Second-Position Clitics and Prosodic Recursion

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1 Introduction

Second-position (2P) phenomena raise questions about the nature of the interaction between the syntax and the phonology. In many languages, for instance, the process which linearizes 2P elements appears to place them after phonological constituents but nevertheless respects certain types of syntactic constraint (Halpern, 1995). This pattern has inspired a range of analyses which derive 2P effects from substantially different types of interaction between the two modules above (Progovac, 1996; Anderson, 2000; Bošković, 2001).

This paper investigates the process of 2P linearization in Mandar, an Austronesian language of Indonesia. This language contains a set of 2P elements which are linearized in the phonology: they split syntactic islands, follow prosodic words, and form a cluster in which their linear position is determined by their weight.

Many of these clitics, however, show a specific type of positional constraint: they appear to be linearized in domains that correspond to syntactic projections along the clausal spine. Some, for instance, follow the first word in a constituent that corresponds to the TP. Others show the same behavior with respect to the *v*P.

This pattern suggests that the phonology retains information about recursive syntactic constituency at the derivational stage where 2P linearization applies. This conclusion has direct implications for the theory of the syntax-phonology interace: if these enclitics are linearized in the phonology, then the phonological calculus cannot operate in a single cycle over a flattened-out prosodic structure (*cf.* Nespor & Vogel 1986). Rather, it must be able to recognize a range of nested syntactic constituents along the clausal spine: either derivationally, calculated over individual steps of a serialized process of prosodic structure-building (Ishihara, 2004), or in the surface prosody, calculated over recursive prosodic structures (Ito & Mester, 2012; Elfner, 2015).

The remainder of this paper is structured as follows. In section 2, I provide background information on Mandar and introduce one 2P enclitic: the marker of absolutive agreement. In section 3, I show that the linear position of this enclitic is not determined in the syntax. In section 4, I show that the relative order of this enclitic and other 2P elements is determined in the phonology. In section 5, I argue that the process which places enclitics in 2P occurs in the phonology as well. In section 6, I note a positional constraint: the process which linearizes these enclitics is able to position them within particular syntactic domains. In section 7, I discuss the theoretical significance of this conclusion and lay out an investigative trajectory for future work.

2 Mandar Background

Mandar is an Austronesian language of the South Sulawesi subfamily (Mills, 1975). Like its relatives, this language shows a complex system of second-position enclitics (Friberg, 1996; Finer, 1999). The appendix provides a rough inventory of these elements and a brief description of their phonological behavior.[1]

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[1] Data is taken from both descriptive work and elicitation (2018-2021) with two speakers of the Polewali dialect. Each example is elicited in six steps: (i) I set up a context in Indonesian, (ii) speak a sentence in Mandar, (iii) write it out, (iv) ask my consultant to read it, (v) discuss its felicity in the given context, and, if it is felicitous and requires prosodic analysis, (vi) ask that it be repeated three times with a felicitous prosody. Orthography: <c> = /t͡ɕ/, <q> = /ʔ/.

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This paper addresses the process of 2P linearization. To do so, I restrict attention at first to one individual element: the absolutive agreement enclitic. This clitic is shown in (1) and its paradigm is given in (2). The other South Sulawesi languages show absolutive enclitics with similar behavior (Mithun & Basri, 1986).

(1) *The Absolutive Enclitic*

*Kaiyyang=**i** lembong.*
big=3 wave

'The waves are big.'

Friberg & Jerniati (2000:281)

(2) *The Agreement Paradigm*

PERSON	CLITIC	FORM
1	*aq*	[aʔ]
2	*o*	[o]
3	*i*	[i]

The absolutive enclitic attaches above the level of the prosodic word. This can be seen from its interaction with stress: while word-level suffixes shift penultimate stress rightward (4), this enclitic does not (5).

(3) ***bó**.yang* 'house' (4) *bo.**yán**-na* 'his house' (5) ***bó**.yang=i* 'it's a house.'

Like other 2P elements, this clitic follows the first prosodic word in its domain of linearization. In verb-initial sentences, it follows the verb (6a). In the presence of auxiliaries, it follows the highest one present (6b). This requirement is absolute: in (6b), the clitic cannot follow the verb. I refer to this pattern as the 2P effect.

(6) *Agreement: Second-Position*

a. *Maqala=**i** anggaq sallessorang.*
take=3 until 1000
'He took until he had 1000.'
Sikki et al. (1987:126)

b. *Indang=**i** meloq maqala.*
not=3 want take
'He didn't want to take.'
Sikki et al. (1987:2)

3 No Syntactic Linearization

The following section shows that the 2P effect does not arise within the narrow syntax. Simply put, the linear position of the absolutive enclitic cannot be derived from the types of syntactic movement independently attested in the language. This fact establishes the need for a non-syntactic account of 2P linearization.

Three patterns provide evidence for this conclusion. First, the absolutive enclitic shows no sign of sitting in (or moving to) a high position in the syntax (Section 3.2). Second, it is not consistently hosted by a single type of constituent: it can follow either a head or a phrase (Section 3.3). Third, it regularly splits constituents that cannot be separated by regular syntactic movement: for instance, complex noun phrases (Section 3.4).

The discussion below illustrates these patterns with the absolutive enclitic. The same facts, however, hold at varying degrees of visibility for all 2P enclitics in the language. I turn to the full system in Section 4.

3.1 *A Syntactic Account* To begin, I lay out the central predictions of a syntactic analysis. This type of approach would derive the 2P effect from an operation which placed a host above all 2P elements in the syntax. On this view, the phonology would be unable to adjust the positions of 2P enclitics. Its sole role would be to filter out derivations in which the key step of syntactic movement did not occur (Bošković, 2001).

To succeed, this approach would require the occurrence of two independent processes. First, the clitic would need to undergo movement to ensure its linear position: for instance, to C^0 (Rivero, 1994). Second, a host would need to move above it in the syntax. In Mandar, however, there is no evidence for either step.

3.2 *The Absolutive Enclitic: Not in C* The first argument against this analysis lies in the position of the clitic. It is not in C^0. This fact can be seen from its interaction with complementizers: they cannot host it.

(7) *Complementizers: Not Hosts*

a. ***Muaq** meqita=**aq** mating,*
if look=1 at.you
'If I look at you,'
Muthalib & Sangi (1991:20)

***Apaq** nasio=**aq** iKindoq.*
because she.ordered=1 mother
'Because my mother ordered me to.'
Sikki et al. (1987:94)

The same pattern holds with other material in the CP-domain. Temporal adverbs and left-peripheral topics, for instance, both sit in a position above the middle field. These elements cannot host the clitic (8). This pattern suggests that it does not simply move to C^0 and follow the first constituent which sits above it.

(8) *CP-Adjuncts: Not Hosts*

a. ***Mane*** *meqguru=to=**aq** basa Mandar.*
just.now study=also=1 Mandar
'I'm just starting to learn Mandar now.'
Friberg & Jerniati (2000:114)

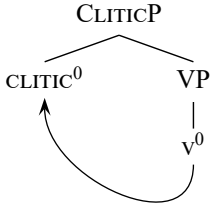
b. ***iKacoq annaq iCicciq**, masae=m=**i** sikottaq.*
NAME and NAME long=PFV=3 date
'Kacoq and Cicciq, they've dated for a while.'
Sikki et al. (1987:1060)

3.3 *The Host: No Head Movement* The second argument against a syntactic analysis comes from the nature of the host. Syntactic analyses of the 2P effect must assume an operation which places a host above the clitic within the syntax: either head movement (Terzi, 1999) or phrasal fronting (Progovac, 1996). In Mandar, however, neither operation takes place. This section rules out the first possibility: it shows that the element which hosts the clitic does not undergo head movement into the head which hosts the clitic itself.

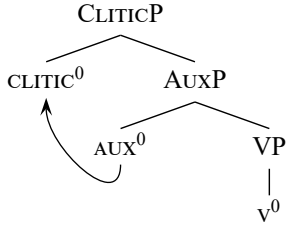
The following trees schematize the head movement analysis which I reject. On this approach, the 2P effect would arise from an operation which moved the highest verbal element into the head which hosted the clitic. In a verb-initial clause, this would be the verb (6a; 9a). In a clause with an auxiliary, this would be the auxiliary (6b; 9b). The clitic would thus resemble the type of inflection picked up by head movement.

(9) *The Head Movement Analysis (Rejected)*

a. *Verb-Initial Clause:* V-*movement*



b. *Aux-Initial Clause:* AUX-*movement*



Two patterns show that this view cannot be maintained. The first involves word order. Head movement often influences the position of an element with respect to adverbs (Ledgeway & Lombardi, 2005). In Mandar, however, middle-field adverbs do not consistently precede or follow the host of this enclitic. The proclitic *sangnging* 'each,' for instance, can follow negation when it hosts the clitic (10a) but precedes auxiliaries like *meloq* 'will, want' when they do the same (10b). This fact suggests that different hosts sit in different places in the syntax: they do not undergo head movement to a single consistent position.

(10) *Adverbs: No Consistent Position*

a. *Indang=**i sangnging** mecawa.*
not=3 each laugh
'They didn't each laugh.'
JT: 11.5, 642

b. ***Sangnging** meloq=**i** malai.*
each will=3 go.home
'They will each go home.'
JT: 11.5, 645

The second fact provides decisive evidence for the same conclusion. It involves the size of the constituent which hosts the clitic. The head movement analysis predicts that this element must be a head. However, this is not the case. The absolutive enclitic can follow syntactic phrases: for instance, VPs. The following examples illustrate: in (11a), it follows a verb plus a WH-word and in (11b) it follows a verb plus a locative adverb.

(11) *The Host: Not Always a Head*

a. *Mongeq mangapa=**i**?*
sick how=3
'How was he sick?'
Friberg & Jerniati (2000:171)

b. *Iyeq, massikola dini=**i**.*
yes, study here=3
'Yes, they are in school here.'
Friberg & Jerniati (2000:202)

This pattern rules out an analysis which derives the 2P effect from head movement (or head lowering). The hosts above do not form complex heads (Brodkin, 2020): they can contain PPs (12a) and modified objects (12b). These patterns show that the host does not undergo head movement into the absolutive enclitic.

(12) *Phrasal Host: Not a Complex Head*

a. *Matindo **di ranjang**=band=**aq**.*
sleep in bed=really=1
'I really sleep in a bed.'
Muthalib & Sangi (1991:136)

b. *Maqbaluq **balenga mariri**=**o**, a?*
sell pan yellow=2 right?
'You're selling yellow pans, right?'
NH: 6.18, 148

3.4 *The Host: No Phrasal Movement* On a syntactic approach, this conclusion would suggest that the element which hosts the clitic undergoes phrasal movement. On this view, the patterns in (12) would involve fronting of the VP. The examples in which the clitic is hosted by a head would require a separate derivation.

Like the head movement analysis, however, the phrasal movement analysis makes a fatal misprediction. On this view, any constituent that cannot undergo syntactic movement should be unable to host the clitic. However, this is not the case: the clitic regularly splits up predicates that cannot be separated in the syntax.

The following examples illustrate. In (13a), the clitic separates a possessed noun in a predicative noun phrase from its possessor. In (13b), moreover, it splits the preposition 'beneath' from its PP complement.

(13) *Agreement: Splits Complex XPs*

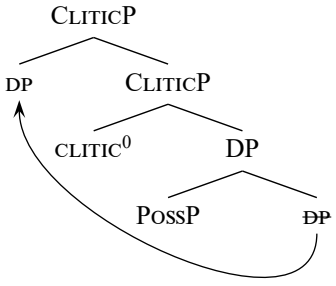
a. *[$_{DP}$ Gurunna=**o** iNina] , a?*
the.teacher=2 NAME right?
'You're Nina's teacher, right?'
JT: 9.8, 20

b. *[$_{PP}$ Diong=**di**=tia di tambing oroanna].*
beneath=3=just in base his.porch
'It's just beneath the base of his porch.'
Muthalib & Sangi (1991:308)

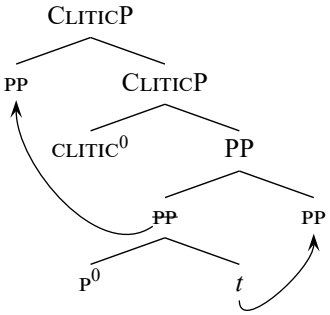
The phrasal movement analysis would be forced to derive these patterns from subextraction. On this view, the structure in (13a) would involve movement of a possessed noun above the clitic in a step which stranded its possessor. In the same vein, the structure in (13b) would involve phrasal movement of a constituent which contained one preposition. For this constituent to exist, a separate step of movement would be required to extrapose the complement PP. I schematize these analyses, which I immediately reject, in (14) below.

(14) *The Phrasal Movement Analysis (Rejected)*

a. *Complex DP: Subextraction*



b. *Complex PP: Remnant Movement*



These analyses would be tenable only if the types of movement above were possible. They are not. In Mandar, for instance, it is impossible for possessed nouns to move and strand their possessors (15a). In the same vein, it is impossible for complex noun phrases to be split by anything other than 2P enclitics (15b).

(15) *Complex DPs: Not Splittable in the Syntax*

a. ***Apa** biasa=i [$_{DP}$ __ iNina]?*
what usually=3 NAME
'What is he usually Nina's __?'
JT: 9.8, 22

b. *[$_{DP}$ *Gurunna=aq **sanjang** iNina].*
the.teacher=1 an.hour NAME
'I was the teacher for an hour of Nina.'
JT: 9.8, 25

These patterns show that the phrasal movement analyses in (14) cannot be maintained. Moreover, they suggest that the 2P effect in Mandar is non-syntactic in nature: the element which hosts the absolutive enclitic does not move into it or above it in the syntax. Rather, the linear order of this element- and all other 2P enclitics in the language- is calculated outside of the syntax and within the phonology.

4 Phonological Reordering

The following sections argue that the process of 2P linearization must occur in the phonology. Before doing so, however, I demonstrate that a separate component of the process of clitic placement is definitively phonological in nature. This is the operation which determines the order of 2P elements in the cluster.

The absolutive enclitic is not the only element which surfaces in 2P. In Mandar, roughly forty elements surface in this position. When multiple enclitics co-occur, they form a cluster (16). The appendix provides an inventory of these elements and sketches out their precise phonological behavior within this domain.

(16) *The Clitic Cluster*

a. *Lipi=**tongang**=**pa**=**aq** matindo.*
soundly=truly=yet=1 sleep
'I will truly sleep soundly.'
Muthalib & Sangi (1991:286)

b. *Naparessuq=**nasang**=**bo**=**m**=**i**.*
she.cooked=every=again=already=3
'She had already cooked them all again.'
Pelenkahu et al. (1983:158)

Within the cluster, clitics are ordered by weight. Controlled for prosodic height of attachment to the host, monosyllabic and disyllabic clitics are strictly ordered with respect to each other. Within the inner portion of the cluster, which forms a prosodic word with the host, disyllabic enclitics precede monosyllabic enclitics. As such, the disyllabic *tongang* 'truly' and *nasang* 'every' strictly precede the monosyllabic *bo* 'again' (16).

This restriction holds without regard to the relative syntactic height of these enclitics. This can be seen from the behavior of enclitics in the CP domain. Mandar has adverbs of different prosodic weight which originate at this level and attach inside the prosodic word: for instance, *memang* 'I agree' and *a* 'I'm warning you.' These adverbs are linearized on different sides of the monosyllabic enclitics: the disyllabic *memang* precedes the monosyllabic *to* 'also' (17a) while the monosyllabic *a* follows it (17b).

(17) *Prosodic Weight Determines Order*

a. *Lipi=**memang**=**to**=i matindo.*
soundly=AGREE=also=3 sleep
'I agree with you, he also slept soundly.'
JT: 4.23, 359

b. *Lipi=**to**=**a**=i matindo!*
soundly=also=WARN=3 sleep
'I'm warning you, he'll also sleep soundly!'
JT: 4.23, 360

This pattern shows that the phonology plays a key role in the process of cluster-level linearization. The phonological information which determines cluster-internal order should be absent in the syntax and morphology on any theory which adopts the notion of late insertion (Halle & Marantz, 1993). As such, the 2P enclitics cannot be linearized by operations which are purely morphological in nature: for instance, individual steps of rightward inversion (*cf.* Embick & Noyer 2001). Rather, the process of clitic linearization must occur at the derivational stage where phonological information becomes available: namely, in the phonology.

5 Phonological Linearization

The following section argues that the entire process of 2P linearization occurs in the phonology. On this view, 2P elements reach their surface positions through a type of phonological displacement which makes reference to prosodic structure alone. It positions them after prosodic words. I restate this view below.

(18) *The Phonological Linearization Hypothesis*
In the phonology, 2P enclitics are placed after the first prosodic word in their domain of linearization.

This analysis delivers four key results. First, it avoids the problems of the syntactic approaches above. Second, it allows 2P linearization to be treated alongside the phonological calculus which orders clitics in the cluster. Third, it captures the generalization that the hosts of 2P enclitics are always prosodic words (Section 5.1). Fourth, it derives the fact that the position of 2P elements is sensitive to changes in prosodic constituency (Section 5.2). These patterns suggest that the process which linearizes the clitics is phonological in nature.

5.1 *Prosodic Uniformity* The first advantage of the phonological analysis in (18) lies in its descriptive success. The preceding sections have shown that the elements which host 2P enclitics are heterogeneous in the syntax: they can be heads or phrases. This fact complicates a non-phonological analysis of the 2P effect.

These elements, however, show a consistent prosodic profile. Every constituent which can host the clitic bears a pitch peak at its right edge. I mark the distribution of this peak with a superscripted H in (19) below.

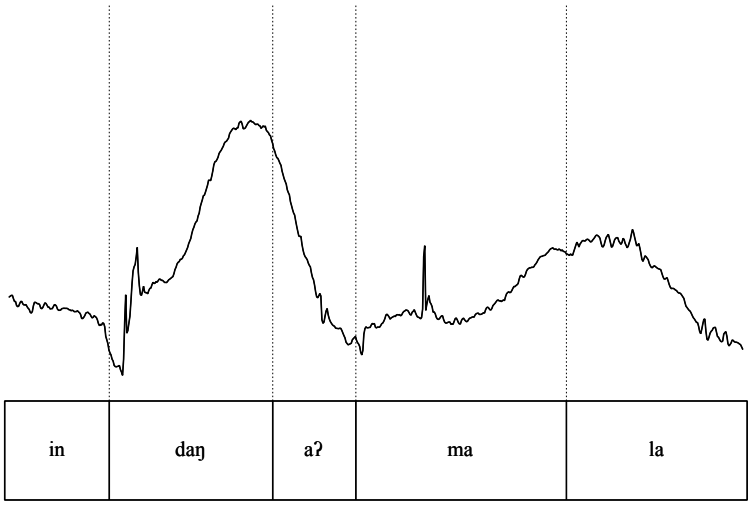
(19) *The Host: Right-Edge High*

a. *Gurunna*^{H}=***o*** *iNina*^{H}, *a?*
the.teacher=2 NAME right?
'Are you Nina's teacher?'
JT: 9.8, 20

b. *Indang*^{H}=***aq*** *mala*^{H}.
not=1 can
'I can't.'
NH: 6.10, 72

This peak demarcates the right edge of a specific prosodic constituent: the maximal prosodic word (ω_{MAX}). The pitch track below illustrates its shape. The absolutive enclitic invariably attaches outside of it.

(20) *The Right-Edge High:* $(_{\iota}\ (_{\phi}\ (_{\omega}\ indang)^{H}$=*aq* $)\ (_{\omega}\ mala)^{H}\ )^{L}$



The linear position of the absolutive enclitic can be stated in simple terms with respect to this constituent: the absolutive enclitic always follows the first prosodic word within its domain of linearization. This pattern establishes the basic empirical validity of the positional claim in (18).

5.2 *Prosodic Variation → Positional Variation* The second advantage of the prosodic analysis in (18) lies in its ability to capture cases of apparent flexibility in the placement of 2P enclitics. In Mandar, there are a number of constructions in which 2P enclitics can surface in one of several linear positions: for instance, after the first syntactic head or the first syntactic phrase within a given domain.

This positional flexibility reduces directly to independent variation in prosodic structure. When the first syntactic head in a domain forms an independent prosodic word, the 2P enclitics follow this head. When a full phrase forms the first prosodic word, however, the enclitics follow the phrase. This positional variation falls out directly from the analysis in (18): the enclitics simply follow the first prosodic word in their domain.

The following examples illustrate this pattern with respect to the VP. In Mandar, verb-initial clauses allow for two prosodic parses. In the case of broad focus, the verb maps to an independent prosodic word (11a). When an element in the VP is focused, however, the verb and this element form a single prosodic word (11b).

These two prosodifications trigger different patterns of clitic placement. In the first case, the 2P enclitics follow the prosodic word which corresponds to the verb (21a). In the second case, they follow the prosodic word which corresponds to the verb and the focused element instead (21b).

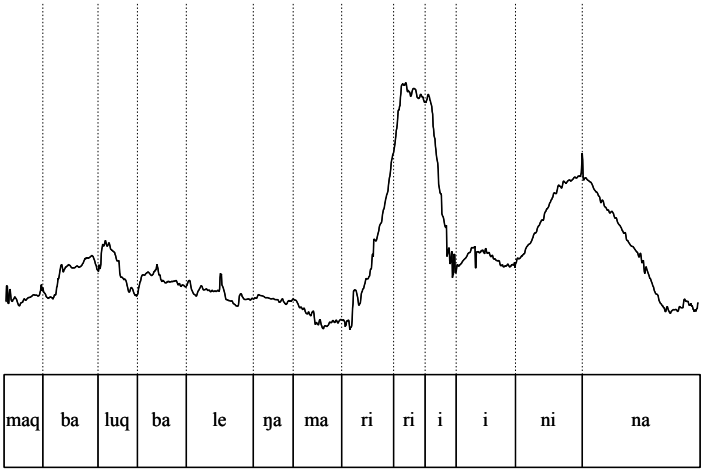
(21) *Prosodic Constituency Determines Clitic Placement*

a. *(Maqbaluq)*^{H}=***i*** *(balenga mariri)*^{H}.
sell=3 pan yellow
'She's [$_{F}$ selling yellow pans].'
NH: 6.10, 111

b. *(Maqbaluq balenga mariri)*^{H}=***i*** *(iNina)*^{H}.
sell pan yellow=3 NAME
'Nina's selling [$_{F}$ yellow pans].'
NH: 6.18, 148

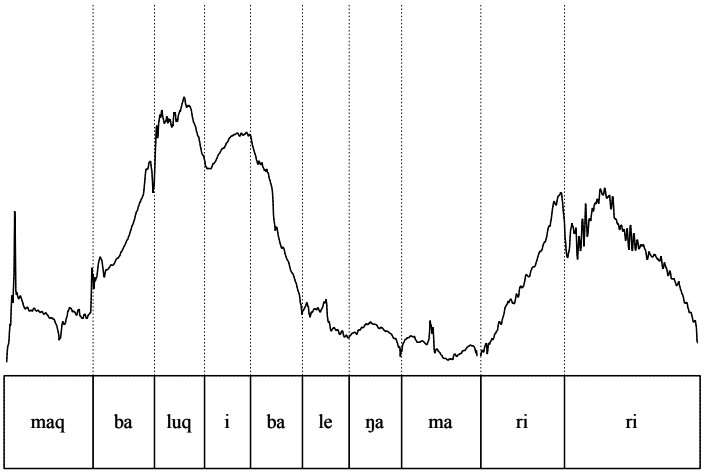
The following pitch tracks illustrate the prosodic constituency of the two VPs above. The first shows a predicate in broad focus. Here, the verb *maqbaluq* 'sell' forms its own prosodic word. The clitic *i* follows it.

(22) *Focus on the VP*: ($_{\iota}$ ($_{\phi}$ ($_{\omega}$ *maqbaluq*)=**i**) ($_{\omega}$ *balenga mariri*))



The second shows the focus construction. In this context, the verb *maqbaluq* 'sell' and the object *balenga mariri* 'yellow pans' form a single prosodic word. As above, the clitic *i* follows this constituent.

(23) *Focus on the Object*: ($_{\iota}$ ($_{\phi}$ ($_{\omega}$ *maqbaluq balenga mariri*)=**i**) ($_{\omega}$ *iNina*))

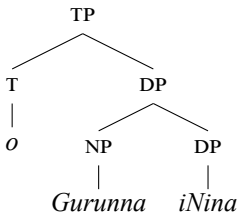


These examples show that the position of the absolutive enclitic is sensitive to variation in the prosodic structure of the clause. This fact lends further support to the prosodic analysis of clitic placement in (18).

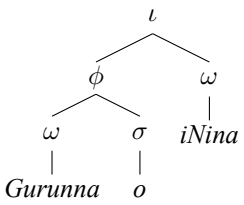
5.3 *An OT Sketch* The patterns above suggest that 2P elements reach their surface position through a process which is phonological in nature. The following trees illustrate its input and output. The tree in (24a) lays out the syntax of the string *Gurunna=o iNina*? 'You're Nina's teacher?' (19a; abstracting away from the internal structure of the DP and the functional structure of copular clauses). The absolutive enclitic sits in T^0 and the complex DP appears inside of the predicate. In the phonology, the clitic is positioned after the first prosodic word in this constituent. The tree in (24b) illustrates the result of this process.

(24) *Linearization: The Input and Output*

a. *The Syntax*



b. *The Prosody*



The following tableau lays out a phonological analysis of the 2P effect in an Optimality-Theoretic framework (Prince & Smolensky, 1993). On this view, 2P elements are forced to follow the first word in some domain by a set of phonological markedness constraints governing prosodic wellformedness (e.g. ALIGN-LEFT and NONINITIALITY, schematized below as 2P: Anderson 2000). These constraints crucially dominate the set of faithfulness constraints which punish relinearization in the postsyntax (e.g. NOSHIFT; Bennett et al. 2016). This system forces 2P enclitics to move left or right until they follow the first prosodic word in their domain.

(25) *Phonological Relinearization*

o ($_\omega$ *gurunna*) ($_\omega$ *iNina*)	2P	NOSHIFT
a. *o* ($_\omega$ *gurunna*) ($_\omega$ *iNina*)	*	
☞ b. ($_\omega$ *gurunna*)=*o* ($_\omega$ *iNina*)		*
c. ($_\omega$ *gurunna*) ($_\omega$ *iNina*)=*o*	*	**

6 Linearization Domains and Prosodic Constituency

The preceding section has argued that 2P enclitics are linearized fully within the phonology. This analysis, however, faces an apparent complication: the absolutive enclitic is not simply linearized into 2P within an unbounded prosodic domain. Rather, it is trapped in a specific constituent which corresponds to the TP.

This pattern does not reflect an idiosyncratic property of the absolutive enclitic and the TP. Rather, similar constraints hold over a range of 2P enclitics: while these elements appear to be linearized in the phonology, the domains of their linearization correspond to functional projections along the clausal spine.

The following section provides evidence for this set of constraints. First, I show that the absolutive enclitic and several other 2P elements are linearized in a domain that corresponds to the TP (Section 6.1). Second, I show that a second set of enclitics are linearized in a domain that corresponds to the *v*P (Section 6.2). Third, I show that a final set of clitics are linearized in a domain that corresponds to the CP (Section 6.3).

These facts suggest that the phonological process of 2P linearization retains access to information about nested syntactic constituency down the clausal spine. The import of this conclusion is laid out in Section 7.

6.1 *The TP-Domain Constraint* The absolutive enclitic is linearized in a constituent which corresponds to the TP. It cannot be hosted by any prosodically eligible element which sits outside of this domain. The same type of restriction appears to hold over the majority of 2P elements in the language.

This pattern is visible in clauses which contain prosodically heavy complementizers. In Mandar, some complementizers form independent prosodic words. They stand outside the TP and precede everything inside of it: for instance, negation and auxiliaries (26). Moreover, they serve as eligible hosts for a range of 2P elements, including aspectual enclitics, certain adverbs, overt pronouns, and deictic elements. The following examples illustrate this pattern with the complementizer *mau* 'although.'

(26) *Heavy Complementizers: Host Clitics*

a. ***Mau**=yau=kapang indang=aq mala,*
although=I=maybe not=1 can,
Although I might not be able to,
JT: 8.5, 309

b. ***Mau**=mo=todiq meloq=i malai,*
although=PFV=sadly want=3 return
'Although he sadly wants to go home,'
JT: 8.5, 322

These complementizers cannot host the absolutive enclitic. When they appear, the absolutive enclitic surfaces in 2P in a smaller constituent that corresponds to the TP (27). This pattern holds despite the fact that these C^0s host a range of 2P elements which typically cluster with the absolutive enclitic.

(27) *Linearization in the TP*

a. ***Mau** indi=**o** membuni,*
although here=2 hide
'Although you're hiding here,'
Sikki et al. (1987:200)

b. ****Mau**=**o** indi membuni,*
although=2 here hide
'Although you're hiding here,'
JT: 8.5, 369

This pattern shows two things. First, the domain of 2P linearization is not the same for all 2P elements. The pronouns and adverbs in (26) appear to be placed by the same phonological mechanism as the absolutive enclitic. Nevertheless, they surface in a constituent that includes the heavy complementizer *mau*. As such, the phonological process which linearizes these elements must be able to distinguish between these domains.

Second, the absolutive enclitic is subject to a specific constraint on its linearization: it surfaces in 2P in a domain that corresponds to the TP. As noted above, it is not the only enclitic which shows this constraint: several other 2P elements show the same distribution. They are linearized in the TP and cannot follow *mau*.

The aspectual enclitics, for instance, show a split. The iterative clitic *bo* 'again' patterns with agreement: it surfaces in 2P in a constituent that corresponds to the TP. It cannot be hosted by this complementizer (28a). The perfective clitic *mo* 'already,' in contrast, can. It is linearized in a domain which contains this head (28b).

(28) *Again: Linearization in the TP*

a. ***Mau** indang=**bo**=aq meloq naita,*
although not=again=1 want he.sees
'Although he doesn't want to see me again,'
JT: 9.5, 358

b. *Mau=**mo** indang=o usayang,*
although=already not=2 I.love
'Although I don't love you anymore,'
JT: 9.8, 376

This pattern shows that the TP-domain constraint does not reflect an idiosyncratic quirk of the absolutive enclitic. Rather, it reflects a systematic property of the process which linearizes 2P elements: it operates within distinct syntactic constituents. As this process is phonological, however, this pattern raises questions about the nature of syntax-phonology interaction. Much work has argued that the phonology cannot make direct reference to syntactic structure *per se* (Nespor & Vogel, 1986). If this view is correct, the pattern above suggests that the process of 2P linearization is able to reference an analogue of the TP in within the phonology.

6.2 *The vP-Domain Constraint* The same type of constraint picks out several functional projections down the clausal spine. Some 2P elements, for instance, are linearized in a domain that corresponds to the *v*P. This pattern can be seen most clearly with VP-level adverbs like *bega* 'too much' and *sannal* 'really.' These elements remain postverbal in the presence of a potential host in the middle field: for instance, negation (29).

(29) *Linearization in the vP*

a. *Indang=i upahang=**bega**.*
not=3 I.understand=too.much
'I don't understand it too well.'
Friberg & Jerniati (2000:22)

b. *Indang=aq meloq=**sannal**.*
not=1 want=really
'I don't really want to.'
JT: 4.23, 81

The same pattern holds with another enclitic: a form of absolutive agreement which originates low in the clause. In Mandar, there are two syntactic contexts where definite internal arguments cannot interact with T^0. In these contexts, these arguments are indexed by a low absolutive enclitic in v^0 (Brodkin, 2021). This low absolutive enclitic is underlined to distinguish it from the high absolutive enclitic which sits in T^0 (30).

(30) *The Low Absolutive Enclitic: on v^0*

a. *Melo=du=aq manggayi=**o** 500/allo.*
want=still=1 pay=2 500/day
'I still want to pay you $500 a day.'
Sikki et al. (1987:146)

b. *Iqo=kapang mattimbe=**i** kacciqu.*
you=maybe threw=3 my.mango
'Maybe YOU threw my mango.'
Sikki et al. (1987:1132)

The low absolutive clitic shares several surface properties with the high absolutive clitic in T^0. The two enclitics share the same surface form and attach to their hosts above the prosodic word. Nevertheless, the low absolutive clitic is visibly linked to v^0: it appears only in the presence of a specific prefix in this head.

The crucial observation is that the two clitics differ in their linear position. The high absolutive clitic in T^0 surfaces in 2P in the TP. It follows the highest preverbal auxiliary that appears (31a). The low absolutive clitic, however, surfaces in 2P in the *v*P. It cannot be hosted by any element outside of this domain (31b).

(31) *The Low Absolutive Enclitic:* 2P *in the vP*

a. *Indang=**i** mala urundu.*
not=3 can I.drink
'I can't drink it.' (AGR = T^0)
JT: 4.2, 243

b. *Innai indang mala mandundu=**i**?*
who not can drink=3
'Who can't drink it?' (AGR = v^0)
JT: 4.2, 262

The correct generalization about these *v*P-level enclitics is that they are linearized within the *v*P. In the examples above, however, they follow the verb. As such, one could consider an alternative analysis on which they were immobile verbal suffixes. On this view, they would not undergo *v*P-internal linearization.

This type of analysis, however, would miss the fact that these enclitics undergo phonological linearization into the clitic cluster. When the cluster follows an element in the *v*P, the *v*P-level enclitics appear in predictable positions inside of it. The disyllabic *bega*, for instance, follows the disyllabic *nasang* and precedes the monosyllabic *bo* (32a). The monosyllabic low absolutive enclitic, moreover, appears at the right edge (32b).

(32) *vP-Clitics: Inside the Cluster*

a. *Macaiq=nasang=**bega**=**bo**=i.*
angry=every=too.much=again=3
'They're all too angry again.'
JT: 9.8, 429

b. *Mario=i maqita=**nasang**=**i** appona.*
happy=3 see=every=3 her.grandkids
'She'll be happy to see all of her grandkids.'
Sikki et al. (1987:806)

These patterns show that *v*P-enclitics undergo regular phonological linearization. Nevertheless, they must remain in the *v*P. This fact forces the following conclusion: the process which linearizes 2P elements retains information about the constituency of the *v*P at the stage where it applies. As 2P linearization is phonological, this pattern suggests that the phonology must be able to linearize clitics specifically within the *v*P.

6.3 *The CP-Domain Constraint* Beyond the TP, the syntax of the left periphery in Mandar is less clear. Nevertheless, the constraints above pick out at least one constituent in this domain: one which corresponds to the CP. It contains certain complementizers and a left-peripheral position which hosts argument foci.

The free pronouns typically surface in 2P in this domain (33). Several adverbial clitics do the same.

(33) *Linearization in the CP*

a. *Mau=**yau**=**kapang** indang=aq mala,*
although=I=maybe not=1 can,
Although I might not be able to,
JT: 8.5, 309

b. *Apa=**mieq** mupecawai?*
what=you.guys you.laugh.at
'What are you guys laughing at?'
JT: 11.5, 364

The pronouns are linearized in a constituent that corresponds to the CP. They cannot be hosted by elements outside of this domain. This pattern becomes visible in embedded clauses which lack overt complementizers. In Mandar, certain verbs can embed clauses both with and without overt complementizers. When these verbs embed clauses which contain pronouns, the pronouns remain inside of the embedded clause (34a). When the complementizer drops, however, the pronouns cannot be linearized to follow the matrix verb (34b).

(34) *CP-Clitics: No Clause-Climbing*

a. *Mangapa* ***na*** *mongeq=o=**iqo*** *lao?*
why.is.it that love=2=you to.him
'Why is it that you love him?'
JT: 3.22, 223

b. ***Mangapa=**iqo* *mongeq=o lao?*
why.is.it=you love=2 to.him
'Why is it that you love him?'
JT: 4.23, 7

The pronouns, just like the 2P elements above, show the telltale signs of being linearized in the phonology. They split syntactic constituents, follow the first prosodic word in their domain of linearization, and surface in phonologically predictable positions in the cluster. As such, the process which linearizes these elements must be phonological. This conclusion suggests that the phonology must be able to linearize clitics in the CP.

7 Conclusion

In Mandar, the process of second-position linearization positions enclitics within domains that correspond to the *v*P, TP, and CP. This process, however, applies in the phonology. As such, the phonology must be sensitive to these particular domains: it treats them as constituents at the point where linearization occurs. This observation suggests that the phonological calculus cannot apply in a single cycle over a flattened-out representation of the syntax: rather, it retains information about nested constituency along the clausal spine.

The simplest analysis of these facts would link the domains above to nested prosodic constituents. Much work suggests that the syntax-prosody mapping algorithm is able to preserve recursive syntactic structure in the surface phonology: prosodic structure supports recursion (Ladd, 1986; Ito & Mester, 2012) and functional projections can map to prosodic constituents along the clausal spine (Elfner, 2015). In Mandar, the domain constraints above may arise from this type of mapping: if the *v*P, TP, and CP remained constituents in the prosody, then the enclitics could be linearized phonologically inside these prosodic domains. This process could be modeled with phonological constraints that referenced positions within them (Anderson, 2000).

Absent surface evidence for prosodic recursion, the same facts could be captured in several other ways. First, one might appeal to a degree of derivational opacity: it may be the case the enclitics are linearized in prosodic constituents that have no correspondents in the eventual surface phonology (Lee & Selkirk, 2021).

Second, it may be possible to derive these patterns from a cyclic approach to spell-out. One prominent line of work suggests that there is no single-cycle mapping from the syntax to the phonology: rather, surface prosodic structure reflects the end result of an iterative process which phonologizes successively larger chunks of syntactic material (Ishihara, 2004). Given certain assumptions, such an approach may be able to link the constraints above to cyclic steps of spell-out: if the domains of 2P linearization could be lined up with the syntactic units sent off to the phonology, then the patterns above could be subsumed into phase theory.

The choice of interpretation hinges on both prosodic facts and the answers to questions about the syntactic lives of the 2P enclitics above. Certain scope facts, for instance, suggest that some enclitics move above their hosts in the syntax. Separate patterns of suppletion suggest that other pairs of enclitics form complex heads. Careful investigation of these facts may ultimately help arbitrate between the analyses laid out above.

More broadly, however, analytical progress requires answers to a deeper set of theoretical questions on the input to and nature of the operation which builds prosodic structure. Serious questions remain open, for instance, about the syntax and syntax-prosody mapping of verb-initial languages in which the VP forms a surface constituent, like Mandar. At a higher level, moreover, many questions remain open about the relevance of cyclicity to the construction of prosodic domains. I leave the investigation of these issues to future work.

8 Appendix: The Clitic Inventory

The Mandar 2P system contains roughly forty enclitics which fall into four distinct prosodic classes: inner disyllabic clitics, inner monosyllabic clitics, outer monosyllabic clitics, and outer multisyllabic clitics. These clitics differ along two axes: syllable count and the prosodic height of attachment to their hosts. The inner clitics attach to their hosts beneath the maximal prosodic word, while the outer enclitics adjoin outside of it.

Syllable count determines order in each domain. The inner monosyllabic clitics strictly follow the inner disyllabic clitics. The outer monosyllabic clitics, however, precede the outer multisyllabic clitics.

The table below lays out this system. Left-to-right and top-down order reflects linear order of occurrence. Vertically contiguous underlined clitics do not co-occur. The pronouns are subject to additional restrictions.

(35) *The Mandar Second-Position System*

INNER				OUTER					
$\sigma\sigma$		σ		σ		$\sigma\sigma(\sigma)$			
nasang	every	*bo*	again	*da*	just	*deq(i)*	they.say	*iyau*	1SG
sannal	really	*to*	also	*mo*	PFV	*tuq(u)*	truly	*iqo*	2SG
bega	too.much	*a*	WARN	*pa*	IPFV	*tia*	just	*ia*	3SG
leqbaq	exactly					*poleq*	even	*itaq*	1/2HON
dua	still			*aq*	1	*palakang*	turns.out	*tauq*	1/2HON
tappaq	only			*o*	2	*kapang*	maybe	*mieq*	2PL
tongang	truly			*i*	3	*todiq*	sadly	*seia*	3PL
memang	indeed					*iting*	that		
tenda	so.much.so					*dioloq*	now		
banda	really					*digenaq*	earlier		
bappa	hopefully					*manini*	later		

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