday by Ali (, not by Kaco').

These parallels set up a third connection between Rightward Focus Movement and Reinforcer Postposing: Rightward Focus Movement cannot occur when a reinforcer surfaces at the right edge (24). I will refer to this as the Complementarity Effect.

(24) *Rightward Focus Movement is Blocked by Overt Reinforcers*



'That guy there was giving schoolchildren books (..., not fountain pens)'

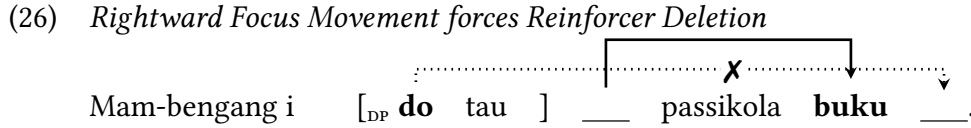
The Complementarity Effect sets up a path to unify Reinforcer Postposing with Rightward Focus Movement: the two might be viewed as syntactic processes that target a similar right-peripheral focus position. On such an analysis, the Complementarity Effect could be derived from the logic of Attract: if the attracting head were to host a single movement-driving feature, it would be unable to attract multiple constituents. I will refer to this view as the Unified Rightward Syntactic Movement Analysis (25).

(25) *The Unified Rightward Syntactic Movement Analysis*

3.2 Complications

The Unified Rightward Syntactic Movement Analysis can derive the initial shape of Reinforcer Postposing, but it struggles to extend farther than this. A first issue emerges around the Complementarity Effect. Although Rightward Focus Movement cannot apply in the presence of overt reinforcers, it is possible for Rightward Focus Movement to occur in clauses where reinforcers are selected in the syntax. In this context, the reinforcers delete. This is shown in example (26): there, an object undergoes Rightward Focus Movement and a DEM^0 in the subject goes exceptionally unmatched.

(26) *Rightward Focus Movement forces Reinforcer Deletion*



'That guy there was giving schoolchildren BOOKS.'

This interaction reveals that the reinforcers obey a second filter on their distribution. Rightward Focus Movement should not interfere with patterns of selection in other DPs, so the reinforcers should still be generated in their usual positions in derivations like that of example (26). To capture the facts of deletion, then, we must assume that the reinforcers disappear when they cannot reach their right-edge position. This is a Sour-Grapes Effect, of the kind familiar in phonology (Padgett, 1995; Jardine, 2016): the reinforcers win or they delete. For now, we can state this pattern along the lines of (27).

(27) *The Sour-Grapes Effect*
If a reinforcer cannot be realized in a right-peripheral position, it is suppressed.

Lurking behind this initial observation is then a network of further asymmetries. The most important of these is a split in the domain of absolute locality (Ross, 1967). There are certain domains from which syntactic movement cannot escape, including coordinate structures, complex NPs, and certain adjuncts, subjects, and complement CPs. In Mandar, these domains form islands for ordinary syntactic movements. Thus Rightward Focus Movement cannot escape a coordinate structure (28).

(28) *Rightward Focus Movement respects the Coordinate Structure Constraint*

*U-ita i [$_{\&P}$ sola-na iKaco' na sola-na ___] allo ajuma' iAli.
1ERG-see 3ABS friend-3GEN NAME and friend-3GEN friday NAME
'I saw Kaco's friend and ALI's friend on Friday.'

It is alarming to note, then, that Reinforcer Postposing ignores this constraint. The reinforcers escape all positions in coordinate structures that are not final in the clause.

(29) *Reinforcer Postposing ignores the Coordinate Structure Constraint*

U-ita i [$_{\&P}$ sola-na iKaco' na **do** tau] allo ajuma' **o**.
1ERG-see 3ABS friend-3GEN NAME and that guy friday there
'I saw Kaco's friend and that guy there on Friday.'

This fact is not fatal to our initial analysis, as the Coordinate Structure Constraint (CSC) is often violable (Postal, 1998) and as islands can restrict different movements in different ways (Keine, 2019). But a second asymmetry is more telling. In Mandar, embedded clauses can be followed by matrix-clause adjuncts. Obeying the Right Roof Constraint (RRC; Ross 1967), Rightward Focus Movement cannot shift embedded elements across matrix adjuncts of this type (30). But Reinforcer Postposing can (30b).

(30) *A Second Asymmetry: the Right Roof Constraint*

a. *Pepeissang i [$_{CP}$ mua' pole i sola-na ___] di facebook iAli.
Go check if come 3ABS friend-3GEN on facebook NAME
'Go check [$_{CP}$ if a friend ___ is coming] on facebook of Ali's.'

b. Pepeissang i [$_{CP}$ mua' pole i **do** tau] di facebook **o**.
Go check if come 3ABS that guy on facebook there
'Go check [$_{CP}$ if that guy there is coming] on facebook.'

The same asymmetry persists when the embedded clause is embedded in a second kind of island. In Mandar, embedded clauses can be nested in within NPs, and it is ungrammatical for Rightward Focus Movement to escape an embedded clause that is embedded inside of an NP in this way (31a). This is ruled out by two constraints on absolute locality: the Right Roof Constraint and the Complex NP Constraint (CNPC; Ross 1967). Nevertheless, the reinforcers routinely move in this way (31b).

(31) *Another Asymmetry: the Complex NP Constraint*

a. *Ma'ita a' [$_{NP}$ karewa [$_{CP}$ mua' pole i sola-na ___]] di FB iAli.
I saw news that come 3ABS friend-3GEN on FB NAME
'I saw [$_{NP}$ news [$_{CP}$ that a friend ___ is coming]] on facebook of Ali's.'

b. Ma'ita a' [$_{DP}$ karewa [$_{CP}$ mua' pole i **do** tau]] di FB **o**.
I saw news that come 3ABS that guy on FB there
'I saw [$_{DP}$ news [$_{CP}$ that that guy there is coming]] on facebook.'

These splits suggest a divide between Rightward Focus Movement and Reinforcer

Postposing. Rightward Focus Movement occurs in the syntax, as it references island constraints that disappear as derivations are passed to the phonology (e.g., Nespor & Vogel 1986). But the position of Reinforcer Postposing, for now, is less clear.

3.3 Stranding

As an alternative to the Unified Rightward Syntactic Movement Analysis, we might try to analyze Reinforcer Postposing in terms of syntactic movement to the left. On this view, its linear effect might be derived by island-violating movements in one of two ways. First, the reinforcers might be stranded in a derivation where everything else moves to the left, after Kayne 1994 (32a). As an alternative, the reinforcers might move into the left periphery and then force remnant movement of the rest of the clause (32b). I will refer to these two possibilities as the Leftward Syntactic Movement Alternatives.

(32) *Leftward Syntactic Movement Alternatives*

a. [$_{FP}$ V DP ADJUNCT [$_{VP}$ ~~V~~ [$_{DP}$ ~~DEM~~ ~~NP~~ REINFORCER] ~~ADJUNCT~~]]

b. [$_{FP2}$ V DP ADJUNCT [$_{FP1}$ REINFORCER [$_{VP}$ ~~V~~ [$_{DP}$ ~~DEM~~ ~~NP~~ ___] ~~ADJUNCT~~]]]

These alternatives are useful to our investigation for the ways in which they set up guiding questions about the overall shape of Reinforcer Postposing. The stranding analysis, for instance, predicts that movement of the associate will not affect the linear positions of the reinforcers. This is broadly correct: the reinforcers remain clause-final when their associates undergo raising (33a) and focus-fronting (33b).

(33) *Leftward Movement usually doesn't affect Reinforcers*

a. Minassa i [$_{DP}$ **do** tau] [$_{TP}$ man-dundu ___ ballo' **o**].
clear 3ABS that guy ANTIP-drink palm wine there
'That guy there is clear to be drinking palm wine'

b. [$_{FocP}$ [$_{DP}$ **Do** panginoang] [$_{TP}$ melo' u-pangino ___ **o**]].
that game want 1ERG-play there
'THAT GAME THERE I want to play.'

These alternatives, however, face problems that are equally severe. The first of these involves topicalization. Topicalization allows the typical patterns of stranding and subextraction that are possible in the language: for instance, it can strand P^{0}s (34a). It also obeys all island constraints, like the Adjunct Island Constraint (34b (Ross 1967).

(34) *Topicalization in Mandar*

a. **iAli**, [$_{TP}$ u-bengang i [$_{PP}$ lao ___] doi'].
NAME, 1ERG-give 3ABS to money
'Ali, I gave some money to.'

b. ***iAli**, [$_{TP}$ sannang a' [$_{CP}$ mua' pole i ___]].
NAME happy 1ABS if come 3ABS
*'Ali, I'd be happy if ___ came.'

The Leftward Syntactic Alternatives predict that topicalization should not affect the positions of the reinforcers. The simplest stranding analysis would predict that this process should strand the reinforcers (35a). The simplest remnant movement analyses would do the same, by placing topics in a high position in a remnant that fronts (35b).

(35) *Leftward Syntactic Alternatives: Predictions on Topicalization*

a. [$_{TopP}$ DP [$_{FP}$ V ~~DP~~ [$_{VP}$ ~~V~~ [$_{DP}$ ~~DEM~~ ~~NP~~ REINFORCER]]]]

b. [$_{FP2}$ TOP V DP [$_{FP1}$ REINFORCER [$_{TopP}$ ~~DP~~ [$_{FP1}$ [$_{VP}$ ~~V~~ [$_{DP}$ ~~DEM~~ ~~NP~~ ___]]]]]]

These predictions are false. When associates are topicalized, reinforcers follow them.

(36) *Topicalization cannot strand Reinforcers*

[$_{DP}$ **Do** sanaeke **o**], biasa i m-angino ___.
that kid there usually 3ABS ANTIP-play
'That kid there$_{TOP}$ is usually playing'

Another snag emerges with CP-preposing. In Mandar, adjunct CPs often follow the clauses to which they adjoin. In this position, their edges are crossed by reinforcers from the matrix clause (37a). But these CPs can also surface before matrix clauses, and in that position, their edges begin to block Reinforcer Postposing. If a reinforcer is generated in a preposed CP, it is trapped at the right edge of that CP and cannot move right (37b).

(37) *CP-Preposing creates Islands for Postposing*

a. Mario i [$_{DP}$ **de** sanaeke] [$_{CP}$ mua' pole o] **e**.
happy 3ABS this kid if come 2ABS here
'This kid here will be happy if you come.'

b. [$_{CP}$ Mua' pole boi [$_{DP}$ **do** sanaeke] **o**], na-mario a' ___.
if come again.3ABS that kid there will-happy 1ABS
'If that kid there comes again, I'll be happy.'

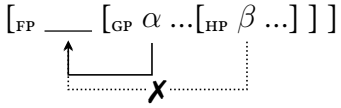
This point raises a challenge for both Leftward Syntactic Movement Alternatives. The stranding analysis would have to stipulate that CP-preposing cannot strand Reinforcers, but this would undermine its only plausible analysis of violations of the RRC (reinforcer-stranding leftward movement of CPs). The remnant movement analysis, in turn, would be forced to posit that leftward-shifted reinforcers must pull up their associated CPs, restating a generalization on underlying constituency in linear terms.

The real importance of these observations lies beyond their relevance to the alternatives above. The facts of topicalization and CP-preposing show that Reinforcer Postposing cannot always carry its targets to the right edge of the matrix clause. In doing so, they reveal that this process operates in absolute locality domains of its own—in other words, Reinforcer Postposing is sensitive to "islands" of another type.

3.4 Agree

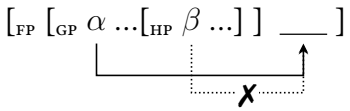
This aberrance in the domain of absolute locality is matched by a parallel effect in the system of relative locality. It is common for syntactic movements to obey constraints of relative locality (Chomsky, 1973; Rizzi, 1990), meaning that they can only target the highest constituents of a certain type. The typical way to understand these constraints is via c-command: movement triggered by a head F^0 cannot target a goal β that is c-commanded by another goal α beneath F^0 that is identical in the relevant respects.

(38) *A Syntactic Constraint on Relative Locality*



These constraints on relative locality clearly operate in the syntax of Mandar, where they constrain WH-movement in the fashion that is typical of many Western Austronesian languages (Keenan, 1976). This sets up a second line of attack. If Reinforcer Postposing is a syntactic operation, then it should obey this kind of constraint: in a clause that contains two reinforcers, only the higher of the two should move.

(39) *Reinforcer Postposing: Relative Locality?*



This prediction can be tested in clauses that contain multiple reinforcers. In clauses of this type, only one reinforcer can surface at the right edge. The reinforcer that cannot make it to the right edge must delete. The result is that a single domain of placement cannot contain an overt selected reinforcer and an overt adjoined reinforcer (40a). It is also impossible for one domain to contain two overt selected reinforcers (40b).

(40) *One Domain, One Reinforcer*

a. *U-ita i [$_{DP}$ **do** tau] **o** e.
1ERG-see 3ABS that guy there here
Intended: 'I saw that guy there here.'

b. *Bemme i [$_{DP}$ **do** sanaeke] naung [$_{DP}$ **ndi** passauang] **o** **e**!
fall 3ABS that kid down this well there here
Intended: 'That kid there fell down this well here!'

When two reinforcers are selected in a single domain, the leftmost reinforcer deletes (41a). The need for deletion reflects the familiar Sour-Grapes Effect: as this reinforcer cannot appear at the right edge, it must disappear. Naturally, the deletion is suspended if the clause is split into two domains: for instance, if one associates is topicalized (41b).

(41) *Reinforcers Delete in Crowded Domains*

a. Bemme i [$_{DP}$ **do** sanaeke] naung [$_{DP}$ **ndi** passauang] ___ **e**!
fall 3ABS that kid down this well here
Intended: 'That kid there fell down this well here!'

b. [$_{DP}$ **Do** sanaeke] **o**, bemme i naung [$_{DP}$ **ndi** passauang] **e**!
that kid there fall 3ABS down this well here
'That kid there$_{TOP}$ fell down this well here!'

What is important in this interaction is the way in which the competition between reinforcers is resolved. The decisive factor in this system is not C-command: rather, it is linear order. When two reinforcers compete within a single domain of placement, the one that survives is the one whose base position would be linearized farther to the right. In example (41a), this means that a reinforcer that originates in the clause-final PP *naung ndi passauang* 'down this well' beats a reinforcer that originates in the absolutive subject *do sanaeke* 'that child.' This linear competition is sketched in example (42).

(42) *Reinforcer Postposing: Relative Locality via Linear Distance*

[$_{FP}$ [$_{GP}$ α ...[$_{HP}$ β ...]] ___]
✗

The primacy of linear order can be also seen in the context of recursive embedding. It is possible to embed a constituent that contains a selected reinforcer within another constituent that contains a selected reinforcer of its own. In this configuration, the facts of c-command and linear order will conflict: the unembedded reinforcer will be generated farther to the left, and the embedded reinforcer will be generated farther to the right. In this context, the rightmost reinforcer will still win out. This effect is shown in example (43) with the complex NP *de potona solana do tau* 'this photo of the friend of that guy': there, it is the reinforcer associated with *do tau* 'that guy' that survives (43).

(43) *Reinforcer Competition Ignores c-command*

U-olo' i [$_{DP}$ **de** poto-na [$_{DP}$ sola-na [$_{DP}$ **do** tau]]] ___ **o**.
1ERG-like 3ABS this photo-3GEN friend-3GEN that guy there
'I like this photo here of the friend of that guy there.'

This linear competition interacts with syntactic movement in a transparently surface-oriented way. To illustrate, Mandar has a process of rightward scrambling that right-adjoins DPs to the TP. The following examples show how this process affects the competition between reinforcers. In a VSO clause where both the S and the O contain demonstratives, the reinforcer generated in the O will always win out (44a). But when the S in such a clause is scrambled to the right, it is the reinforcer that is generated in the S—now linearly rightmost before postposing occurs— that surfaces at the edge (44b).

(44) *Reinforcer Competition: Transparently Sensitive to Movement*

a. [$_{voice}$ Na-saka i [$_{DP}$ **do** posa] [$_{DP}$ **de** balao]] digena' ___ **e**!
3ERG-catch 3ABS that cat this mouse earlier here
That cat caught this mouse here earlier.'

b. [$_{voice}$ Na-saka i __ [$_{DP}$ **de** balao]] digena' [$_{DP}$ **do** posa] ___ **o**!
3ERG-catch 3ABS this mouse earlier that cat there
That cat caught this mouse here earlier.'

At the outset, these facts raise a steep challenge for an alternative analysis which would base-generate the reinforcers in the right periphery and link them to demonstratives via AGREE. This type of analysis is shown in (45). Up to this point, we have not considered such an alternative for the fact that the reinforcers have referential content and can appear on their own. But we can now formulate a more decisive case against this reinterpretation: such an account would necessitate a form of AGREE that could (*i*) see deep into complex DPs (43), finite CPs (30), and finite CPs embedded in DPs (31), (*ii*) ignore C-command and make reference to pure facts of linear order, (*iii*) and surface within a X^0 that appeared exclusively in matrix clauses, topics (36), preposed adjunct CPs (37), and fragments (10), but nowhere else. It is technically possible to formulate a proposal along these lines, but it is not clear how such a move would lead us to any deeper insight into the nature of Reinforcer Postposing or the nature of AGREE.

(45) *Rejected: an Agree Analysis*

$[_{FP}\ [_{VP}\ V\quad [_{DP}\ DEM\quad NP\quad [_{DP}\ DEM\quad NP\quad [_{DP}\ DEM\quad NP\quad]\ ]\ ]\ ]\quad F^{0}{}_{\text{“REINFORCER”}}\ ]$

Turning back to the domain of relative locality, we then arrive at a final result: once again, Reinforcer Postposing ignores the regular rules of the syntax and plays by constraints that are formulated in fundamentally different terms. It is the task of the following sections to understand how a process of this shape might come to exist.

4 An Interim Summary

Taking stock of the picture so far, we have seen that Mandar has a pair of monosyllabic locative adverbs— the reinforcers— that are lexically selected by certain demonstratives but routinely separated from their associates by an process that places them at the right edges of particular domains. This process operate in complementary distribution with

Rightward Focus Movement but obeys idiosyncratic rules of its own: it freely escapes islands, violating the CSC, RRC, and CNPC, and it ignores C-command in the calculus of relative locality. In the same vein, it finds "islands" of its own in topics and preposed CPs and it obeys a form of relative locality that is formulated in terms of linear order alone.

Against this backdrop, the task before us is to construct an analysis which explains the basic properties of Reinforcer Postposing and integrates these into a broader theory of movement. At the lowest analytical level, this analysis must attempt to:

1. Provide a unified and exhaustive characterization of the domains of placement, which separates the constituents that host reinforcers from those which do not,
2. Explain how this movement can skirt all syntactic constraints on locality, and
3. Explain why this movement obeys the idiosyncratic constraints that it does.

At a higher level, a successful analysis should do the following:

4. Explain the complementarity of Reinforcer Postposing & Rightward F-Movement,
5. Capture the Sour-Grapes effect, explaining why reinforcers delete if non-final, &
6. Connect the motivation for postposing to independent properties of the grammar.

And finally, the analysis must also reach to:

7. Situate itself within a general theory of displacement in the grammar, and
8. Bring its results to bear on the theory of the distribution and motivation of Move.

The remainder of this paper is an attempt to meet the desiderata above. To this end, we will pursue a simple line of attack: setting the syntax aside, we will press into the structure of Reinforcer Postposing from the direction of the phonology. Our ultimate goal in this connection will be to work out an analysis that operates in fully phonological terms: one which mobilizes the phrasal phonology to explain the constraints that govern

Reinforcer Postposing and the pressures that force it to occur. We will then attempt to link the results that coalesce in this investigation to a general theory of movement.

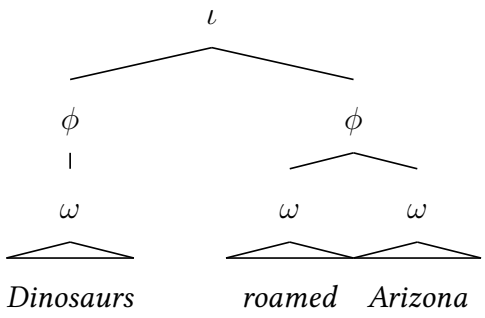
5 Phonological Displacement

As there is no natural way to unite the domains of reinforcer postposing in the syntax, we will turn to their behavior in the phonology. More specifically, we will look into the ways in which phonological strings are organized into hierarchical constituent structures of their own. The objects of our investigation will be the prosodic constituents that define the domains of phrasal phonology, the subject of much work in Prosodic Hierarchy Theory (Selkirk, 1984, 1986, 2009; Nespor & Vogel, 1986; Itô & Mester, 2007, 2012, 2013, 2019a). The particular form of prosody that we will investigate, in turn, will be that which consultants judge to be optimal when invited to reflect on the most natural pronunciation of particular strings. As a result, we will abstract away from the many factors that derail the default patterns of prosodic phrasing in the context of naturalistic production (Snedeker & Trueswell, 2003; Aylett & Turk, 2004; Watson *et al.*, 2006; Féry & Ishihara, 2016) to focus on the prosody that appears when speakers are invited to pronounce well-planned stimuli at a regular speech rate under broad focus.

The essentials of Prosodic Hierarchy Theory are the following. Phonological constituents are organized into hierarchical structures at the level of segments, syllables, and feet (Liberman & Prince, 1977), and this hierarchical organization persists above the metrical level. Suprametrical strings are organized into structures that are built from exactly three types of recursible and weakly-layered phonological constituents: the prosodic word (ω), the phonological phrase (ϕ), and the intonational phrase (ι) (Itô & Mester, 2007). The prosodic structures that are built from these categories are constructed at the derivational stage where the syntax meets the phonology, and they are organized in a phonological derivation that weighs considerations of balance and

rhythm against the need to preserve the constituent structure of the syntax (Selkirk, 2009). An example of this structure is shown for an English sentence in the tree in (46).

(46) *Phonological Organization above the Word*



5.1 The Prosodic Generalization

Brodkin 2024a documents a number of top-down phonological restrictions that identify the edges of phonological constituents along the prosodic hierarchy in Mandar. One of the restrictions in this system arises in the exact set of positions that can host reinforcers. In Mandar, coda /ŋ/ assimilates in place to all following segments and denasalizes before all non-nasal segments except */b d d͡ʒ g/* (Pater, 1999). This process operates within ωs and typically applies across them as well. But it is judged ungrammatical for Nasal Assimilation to apply between words at the junctures that block Reinforcer Postposing: it cannot occur at the right edges of topics (47a) or preposed CPs (47b). This restriction is shown in the top lines of the examples below, which show what I take to be the the surface phonological forms of the constituents in each example.

(47) *A Restriction on Nasal Assimilation*

a. itit tauŋ, **p**ole i iramas sola wenena .
itiŋ tauŋ pole i iramaŋ sola baine-na
that year come 3ABS NAME with wife-3GEN
'That year, Ramang came with his wife."

b. mwaʔ pole i iramaŋ, so toŋat toaʔ.
muaʔ pole i iramaŋ sau toŋaŋ toaʔ
if come 3ABS NAME go truly also.1ABS
'If Ramang comes, I'll truly go too."

The distribution of Nasal Assimilation also identifies the set of domains that are transparent to Reinforcer Postposing. Nasal Assimilation is judged obligatory at the right edges of fronted foci (48a) and the strings before unextraposed postverbal CPs (48b).

(48) *Nasal Assimilation → Reinforcers can Escape*

a. do paŋinoa**t** tammala upaŋino **o** .
do paŋinoaŋ taŋ-mala u-paŋino o
that game not-can 1ERG-play there
'THAT GAME THERE I cannot play.'

b. moa i **ɹo** rama**t** **t**ammala i lamba **o** .
maʔ-ua i do ramaŋ taŋ-mala i lamba o
ANTIP-say 3ABS that NAME not-can 3ABS go there
'That Ramang there said that he can't go.'

Brodkin 2024a proposes that the distribution of Nasal Assimilation in Mandar is keyed to the right edge of the largest constituent on the prosodic hierarchy: coda /ŋ/ must always assimilate to the following segment unless it is final in the intonational phrase (*ι*).[3] This analysis opens up a path to define the domains of Reinforcer Postposing in fully prosodic terms: they are *ι*s. The interactions with topicalization and CP-preposing can then be interpreted as a properly phonological type of islandhood: the reinforcers cannot escape their containing *ι*. This generalization is summarized in (49).

(49) *The Generalization on Domains*

The reinforcers surface at the right edges of their intonational phrase (*ι*).

This analysis sets us up with a clear prediction. In Mandar, the distribution of Nasal Assimilation shows that adverbs and adjunct CPs can be extraposed to a right-peripheral

position where they form their own ι*s* (50a)-(50b); I will show this parse in the top lines of examples from here on out. Referential arguments can also be extraposed in this way (50c) (on the prosody of extraposition elsewhere, Antinucci & Cinque 1977; Royer 2022).

(50) *Extraposition and Intonational Phrasing*

a. {ι wita i iramaŋ } {ι **t**on djolo }
u-ita i iramaŋ tauŋ diolo
1ERG-see 3ABS NAME year last
'I saw Ramang, last year.'

b. {ι upelambi i iramaŋ } {ι **t**enneʔ moŋeʔ i }
u-pelambiʔi i iramaŋ tenneʔ moŋeʔ i
1ERG-visit 3ABS NAME in case sick 3ABS
'I'll visit Ramang, in case he's sick.'

c. {ι napelambi i iramaŋ } {ι **k**indoʔna }
na-pelambiʔi i iramaŋ kindoʔ-na
3ERG-visit 3ABS NAME mom-3GEN
'She visited Ramang, his mom.'

This manipulation sets up the following test. If Reinforcer Postposing places its targets at the right edge of the ι, then the positions of reinforcers should change when constituents are extraposed. This is correct: the reinforcers precede all extraposed material, including adverbs (51a), adjunct CPs (51b), and arguments (51c).

(51) *Reinforcer Postposing is sensitive to Extraposition*

a. {ι wita i ɪo ramaŋ **o** } {ι **t**on djolo }.
u-ita i do ramaŋ o tauŋ diolo
1ERG-see 3ABS that NAME there year last
'I saw that Ramang there, last year.'

b. {ι upelambi i ɪo ramaŋ **o** } {ι **t**enneʔ moŋeʔ i }
u-pelambiʔi i do ramaŋ o tenneʔ moŋeʔ i
1ERG-visit 3ABS that NAME there in case sick 3ABS
'I'll visit that Ramang there, in case he's sick.'

c. {ι napelambi i ɪo ramaŋ **o** } {ι **k**indoʔna }
na-pelambiʔi i do ramaŋ o kindoʔ-na
3ERG-visit 3ABS that NAME there mom-3GEN
'She visited that Ramang there, his mom.'

This effect can also be seen in the behavior of complement CPs. Many verbs in Mandar force CP-complements to extrapose and form *ι*s, blocking Nasal Assimilation. Extraposition is blocked when these CPs launch WH-movement, in an interaction related to Freezing (Wexler & Culicover, 1980). This affects the position of reinforcers: reinforcers precede CPs that are extraposed (52a) but follow those that are not (52b).

(52) *Reinforcer Postposing interacts with CP Extraposition*

a. {ι nasaŋa **ɪo** ramaŋ **o** } {ι tammwalli i }.
na-saŋa do ramaŋ o taŋ-mu-alli i
3ERG-think that NAME there not-2ERG-buy 3ABS
'That Ramang there thinks, that you didn't buy it.'

b. {ι a nasaŋa **ɪo** ramat **t**ammwalli ___ **o** }?
a na-saŋa do ramaŋ taŋ-mu-alli o
what 3ERG-think that NAME not-2ERG-buy there
'What does that Ramang there think that you didn't buy?'

These interactions suggest that the distribution of reinforcers is not connected in any crucial way to the syntax of topicalization and CP-preposing. Rather, it is keyed to the ironclad phonological generalization in (49): the reinforcers fall at right edge of their *ι*.

We can now attempt to test this generalization in a more radical and revealing way. Although prosodic organization is broadly faithful to the syntax beneath it, it can deviate when pressures native to the phonology so demand (Kubozono, 1989; Selkirk & Elordieta, 2010; Kalivoda, 2018). At the level of intonational phrasing, this deviation can be readily forced by inserting parentheticals and appositives. When an appositive is inserted into the middle of a clause in Mandar, the clause is split into three *ι*s (53).

(53) *The Prosodic Effect of Parenthetical Insertion*

{$_\iota$	wita	i	iramaŋ },	{$_\iota$	**k**apala	ɪesa	tinambuŋ },	{$_\iota$	**t**on	djolo }.
	u-ita	i	iramaŋ		kapala	desa	tinambuŋ		tauŋ	diolo
	1ERG-see	3ABS	NAME		head	village	PLACE		year	last

'I saw Ramang, the mayor of Tinambung, last year.'

This result sets up a prediction: if Reinforcer Postposing targets the right edge of the ι, then the positions of the reinforcers should be influenced by the insertion of parentheticals and appositives—even though this should have no effect in the syntax. This is correct. When an appositive is inserted after an associate that selects a reinforcer, the reinforcer cannot move all the way to the right edge of its clause. Instead, it is forced to fall before the appositive. This is because the insertion of an appositive forces the material before it to form an ι—and the reinforcer is trapped in that ι (54).

(54) *Reinforcer Postposing interacts with Parenthetical Insertion*

a.

{$_\iota$	kessaŋa	ĩ	**ɪo**	ramak		**k**orupsi	sanna? **o**	}.
	kaissaŋaŋ	i	do	ramaŋ		korupsi	sanna? o	
	known	3ABS	that	NAME		corrupt	very	there

'That Ramaŋ there is known to be extremely corrupt '

b.

{$_\iota$	kessaŋa	ĩ	**ɪo**	ramaŋ **o**	}, {$_\iota$	kapala	ɪesa },	{$_\iota$	korupsi	sanna? } .
	kaissaŋaŋ	i	do	ramaŋ o		kapala	desa		korupsi	sanna?
	known	3ABS	that	NAME there		head	village		corrupt	very

'That Ramang there, the mayor, is known to be extremely corrupt '

The same effect can be seen in traditional poetry in a type of couplet called a *Kalinda'da'*. The lines of the *Kalinda'da'* are each parsed as ιs, but they show no evidence of extraposition and can be freely crossed by WH-dependencies (and see Thoms 2010 on English). As a result, they provide a second context in which prosodic organization deviates from the syntax. They also have a similar impact on the position of reinforcers.

When a single-ι clause with a final reinforcer, like (55a), is split by a metrical line break, the reinforcer is rerouted to a position in the middle. This is shown in the poem in (55b).

(55) *Reinforcer Postposing interacts with Metrical Line Breaks*

a. {ι jamo **ɪo** ɹisaŋa lopi pattonda roppoŋ **o** }
jamo do disaŋa lopi pattonda roppoŋ **o** }
is that called boat shipping grass there

"That there is called a misguided endeavor."

b. {ι jamo **ɪo** ɹisaŋa **o** } {ι lopi pattonda roppoŋ }
jamo do disaŋa **o** } {ι lopi pattonda roppoŋ }
is that called there boat shipping grass

"That's called (linebreak) a misguided endeavor." Muthalib & Sangi 1991, 374

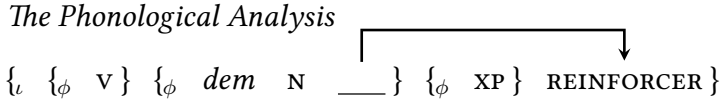
Stepping back from these manipulations, we arrive at this result: the distribution of the reinforcers can be straightforwardly stated in terms of the constituent structure of the phonology, as elements that are consistently final in the ι. In this way, the reinforcers behave much like a x^0 that is selected in the noun phrase in Tsotsil: what Aissen 2017 calls a Terminal Enclitic. In the investigation to come, this prosodic generalization will play a key role in explaining many properties of Reinforcer Postposing, from its non-syntactic behavior to its particular interaction with Rightward Focus Movement.

5.2 Movement in the Phonology

The most conservative way to understand the linear positions of the reinforcers would be in terms of an output filter: for instance, a phonological constraint that banned derivations in which the reinforcers did not move to syntactic positions that would eventually fall at the right edges of ιs (cf. Inkelas & Zec 1995, Bošković 2001). This analysis, however, would not offer us any insight into the matter of why Reinforcer Postposing does not behave like a syntactic operation. As a result, I will pursue a more radical alternative: that Reinforcer Postposing occurs fully within in the phonology and

shifts the reinforcers into positions that are defined in terms of the constituent structure of the prosody (cf. Halpern 1995; Hargus & Tuttle 1997; Chung 2003; Bennett *et al.* 2016). On this approach, we can schematize the procss as the following phonological rule.

(56) *The Phonological Analysis*



This rule is a descriptive stand-in for a real analysis of Reinforcer Postposing, but it will be useful here as we develop a rough theory of how this operation plays out. Following Zwicky & Pullum 1986, I will assume that the syntactic derivation proceeds in complete absence of phonological information: segmental content is not present in its terminal nodes and prosodic structure is not built around its skeleton. The output of the syntax is passed to a morphological module, in which the first linearization of terminal nodes is established (Embick *et al.*, 2007; Arregi & Nevins, 2012). I will assume that the full output of the morphological module is then passed to the phonology at once and is subjected to one cycle of phonological evaluation. This is a natural assumption in the realm of phrasal phonology, where there is no evidence for cyclicity (Kiparsky, 1985) and no clear benefit to postulating its existence (Cheng & Downing, 2016). And while it raises challenges in other corners of the theory (Bermúdez-Otero, 2012), it seems on balance to be necessary, as there are many chicken-and-egg effects that require irreducible parallelism (McCarthy, 2011; Wei & Walker, 2020), in the terminology of Adler & Zymet 2021, and top-down interactions that require lookahead on cyclic models (Prince, 1975; Dresher, 1983; Selkirk, 1995; Kenstowicz, 2005; Henderson, 2012).

Within this single cycle of phonological evaluation, I will assume that several different systems collaborate to convert syntactic inputs into phonological objects that are legible to the interface with phonetics. To begin, the terminal nodes of the morphosyntax undergo a second stage of linearization, where particular heads can be

repositioned in response to properly phonological constraints (Hargus & Tuttle, 1997; Anderson, 2000; Bennett *et al.*, 2016; Kusmer, 2020). In tandem with this, I will assume that syntactic terminals are associated with phonological content via vocabulary insertion in the phonology, with certain choices of allomorphy and suppletion being resolved in an output-optimizing way (Mester, 1994; Booij, 1998; Bonet *et al.*, 2007; Bennett, 2017; Brodkin, 2024b). At the same time, the morphosyntactic material that is marked for ellipsis is suppressed, in a calculus that is sensitive to phonological well-formedness constraints that hold over the remnants (Bennett *et al.*, 2019). Finally, patterns of constituency are reconstructed in phonological terms, in a calculus that weighs requirements of prosodic well-formedness against the mandate to preserve syntactic constituent structure in a faithful way (Selkirk, 2009, 2011; Elfner, 2012, 2015; Itô & Mester, 2019a; Kalivoda, 2018).

Within this calculus, we can understand Reinforcer Postposing to be driven by an output constraint that forces the Reinforcers to fall at the right edge of the ι (49). We can temporarily state this requirement as the item-specific constraint in (57).

(57) *Shift*

Assign one violation for every reinforcer which is not final in an ι.

On this analysis, Reinforcer Postposing will emerge from the interaction of *Shift*, or the constraints that lie beneath it, with competing pressures that are ranked beneath it, in the terms of Optimality Theory (Prince & Smolensky, 2004). Abstractly, the core ranking is clear: *Shift* must outrank a pressure that bans movement in the phonology. I assume that this constraint has the shape in (58) (cf. Bennett *et al.* 2016; Kusmer 2020).

(58) *No Shift*

Assign one violation for every pair of terminal nodes in the morphosyntax α, β, such that α is linearized before β in a morphological representation M, for which

the output correspondent of α does not precede the output correspondent of β in a corresponding phonological representation P.

The locality profile of Reinforcer Postposing then comes together quickly from these constraints. When multiple reinforcers compete, it is the rightmost reinforcer that moves to the edge of the ι. Setting the Sour-Grapes Effect aside, this fact can be derived from the evaluation profile of No Shift. I take No Shift to punish changes in constituent order in a gradient fashion, thus favoring the steps of movement that cross the smallest number of constituents possible. As the reinforcers move, No Shift will thus favor movement of the rightmost reinforcer, deriving the linear form of relative locality.

(59) *The Derivation of Relative Locality*

$[_{VP}$ ... **e** ... **o** ... XP]	Shift	No Shift
☞ a. $\{_{\iota}$ ... ~~e~~ ... t_o ... XP **o** $\}$		*
b. $\{_{\iota}$ ... t_e ... ~~o~~ ... XP **e** $\}$		**!*
c. $\{_{\iota}$ ... *e* ... *o* ... XP $\}$	*!*	

The interaction with islands falls together in a similar way. The reinforcers are unable to cross out of the ι, and this restriction may at first seem like a typical island constraint ("No phonological movement out of an ι"). But as Reinforcer Postposing is simply keyed to the right edge of *an* ι, this restriction can be derived from the logic of relative locality (in keeping with a program that derives syntactic island constraints in a similar way; Halpert 2019). This interaction shown in the following tableau: Shift forces the reinforcer to move to the edge of an ι, No Shift demands that it cross the shortest linear distance to do so, as such, the reinforcers cannot cross into a following ι.

(60) *The Derivation of Absolute Locality*

[$_{\text{TOPP}}$ … **e** … [$_{\text{VP}}$ … XP]]	SHIFT	NO SHIFT
☞ a. {$_{\iota}$ … **e** } {$_{\iota}$ … XP } }		
b. {$_{\iota}$ … t_e } {$_{\iota}$ … XP **e** } }		∗!

Turning to the lack of interaction with syntactic islands, we reach another result. Given the assumptions on modularity above, the phonology must evaluate the effect of Reinforcer Postposing in a constituent structure that is fully phonological in nature. This phonological structure contains information only about prosodic constituency and cannot retain any information on the labels or constraints that define islands in the syntax. From the perspective of the phonology, then, movement out of syntactic islands should be treated like any other case of movement that crossed a similar linear distance. In other words, the phonology should not distinguish routine steps of rightward movement from apparent violations of the Right Roof Constraint, as shown below.

(61) *The Irrelevance of Syntactic Locality Domains*

[$_{\text{VP}}$ V [$_{\text{CP}}$ … **e** …] XP]	SHIFT	NO SHIFT
☞ a. {$_{\iota}$ V … CP _ … XP **e** }		∗
b. {$_{\iota}$ V … CP **e** … XP }	∗!	

Stepping back from the details, then, Reinforcer Postposing seems to behave as an operation of phonological movement par excellence. By framing its landing site in the terminology of prosodic organization, we have managed to pin down its distribution in a simple, exhaustive, and predictive way. By situating it in the phonology, in turn, we have found a way to explain the finer properties of the operation—its insensitivity to syntactic islands and its obedience to a linear form of relative locality. And by the same move, we have found a way to understand why it differs from movements in the syntax.

We can now integrate this result into a broader theory of displacement. The conclusion that Reinforcer Postposing operates in the phonology is incompatible with

approaches that restrict linear reordering to the syntax (Kayne, 1994). This does not mean that we should reverse course. As we have seen, Reinforcer Postposing ignores an inventory of constraints that govern essentially all types of movement in the syntax. For this reason, it would be difficult to integrate this operation into a theory of syntactic displacement that had any empirical content. Instead, it seems right to assimilate this operation to the range of analogous processes that ignore the constraints and constituency of the syntax and operate according to a separate set of phonological rules, such as the movements that yield the infixation of affixes into roots (McCarthy & Prince, 1993), the postposing of phonologically weak elements from the left edge of the phonological phrase (Bennett *et al.*, 2016), and the postposing of phonologically-similar elements from the left edge of the intonational phrase (Halpern, 1995; Harizanov, 2014). The existence of these patterns suggests that displacement is able to occur in the phonological component, and the immediate effect of our results is to add a further piece of evidence to this case.

6 Minimality, Ellipsis, and Greed

With Reinforcer Postposing now situated in the phonology, we can advance on the three puzzles that remain: the Complementarity Effect, the Sour-Grapes Effect, and the motivation for Reinforcer Postposing. These puzzles will also receive explanation in the phonology, and these will shed light on the theories of ellipsis and displacement.

6.1 The Minimality Problem

Beneath the level of the ι, there is another prosodic constituent that can be identified in Mandar from the distribution of a high tone (H). This H tone falls at the right edges of many phrasal constituents, and example (62) shows two: DEM-NOUN-ADJ sequences like *itim buku kaiyang* "that big book" and ADV-V sequences like *mane wemme* "just fell." Brodkin 2024b,a proposes that the H tone falls at the right edge of the universal prosodic constituent that Itô & Mester 2007 identify as the phonological phrases (ϕ). I will mark this H tone, and the consequent distribution of ϕs, in the top lines of all examples below.

(62) *The Phonological Phrase*

{$_\phi$	mane	wemme^H	}	i	{$_\phi$	itim buku kaijaŋ^H	}.
	mane	bemme		i		itiŋ buku kaiaŋ	
	just	fall		3ABS		that book big	

'That big book just fell.'

The phonological phrase is important for a constraint that it imposes at its left edge. Mandar has many functional elements that are typically monosyllabic, including prepositions, demonstratives, complementizers, and auxiliaries. The following example gives one example: the P^0 "out" takes the form *suŋ* when it is non-final in a ϕ.

(63) *Monosyllabic Functional Heads*

{$_\phi$	bemme^H	}	i	{$_\phi$	**sup**	pepattoaŋ^H	}.
	bemme		i		suŋ	pepattoaŋ	
	fall		3ABS		out	window	

'It fell out of the window.'

Mandar allows P^{0}s, DEM^{0}s, and AUX^{0}es to be stranded by various types of complement extraction and ellipsis. In this context, these functional heads are forced to carry H-tones of their own and form independent ϕs. This prosodic shift then forces a conspiracy of repairs onto the X^{0}s that are typically monosyllabic: for instance, the P^0 "out" begins to show V?-epenthesis and takes on the disyllabic form [*su?uŋ*].

(64) *Augmentation at the Right Edge of the Phonological Phrase*

{$_{\phi}$	bemme^{H} }	i	{$_{\phi}$	**súʔum**^{H}	___	}	{$_{\phi}$	búku^{H} }.
	bemme	i		suŋ				buku
	fall	3ABS		out				book

'The book fell out.'

These effects reveal the existence a top-down constraint: the final constituent in the ϕ must be disyllabic. This restriction is a constraint on positional well-formedness (De Lacy, 2001; Smith, 2002), of a type common at the edges of prosodic domains (Booij, 1999; Prieto, 2005; Elordieta, 2006). In keeping with much work on minimality effects (Itô & Mester, 1992; McCarthy & Prince, 1993), Brodkin 2024b proposes that it can be understood as a restriction on the shape of feet. Mandar shows regular penultimate stress in the prosodic word (Pelenkahu *et al.*, 1983), marked phonetically with increases in amplitude and duration and a low tone on the stressed syllable. This stress is shown in example (65a), and Brodkin 2024b takes it to reflect the presence of a single right-aligned trochee in every prosodic word (65b). Similar analyses of stress have been proposed in other languages of the South Sulawesi subfamily (Mithun & Basri, 1986; Friberg & Friberg, 1991; Broselow, 1999; Basri *et al.*, 1999).

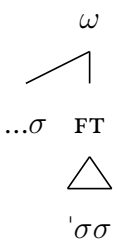
(65) *Word-Level Stress and Feet*

a.

óro	oróaŋ	oroánna
oro	oro-aŋ	oro-aŋ-na
sit	sit-NMLZ	sit-NMLZ-3GEN

'to sit, a seat, her seat'

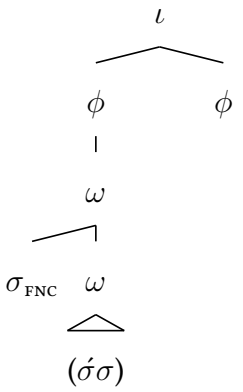
b. *The Disyllabic Trochee*



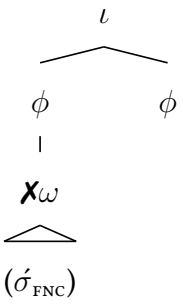
The top-down constraint then operates in the following way. Under default circumstances in Mandar, functional heads do not bear stress and do not form prosodic words (part of a larger pattern; Selkirk 1995). As a result, I assume that they do not have to contain feet and thus can remain monosyllabic. When they are stranded and parsed into independent ϕs, however, they are forced to form prosodic words by the architectural requirement of HEADEDNESS (Nespor & Vogel, 1986). In this context, they are forced to contain disyllabic feet—and must expand to disyllabic forms (66).

(66) *The Positional Minimality Constraint*

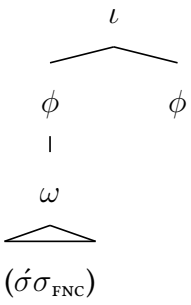
a. *The Default*



b. *The Problem*



c. *The Repair*

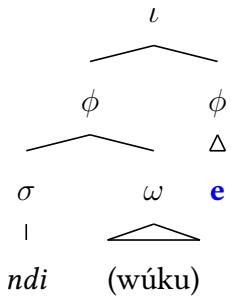


This system of Positional Minimality holds relevance because of two further properties of this larger system. First, the reinforcers always carry the H-tone that marks the right edge of a ϕ. When they are adjacent to their associated NPs, the nominal string is parsed {$_\phi$ DEM NP } {$_\phi$ REINFORCER } (67a). When they are separated from their associates, the pattern remains the same: the reinforcer carries its own H-tone. These facts suggest that the reinforcers always form ϕs, as shown in the prosodic tree below.

(67) *The Reinforcers Form Phonological Phrases*

a. {$_\phi$ **ndi** wúku^{H} } {$_\phi$ è^{H} }.
ndi buku e
this book here
'This book here.'

b. *The Prosody*



This observation sets up an initial phonological tension: the ϕ must host a disyllabic foot at its right edge, but the reinforcers seem to form ϕs that contain degenerate monosyllabic feet. From the perspective of the phonology, then, these elements seem problematic: they carry within themselves a phonological tension that demands resolution. But when we turn to the broader system of minimality resolution, we are quick to find a way out. Under very particular prosodic circumstances, the other monosyllabic x^0s in the language can stay monosyllabic at the right edge of the ϕ when they are also right-aligned in the ι. The following examples illustrate this effect: the P^0 "out" can retain its monosyllabic form [*suŋ*] (68a) and the negator can take its unmarked form [*ndaŋ*] (68b) when they carry what I will call a final accent, marked with a grave accent below.

(68) *Exceptional Licensing of Monosyllables*

a. {$_\iota$ {$_\phi$ lámba } o {$_\phi$ **sùŋ**^{H} ____$_{NP}$ } } .
lamba o suŋ
go 2ABS out
'Get out!'

b. {$_\iota$ {$_\phi$ mwaʔ póle } o }, {$_\iota$ {$_\phi$ itit táu } {$_\phi$ **ndàŋ**^{H} ____$_{VP}$ } } .
muaʔ pole o itiŋ tau ndaŋ
if come 2ABS that guy not
'If you come, that guy won't.'

The possibility for a monosyllabic ϕ is restricted to the right edge of the ι. If the ϕs

in (68) are followed by any other material—like a reinforcer—the heads above can no longer carry a final accent and are forced to respond differently to Positional Minimality. The P^0 "out" shows v?-epenthesis (69a); the POL^0 "not" suppletes (69b).

(69) *Monosyllabic ϕs: Only at the Right Edge of the ι*

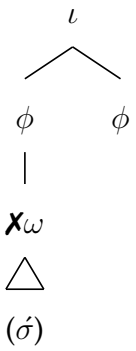
a. {$_\iota$ {$_\phi$ lámba } i {$_\phi$ ɪo táu } {$_\phi$ **sú?uŋ**^{H} ____$_{NP}$ } {$_\phi$ ò } }.
lamba i do tau suŋ o
go 3ABS that person out there
'That person went out.'

b. {$_\iota$ {$_\phi$ mwa? póle } o }, {$_\iota$ {$_\phi$ do táu } {$_\phi$ **andíaŋ**^{H} ____$_{VP}$ {$_\phi$ ò } } }.
mua? pole o do tau ndaŋ o
if come 2ABS that guy not there
'If you come, that guy won't.'

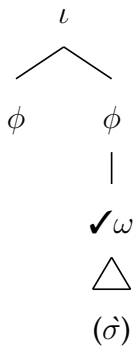
The core generalization is thus sketched in the diagram below: monosyllabic feet are banned at the right edge of the ϕ (70a), but they become possible at the right edge of the ϕ when the ϕ falls at the right edge of the ι and carries the final accent in (68) (70b).

(70) *The Conspiracy of Size: Revised*

a. *The Constraint*



b. *The Exception*



The positional licensing of monosyllabic ϕs can be derived from the interaction of three constraints. The first is the Positional Minimality Constraint (71a), which demands that the ϕ be right-aligned with a disyllabic trochee. The second is the constraint

Align-Right(accent), which demands that the final accent be final in the ι (71b). The third is the constraint Align(Accent, Head_{FT}), which forces the accent to fall on the head of a foot (71c): impossible if the final foot is a trochee, but possible if it is degenerate. The ranking of Align-Right(accent) and Align(Accent, Head_{FT}) over Positional Minimality yields our result: monosyllabic ϕs are licensed at the ι edge.

(71) *The Positional Licensing of Degenerate Feet*

a. Positional Minimality
Assign one violation for every ϕ that is not right-aligned with a disyllabic ft.

b. Align-Right(accent)
Assign one violation for every final accent that is not right-aligned in the ι.

c. Align(Accent, Head_{FT})
Assign one violation for every focal accent not aligned with the head of a ft.

d.

$[_{\text{VP}}$ lamba o $[_{\text{PP}}$ sung$_{+\text{ACCENT}}$ $]$ $]$	Al-R-Accent	Al-(Accent, Head_{FT})	Min
☞ a. {$_{\iota}$ {$_{\phi}$ (lámba) } o {$_{\phi}$ (sùng) } }			*
b. {$_{\iota}$ {$_{\phi}$ (lámba) } o {$_{\phi}$ (súʔùng) } }		*!	
c. {$_{\iota}$ {$_{\phi}$ (lámba) } o {$_{\phi}$ (sùʔung) } }	*!		

This analysis allow us to see the beginnings of an account of Reinforcer Postposing. The system of Positional Minimality typically bans the emergence of monosyllabic ϕs, setting up an implicit tension in the reinforcers and a contextual tension in functional x^0s stranded by ellipsis. The stranded functional x^0s respond to this constraint without any special movement, undergoing epenthesis or similar repairs to meet the requirement for disyllabicity. But the right edge of the ι is able to host a special prominence that exceptionally licenses monosyllabic ϕs. The reinforcers are then special because they prefer to be repaired in this way: they idiosyncratically resist the usual repairs and move to a position where they can be rescued by the epenthesis of a final accent. The task of

the following subsections is thus to develop such an account and integrate the pattern of Reinforcer Postposing with the larger system of positional minimality.

6.2 Final Accent Epenthesis

The starting point of this arc lies with the phonology of focus. The final accent that licenses monosyllabic ϕs at the right edge of the ι is normally associated with contrastive focus: ι-final contrastive foci must carry this accent. The presence of this accent forces a change in the position of word-level stress: typically it is penultimate, but in ι-final contrastive foci, it is final. The following example illustrates with a focused final verb.[4]

(72) *Final Accent: falls on ι-Final Contrastive Foci*

{$_\iota$	{$_\phi$	mélo? táppa?^{H} }	di		{$_\phi$	utʃo**wà**	} }.
		melo? tappa?	di			u-tʃoba	
		want only	just.3ABS			1ERG-try	

'I only want to TRY it.'

The requirement that ι-final contrastive foci bear such an accent is part of a broader pattern that is familiar from work on Germanic: focused constituents are often aligned with high-level prosodic events (Truckenbrodt, 1995). The relevant effect in Mandar can be understood in terms of the constraint ALIGN(FOCUS,ACCENT) (73a), which demand that contrastive foci carry an accent of this type. The following tableau shows how ALIGN(FOCUS,ACCENT) forces the insertion of a final accent on an ι-final contrastive focus. I assume that the distribution of final accents is governed by the constraint DEP(ACCENT) (73b), which restricts their insertion; the ranking ALIGN(FOCUS,ACCENT) > DEP(ACCENT) forces the insertion of a final accent on an ι-final focus. The ensuing shift in stress then follows from the established ranking of ALIGN-RIGHT-ACCENT and ALIGN(ACCENT, HEAD_{FT}) > POSITIONAL MINIMALITY, which forces the construction of a degenerate foot.

(73) *The Derivation of Accentual Alignment*

a. ALIGN(FOCUS,ACCENT)
Assign one violation for every ι-final contrastive focus that lacks final accent.

b. DEP(ACCENT)
Assign one violation for every final accent.

c. *The Insertion of Focal Accent*

[$_{\text{FOCP}}$ [$_{\text{V}}$ V SUBJ] OBJ$_{+\text{FOCUS}}$]	ALIGN(FOCUS,ACCENT)	DEP(ACCENT)
☞ a. {$_{\iota}$ V SUBJ ÒBJ }		*
b. {$_{\iota}$ V SUBJ OBJ }	*!	

In order for stranded functional x^{0}s to remain monosyllabic at the right edge of the ι, they must be contrastively focused in this way. As a result, the examples in (68) are only acceptable when contrastive focus falls on the stranded P^0 in (68a) and the POL^0 in (68b). In the contexts where reinforcers are associated with deictic DEM^{0}s, it is conceivable that the reinforcers can be semantically focused in the same way. But there is reason to believe that the final accent can be inserted in a manner insensitive to the presence of semantic focus in order to rescue particular monosyllables at the right edge of the ι. The first piece of evidence lies with the reinforcers themselves. Mandar requires the DEM^0 *do* to appear on most nominals that refer to referents already introduced in the discourse, much like a definite article. In this context, the reinforcer *o* continues to surface at the right edge of the ι, despite the fact that it carries no particular semantic focus.

The second case involves a suffix *-ì* which appears after many verbs in their transitive forms (74). This x^0 is absent in the antipassive voice (36), and I take it to spell out a transitive v^0. The presence of this x^0 can always be extrapolated from the morphology on the verb (ergative prefixes expone a transitive *voice*^{0}), so I know of no reason why it should carry semantic focus. But like the reinforcers, this x^0 must carry a final accent.

(74) *The Transitivity Suffix -ì*

a. {$_{\iota}$ {$_{\phi}$ ámu^{H} } {$_{\phi}$ paŋíno **ì**^{H} } }?
a mu-paŋino i
what 2ERG-play TRANS
'What are you playing?'

b. {$_{\iota}$ {$_{\phi}$ mwaʔ ítin^{H} } {$_{\phi}$ napaŋíno **ì**^{H} } }, {$_{\iota}$ {$_{\phi}$ mitt͡ʃóe^{H} } aʔ }.
mua ʔ itiŋ na-paŋino i miŋ-t͡ʃoeʔ aʔ
if that 3ERG-play TRANS ANTIP-follow 1ABS
'If that's what they're playing, I'm coming.'

I take these cases to suggest that final accents can be inserted at the right edge of the ι to rescue particular monosyllabic x^0s that are not semantically focused in that position. In other words, I propose that the phonology can epenthesize a final accent to resolve problems of Positional Minimality within x^0s that idiosyncratically resist the usual repairs. The following tableau illustrates how this result is forced for the suffix *-ì*. This suffix is never parsed into window of penultimate word-level stress in Mandar, and as a result, I assume that it canonically falls outside of the the ω that corresponds the v. In this position, it will consistently appear alone at the right edge of a ϕ. The Positional Minimality Constraint will thus mandate a response: either this x^0 will undergo vʔ-epenthesis to host a disyllabic trochee or a final accent will be inserted to license a ϕ-final monosyllabic foot. The second result is forced, so I propose that DEP(ACCENT) is ranked beneath an item-specific constraint against the usual repair: DEP(V)$_{\text{-}i}$ (75a).

(75) *Final Accent Epenthesis*

a. DEP(V)$_{\text{-}i}$
Assign one violation for every output segment in the output correspondent of $v^0{}_{\text{TRANS}}$ that lacks an input correspondent.

b. *Rescue via Final Accent Epenthesis*

[$_{voiceP}$ ERG−$\sqrt{\text{PLAY}}$ $v^0$$_{\text{TRANS}}$]	Dep(v)$_{\text{-}i}$	Dep(accent)
☞ a. {$_\iota$ {$_\phi$ [$_\omega$ na-paŋ(íno)] (i) } }		*
b. {$_\iota$ {$_\phi$ [$_\omega$ na-paŋ(íno)] (íʔi) } }	*!	

This intuition opens up a new analysis of Reinforcer Postposing: the reinforcers must respond to the Positional Minimality Constraint, they resist the usual repair of epenthesis, and so they move to a position that allows for their internal tension to be resolved by epenthesis of a final accent. The following tableau presents the account. Positional Minimality demands that the reinforcers be repaired in some way. The preference for receiving a final accent follows from the ranking of Dep(accent) beneath Dep(v)$_{\text{reinforcer}}$, which prevents a resolution through epenthesis (76a). The position of this accent is fixed by the network of constraints and the ranking established in (71), not shown below. The preference for movement to the position that allows for final accent epenthesis is then forced by the ranking of Dep(v)$_{\text{reinforcer}}$ > NoShift.

(76) *Reinforcer Postposing*

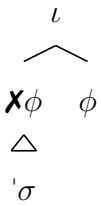
a. Dep(v)$_{\text{reinforcer}}$
Assign one violation for every output segment in the output correspondent of a reinforcer^0 that lacks an input correspondent.

b. *Reinforcer Postposing*

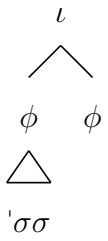
[xp … reinf … xp]	Dep(v)$_{\text{reinf}}$	NoShift	Dep(accent)
☞ a. {$_\iota$ ϕ … ___ … ϕ {$_\phi$ [$_\omega$ (σ́)] } }		*	*
b. {$_\iota$ ϕ … {$_\phi$ [$_\omega$ (σ́σ)] } … ϕ }	*!		

This analysis allows us to understand the process of Reinforcer Postposing as an item-specific response to a general output constraint: the language bans monosyllabic ϕs (77a), the reinforcers resist the usual repair of epenthesis (77b), and so they move to a position where they can be rescued by the insertion of an accent.

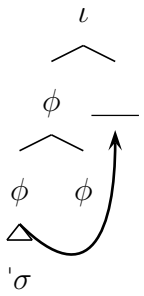
(77) a. *Constraint*



b. *General Repair*



c. *Special Repair*



Stepping back from the particulars, the larger shape of the analysis leads toward a deeper point. On this account, Reinforcer Postposing is driven by an intrinsic property of the elements that move: it is the implicit phonological tension that the reinforcers carry. On any account, Reinforcer Postposing also clearly alternates with a derivational path in which the moving elements are simply deleted. These properties establish a parallel between Reinforcer Postposing and the steps of movement that have been argued to be driven by Greed (Chomsky, 1995; Bošković, 1995, 2002, 2007; Grohmann *et al.*, 2000): most notably, the head-movements that proceed by substitution (Rizzi & Roberts, 1989; Ackema *et al.*, 1993; Fanselow, 2004, 2009; Surányi, 2005, 2007; Harizanov & Gribanova, 2019). Lasnik 1999, for instance, argues that the process of T^0-to-C^0 in English is driven by an implicit property of T^0 and can be avoided if T^0 is deleted—as it is in matrix sluices.

(78) a. Mary will see someone.

b. [$_{CP}$ who [$_{C'}$ __ C^0 [$_{\sout{TP}}$ ~~*will*~~ $_{T^0}$ ~~Mary see~~]]]?

These parallels suggests that the operation of Reinforcer Postposing, too, is driven by Greed: it carries its targets to the sole position where their internal needs can be resolved. As such, it sets up a case that phonological movement can be driven by Greed.

6.3 The Sour Grapes Effect

This analysis also opens up a path to understand the Sour Grapes Effect. Like the reinforcers, the suffix *-i̋* is suppressed whenever it cannot carry a final accent—in other words, whenever its associated verb is not final in the ι (79). This is a second case of the ι-final Sour-Grapes effect, and moreover, it is one that is nearly identical to an alternation that arises around certain transitivity-marking verbal suffixes in certain Mayan languages (Henderson, 2012; Royer, 2022), which also delete outside the ι-edge.

(79) *The Transitivity Suffix: Another Sour-Grapes Effect*

a. {$_\iota$ {$_\phi$ ámu$^{\text{H}}$ } {$_\phi$ paŋíno$^{\text{H}}$ ___ } {$_\phi$ dío$^{\text{H}}$ } }?
a mu-paŋino i dio
what 2ERG-play TRANS there
'What are you playing over there?'

b. {$_\iota$ {$_\phi$ ndaĩ$^{\text{H}}$ } {$_\phi$ mála } {$_\phi$ mupaŋíno ___ } {$_\phi$ mwaʔ díni$^{\text{H}}$ } aʔ }.
ndaŋ i mala mu-pangino i mua? dini aʔ
not 3ABS can 2ERG-play TRANS if here 1ABS
'You can't play it if I'm here.'

Following Henderson 2012, I take this pattern to emerge from the interaction of phonological output constraints with the pressure to expone the terminal nodes of the morphosyntax (see also Kurisu 2001). On this view, we can understand the Sour-Grapes Effect as a phonological sort of Rescue-by-Deletion (Ross, 1969; Chomsky, 1972; Merchant, 2001; Bošković, 2011). This is because its effect is to rescue the derivation from a phonological problem that would arise if suppression did not occur: a violation of either DEP(V)$_{\text{-}i\!\!\acute{}}$ (via epenthesis) or POSITIONAL MINIMALITY (via the appearance of a monosyllabic ϕ outside the ι-edge). In the derivations where this rescue occurs, I assume that the $v^0{}_{\text{TRANS}}$ is present in the morphosyntax (like the material in many kinds of ellipsis sites; Williams 1977; Fiengo & May 1994; Merchant 2001) and only elided within the phonology (Bennett *et al.*, 2019). Within this phonological calculus, I propose that

this erasure incurs a violation of the constraint *Elide, which regulates ellipsis (80a); it is forced by the ranking of Positional Minimality and Dep(v)$_{\text{-}i}$ above this constraint.

(80) *Phonologically-Induced Ellipsis*

a. *Elide

Assign one violation for every x^0 that is suppressed in the phonology.

b. *The Sour-Grapes Effect*

[$_{voiceP}$ ERG−$\sqrt{\text{PLAY}}$ $v^0$$_{\text{TRANS}}$ $\sqrt{\text{GAME}}$]	Dep(v)$_{\text{-}i}$	Pos-Min	*Elide
a. {$_\iota$ {$_\phi$ [$_\omega$ na-paŋ(íno)] (íʔi) } {$_\phi$ [$_\omega$ paŋi(nóaŋ)]} }	∗!		
b. {$_\iota$ {$_\phi$ [$_\omega$ na-paŋ(íno)] (í) } {$_\phi$ [$_\omega$ paŋi(nóaŋ)]} }		∗!	
☞ c. {$_\iota$ {$_\phi$ [$_\omega$ na-paŋ(íno)] ___ } {$_\phi$ [$_\omega$ paŋi(nóaŋ)]} }			∗

I propose that reinforcers are suppressed when they cannot receive a final accent in a calculus of the same shape. In the clauses where multiple reinforcers appear, for instance, only the rightmost reinforcer can survive in each ι. The following tableau illustrates the derivation of this effect: the ranking of Dep(v)$_{\text{REINFORCER}}$ > *Elide guarantees that a reinforcer will delete when it cannot be rescued from Positional Minimality by movement and epenthesis of a final accent. The constraint No Shift, in turn, will always favor derivations in which the linearly rightmost reinforcer moves to the edge.

(81) *Phonologically-Induced Ellipsis: Reinforcers*

[$_{\text{VP}}$ … **e** … **o** … XP]	Dep(v)$_{\text{REINFORCER}}$	*Elide	No Shift
☞ a. {$_\iota$ … ~~e~~ … t_o … XP **(ò)** }		∗	∗
b. {$_\iota$ … (éʔe) … t_o … XP **(ò)** }	∗!		∗
c. {$_\iota$ … t_e … ~~o~~ … XP **(è)** }			∗∗!

This type of ellipsis stands apart in interesting ways, as it is not licensed in the syntax and does not require any type of antecedent. But it is not entirely surprising that

it should exist. The phonology must be able to ban the appearance of particular morphemes in specific contexts, given the robust evidence for phonological blocking (Raffelsiefen, 1999, 2004). The phonology is also equipped with a range of tools for suppression, from the pressures that drive segmental deletion to those which eliminate particular prosodic constituents (Myrberg, 2013; Itô & Mester, 2019b). As such, it seems natural to imagine that the phonology may move past its usual role as an agent of suppression to force the ellipsis of phonologically illegitimate constituents itself.

6.4 The Complementarity Effect

The final task of the paper is to derive the complementarity between Reinforcer Postposing and Rightward Focus Shift. The solution is straightforward. Rightward Focus Shift invariably places its targets at a position that is final in the ι. Like other contrastive foci in this position, the targets of this process must then carry a final accent (82).

(82) *Rightward Focus Movement → Final Accent*

{$_\iota$	{$_\phi$	uweŋa^{H}	} ĩ	___	{$_\phi$	sanéke	} {$_\phi$	(wu**kù**/***wú**ku) } }.
		u-beŋaŋ	i			sanaeke		buku.
		1ERG-give	3ABS			kid		book

'I'm giving the kids BOOKS.'

This requirement holds the keys to the Complementarity Effect. For reinforcers to appear overtly, they must surface at the right edge of an ι and carry a final accent. In this context, it is impossible for an analogous accent to fall on any other constituent in the ι—as the final accent is strictly right-aligned in that domain (83).

(83) *Overt Reinforcer → No Final Accent on Anything Else*

{$_\iota$	{$_\phi$	naweŋa^{H}	} ãʔ	{$_\phi$	do	táu	} {$_\phi$	*wu**kù**/**wú**ku) }	{$_\phi$	**ò**	} }.
		na-beŋaŋ	aʔ		do	tau		buku		o	
		3ERG-give	1ABS		that	guy		book		there	

'That guy there gave me a book (*BOOK).'

This restriction allows us to derive the interaction in terms of a surface filter. The distribution of final accents is restricted by the established constraint ALIGN-RIGHT(ACCENT), which bans the emergence of final accents outside the right edge of the ι (71b). The targets of Rightward Focus Shift are forced to carry such an accent by the established constraint ALIGN(FOCUS,ACCENT) (73a), which mandates that ι-final foci carry a final accent. The ranking of both ALIGN-RIGHT(ACCENT) and ALIGN(FOCUS,ACCENT) over *ELIDE yields the following result: in clauses that contain a reinforcer and an ι-final contrastive focus, a single final accent is inserted, it falls on the focus, and the reinforcer is elided.

(84) *Complementarity via Surface Filter*

$[_{\text{FOCP}}\ [_{\text{V}}$ V t_{SUBJ} OBJ REINFORCER $]$ $\text{SUBJ}_{+\text{FOC}}$ $]$	AL(FOC,ACC	AL-R(ACC)	*ELIDE
☞ a. $\{_{\iota}$ V _ OBJ SÙBJ $\_\_\_\__{\text{REINFORCER}}\}$			*
b. $\{_{\iota}$ V _ OBJ SÙBJ RÈINFORCER $\}$		*!	
c. $\{_{\iota}$ V _ OBJ SUBJ RÈINFORCER $\}$	*!		

This account thus leads us to a final analytical result: the Complementarity Effect between Reinforcer Postposing and Rightward Focus Shift has been derived without positing any deep kinship between the two processes. The first operates in the phonology, the second in the syntax—and the two interact only at the surface.

7 Conclusion

We can now integrate this investigation into a general theory of displacement. Our first and most obvious step is to connect our findings on Reinforcer Postposing to the theory of modularity. The facts of locality and prosodic sensitivity suggest that Reinforcer Postposing must occur in the phonology. From this result, we can conclude that the language faculty must allow movement in that module of the grammar.

This result takes on a second layer of importance when integrated into a theory of what displacement actually is. In Chomsky 2004, the essence of movement is reformulated in an important way: rather than following from an independent operation Move, it is recast as a subcase of the fundamental structure-building operation Merge. This unification leads to an important conceptual result. Beyond the syntax, it is clear that other modules of the grammar must make use of operations like Merge and Adjoin (see also Embick & Noyer 2001). The phonology, for instance, must be able to combine constituents in similar ways to yield the balanced and imbalanced patterns of sisterhood that are typical of prosodic organization (Itô & Mester, 1992, 2007; Selkirk, 2009). As such, the reformulation of syntactic displacement in Chomsky 2004 leads to a direct prediction: the phonology should also have access to movement. This investigation contributes directly to the narrow conclusion that this is correct, and as a result, reinforces the understanding that movement involves a subcase of the fundamental operation Merge.

Turning back to the syntax, the results of our investigation yield one final result. While Reinforcer Postposing must be driven by Greed, it is clear that movement in the phonology is not monolithic in this respect. In Mandar, Brodkin 2024b describes a process that shifts syllables across word- and phrase-boundaries in a manner that seems to be driven by Attract, as it resolves a visible need of the landing site that is addressed in a different way when movement cannot occur (compare the epp; Chomsky 2001). Further afield, there are also patterns of phonological displacement that seem to be driven by Push factors: for instance, the postposing effects that are driven by the need for strong left edges (Halpern 1995; Harizanov 2014; Bennett *et al.* 2016). As these three types of displacement coexist in the phonology, it is natural to wonder whether they might coexist in the syntax as well.

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Notes

[1]GLOSSING: ABS: absolutive, ANTIP: antipassive, ERG: ergative, GEN: genitive. <c> = /t͡ʃ/, <'> = /ʔ/.

[2] There is a second line of work that places demonstratives in specifier positions within the DP (Brugè *et al.*, 1996; Brugè, 2002; Kayne, 2005); analyses of demonstrative-reinforcer constructions in this tradition typically posit structures different from the above (Bernstein, 1997; Roehrs, 2010; Leu, 2015). The case for my analysis rests on a correspondence between syntax and phonology: (*i*) the relevant demonstratives in Mandar are parsed into prosodic words with following nouns, just as other functional x^0s are parsed into prosodic words with their complements in Mandar and beyond, and (*ii*) unlike demonstratives, DP-internal specifiers are generally parsed into independent phonological phrases in Mandar. To the best of my knowledge, however, nothing below will depend on this particular analysis of demonstratives.

[3]Several further diagnostics converge to identify the right edge of the ι in Mandar. In the phonology, the positions that ban Nasal Assimilation also serve as the docking sites for various complex boundary tones; they are also the sole positions that license a particular type of monosyllabic foot (Section 6). These positions are also consistently followed by pauses that seem similar to the "comma intonation" which is identified as break index 4 in English ToBI. I can offer no theory of why the distribution of ιs in Mandar is as it is—the Match Constraints of Selkirk 2009, 2011 are insufficient to guarantee that ιs will be constructed around topics, preposed embedded clauses, and appositives/parentheticals but not around foci and in-situ embedded clauses. Nevertheless, I believe that the distribution of ιs is roughly identical across Mandar, English, and Indonesian (the primary language of contact in this work): under well-planned broad-focus

prosody, topics, preposed clauses, and appositives/parentheticals are optimally mapped to ιs while foci and in-situ embedded clauses are not. I leave many lines of investigation here to future work.

[4]Space constraints prevent a full description of the phonology of focus in Mandar, but the key generalizations are these: (*i*) the final accent is restricted to the right edge of the ι; (*ii*) contrastive foci can appear outside of the ι-final position, and in that context the phonological diagnostics for phonological phrasing described in Brodkin 2024a reveal the following: (*a*) maximal phonological phrase boundaries are inserted after contrastive foci (focus-by-alignment (Féry, 2013)), (*b*) all expected maximal phonological phrase boundaries in the space before contrastive foci are erased, and (*c*) all expected maximal phonological phrase boundaries in the space after contrastive foci remain. The fine phonetics of focus are unknown to me, and it is likely that different subtypes of focus have different phonological and phonetic signatures.