

# Morphosyntax and Phonology of Agreement in Turkish

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“In another paper that is recently published, I discuss whether or not an alternative analysis, i.e. reduplication plus deletion which was originally suggested for Spanish Agr doubling, works for Turkish medial and double agreement cases. You can find this paper in the following link:

"Variability in the realization of agreement in Turkish: A morphotactic account"  
<https://ling.auf.net/lingbuzz/005257>”

**Abstract.** This paper offers a new morphosyntactic account of subject agreement in the Turkish verbal domain. The account is based on well-known, novel, and some excluded observations about the distribution and prosody of verbal agreement. In Turkish, when certain morphosyntactic requirements are met and when the verb is focused, the agreement morpheme can be optionally parsed inside or outside of the prosodically prominent part of the verbal domain. I claim that this optionality is a reflex of how the morphemes that constitute the verbal domain are post-syntactically concatenated. In particular, I argue that an agreement morpheme either lowers together with its host (*full lowering*); or is stranded when its host lowers (*partial lowering*). In full lowering, agreement is contained within the prominent part of the verbal domain, whereas in partial lowering, agreement falls outside of this prominence domain. I also show that prosodic variability is observed only when the non-canonical medial and double realization of agreement is possible. The Vocabulary Insertion rules that are postulated for the subject agreement paradigms of the Turkish verbal domain capture the possible cases of medial and double agreement and successfully predict in which environments medial agreement is optional and in which environments it is obligatory.

**Keywords:** syntax-prosody mapping, Turkish, morphosyntactic word, lowering, agreement, double agreement

## 1. Introduction

This paper provides a unified analysis of subject agreement in Turkish. After presenting well-known, novel, and overlooked/excluded data to show that the morphosyntactic and prosodic distribution of Turkish subject agreement is more complex than previously reported, I provide

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This work stems from research carried out with Aslı Göksel between 2012 and 2019, whose origins can be traced to a discussion of the interesting prosodic behaviour of agreement in Turkish in Göksel 2010 (originally observed by Sebüktekin 1984). Aslı Göksel and I have presented phonological and morphophonological analyses of the data discussed here at a variety of venues, such as MMM9 2013, LINGDAY 2013, The Word and the Morpheme workshop – Berlin 2016, and ComSyn Leiden 2017. I thank the audiences at each venue for their questions and comments. This work has also benefited from comments and suggestions made by Jonathan Bobaljik, Lisa Cheng, James Griffiths, Barış Kabak, Anikó Lipták, Jason Merchant, Andrew Nevins, and two anonymous referees. This research was funded by NWO (Dutch Organisation for Scientific Research).

an analysis that derives this surface complexity from a handful of simple post-syntactic operations, some of them not utilized in the previous literature. By appealing to these operations, this paper therefore provides support for their existence and for their inclusion in the canon of post-syntactic operations that constitute the Distributed Morphology framework of morphosyntax (Halle and Marantz 1993). In particular, I argue for the idea that (i) subject agreement can be (and *is* in Turkish) a *dissociated morpheme*, which post-syntactically adjoins to certain functional heads, and that (ii) a subpart of a complex syntactic head can undergo post-syntactic lowering (entailing that, in addition to standard full lowering, the language system makes use of what I call *partial lowering*). In general, this paper should be viewed as a sustained argument for the idea that complexity in a morphosyntactic paradigm stems not from the core linguistic system but from Vocabulary Insertion rules, which, as memorized phenomena, are idiosyncratic and likely to vary across different groups of speakers. By tackling the prosody of Turkish subject agreement, the article also provides support for modern syntax-prosody mapping theories, according to which prosodic structures are highly faithful to the output of post-syntactic operations. In short, this article not only advances our knowledge of the verbal domain in a paradigmatic agglutinative language, but also develops and endorses new tools for morphosyntactic and prosodic analysis.

The article is organized as follows. I first present a comprehensive picture of the morphosyntactic (section 2) and prosodic (section 3) distribution of subject agreement in the Turkish verbal domain. I then offer a novel analysis of these patterns of subject agreement in section 4. This analysis comprises articulated characterizations of (i) the morphosyntax of the Turkish verbal domain, (ii) the Vocabulary Insertion rules for subject agreement in the Turkish verbal domain, (iii) the phonological conditioning on the allomorphs that realize Turkish subject agreement, and (iv) how prosodic structure is mapped from syntax in this verbal domain. Keeping with prosody, section 5 critiques three recent explanations of prosodic word formation patterns in the Turkish verbal domain. I show that these analyses are untenable once the novel observations presented sections 2 and 3 are considered. Section 6 concludes the paper.

## **2. The Morphosyntactic Distribution of Subject Agreement in Turkish**

Before beginning, a brief remark about data is required. The overview of Turkish subject agreement presented in this section incorporates observations from not only standard Turkish, but also colloquial/informal registers of standard Turkish, extant nonstandard dialects of Turkish (from Anatolia and beyond), and historical varieties of Turkish. Although each of the example sentences provided in section 2.1 and 2.4 is generated from introspection and has had its (un)acceptability confirmed by my consultants (all speakers of standard Turkish who are fluent in the colloquial/informal register), the morphosyntactic configurations that they exemplify are also documented in the literature on nonstandard Turkish dialects and historical varieties (see footnotes 2 and 3, and also Güneş 2020 for references). Furthermore, examples of many of the configurations discussed in this section can also be found on the internet (but whether such data represent colloquial standard Turkish or a nonstandard dialect is hard to ascertain). The agreement paradigms presented in sections 2.1 to 2.4 therefore represent an aggregate of all the (un)acceptable configurations that I have obtained via judgment consultations and confirmed in the literature. Whether all of the acceptable cases reported in

these sections can be found in a single dialect is yet to be determined.

I present these data in an aggregated form, thus presenting an analysis of the most permissive conceivable dialect, because my aim is to offer an account of subject agreement in Turkish that generalises over the observed variation. This aim accords with current generative approaches to linguistic microvariation, which treat closely related varieties as sharing a common morphosyntax, with variation stemming from differences in each dialect's lexicon (see Barbiers 2009 and references in there). Thus, in order to uncover what this common morphosyntax is (i.e. in order to go beyond merely documenting dialectal variation), generalizations over differing paradigms are required, as such generalizations serve as the only means by which a common morphosyntactic core can be identified. The analysis offered to account for the data presented in sections 2 and 3 satisfies this Minimalist expectation for research that includes data from nonstandard varieties, insofar as it posits a uniform morphosyntax for all reported Turkish varieties and identifies the lexicon – in particular, Vocabulary Insertion Rules – as the source of dialectal variation.

Lastly, why use data from different varieties in the first place? Why not formulate an analysis of Turkish subject agreement in only one variety (e.g. formal standard Turkish)? As emphasised by Kayne (2000) and Barbiers (2009), concentrating on only one variety can obscure the morphosyntactic reality of a language. For instance, a paradigm-gap in a single variety can be misanalyzed as arising from a strong syntactic property of a language, when, in reality, it represents a lexical anomaly not observed in other closely related varieties. Taking register and dialectal variation into consideration decreases the likelihood of misanalysing the data in this way.

### 2.1. *A New Classification of Subject Agreement Morphemes in Turkish*

The traditional literature identifies two inflectional paradigms of subject agreement that is relevant to our discussion (henceforth, AGR) in the Turkish verbal domain. These are the *k*- and *z*-paradigms, which are so-named because, among other differences, first person plural AGR is realized as /k/ in the *k*-paradigm but as /z/ (plus a vowel) in the *z*-paradigm.

#### (1) a. *k*-paradigm

	<b>Singular</b>	<b>Plural</b>
<b>1<sup>st</sup></b>	-m	-k
<b>2<sup>nd</sup></b>	-n	-nIz
<b>3<sup>rd</sup></b>	-Ø	-lEr

#### b. *z*-paradigm

	<b>Singular</b>	<b>Plural</b>
<b>1<sup>st</sup></b>	-(y)Im	-(y)Iz
<b>2<sup>nd</sup></b>	-sIn	-sInIz
<b>3<sup>rd</sup></b>	-Ø	-lEr

Membership in either paradigm is determined by the linearly closest tense/aspect/modality (TAM) morpheme that precedes AGR (henceforth, the *host TAM*). Thus, Turkish TAM morphemes can be classified according to the paradigm-membership they induce on AGR (Sezer 2001; Yu & Good 2000; 2005; Kornfilt 1997; among others).

- (2) a. **TAM<sub>K</sub> morphemes**  
       -DI (Past)  
       -(y)sA (Conditional)
- b. **TAM<sub>Z</sub> morphemes**  
       -Iyor (Progressive)  
       -(y)AcAk (Future)  
       -Ir (Aorist)  
       -mİş (Evidential)

{Excluded from/neglected in} the previous literature is the fact that a third AGR paradigm also exists. When a future or progressive morpheme (both TAM<sub>Z</sub> morphemes) is realized in a phonologically reduced form, as in colloquial Turkish and in certain dialects (cf. Göksel 2010, Erdem 2018, Güneş 2020), it licenses a phonologically reduced exponent of the standard *z*-paradigm of AGR (3). This *reduced z-paradigm*, in which AGR has one vowel less than its standard variety, and the reduced TAM<sub>Z</sub> morphemes that licenses it (henceforth *TAM<sub>RZ</sub>* morphemes), are presented in (4) (see footnote 8 in Göksel 2010:96 for previous mention of this paradigm).

- (3) i. a. **gel-**ce-m**.**  
       come-FUT-1SG  
       ‘I will come.’
- b. **gel-**ce-z**.**  
       come-FUT-1PL  
       ‘We will come.’
- c. **gel-**ce-n**.**  
       come-FUT-2SG  
       ‘You will come.’
- d. **gel-**ce-niz**.**  
       come-FUT-2PL  
       ‘You all will come.’
- ii. a. **gel-**iyo-m**.**  
       come-PROG-1SG  
       ‘I am coming.’
- b. **gel-**iyo-z**.**  
       come-PROG-1PL  
       ‘We are coming.’
- c. **gel-**iyo-n**.**  
       come-PROG-2SG  
       ‘You are coming.’
- d. **gel-**iyo-nuz**.**  
       come-PROG-2SG  
       ‘You all are coming.’

(4) a. Reduced  $z$ -paradigm

	Singular	Plural
1 <sup>st</sup>	-m	-z
2 <sup>nd</sup>	-n	-nIz
3 <sup>rd</sup>	-Ø	-lEr

b. Reduced TAM<sub>Z</sub> (TAM<sub>RZ</sub>) morphemes

-Iyo	(Progressive)
-(A)cA	(Future)

I demonstrate shortly that the traditional split of the inflectional paradigms of AGR (i.e. the  $k$ -paradigm versus  $z$ -paradigm) does not form natural classes with respect to the morphosyntactic and prosodic distribution of subject agreement in Turkish. The remainder of section 2 and the entirety of section 3 will show that, in terms of positional and prosodic variability, the following bipartite division must be made between exponents of AGR:

	$k$ -paradigm		reduced $z$ -paradigm		$z$ -paradigm	
	Singular	Plural	Singular	Plural	Singular	Plural
1 <sup>st</sup>	-m	-k	-m	-z	<b>-(y)Im</b>	<b>-(y)Iz</b>
2 <sup>nd</sup>	-n	-nIz	-n	-nIz	<b>-sIn</b>	<b>-sInIz</b>
3 <sup>rd</sup>	-Ø	-lEr	-Ø	-lEr	-Ø	-lEr

AGR<sub>F</sub> morphemes

AGR<sub>C</sub> morphemes

I christen the group enclosed in the thick, solid-lined box in (5) as *Copula-containing* AGR morphemes (AGR<sub>C</sub>). I use this name for this group following the literature that argues that the copula is realized as /i/ (or /y/) in Turkish, and so it seems as though these AGR exponents somehow also contain the copula (see Lees 1962; Kornfilt 1996; and Kelepir 2001, all of which suggested that the  $z$ -paradigm of agreement contains copula based on similar grounds)). This is evidently related to the fact that these exponents contain an additional vowel /i/ (boldfaced) that their counterparts in the dashed box do not. Although I will indeed argue in section 4 that this intuitive idea is correct, I apply the characterization of these exponents as “containing the copula” in a theory-neutral sense for now. These copula-containing AGR can therefore be contrasted with the “*copula-Free*” AGR morphemes (AGR<sub>F</sub>) in the dashed box in (5).

As mentioned above, the remainder of this section demonstrates that AGR<sub>C</sub> (which constitutes a subset of the traditional AGR<sub>Z</sub>), and AGR<sub>F</sub> (which involves the traditionally defined AGR<sub>K</sub>, reduced AGR<sub>Z</sub> paradigm, and the exponents of 3PL) morphemes form natural classes with respect to the positions that AGR can occupy within the Turkish verbal domain.

## 2.2.Final-AGR

Both AGR<sub>C</sub> and AGR<sub>F</sub> can occupy the final position, regardless of the amount of TAMs or whether or not an overt copula linearly intervenes between AGR its host TAM, see Table 1.

**Table 1** *The morphosyntactic distribution of Final-AGR*

		Singular	Plural	Gloss
AGR <sub>F</sub> (one overt TAM)	1 <sup>st</sup>	gel-di- <b>m</b>	gel-di- <b>k</b>	come-PST <sub>K</sub> -AGR
	2 <sup>nd</sup>	gel-di- <b>n</b>	gel-di- <b>niz</b>	
	3 <sup>rd</sup>	gel-di-Ø	gel-di- <b>ler</b>	
	1 <sup>st</sup>	gel-iyo- <b>m</b>	gel-iyo- <b>z</b>	come-PROG <sub>RZ</sub> -AGR
	2 <sup>nd</sup>	gel-iyo- <b>n</b>	gel-iyo- <b>nuz</b>	
	3 <sup>rd</sup>	gel-iyo-Ø	gel-iyo- <b>lar</b>	
	3 <sup>rd</sup>	gel-miş-Ø	gel-miş- <b>ler</b>	come-EVD <sub>Z</sub> -AGR
	1 <sup>st</sup>	gel-miş- <b>im</b>	gel-miş- <b>iz</b>	come-EVD <sub>Z</sub> -AGR
	2 <sup>nd</sup>	gel-miş- <b>sin</b>	gel-miş- <b>siniz</b>	
AGR <sub>F</sub> (two overt TAMs)	1 <sup>st</sup>	gel-se-y-di- <b>m</b>	gel-se-y-di- <b>k</b>	come-COND-COP-PST <sub>K</sub> - AGR
	2 <sup>nd</sup>	gel-se-y-di- <b>n</b>	gel-se-y-di- <b>niz</b>	
	3 <sup>rd</sup>	gel-se-y-di-Ø	gel-se-y-di- <b>ler</b>	
	1 <sup>st</sup>	-	-	* come-COND-PROG <sub>RZ</sub> -AGR <sup>1</sup>
	2 <sup>nd</sup>	-	-	
	3 <sup>rd</sup>	-	-	
	3 <sup>rd</sup>	gel-ecek-miş-Ø	gel-ecek-miş- <b>ler</b>	come-FUT-EVD <sub>Z</sub> -AGR
AGR <sub>C</sub> (two overt TAMs)	1 <sup>st</sup>	gel-ecek-miş- <b>im</b>	gel-ecek-miş- <b>iz</b>	come-FUT-EVD <sub>Z</sub> -AGR
	2 <sup>nd</sup>	gel-ecek-miş- <b>sin</b>	gel-ecek-miş- <b>siniz</b>	

An exception to this final-AGR pattern is observed when a verbal domain contains the polar question morpheme *-mI* (Q). In such cases, the question morpheme cannot intervene between AGR<sub>F</sub> and its host TAM, yet *must* intervene between AGR<sub>C</sub> and its host TAM (Good and Yu 2000; 2005; Kornfilt 1996; Kelepir 2001; Sezer 2001; Kahnemuyipour & Kornfilt 2010, among others). As such, *final agreement* of the AGR<sub>F</sub> paradigm is linearly **not** final in the presence of Q.

<sup>1</sup> PROG and FUT are both ‘zone 2’ TAM morphemes according to Enç (2004), which occupy a lower position in the syntactic functional sequence, than all other TAM morphemes, which each can occupy a ‘zone 3’ position. As such, an independent ordering restriction on TAM morphemes is responsible for the paradigm gap in Table 1 (as it would disallow orders such as “come-PST<sub>K</sub>-COP-PROG” as in \**gel-di-yor* or “come-COND<sub>K</sub>-COP-FUT” as in \**gel-se-y-ecek*): this gap is unconnected to the restrictions on AGR.

**Table 2** *The morphosyntactic distribution of Final-AGR (in relation to Q)*

		Singular	Plural	Gloss
AGR <sub>F</sub> [Q → AGR]	1 <sup>st</sup>	* gel-di-mi- <b>m</b>	* gel-di-mi- <b>k</b>	
	2 <sup>nd</sup>	* gel-di-mi- <b>n</b>	* gel-di-mi- <b>niz</b>	come-PST <sub>K</sub> -Q-AGR
	3 <sup>rd</sup>	--	* gel-di-mi- <b>ler</b>	
	1 <sup>st</sup>	*gel-iyο-mu- <b>m</b>	*gel-iyο-mu- <b>z</b>	
	2 <sup>nd</sup>	*gel-iyο-mu- <b>n</b>	*gel-iyο-mu- <b>nuz</b>	come- PROG <sub>RZ</sub> -AGR
	3 <sup>rd</sup>	--	*gel-iyο-mu- <b>lar</b>	
	3 <sup>rd</sup>	--	* gel-iyor-mu- <b>lar</b>	come-PROG <sub>Z</sub> -Q-AGR
AGR <sub>F</sub> [AGR → Q]	1 <sup>st</sup>	gel-di- <b>m</b> -mi	gel-di- <b>k</b> -mi	
	2 <sup>nd</sup>	gel-di- <b>n</b> -mi	gel-di- <b>niz</b> -mi	come-PST <sub>K</sub> -AGR-Q
	3 <sup>rd</sup>	--	gel-di- <b>ler</b> -mi	
	1 <sup>st</sup>	gel-iyο- <b>m</b> -mu	gel-iyο- <b>z</b> -mu	
	2 <sup>nd</sup>	gel-iyο- <b>n</b> -mu	gel-iyο- <b>nuz</b> -mu	come- PROG <sub>RZ</sub> -AGR-Q
	3 <sup>rd</sup>	--	gel-iyο- <b>lar</b> -mı	
	3 <sup>rd</sup>	--	gel-ecek- <b>ler</b> -mi	come-FUT <sub>Z</sub> -AGR-Q
AGR <sub>C</sub> [Q → AGR]	1 <sup>st</sup>	gel-ecek-mi- <b>yim</b>	gel-ecek-mi- <b>yiz</b>	come-FUT <sub>Z</sub> -Q-AGR
	2 <sup>nd</sup>	gel-ecek-mi- <b>sin</b>	gel-ecek-mi- <b>siniz</b>	
AGR <sub>C</sub> [AGR → Q]	1 <sup>st</sup>	* gel-eceğ- <b>im</b> -mi	* gel-eceğ- <b>iz</b> -mi	come-FUT <sub>Z</sub> -AGR-Q
	2 <sup>nd</sup>	* gel-ecek- <b>sin</b> -mi	* gel-ecek- <b>siniz</b> -mi	

### 2.3. Medial-AGR

The distribution of medial-AGR is rather complex. The observation is that AGR<sub>F</sub> can occupy a medial position (i.e. a position between two overt TAMs or between a TAM and the question particle), but only if the TAM that AGR<sub>F</sub> immediately follows ends in a vowel. The exception to this is the 3PL AGR<sub>F</sub>, *-lEr*, which can occupy a medial position regardless of the phonetic properties of the preceding TAM. AGR<sub>C</sub> morphemes can never occupy a medial position, as has been previously noted by Sezer (2001), Yu & Good (2000; 2005) and Göksel (2010).<sup>2</sup>

<sup>2</sup> Yu & Good (2000) report that medial-AGR configurations similar to (6b) in the main text, in which medial-AGR is sandwiched between a TAM<sub>K</sub> and a TAM<sub>Z</sub> morpheme, are unacceptable in standard Turkish. This is false. Although such configurations may sound rather marked – but not unacceptable – in standard Turkish when presented in isolation, they are considered natural when presented in context, as in (i) (at least for me and my consultants). Note also that such cases are reported in Banguoğlu’s (1990) descriptive grammar of Turkish (see (ii), from Banguoğlu 1990:448-449). Such configurations are also attested in the data gathered from fieldwork recordings and written historical texts from nonstandard varieties of Turkish, including old Anatolian Turkishes (see Timurtaş 2005, Güner 2013, Doğan 2019, among others).

(i) Havuza erkenden gel-se-k-miş daha iyi ol-cak-miş.  
to.the.pool earlier come-COND-1PL-PERFmore good be-FUT-PERF  
‘It would be better, had we come to the pool earlier.’

(ii) a. sev-se-m-miş b. sev-se-n-miş c. sev-se-k-miş d. sev-se-niz-miş  
love-COND-1SG-EVD love-COND-2SG-EVD love-COND-1PL-EVD love-COND-2PL-EVD  
‘Had I have loved...’ ‘Had you have loved...’ ‘Had we have loved...’ ‘Had you all have loved...’

(6) *The morphosyntactic distribution of medial-AGR*

- a. AGR<sub>F</sub> (TAM<sub>K</sub> host)  
gel-se-**k**-ti  
come-COND-1PL-PST  
'Had we come...'
  - b. AGR<sub>F</sub> (TAM<sub>K</sub> host)  
gel-se-**k**-miş  
come-COND-1PL-PERF  
'Had we have come...'
  - c. AGR<sub>F</sub> (TAM<sub>RZ</sub> host)  
gel-ce-**z**-miş  
come-FUT-1PL-EVD  
'We will apparently come.'
  - d. AGR<sub>F</sub> (TAM<sub>RZ</sub> host)  
gel-iy-o-**nuz**-sa  
come-PROG-2PL-COND  
'Had you all been coming...'
  - e. AGR<sub>F</sub> (3PL, TAM<sub>K</sub> host)  
gel-se-**ler**-di  
come-COND-3PL-PST  
'Had they come...'
  - f. AGR<sub>F</sub> (3PL, TAM<sub>Z</sub> host)  
gel-ecek-**ler**-miş  
come-FUT-3PL-EVD  
'They will apparently come.'
- 
- g. AGR<sub>C</sub> (TAM<sub>Z</sub> host)  
\*gel-iyor-**uz**-muş  
come-PROG-1PL-EVD  
Int: 'We are apparently coming.'
  - h. AGR<sub>C</sub> (TAM<sub>Z</sub> host)  
\*gel-eceğ-**iz**-di  
come-FUT-1PL-PST  
Int: 'We were going to come.'

2.4. *Double-AGR*

A previously unnoticed pattern is that AGR can be doubly realized, but only in those morphosyntactic contexts in which medial-AGR is independently licensed (see (6)). Therefore, the conclusion is that medial-AGR *feeds* double-AGR. In such contexts, the 'doubled' instance of AGR occupies the final position in the verbal domain. It should be noted that, although this distribution may be found to be marginally acceptable (or even unacceptable) by some speakers, the cases of AGR<sub>F</sub> in Table 3 are nonetheless much preferred to the robustly unacceptable cases such as AGR<sub>C</sub> at the bottom of the Table 3 – e.g. *gördünsen* vs. \**göreceksinsen*. This is subject to dialectal variation. Non-canonically ordered agreement and double-AGR receive degraded judgments in other languages as well (cf. Harris & Halle 2005; and Arregi & Nevins 2018 for AGR doubling in non-standard varieties of Spanish; and Barbiers 2008 on microvariation on doubling phenomena in general), so variation in



judgments is expected. Explaining why there is variation in the judgments for double agreement configurations is beyond the scope of this paper.

**Table 3** *The morphosyntactic distribution of double-AGR*

		<b>Singular</b>	<b>Plural</b>	<b>Gloss</b>
<i>AGR<sub>F</sub></i>	<b>1<sup>st</sup></b>	gör-dü- <b>m</b> -se- <b>m</b>	gör-dü- <b>k</b> -se- <b>k</b>	see-PST <sub>K</sub> -AGR-COND <sub>K</sub> -AGR
	<b>2<sup>nd</sup></b>	gör-dü- <b>n</b> -se- <b>n</b>	gör-dü- <b>nüz</b> -se- <b>niz</b>	
	<b>3<sup>rd</sup></b>	--	gör-dü- <b>ler</b> -se- <b>ler</b>	
	<b>1<sup>st</sup></b>	gör-se- <b>m</b> -miş- <b>im</b>	gör-se- <b>k</b> -miş- <b>iz</b>	see-COND <sub>K</sub> -AGR-PERF <sub>Z</sub> -AGR
	<b>2<sup>nd</sup></b>	gör-se- <b>n</b> -miş- <b>sin</b>	gör-se- <b>niz</b> -miş- <b>siniz</b>	
	<b>3<sup>rd</sup></b>		gör-se- <b>ler</b> -miş- <b>ler</b>	
	<b>1<sup>st</sup></b>	gör-ce- <b>m</b> -se- <b>m</b>	gör-ce- <b>z</b> -se- <b>k</b>	see-PROG <sub>RZ</sub> -AGR-COND <sub>K</sub> -AGR
	<b>2<sup>nd</sup></b>	gör-ce- <b>n</b> -se- <b>n</b>	gör-ce- <b>niz</b> -se- <b>niz</b>	
	<b>3<sup>rd</sup></b>	--	gör-cek- <b>ler</b> -se- <b>ler</b>	
	<b>1<sup>st</sup></b>	gör-üyo- <b>m</b> -muş- <b>um</b>	gör-üyo- <b>z</b> -muş- <b>uz</b>	see-PROG <sub>RZ</sub> -AGR-PERF <sub>Z</sub> -AGR
	<b>2<sup>nd</sup></b>	gör-üyo- <b>n</b> -muş- <b>sun</b>	gör-üyo- <b>nuz</b> -muş- <b>unuz</b>	
	<b>3<sup>rd</sup></b>	--	gör-üyo- <b>lar</b> -miş- <b>lar</b>	
<i>AGR<sub>C</sub></i>	<b>3<sup>rd</sup></b>	--	gör-ecek- <b>ler</b> -se- <b>ler</b>	see-FUT <sub>Z</sub> -AGR-COND <sub>K</sub> -AGR
	<b>3<sup>rd</sup></b>	--	gör-üyor- <b>lar</b> -miş- <b>lar</b>	see-PROG <sub>Z</sub> -AGR-PERF <sub>K</sub> -AGR
	<b>1<sup>st</sup></b>	* gör-eceğ- <b>im</b> -se- <b>m</b>	* gör-eceğ- <b>iz</b> -se- <b>k</b>	see-FUT <sub>Z</sub> -AGR-COND <sub>K</sub> -AGR
	<b>2<sup>nd</sup></b>	* gör-ecek- <b>sin</b> -se- <b>n</b>	* gör-ecek- <b>siniz</b> -se- <b>niz</b>	
<i>AGR<sub>C</sub></i>	<b>1<sup>st</sup></b>	* gör-eceğ- <b>im</b> -miş- <b>im</b>	* gör-eceğ- <b>iz</b> -miş- <b>iz</b>	see-FUT <sub>Z</sub> -AGR-PERF <sub>Z</sub> -AGR
	<b>2<sup>nd</sup></b>	* gör-ecek- <b>sin</b> -miş- <b>sin</b>	* gör-ecek- <b>siniz</b> -miş- <b>siniz</b>	

## 2.5. Summary of The Morphosyntactic Distribution of Turkish Subject Agreement

In this section, I provided an overview of the distribution of AGR within the Turkish verb. I showed that AGR<sub>F</sub> shows positional flexibility and the capacity for double realization, whereas AGR<sub>C</sub> does not. The positional flexibility of AGR<sub>F</sub> is not completely free, however: with the exception of 3PL, AGR<sub>F</sub> can occupy a medial position (and hence feed doubling) only if the TAM which precedes it ends in a vowel. Table 4 provides a summary of the observations discussed in sections 2.2 to 2.4.<sup>3</sup>

<sup>3</sup> Instances of medial agreement, and generally all double agreement cases, are found in certain dialects of Turkish, and in the colloquial speech of standard Turkish, as the abundant amount of Google results for individual words from a variety of sources indicate. These phenomena have been previously reported or documented in the literature, too. For some examples from current central Anatolian dialects, see e.g. Gemalmaz 1978:440-549, Banguoğlu 1990:448-449, Tekin 1994:148-164, Altun 2009:126, Sağ 2013, Öztürk 2018:229; for Old Turkish (including Uighur, Karahanlı and Old Anatolian Turkish) see Ercilasun 1984:151-155, Timurtaş 2005:151-154, Eraslan 2012:351-355, Güner 2013:250-258, Şen 2016 as cited in Bekar 2019:127, Doğan 2019:218; for Chagatai Turkish see Türk 1996:302. For a complete picture of the dialectal map of the contemporary uses of non-canonical medial realisation and double realisation of agreement, further research is required.

**Table 4** *The morphosyntactic distribution of subject agreement (AGR) within the Turkish verbal domain*

	AGR <sub>F</sub>	AGR <sub>C</sub>
Can AGR occupy the final position of the verbal domain?	yes	yes
Must the polar question morpheme intervene between the host TAM and AGR?	it cannot	it must
Can AGR appear in a medial position?	yes*	no
Can AGR be doubled (appearing both medially and finally)?	yes <sup>†</sup>	no

\* subject to phonological restrictions for all non-3PL AGR<sub>F</sub> morphemes

<sup>†</sup> provided that medial-AGR is independently available

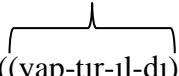
### 3. The Prosody of Subject Agreement in the Turkish Verbal Domain

The complex prosodic behavior of Turkish AGR reveals itself only when the verbal domain bears information-structural focus, as in verbal fragment answers. Because prosodic structure in Turkish consists of prosodic words (ωs), phonological phrases (φs) and intonation phrases (ιs), which are layered according to the diagram in (7), which conforms to the *Strict Layer Hypothesis* (Selkirk 1984), a verbal fragment is an ι containing a φ containing an ω, as in (8a).

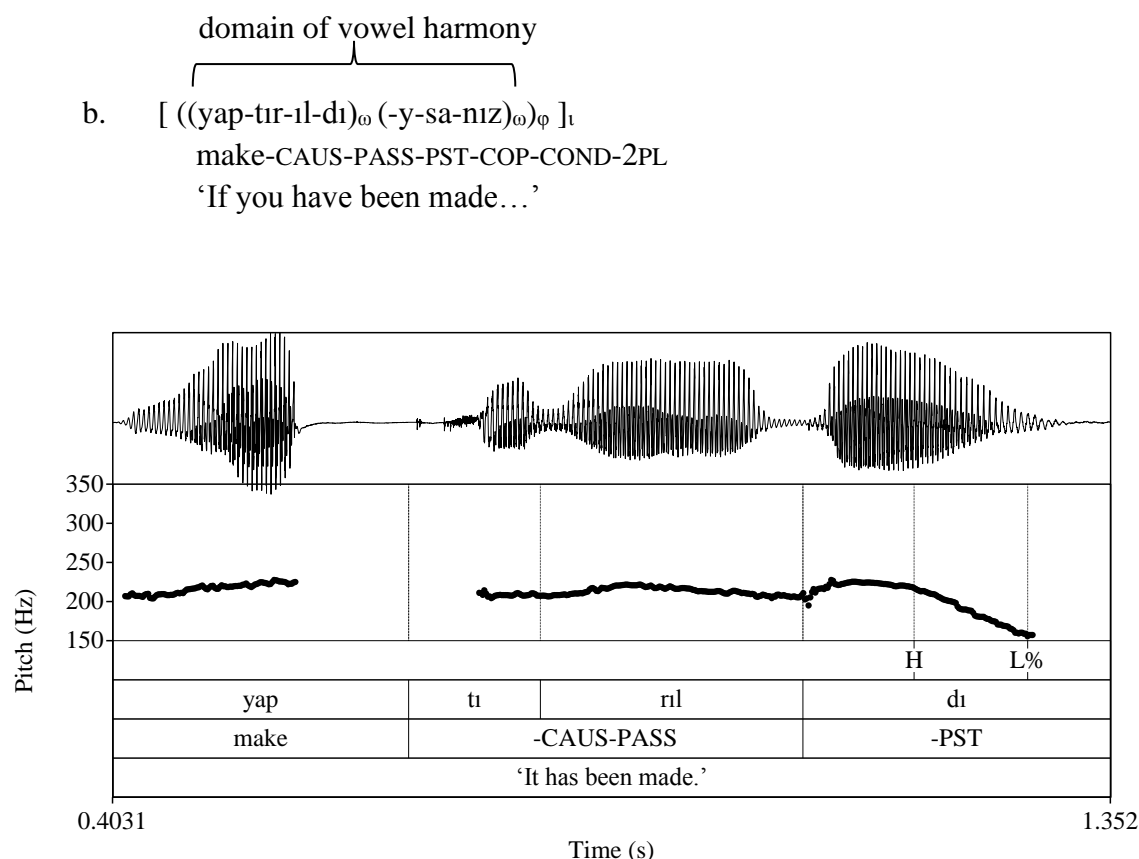
(7) Turkish prosody hierarchy <sup>4</sup>

[ ((...σ σ σ σ...)ω )φ ]ι

(8) domain of vowel harmony

a.  [ ((yap-tır-ıl-dı)ω )φ ]ι  
           make-CAUS-PASS-PST  
           ‘It has been made.’

<sup>4</sup> The foot is not represented here. Turkish prosodic grammar does not have Foot as an active prosodic category type (Kabak & Vogel 2001). Consequently, ω is the prosodic category type between the syllable and φ.



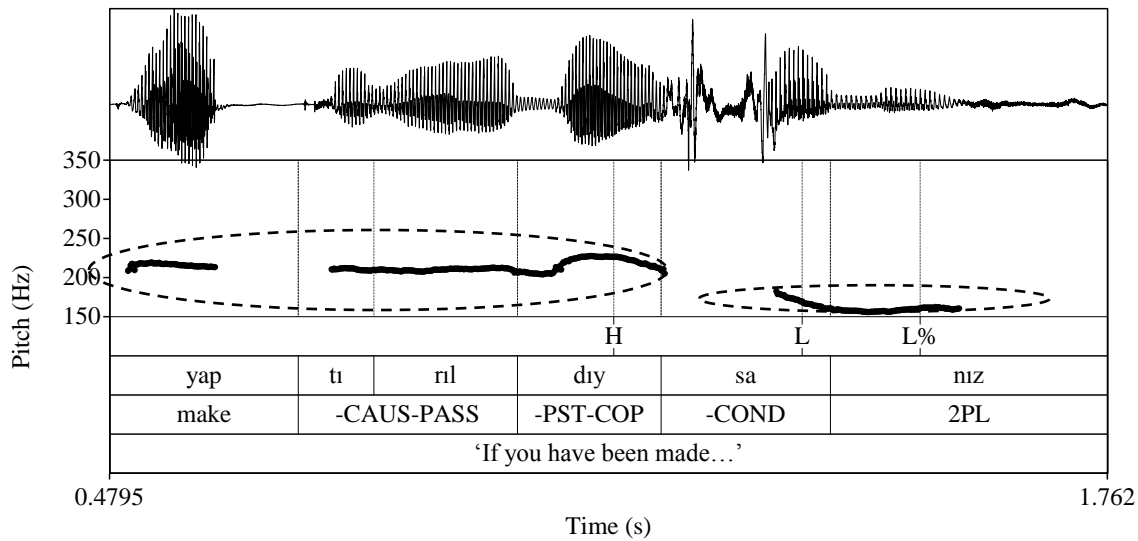
**Figure 1.** Pitch track for (8a) – the string is parsed as a single  $\omega$

A number of acoustic cues motivate this prosodic analysis for the fragment answer in (8a). First, most Turkish  $\omega$ s display “regular” final *stress*, where stress (and not *accent*, Konrot 1981) falls on the final syllable of the word (Lewis 1967; Sezer 1981; van der Hulst & van de Weijer 1991; Inkelas & Orgun 1998; Kabak & Vogel 2001; Göksel & Kerslake 2005, among others).<sup>5</sup> In a  $\phi$  that contains two  $\omega$ s in Turkish, the left-most  $\omega$  bears a higher F0 register relative to the other  $\omega$  within that  $\phi$  (İpek & Jun 2014) and a right-edge H boundary tone which is followed by the left-edge L boundary tone of the succeeding  $\omega$  (Güneş 2015). Because no non-final syllables in (8a) bear a H tone (as the pitch track for (8a) in Figure 1 shows), and there is no change in the F0 register in the overall contour of the verbal fragment, one can conclude that this verbal fragment contains only one  $\omega$ . Second, the right edge of (8a) bears an L% boundary tone, as shown in Figure 1, which is consistent with the right edge of a Turkish  $\iota$  (Kan 2009; Güneş 2015). The presence of a  $\phi$  between  $\omega$  and  $\iota$  is motivated by the Strict Layer Hypothesis for this particular case (but see Selkirk 1996 for acoustic evidence for an intermediate  $\phi$ -level in fragment answers).

Instead of comprising a single  $\omega$ , some verbal fragments are split into two separate  $\omega$ s, despite being a single domain of the purposes of vowel harmony (8b) (Dobrovolsky 1986). In split cases, the left  $\omega$ , which spans the participle domain of the verb, bears prosodic prominence (which is also called nuclear  $\omega$ ), while the right  $\omega$  is not prominent.

<sup>5</sup> In the Turkish literature, the term *stress* is often used to refer to perceived prominence. I avoid this term, as it is misleading for reasons discussed in Konrot 1981 and Kabak 2016.

Evidence that verbal fragments such as (8b) are split into two  $\omega$ s comes again from phonological and phonetic analysis (cf. Sebüktekin 1984 for the precursors of this analysis, and Göksel 2010). Phonological phrase prominence (i.e. prosodic headedness) is manifested by an F0 plateau on the left-most  $\omega$ , whose pitch register is relatively higher than the following  $\omega$  (Kamali 2011; İpek 2011; and Güneş 2013). This is precisely the pattern observed in the pitch track for (8b) in Figure 2. One also observes a H right-edge boundary tone on the antepenultimate syllable which is followed by a L left-edge  $\omega$ -boundary tone, which is indicative of two  $\omega$ s.<sup>6</sup>



**Figure 2.** Pitch track for (8b) – the string is parsed as two  $\omega$ s

Let us refer to those morphemes that occupy the leftmost position in the second  $\omega$  of split  $\omega$ s as *triggers* for split  $\omega$ -formation (where *trigger* is used here in a pre-theoretical sense). Such triggers are also called *pre-stressing* morphemes, such as the copula (see (8b)), and the polar question particle *-mI*, which trigger split  $\omega$ -formation (see Göksel & Kerslake 2005 for a detailed list of pre-stressing morphemes in the verbal and nominal domain in Turkish).

If a verbal domain contains multiple potential triggers for split  $\omega$ -formation, does each trigger the formation of a new  $\omega$ ? The answer is no. Regardless of the amount of potential triggers a verbal domain contains, focused verbs in Turkish can maximally be parsed into two

<sup>6</sup> To be exhaustive, one must also rule out (i) as a potential prosodic analysis for Figure 2, in which the copular verbal domain is parsed as an independent  $\phi$ . At the level of the Turkish intonation phrase ( $\iota$ ), prominence falls on the head of the right-most  $\phi$  (the *final* or *nuclear- $\phi$* ). If the final- $\phi$  is composed of two  $\omega$ s, then the  $\iota$ -level head is aligned with the left-most  $\omega$  of the final- $\phi$ . In the literature on Turkish prosody, the prosodic head of an  $\iota$  is often called the *nucleus*, the  $\phi$ s that precede the nucleus are collectively known as the *pre-nucleus*, and the  $\omega$  that follows the  $\iota$ -head is called the *post-nucleus* (cf. Kamali 2011). Pre-nuclear XPs correspond to individually parsed  $\phi$ s, whereas any XP that follows the nucleus constitutes a single prosodic constituent (Özge & Bozşahin 2010). In this paper, I call  $\iota$ -level prominence *nuclear prominence* (NP). A parse such as the one in (i) below is ungrammatical as the copular verb is parsed as the nucleus (as the final- $\phi$ ). The copula (or any string that follows the lexical verb stem) cannot be pronounced as prominent and hence cannot be the nucleus (Göksel 2010; Özge & Bozşahin 2010, *inter alia*).

(i) [((yap-tır-ıl-dı) $\omega$ ) $\phi$  ((-y-sa-nız) $\omega$ ) $\phi$ ] $\iota$

ωs. To see this, consider the verbal fragment (9). This verbal domain exhibits a copula and a question particle, both of which are expected to ‘trigger’ a ω boundary to their left, yielding three ωs (9b). What one observes, however, is that only the pre-stressing morpheme closest to the lexical verb, i.e. the leftmost one, (in this case, the question particle) triggers split ω-formation (9a), while the remaining pre-stressing morpheme (in this case, the copula verb) has its otherwise-obligatory capacity for triggering split ω-formation disabled (9b-c) (see Inkelas & Orgun 1998; Inkelas 1999; Kabak & Vogel 2001; Inkelas & Orgun 2004; Göksel & Özsoy 2000 for the foundations of this generalization).

- (9) Gel-ecek-**mi**-i-di-ler  
 come-FUT-Q-COP-PST-3PL  
 ‘Were they going to come?’ c.  
 a. (Gel-ecek)<sub>ω</sub> (-mi-i-di-ler)<sub>ω</sub>  
 b. \*(Gel-ecek)<sub>ω</sub> (-**mi**)<sub>ω</sub> (-i-di-ler)<sub>ω</sub>  
 c. \*(Gel-ecek-**mi**)<sub>ω</sub> (-i-di-ler)<sub>ω</sub>

That the non-leftmost pre-stressing morphemes cannot induce ω boundaries in the verbal domain is related to an independent and general condition on the number of ωs allowed in a φ in Turkish. As such, regardless of the morphosyntactic complexity of their content, all φs in Turkish can maximally contain two ωs (see Güneş 2015 for a detailed discussion and examples from other domains). This general constraint is called *Binarity Maximal* (BINMAX) (see Itô & Mester 1992; Mester 1994; Hewitt 1994; Selkirk 2000; among others), which demands that a prosodic category type (in our case, φs) maximally contains two subconstituents of the prosodic category type lower in the prosodic hierarchy (in our case, ωs). In Turkish, BINMAX,φ limits verbal domains (and other phrases in the language) such that they must parse into maximally two ωs regardless of the number of potential trigger morphemes for ω-formation that they contain. BINMAX,φ therefore explains why the parses in (9b-c) of the verbal fragment in (9) are prosodically illicit. In cases of multiple triggers, only the leftmost trigger (the one that is closest to the lexical verb root) remains active, triggering ω-formation.<sup>7</sup>

Relevant to our investigation of subject agreement is the fact that some instances of AGR also seem to trigger split-ω formation, either obligatorily (in the case of AGR<sub>C</sub> morphemes) or optionally (in the case AGR<sub>F</sub>) (10) (Göksel 2010 and the references therein).

- (10) *Subject agreement triggers for split-ω formation in the Turkish verbal domain*  
 a. Obligatory trigger: AGR<sub>C</sub>  
 b. Optional trigger: AGR<sub>F</sub>

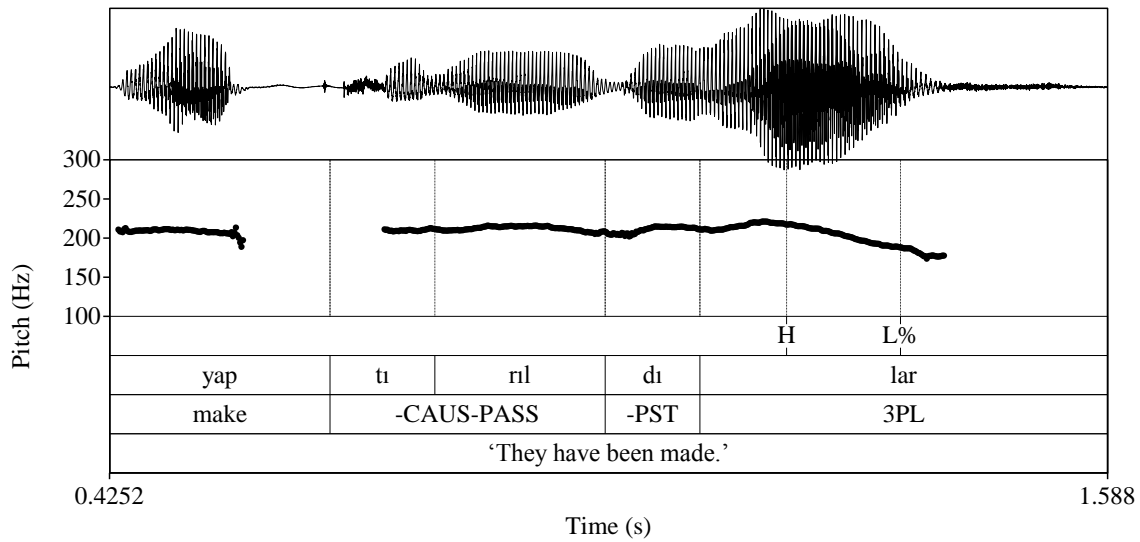
<sup>7</sup> From a syntax-prosody mapping point of view, that only the left-most triggers remain active in split ω-formation can be indirectly related to Cinque’s (1993) idea of ‘stress deepest’, as the left-most prosodic words, the content of which corresponds to the structurally deep-most morphosyntactic unit, always bear prosodic prominence in Turkish. See also footnote 15.

To see exactly how this triggering behavior of AGR affects the prosodic realization of verbal domains, let us revisit the final, medial, and double-AGR environments discussed in section 2, but this time taking their prosodic profiles into consideration.

### 3.1. *The Prosody of Final-AGR*

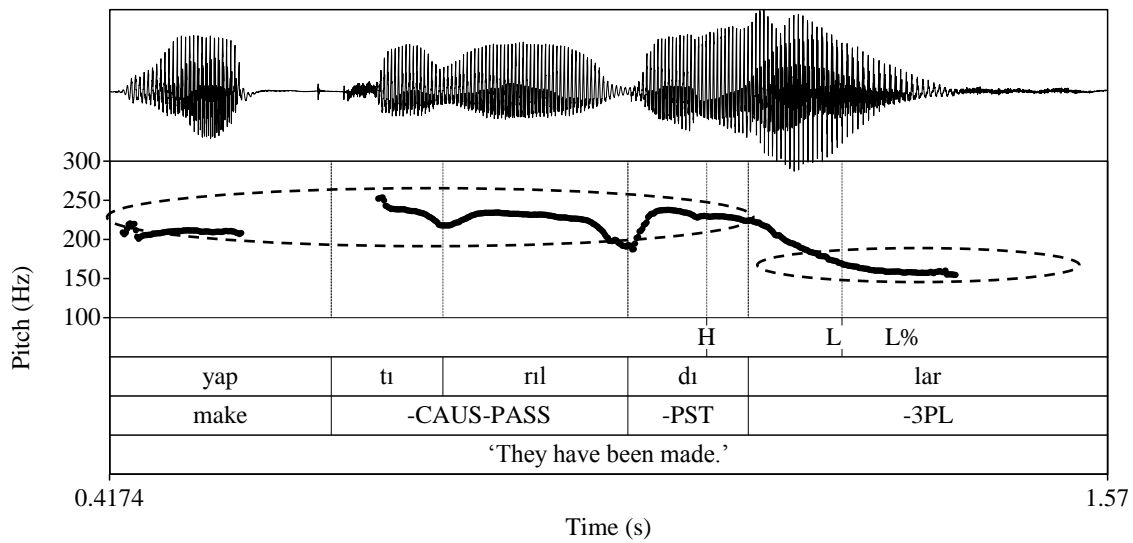
Extrapolating from (10), final-AGR<sub>C</sub> should be obligatorily contained in an  $\omega$  separate from the  $\omega$  containing its host TAM, whereas AGR<sub>F</sub> should allow a variable parse, either sharing an  $\omega$  with its host TAM (see (11) and Figure 3), or occupying a separate  $\omega$  (see (12) and Figure 4).

- (11) [((Yap-tir-il-di-lar) $\omega$ ) $\phi$ ]<sub>i</sub>  
 make-CAUS-PASS-PST-3PL  
 ‘They have been made.’



**Figure 3.** Pitch track for (11) – a final AGR<sub>F</sub> is parsed in the same  $\omega$  as its host TAM

- (12) [((Yap-tir-il-di) $\omega$  (-lar) $\omega$ ) $\phi$ ]<sub>i</sub>  
 make-CAUS-PASS-PST-3PL  
 ‘They have been made.’



**Figure 4.** Pitch track for (12) – a final  $AGR_F$  is parsed in a different  $\omega$  to its host TAM

Provided that an independent constraint on  $\omega$ -formation is also satisfied, this is pattern is indeed observed, see Table 5. This independent constraint is phonological in nature, and states that a  $\omega$  must be minimally composed of a syllable, and therefore a vowel (Nespor & Vogel 1986, among others). Thus,  $AGR$  – or any other morpheme – fails to form its own  $\omega$  if its exponent is subsyllabic. Additionally, Turkish  $\omega$ s cannot start with a morpheme whose exponent is subsyllabic, either.  $\omega$ -formation that would otherwise be licit but fails because it violates these independent phonological constraints is adorned with a  $*^{[P]}$  symbol in Table 5 and Table 6.

**Table 5**  $\omega$ -formation possibilities with final-AGR

		Singular	Plural	Gloss
AGR <sub>F</sub> without split $\omega$ -formation	1 <sup>st</sup>	(gel-di- <b>m</b> ) <sub>ω</sub>	(gel-di- <b>k</b> ) <sub>ω</sub>	come-PST <sub>K</sub> -AGR
	2 <sup>nd</sup>	(gel-di- <b>n</b> ) <sub>ω</sub>	(gel-di- <b>niz</b> ) <sub>ω</sub>	
	3 <sup>rd</sup>	--	(gel-di- <b>ler</b> ) <sub>ω</sub>	
	1 <sup>st</sup>	(gel-ce- <b>m</b> ) <sub>ω</sub>	(gel-ce- <b>z</b> ) <sub>ω</sub>	come-FUT <sub>RZ</sub> -AGR
	2 <sup>nd</sup>	(gel-ce- <b>n</b> ) <sub>ω</sub>	(gel-ce- <b>niz</b> ) <sub>ω</sub>	
	3 <sup>rd</sup>	--	(gel-cek- <b>ler</b> ) <sub>ω</sub>	
	3 <sup>rd</sup>	--	(gel-ecek- <b>ler</b> ) <sub>ω</sub>	come-FUT <sub>Z</sub> -AGR
AGR <sub>F</sub> with split $\omega$ -formation	1 <sup>st</sup>	* <sup>[P]</sup> (gel-di) <sub>ω</sub> (- <b>m</b> ) <sub>ω</sub>	* <sup>[P]</sup> (gel-di) <sub>ω</sub> (- <b>k</b> ) <sub>ω</sub>	come-PST <sub>K</sub> -AGR
	2 <sup>nd</sup>	* <sup>[P]</sup> (gel-di) <sub>ω</sub> (- <b>n</b> ) <sub>ω</sub>	(gel-di) <sub>ω</sub> (- <b>niz</b> ) <sub>ω</sub>	
	3 <sup>rd</sup>	--	(gel-di) <sub>ω</sub> (- <b>ler</b> ) <sub>ω</sub>	
	1 <sup>st</sup>	* <sup>[P]</sup> (gel-ce) <sub>ω</sub> (- <b>m</b> ) <sub>ω</sub>	* <sup>[P]</sup> (gel-ce) <sub>ω</sub> (- <b>z</b> ) <sub>ω</sub>	come-FUT <sub>RZ</sub> -AGR
	2 <sup>nd</sup>	* <sup>[P]</sup> (gel-ce) <sub>ω</sub> (- <b>n</b> ) <sub>ω</sub>	* <sup>[P]</sup> (gel-ce) <sub>ω</sub> (- <b>k</b> ) <sub>ω</sub>	
	3 <sup>rd</sup>	--	(gel-cek) <sub>ω</sub> (- <b>ler</b> ) <sub>ω</sub>	
	3 <sup>rd</sup>	--	(gel-ecek) <sub>ω</sub> (- <b>ler</b> ) <sub>ω</sub>	come-FUT <sub>Z</sub> -AGR
AGR <sub>C</sub> without split $\omega$ -formation	1 <sup>st</sup>	* (gel-eceğ- <b>im</b> ) <sub>ω</sub>	* (gel-eceğ- <b>iz</b> ) <sub>ω</sub>	come-FUT <sub>Z</sub> -AGR
	2 <sup>nd</sup>	* (gel-ecek- <b>sin</b> ) <sub>ω</sub>	* (gel-ecek- <b>siniz</b> ) <sub>ω</sub>	
AGR <sub>C</sub> with split $\omega$ -formation	1 <sup>st</sup>	(gel-ece) <sub>ω</sub> (ğ- <b>im</b> ) <sub>ω</sub>	(gel-ece) <sub>ω</sub> (ğ- <b>iz</b> ) <sub>ω</sub>	come-FUT <sub>Z</sub> -AGR
	2 <sup>nd</sup>	(gel-ecek) <sub>ω</sub> (- <b>sin</b> ) <sub>ω</sub>	(gel-ecek) <sub>ω</sub> (- <b>siniz</b> ) <sub>ω</sub>	

We saw in the previous section that, in order to satisfy the general prosodic constraint BINMAX, $\phi$ , a pre-stressing morpheme that otherwise obligatorily triggers split  $\omega$ -formation has its triggering capability disabled if it follows another pre-stressing morpheme that has already triggered split  $\omega$ -formation. As expected, AGR<sub>C</sub> morphemes also conform to this pattern: an AGR<sub>C</sub> morpheme has its otherwise-obligatory triggering capability disabled when it follows another pre-stressing morpheme in the verbal domain – compare (13a) and (13b). Note that the existence of configurations such as (13b) does not undermine the current characterization of AGR<sub>C</sub> as an “obligatory trigger” of split  $\omega$ -formation. Although AGR<sub>C</sub> “tries” to trigger split  $\omega$  in (13b), it is prevented from doing so, so that BINMAX, $\phi$  is satisfied.

- (13) a. \* (gel-ecek)<sub>ω</sub> (Ø-miş)<sub>ω</sub> (-siniz)<sub>ω</sub> [each trigger forms  $\omega$ , violating BINMAX, $\phi$ ]  
b. (gel-ecek)<sub>ω</sub> (Ø-miş -siniz)<sub>ω</sub> [only the leftmost trigger (COP) forms  $\omega$ ,  
come-FUT COP-EVD-AGR<sub>C</sub> BINMAX, $\phi$  is satisfied]  
‘You are apparently going to come.’

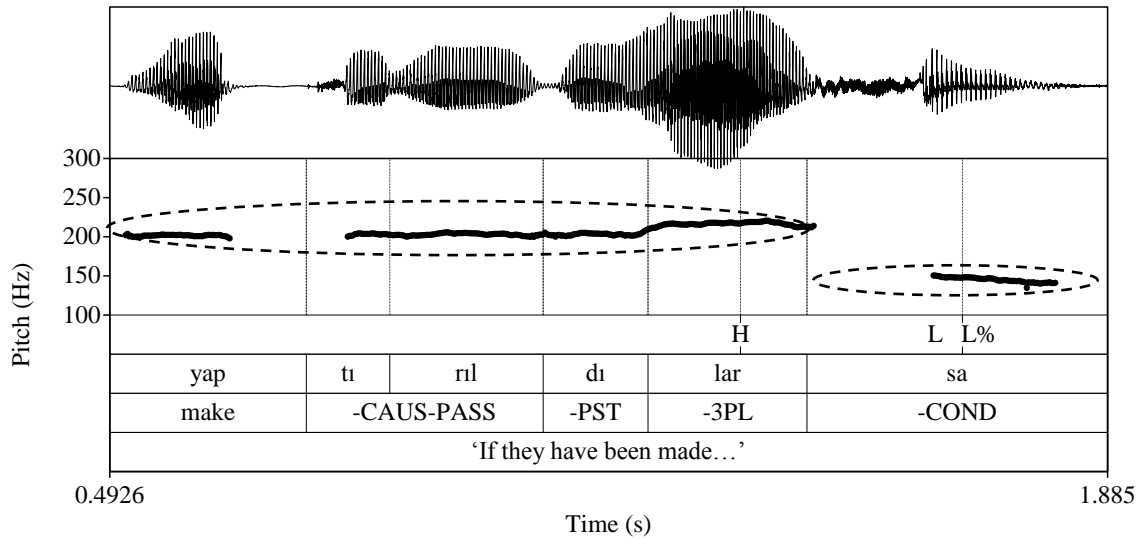
### 3.2. The Prosody of Medial-AGR and Double-AGR

Recall from section 2.2 that, once certain phonological criteria are satisfied, AGR<sub>F</sub> morphemes are licensed in the medial position, between two TAMs. Because AGR<sub>F</sub> can optionally trigger



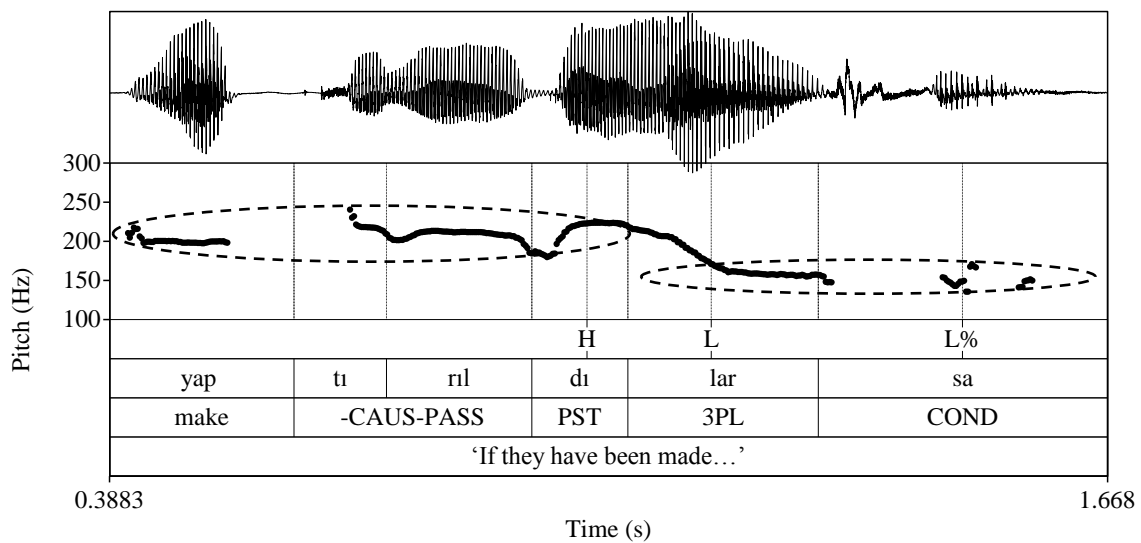
split  $\omega$ -formation, one expects that they can either occupy the same  $\omega$  as their host TAMs, or occupy a distinct  $\omega$ . As (14) and (15) show, this expectation is met.

- (14)  $[(Yap-tir-il-di-lar)_{\omega} (-sa)_{\omega})_{\phi}]_i$   
 make-CAUS-PASS-PST-3PL-COND  
 ‘If they have been made...’



**Figure 5.** Pitch track for (14) – an  $AGR_F$  is parsed with its host TAM

- (15)  $[(Yap-tir-il-di)_{\omega} (-lar-sa)_{\omega})_{\phi}]_i$   
 make-CAUS-PASS-PST-3PL-COND  
 ‘If they have been made...’



**Figure 6.** Pitch track for (15) – an  $AGR_F$  is parsed outside the  $\omega$  of its host

Once again, there is confounding factor in the dataset in Table 6 below, in which split  $\omega$ -formation paradigm for medial agreement is listed: in those cases where AGR does not trigger split  $\omega$ -formation, a “split  $\omega$ ” configuration is nonetheless observed – e.g. “(gör-se-**niz**) $\omega$  (-miş) $\omega$ ” (see-COND-2PL-EVD, ‘if you had seen (it)...’), but not “\*(gör-se-**niz-miş**) $\omega$ ”. This suggests that, in these cases, there is an extraneous, non-AGR-based trigger for split  $\omega$ -formation. I will uphold this suggestion in the proposed analysis in section 4, where I claim that multiple TAMs are always linked by the copula, which may receive a zero exponent (Kornfilt 1996; Yu & Good 2000; 2005; Enç 2004, Kelepir 2001; 2003; 2007 among others). I claim that it is the morphosyntactic configuration that is created by the presence of the copula that is responsible for the obligatory split  $\omega$  configuration observed in cases such as “(gör-se-**niz**) $\omega$  (-miş) $\omega$ ”. See section 4 for details.

**Table 6**  $\omega$ -formation possibilities with medial-AGR

		Singular	Plural	Gloss
AGR <sub>F</sub> in the 1 <sup>st</sup> $\omega$	1 <sup>st</sup>	(gör-dü- <b>m</b> ) $\omega$ (-se) $\omega$	(gör-dü- <b>k</b> ) $\omega$ (-se) $\omega$	see-PST-AGR-COND
	2 <sup>nd</sup>	(gör-dü- <b>n</b> ) $\omega$ (-se) $\omega$	(gör-dü- <b>nüz</b> ) $\omega$ (-se) $\omega$	
	3 <sup>rd</sup>	N/A	(gör-dü- <b>ler</b> ) $\omega$ (-se) $\omega$	
AGR <sub>F</sub> in the 2 <sup>nd</sup> $\omega$	1 <sup>st</sup>	*[P](gör-dü) $\omega$ (- <b>m-se</b> ) $\omega$	*[P](gör-dü) $\omega$ (- <b>k-se</b> ) $\omega$	see-PST-AGR-COND
	2 <sup>nd</sup>	*[P](gör-dü) $\omega$ (- <b>n-se</b> ) $\omega$	(gör-dü) $\omega$ (- <b>nüz-se</b> ) $\omega$	
	3 <sup>rd</sup>	N/A	(gör-dü) $\omega$ (- <b>ler-se</b> ) $\omega$	

Because medial-AGR feeds double-AGR (see section 2.4), the prosodic description of medial-AGR configurations exemplified in Table 6 extends without modification to double-AGR configurations. This is demonstrated in (16) for the verbal fragment *gör-dü-nüz-Ø-se-niz* (see-PST-2PL-COP-COND-2PL ‘if you had seen (it)...’).

- (16)      *Medial-AGR  $\omega$ -formation*                      *Corresponding double-AGR  $\omega$ -formation*  
a.      (gör-dü-**nüz**) $\omega$  (Ø-se) $\omega$                       a’. (gör-dü-**nüz**) $\omega$  (Ø-se-**niz**) $\omega$   
b.      (gör-dü) $\omega$  (-**nüz-Ø-se**) $\omega$                       b’. (gör-dü) $\omega$  (-**nüz-Ø-se-niz**) $\omega$

Once again, BINMAX, $\phi$  straightforwardly rules out a number of additional hypothetical parses for double-AGR constructions. These include the (17a), in which the verbal domain is split into three  $\omega$ s, and (17b), in which the final instance of AGR, rather the null copula that precedes it, triggers split  $\omega$ -formation.

- (17) a. \* (gör-dü-**nüz**) $\omega$  (Ø-se) $\omega$  (-**niz**) $\omega$   
b. \* (gör-dü-**nüz-Ø-se**) $\omega$  (-**niz**) $\omega$

### 3.3. Summary of the Prosodic Distribution of Turkish Subject Agreement

This section described the prosodic distribution of AGR in the Turkish verbal domain. I showed that AGR<sub>F</sub> (but not AGR<sub>C</sub>) shows prosodic flexibility, optionally co-existing with “split  $\omega$ ” configurations in a final or medial position within the linear string of the verbal

domain, and therefore optionally being parsed inside or outside of the  $\omega$  that contains its host TAM.

Clearly, the positional and prosodic flexibility of AGR are linked: it is the same group of AGR morphemes that can optionally appear in a medial position and can be optionally doubled (i.e.  $AGR_F$ ) that also demonstrate prosodic flexibility in the cases of split  $\omega$ -formation. The next section presents a unified analysis of subject agreement in Turkish that derives this link. The analysis is couched in the Distributed Morphology (DM, Halle & Marantz 1993) framework, and employs the Match theory (Selkirk 2009; 2011) of morphosyntax-prosody correspondence.

#### 4. An Analysis of the Morphosyntax and Prosody of Turkish Subject Agreement

##### 4.1. *The Morphosyntax of the Turkish Verbal Domain*

TAM functional heads in Turkish must select  $v$  (see Lees 1962; Kornfilt 1996; Kelepir 2001; 2003, Skinner 2009 for variations on this basic idea). This entails that, when standard  $v$  is selected by one TAM head (i.e. the one structurally closest to the lexical verb), then  $v_{COP}$  must be inserted to satisfy the selectional requirements of any additional TAM heads in the verbal domain. Consequently, a verbal complex that bears more than one TAM in Turkish is often split into two parts, (i) the domain of the lexical verb root, which raises to  $v$ , and (ii) the domain of the copula verb ( $v_{COP}$ ). The exponents of copula are  $\emptyset$ , /i/, and /y/ (Kornfilt 1996), where the choice between the two overt forms is determined by the phonological context. To illustrate, while verbal domains containing one TAM (such as (18a)) lack a copula, a verbal domain that exhibits more than one TAM (18b-c) obligatorily exhibits a copula (boldfaced), which may be null or overt. In each case, the copula immediately precedes the TAM that it hosts (Kornfilt 1996).

- (18) a. Gel-di-niz.  
       come-PST-2PL  
       ‘You have come.’  
       b. Gel-di-**{ $\emptyset$ /y/i}**-se-niz  
       come-PST-**COP**-COND-2PL  
       ‘If you had come...’  
       c. Gel-ecek-**{ $\emptyset$ /i}**-miş-siniz.  
       come-FUT-**COP**-EVD-2PL  
       ‘Apparently you will come.’

While this simple description of the Turkish verbal domain is undisputed, a more articulated analysis of the Turkish verbal domain is required to successfully capture the positional and prosodic distribution of AGR within it. I argue that, to provide an adequate description of AGR’s behavior, four additional (but related) morphosyntactic assumptions and innovations must be introduced. These are:

##### (19) *Major morphosyntactic assumptions and innovations of the current account*

- a. AGR in Turkish is a dissociated morpheme, which head-adjoins to TAM functional heads.

- b. TAM heads must lower to  $v$  (either standard  $v$  or  $v_{COP}$ ).
- c. Lowering can be *full* or *partial*.
- d. The morphemes I have classified as *copula-containing* (i.e. the  $AGR_C$  group) realize three syntactic heads ( $v_{COP}$ ,  $T_{[PRES]}$ ,  $AGR$ ), whereas the morphemes I have classified as *copula-free* (i.e. the  $AGR_F$  group) only realize one syntactic head (namely,  $AGR$ ).

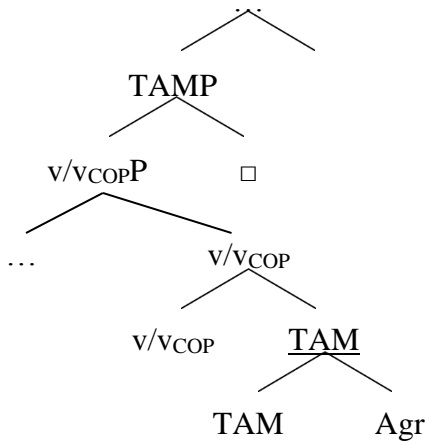
To elaborate on (19a): I assume that  $AGR$  is a *dissociated morpheme* (following Embick 1997, 2015:65, but also see Halle & Marantz 1993; Bobaljik 2008), i.e. a morpheme that head-adjoints to particular elements in the morphosyntactic structure (in the case of subject agreement in Turkish verbal domain, exclusively to TAM heads). As a dissociated morpheme, this adjunction operation occurs post-syntactically, on the PF branch of grammar, but before the insertion of vocabulary items (VIs) and the application of Linearization (Embick 1997). Since it is a dissociated morpheme,  $AGR$  by definition contributes no meaning. As a result, there are no semantic consequences to inserting it into the syntactic phrase marker multiple times if there are multiple TAM heads (see Zanon 2014 for similar reasoning). As will be shown in section 4.1.2, analysing  $AGR$  as a dissociated morpheme that adjoints to every available TAM head yields a straightforward analysis of medial- and double- $AGR$ .

To elaborate on (19b-c): I will demonstrate throughout this section that treating TAM heads as necessarily forming a complex head with either  $v$  or  $v_{COP}$  is crucial for formulating the VI rules for Turkish  $AGR$  and for presenting a robust account of syntax-prosody mapping within the Turkish verbal domain. I propose that these complex heads are formed by lowering TAM heads onto  $v/v_{COP}$ , rather than by raising  $v/v_{COP}$  to TAM heads, as assumed by Kelepir (2001), Newell (2005; 2008), Zanon (2014), and Shwayder (2015). I will also utilise the idea that an already-complex TAM head can either *fully* lower *onto*  $v/v_{COP}$  or *partially* lower onto it. In the case of full lowering, the maximal extension of the head ( $H_{MAX}$ ) is lowered (20a), whereas in partial lowering a non-maximal extension of the head, ( $H_{NON-MAX}$ ) is lowered (20b).<sup>8</sup> As (20) illustrates, partial lowering is the lowering equivalent of standard upward sub-extraction from a complex head (i.e. *excorporation*). Although excorporation is banned in the syntax proper by the Head Opacity Condition (Baker 1988:73), which stipulates that complex heads cannot contain traces/copies, this restriction does not extend to partial lowering, which, like all post-syntactic lowering operations, does not leave a trace/copy (Embick & Noyer 2001). I will demonstrate in section 4.2 that partial lowering is indispensable for capturing the prosodic variation of  $AGR$  in Turkish; a fact that supports its employment and should secure its place in the DM toolbox.

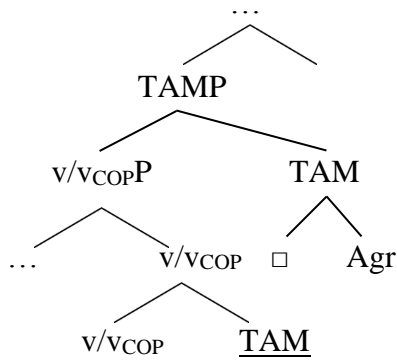
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<sup>8</sup> In phrase markers, I underline a lowered head and mark the position from which this head lowers with  $\sqsubset$ . These diacritics are emplaced solely to aid readability: the  $\sqsubset$  symbol has no theoretical status as a trace or copy of movement, as lowering does not leave traces/copies.

(20) a. *full lowering* ( $TAM_{MAX}$  lowers)



b. *partial lowering* ( $TAM_{NON-MAX}$  lowers)



Although I analyze TAM heads as lowering onto *v* or *vCOP*, I follow the previous literature in assuming that the lexical verb raises to *v* in Turkish (Kelepir 2001; Newell 2008; Zanon 2014; Shwayder 2015). I adopt this assumption merely for convenience, however, keeping open the possibility that the lexical verb might form a complex head with *v* via a means other than movement (cf. Göksel 1993 for arguments that head-raising is not empirically supported in Turkish). In short, I follow the previous literature in proposing that each TAM head (plus its accompanying AGR) within a Turkish complex verb undergoes some form of movement to form a complex head with either *v* or *vCOP*. Or to adopt the terminology of Distributed Morphology, a TAM, AGR, and *v/vCOP* head (and sometimes also the lexical verb root) will come together to form a *M(orphosyntactic) word*, where *M-word* is defined as follows:

(21) **Morphosyntactic word** (M-word) (Embick & Noyer 2001)

A (potentially complex) head not dominated by a further head-projection within DM.

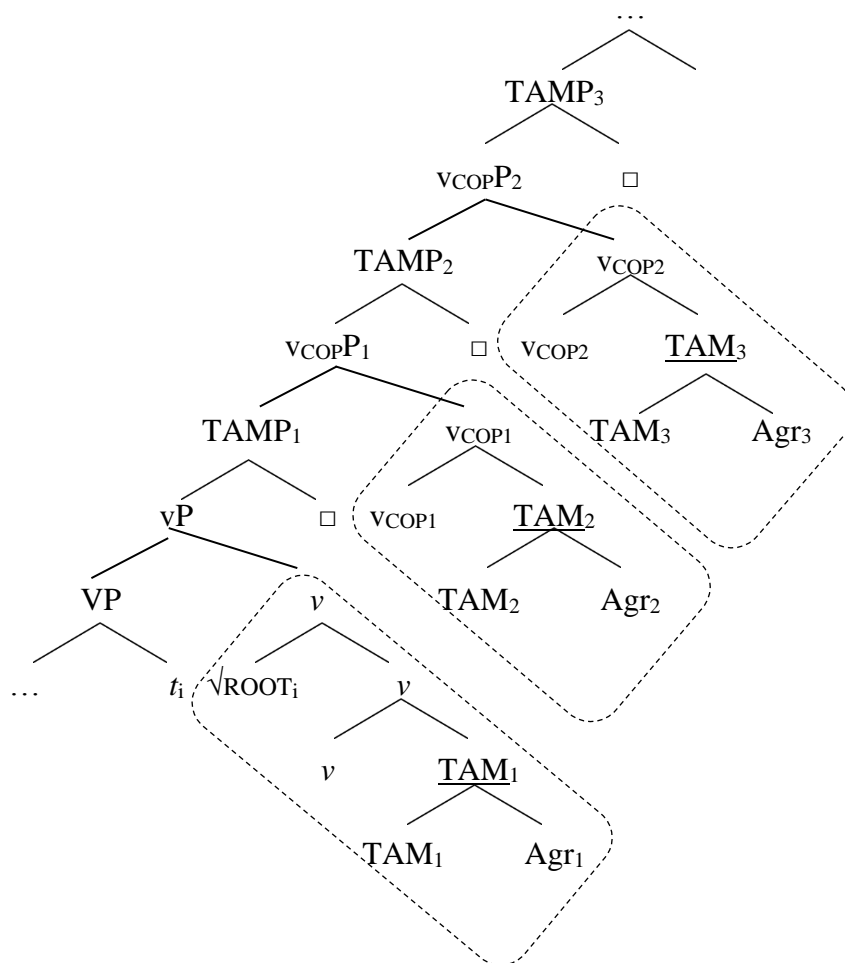
e.g.: [ $\sqrt{\text{ROOT}} + x + A + B + C$ ]<sub>M-word</sub>

(where *x* is a category-defining head; and A to C are heads representing feature bundles)

Adopting (21), one can identify the *M-words* in the abstract Turkish verbal domain schematized in (22) as being [ $\sqrt{\text{ROOT}} + v + TAM_1 + Agr_1$ ], [ $vCOP_1 + TAM_2 + Agr_2$ ], and

[ $\text{VCOP}_2 + \text{TAM}_3 + \text{Agr}_3$ ].<sup>9</sup>

(22)



The claim listed in (19d) is inspired by observations reported in Kornfilt 1996 (but also see Lees 1962:68; and Kelepir 2001) concerning the standard realization of the *z*-paradigm for subject agreement when a verbal domain displays a single aspect or mood morpheme. Such configurations must contain  $\text{VCOP}$  to carry the null present tense (also known as the *aorist* tense, which is the default, semantically vacuous tense in Turkish; see Kornfilt 1996:103), a  $\text{TAM}_Z$  morpheme. Despite being present in the morphosyntactic structure, this  $\text{VCOP}$  cannot be optionally realized as /-i/ or /-y/: it must remain phonologically null (23a) (see Kornfilt 1996:104 for similar examples). This restriction holds more broadly: the  $\text{VCOP}$  for which  $\text{TAM}_Z$  morphemes select cannot be overt (23a), and verbal predicates without multiple TAMs, in which an additional copula is not necessitated,  $\text{AGR}_Z$  cannot be employed (23b).

- (23) a. \*gel-ecek-i-siniz  
 come-FUT-COP-PRES.2PL  
 ‘You will come.’

<sup>9</sup> For additional evidence from the domain of *suspended affixation* for the presence of multiple M-words with multiple TAM heads, see Kabak 2007, in which the second (non-first) M-word seem to be able to be realized with suspension, only in the second conjuncts.

- b. \* gel-siniz  
 come-PRES.2PL  
 ‘You come.’

Based on similar observations, Kornfilt (1996:97) suggests that the exponents of  $AGR_Z$ , which corresponds to standard/non-reduced  $AGR_Z$  paradigm in the current classification, realize not only person and number features, but also  $v_{COP}$  and present tense. This seems highly plausible, especially considering that most exponents of  $AGR_Z$  include an additional high front vowel – i.e. one of the phonological realizations of the copula verb – that is not present in any exponent of  $AGR_K$ . In fact, when one groups the  $AGR$  morphemes discussed in sections 2 and 3 into  $AGR_C$  and  $AGR_F$  morphemes (as I have done since section 2.1), one sees that this additional vowel is present in every member of the former group and absent in every member of the latter group. Consequently, there must be a connection between this form and the morphosyntactic and prosodic behavior of  $AGR$ .

I encode this connection in the Vocabulary Insertion rules (VIs) for Turkish subject agreement, as VIs are one of the main means by which phonology and morphosyntax interact in DM. Thus, I argue that  $AGR$  morphemes with an additional vowel expone the feature-bundle  $[v_{COP}, T_{[PRESENT]}, PERSON, NUMBER]$  in Turkish, whereas  $AGR$  morphemes without this additional high front vowel expone only  $[PERSON, NUMBER]$  features. To be precise, the VIs that I proffer for the exponents of subject agreement in Turkish (which are repeated in (24) from section 2.1) are listed in (25) to (29).<sup>10</sup> As it is immaterial to the current analysis, I overlook the possibilities for phonologically-conditioned allomorphy. Notice that the VIs presented in (a) in (25) to (28), which correspond to the  $AGR_C$  paradigm, realize the morphosyntactic heads  $v_{COP}$  and  $T_{[PRESENT]}$  in addition to number and person, whereas the other VIs listed for each condition, which correspond to the  $AGR_F$  paradigm, realize only number and person and are inserted in different morphosyntactic contexts, making them contextual allomorphs of each other.

(24)	<i>k</i> -paradigm		reduced <i>z</i> -paradigm		<i>z</i> -paradigm	
	Singular	Plural	Singular	Plural	Singular	Plural
1 <sup>st</sup>	-m	-k	-m	-z	-(y)Im	-(y)Iz
2 <sup>nd</sup>	-n	-nIz	-n	-nIz	-sIn	-sInIz
3 <sup>rd</sup>	-Ø	-lEr	-Ø	-lEr	-Ø	-lEr
	<div style="border: 1px dashed black; padding: 5px; display: inline-block;"> <math>AGR_F</math> morphemes         </div>		<div style="border: 2px solid black; padding: 5px; display: inline-block;"> <math>AGR_C</math> morphemes         </div>			

<sup>10</sup> In creating the VIs in ((25)-(29)) in the main text, I adopt the standard feature matrix for morphosyntactic agreement:

- (i) Turkish agreement morphemes

**Person agreement**

- a. [+1,-2] = 1<sup>st</sup> person  
 b. [-1,+2] = 2<sup>nd</sup> person  
 c. [-1,-2] = 3<sup>rd</sup> person

**Number agreement**

- d. [-PL] = singular  
 e. [+PL] = plural

(25) Vocabulary Items for **1PL**

- |    |   |                   |                          |                     |
|----|---|-------------------|--------------------------|---------------------|
| a. | [ $v_{COP}$ , $T_{[PRES]}$ , +PL, +1, -2] | $\leftrightarrow$ | -Iz                      | [AGR <sub>C</sub> ] |
| b. | [+PL, +1, -2]                             | $\leftrightarrow$ | -z / {+FUT, +PROG} ____  | [AGR <sub>F</sub> ] |
| c. | [+PL, +1, -2]                             | $\leftrightarrow$ | -k / {+PAST, +COND} ____ | [AGR <sub>F</sub> ] |
| d. | [+PL, +1, -2]                             | $\leftrightarrow$ | -Ø / C ____              | [AGR <sub>F</sub> ] |

(26) Vocabulary Items for **1SG**

- |    |  |                   |                                       |                     |
|----|--|-------------------|---------------------------------------|---------------------|
| a. | [ $v_{COP}$ , $T_{[PRES]}$ , - PL, +1, -2] | $\leftrightarrow$ | -Im                                   | [AGR <sub>C</sub> ] |
| b. | [-PL, +1, -2]                              | $\leftrightarrow$ | -m / {+FUT, +PROG, +PAST, +COND} ____ | [AGR <sub>F</sub> ] |
| c. | [-PL, +1, -2]                              | $\leftrightarrow$ | -Ø / C ____                           | [AGR <sub>F</sub> ] |

(27) Vocabulary Items for **2PL**

- |    |  |                   |   |                     |
|----|--|-------------------|---|---------------------|
| a. | [ $v_{COP}$ , $T_{[PRES]}$ , + PL, -1, +2] | $\leftrightarrow$ | -sInIz                                  | [AGR <sub>C</sub> ] |
| b. | [+PL, -1, +2]                              | $\leftrightarrow$ | -nIz / {+FUT, +PROG, +PAST, +COND} ____ | [AGR <sub>F</sub> ] |
| c. | [+PL, -1, +2]                              | $\leftrightarrow$ | -Ø / C ____                             | [AGR <sub>F</sub> ] |

(28) Vocabulary Items for **2SG**

- |    |  |                   |                                       |                     |
|----|--|-------------------|---------------------------------------|---------------------|
| a. | [ $v_{COP}$ , $T_{[PRES]}$ , - PL, -1, +2] | $\leftrightarrow$ | -sIn                                  | [AGR <sub>C</sub> ] |
| b. | [-PL, -1, +2]                              | $\leftrightarrow$ | -n / {+FUT, +PROG, +PAST, +COND} ____ | [AGR <sub>F</sub> ] |
| c. | [-PL, -1, +2]                              | $\leftrightarrow$ | -Ø / C ____                           | [AGR <sub>F</sub> ] |

(29) Vocabulary Items for **3<sup>rd</sup>** person agreement

- |    |               |                   |      |                     |
|----|---------------|-------------------|------|---------------------|
| a. | [-PL, -1, -2] | $\leftrightarrow$ | -Ø   | [AGR]               |
| b. | [+PL, -1, -2] | $\leftrightarrow$ | -IEr | [AGR <sub>F</sub> ] |

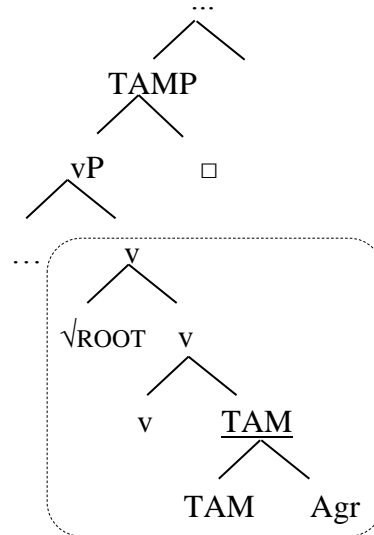
In the remainder of this section, I will use the assumptions and innovations listed in (19) to capture the data presented section 2 and 3. By doing this, I demonstrate that, when combined, these assumptions and innovations are necessary and sufficient to account for the positional and prosodic distribution of subject agreement in the Turkish verbal domain.

#### 4.1.1 Why AGR<sub>C</sub> Cannot Occupy a Medial Position

As mentioned in the previous section, I claim that the linearly leftmost TAM in a verbal domain is the realization of a functional TAM head that has lowered onto the lowest  $v$  (which includes the lexical verb, which head-raises into  $v$  in Turkish, see the previous subsection). If AGR head-adjoins to this TAM head, an M-word is generated that conforms to the schema presented in the dashed box in (30). Because AGR<sub>C</sub> morphemes realize an M-word that necessarily includes  $v_{COP}$  (and not  $v$ ), no M-word that fits the schema in (30), nor any head within this M-word, will ever be expounded as an AGR<sub>C</sub> morpheme.



(30)



This entails that verbal domains displaying  $AGR_C$  always contain more than one TAM head. Moreover, because  $AGR_C$  morphemes realize an M-word that necessarily includes  $T_{[PRES]}$ , only the structurally highest M-word containing a TAM head can ever be expounded as  $AGR_C$ , for the simple reason that T occupies a position in the syntactic functional sequence that dominates all other modal and aspectual functional projections discussed in this paper (i.e. perfective, future, progressive, and aorist, etc.) in Turkish (Sezer 2001; Kelepir 2001; Enç 2004; among others). This therefore explains why  $AGR_C$  is unattested in any “TAM-medial” position (see section 2.3).

#### 4.1.2 Why Only a Subset of $AGR_F$ Can Appear Medially and Feed Doubling

Recall from section 2.4 that, except for 3PL *-IeR* (which has complete positional freedom),  $AGR_F$  can only appear between two or more overt TAMs if the TAM that precedes  $AGR_F$  ends in a vowel. This distribution is captured in the current analysis in the VI rules for the  $AGR_F$  paradigm: if a non-3PL AGR head head-adjoins to an intermediate TAM head  $\tau$ , it will be realized as null if  $\tau$  ends in a consonant (25d, 34c, 35c, 36c). Conversely, AGR will be realized as *-IeR* in the same syntactic context if specified for 3PL (29b).

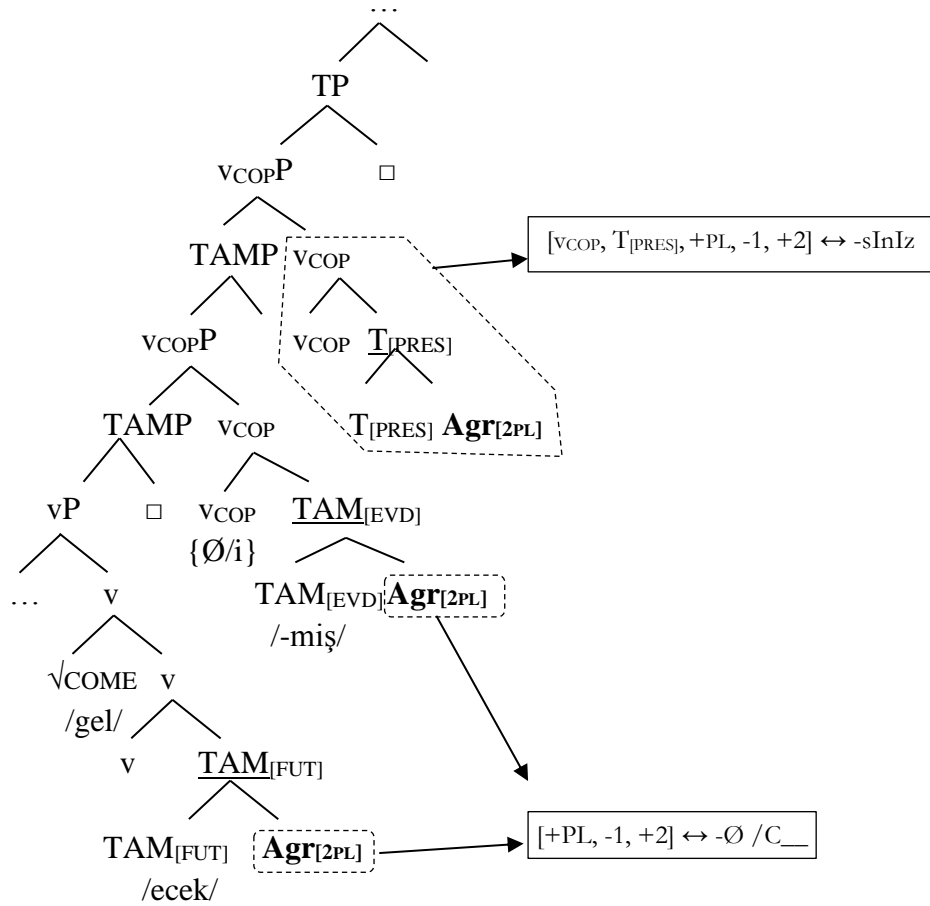
According to my analysis, every TAM head present in a syntactic derivation must have an AGR head adjoined to it (see section 4.1). The double-AGR configurations presented in section 2.4 are therefore configurations in which (i) multiple TAM heads – and hence multiple AGR heads – are present in the syntactic structure and (ii) at least two of these AGR heads can receive a phonologically contentful exponent. Doubling is contingent on medial-AGR for the simple reason that, if a verbal domain is to exhibit more than one overt AGR, one of these realizations will necessarily be in a non-final position (as there is only one final position).

#### 4.1.3 Applying the Analysis to an Example

To spell out the analysis outlined and discussed in sections 4.1 to 4.3 in concrete terms, let us apply it to an example, namely (31). The phrase marker for (31) is presented in (32).

- (31) Gel-ecek- $\{\emptyset/i\}$ -miş-siniz.  
 come-FUT-COP-EVD-COP.PRES.2PL  
 ‘You will apparently come.’

(32)



The structurally highest M-word in (32) includes  $\text{VCOP}$ ,  $\text{T}_{[\text{PRES}]}$  and  $\text{Agr}$ , the latter of which represents person and number features. Because this head includes  $\text{VCOP}$  and  $\text{T}_{[\text{PRES}]}$ , it will be realized as an  $\text{AGR}_C$  morpheme, namely the 2PL  $\text{AGR}_C$  morpheme *-sInIz*. Because no lower M-word contains  $\text{T}_{[\text{PRES}]}$ , none of the lower  $\text{AGR}$  morphemes can be realized as an  $\text{AGR}_C$ . As mentioned already, this structural situation arises in every verbal domain, thus restricting  $\text{AGR}_C$  to realizing only the highest M-word in a verbal sequence. Moreover, because  $\text{AGR}_C$  only expones M-words that include  $\text{VCOP}$  together with  $\text{T}_{[\text{PRES}]}$ ,  $\text{AGR}_C$  will never expone the lowest M-word of a verbal predicate that contains the lexical verb root – hence indirectly ruling out cases such as “ $\sqrt{\text{COME}}$  + non-reduced  $\text{AGR}_Z$ ” as in \**gel-siniz* in (23b).

Within the two lower M-words in (32),  $\text{AGR}$  finds no overt phonological realization. This is because these instances of  $\text{AGR}$  are preceded in their local context by  $\text{TAM}$  heads whose exponents both end with a consonant. These  $\text{AGR}$  heads are realized as  $-\emptyset$  because this is the only available allomorph for second person plural according to the VI rules in (25) to (29). If one of these  $\text{TAM}$  heads ended in a vowel, e.g. if the phonologically reduced version of the future morpheme (i.e. *-CE*) was employed in the lowest M-word instead of */ecek/*, then the lower  $\text{AGR}$  head would be realized as */niz/*, according to the VI rule in (27b). If such a scenario transpires, then the attested double- $\text{AGR}$  configuration in (33) obtains.

- (33) Gel-ce-**niz**-Ø-miş-**siniz**.  
come-FUT-2PL-COP-EVD-COP.PRES.2PL  
'You will apparently come.'

- (34)

- (35) \* Gel-ecek-**ler**-{Ø/i}-miş-**ler**-Ø-**ler**.<sup>11</sup>  
 come-FUT-**3PL**-COP-EVD-3PL-COP-**3PL**  
 ‘They will apparently come.’

<sup>11</sup> Note that VI-insertion for *v*COP is contextually conditioned by T: a phonologically contentful exponent is inserted for *v*COP in the presence of T only when T is non-null (cf. Lees 1962; Sezer 2001, *inter alia*). Thus, a string such as “come-FUT-3PL-COP-EVD-3PL-COP-3PL” \**gel-ecek-ler-Ø-miş-ler-i-ler* is not possible, due to the overt realisation of the final copular verb, which hosts the final AGR, *-lEr*.

the *distinctness condition* by Richards 2010, which prohibits two adjacent morphemes from having the same phonological exponent. I claim that, to avoid this, one of the adjacent morphemes must remain unrealized. Under the assumption that vocabulary-insertion proceeds in a bottom-up fashion (Bobaljik 2000), I claim that the AGR head that is left unrealized is the structurally higher one in the Turkish verbal domain, as, from derivational perspective, it is this head that induces a violation of the distinctness condition of linear adjacency if overtly pronounced. Additional prosodic support for the claim that, among the competing vocabulary items, the lowest vocabulary item of AGR always receives an exponent will be provided in section 4.2. However, I contend that the stuttering prohibition applies more broadly in Turkish, not merely precluding phonologically identical exponents from being linearly adjacent (as in (34) and (35)), but instead precluding any two M-words that exhibit the same person/number features from being expounded linearly adjacent to each other.<sup>12</sup> Thus, I presume that this strong version of the distinctness condition, which is morphologically conditioned in this case, is responsible for the unacceptability of (36a), in which two adjacent M-words containing separate instances of AGR are realized as phonologically similar, but not identical, exponents. For (36), I predict that, to avoid a violation to stuttering prohibition, only the lower eligible AGR is expounded (as in (36b)), and not the higher one (36c). This is borne out.

- (36) a. \*Gel-ce-**niz-siniz**.  
           come-FUT-2PL-COP.PRES.2PL  
           ‘You will apparently come.  
       b. Gel-ce-**niz**.  
       c. \*Gel-ce-**siniz**.

#### 4.1.4 Why AGR<sub>C</sub> and AGR<sub>F</sub> Distribute Dissimilarly with Respect to Q

The final observation from section 2 that the current account must explain is the observation that the polar question particle *-mI* cannot intervene between AGR<sub>F</sub> and the final TAM; yet must intervene between AGR<sub>C</sub> and the final TAM (see Table 7, abbreviated from Table 2).

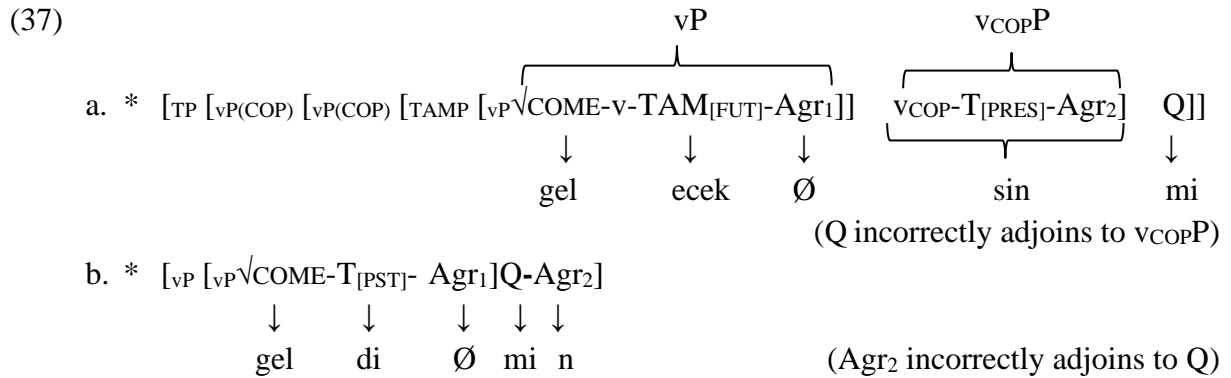
**Table 7** *The morphosyntactic distribution of AGR (in relation to Q)*

		Singular	Plural	Gloss
AGR <sub>F</sub> [Q → AGR]	1 <sup>st</sup>	* gel-di-mi- <b>m</b>	* gel-di-mi- <b>k</b>	come-PST <sub>K</sub> -Q-AGR
	2 <sup>nd</sup>	* gel-di-mi- <b>n</b>	* gel-di-mi- <b>niz</b>	
AGR <sub>F</sub> [AGR → Q]	1 <sup>st</sup>	gel-di- <b>m</b> -mi	gel-di- <b>k</b> -mi	come-PST <sub>K</sub> -AGR-Q
	2 <sup>nd</sup>	gel-di- <b>n</b> -mi	gel-di- <b>niz</b> -mi	
AGR <sub>C</sub> [Q → AGR]	1 <sup>st</sup>	gel-ecek-mi- <b>yim</b>	gel-ecek-mi- <b>yiz</b>	come-FUT <sub>Z</sub> -Q-AGR
	2 <sup>nd</sup>	gel-ecek-mi- <b>sin</b>	gel-ecek-mi- <b>siniz</b>	
AGR <sub>C</sub> [AGR → Q]	1 <sup>st</sup>	* gel-eceğ- <b>im</b> -mi	* gel-eceğ- <b>iz</b> -mi	come-FUT <sub>Z</sub> -AGR-Q
	2 <sup>nd</sup>	* gel-ecek- <b>sin</b> -mi	* gel-ecek- <b>siniz</b> -mi	

<sup>12</sup> For a discussion of the impact of the stuttering prohibition on the distribution of Turkish nominal agreement, see Tat & Kornfilt 2018.

It is well-known that, if the polar question (Q) particle is present within the verbal domain, it always adjoins to vP, and not vCOP (Kornfilt 1996; Sezer 2001; Newell 2005).<sup>13</sup> As a consequence, Q will always immediately follow an M-word whose core is *v*. If the AGR head within this M-word is exponed, it will never be exponed as an AGR<sub>C</sub> morpheme, as AGR<sub>C</sub> morphemes are reserved for realizing entire M-words whose core contains a vCOP (see section 4.1) (37a). This explains why Q cannot be preceded by an AGR<sub>C</sub> morpheme.

For AGR<sub>F</sub> to follow the Q particle, AGR must be able to head-adjoin not only to TAM heads but also to the Q head (37b). According to the current account, this is impossible: AGR only adjoins to TAM heads. This explains why AGR<sub>F</sub> always precedes Q.



#### 4.1.5 Summary

In this subsection, I presented my morphosyntactic account of final, medial, and double AGR. The analysis was based on the availability of the syntactic contexts for the insertion of competing vocabulary items. In the next subsection, I present my account of morphosyntactic word formation in the verbal domain of Turkish finite clauses. Here I employ the mechanism of postsyntactic lowering to account for the variable parse of AGR in cases of split ω-formation.<sup>14</sup>

### 4.2 Syntax-Prosody Mapping in the Turkish Verbal Domain

The current prosodic analysis assumes the *prosodic structure theory* hypothesis (Nespor & Vogel 1986; Selkirk 1984; among others) and *Match Theory* (Selkirk 2005; 2011), according

<sup>13</sup> Evidence for this claim comes from examples such as (i), which is ungrammatical because Q adjoins to the second TAM in the sequence (-*mi*), whose core is the higher vCOP, rather than the lowest *v*.

(i) \* gel-ecek-miş-**mi**-sin? (without a reprise question interpretation)  
 come-FUT-EVD-Q-2SG  
 Int: ‘Did they say that you would come?’

<sup>14</sup> Recently, assuming (24-29), Güneş 2020 offers a different account to predict the optional medial realisation and double realisation of AGR in Turkish. This approach is an adaptation of Harris and Halle’s (2005) and Arregi and Nevins’ (2018) morphological analyses of Spanish metathesis and reduplication, and Arregi and Nevins’ (2012) analysis of similar phenomena in Basque and its dialects. Applying Arregi and Nevins’ (2012, 2018) *Generalized Reduplication* (GR) algorithm (which can be summarised as metathesis by reduplication and deletion) to the Turkish facts discussed in section 2, Güneş 2020 suggests a number of formalisms that successfully predict the possible and impossible orders of AGR in Turkish. However, unlike the current paper, GR formalisms proposed in Güneş 2020 cover only the linear distribution facts of AGR, and the account does not make any predictions regarding the variable prosodic behaviour that is observed in the morphosyntactic contexts where AGR is present. Whether Güneş’s (2020) GR account can be extended to cover the prosodic facts of Turkish AGR is yet to be determined.

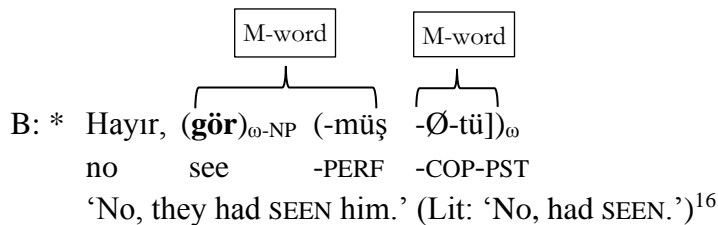
to which every syntactic constituent has a corresponding prosodic constituent. Roughly speaking, syntactic clauses correspond to intonational phrases ( $\iota$ s), syntactic phrases correspond to phonological phrases ( $\phi$ s), and morphosyntactic words correspond to prosodic words ( $\omega$ s). Relevant to our discussion, I assume that  $\omega$ s are mapped from M-words in Turkish, following Shwayder 2015, where mapping to prosody occurs after postsyntactic operations such as lowering have applied. To accommodate this assumption into Match theory, I propose an adaptation of Selkirk’s (2005; 2009; 2011) MATCH rule for  $\omega$ -formation, which I call ‘*Match M-word to  $\omega$* ’:

(38) **MATCH-M-WORD-TO- $\omega$**

Match each M-word in the morphosyntactic representation with a  $\omega$  in the prosodic representation.

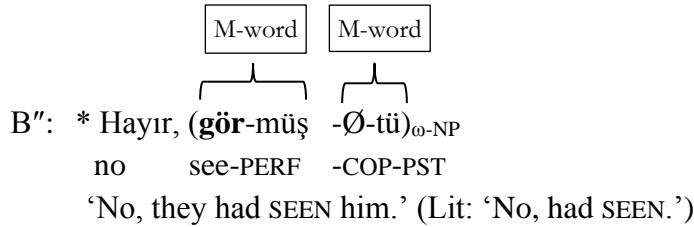
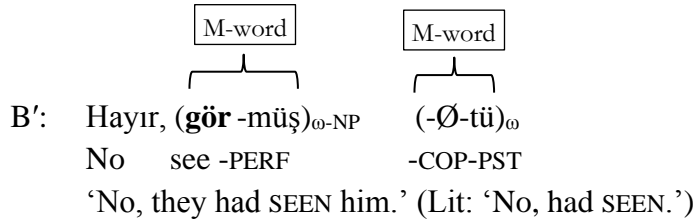
Evidence that M-words (and nothing else) are mapped to  $\omega$ s in Turkish comes from two facts: (i) morphosyntactic units smaller than M-words cannot be mapped to  $\omega$ s, and (ii) morphosyntactic units larger than M-words cannot be mapped to  $\omega$ s. Both observations are exemplified by the fragmentary responses in (39). Each of these examples contains two M-words, namely [ $\sqrt{\text{SEE-V-PERF-Agr}}$ ] and [ $\text{vCOP-T}_{[\text{PST}]}-\text{Agr}$ ].<sup>15</sup> As such, the lexical verb root *gör* ‘see’ is a morphosyntactic *subword* (i.e. a head that is immediately dominated by another head) contained within a larger M-word that also hosts v, TAM, and AGR. As (39B) shows, the exponent of the verb root alone cannot host prosodic prominence, and therefore cannot be parsed as an independent  $\omega$ . Although the verb root is the item that bears contrastive focus (in boldface) in each example in (39), the minimal domain that can bear prosodic/nuclear prominence (NP) is the larger M-word containing the contrasted root (39B’), rather than the root itself, as in (39B). Conversely, the unacceptability of (39B’’) exemplifies the second observation (namely, that units larger than M-words cannot be mapped to  $\omega$ s in Turkish), as it demonstrates that a nuclear- $\omega$  of the verbal domain cannot host more than one M-word.

- (39) A: Ziyaretçi-ler                      Ali-yi                      **dinle**-miş mi-y-di?  
           visitor-NUM                      Ali-ACC                      listen-PERF-Q-COP-PST  
           ‘Had the visitors listened to Ali?’



<sup>15</sup> In an information-structurally focused verbal domain containing two or more M-words, the *nuclear- $\omega$*  corresponds to the syntactically deepest M-word in that verbal domain in Turkish, which conforms to Cinque’s (1993) nuclear stress assignment rule *Stress Deepest*.

<sup>16</sup> In some cases, such as (i) below, the lexical root *may* apparently bear a high tone, and be perceived as prominent. However, in such cases, the high tone is a left-edge intonational phrase-level boundary tone and does not mark (focus-related nuclear) prominence. This is evidenced by the fact that such high tones are always realized at the initial syllable of the  $\iota$ -initial word, hence they do not mark the head of a  $\phi$ . Also, the height of the F0 does not spread across the entire root, unlike regular nuclear prominence. Since such strings are only capable of hosting boundary tones, and have no  $\iota$ -internal



Seeing as each TAM in the Turkish verbal domain is contained in a separate M-word (see the schema in (20) from section 4.1), MATCH-M-WORD-TO- $\omega$  therefore straightforwardly accounts for why split  $\omega$ -formation is obligatory in verbal domains containing two TAMs, such as (39B-B''). Of the two  $\omega$ s that are mapped in these examples, the leftmost  $\omega$  bears the prosodic prominence, as well as a high level F0, and is parsed as the *nuclear- $\omega$* .<sup>17</sup>

Having now specified precisely how split  $\omega$ -formation in the Turkish verbal domain is generated, I will now demonstrate how the current account correctly predicts prosodic distribution of AGR in Turkish focused verbs.

#### 4.2.1 Why Split $\omega$ -Formation is Optional with AGR<sub>F</sub>

The current morphosyntactic analysis of the Turkish verbal domain assumes that TAM heads lower onto *v* or *v*<sub>COP</sub>. As discussed in section 4.1, lowering is a postsyntactic displacement operation that does not leave a trace/copy. For any complex head *H* that may undergo lowering, this theoretical assumption gives rise to the potential for optionality: either the entire complex head (i.e. the entire M-word itself) lowers, or some subword within *H* lowers. In other words, because nothing prevents it, both *full lowering* and *partial lowering* should be available as postsyntactic operations, and therefore both options should be exploited by – and observed in – natural language grammar.

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constituency, and since they are uttered in pragmatically-marked environments, the %H boundary tone one observes in such roots are not present to mark focus, but instead form part of a prosodic *tune*, which seems to bleed further mapping from syntax. See Güneş & Göksel 2017 for a discussion of such cases.

- | %H                            | LH%          |   |
|-------------------------------|--------------|---|
| (i) Yaslan-in                 | arka-nız-a.  | [ <i>Conversational context</i> : Doctor kindly gives instructions] |
| lean-OPT.2PL                  | back-2PL-DAT |   |
| '(Please) lean on your back.' |              |   |

<sup>17</sup> We saw in section 3 that split  $\omega$ -formation is constrained by BINMAX, $\phi$ , which limits Turkish  $\phi$ s to maximally two  $\omega$ s. This observation can be accommodated into the current analysis by proposing that faithful mapping from syntax to prosody takes place in the verbal domain (i.e. MATCH-M-WORD-TO- $\omega$  is exhaustively applied) and then, if more than two  $\omega$ s are yielded, those  $\omega$ s that do not contain the lexical verb are collapsed together into one single  $\omega$ . For a detailed discussion of this process, see Güneş 2015.

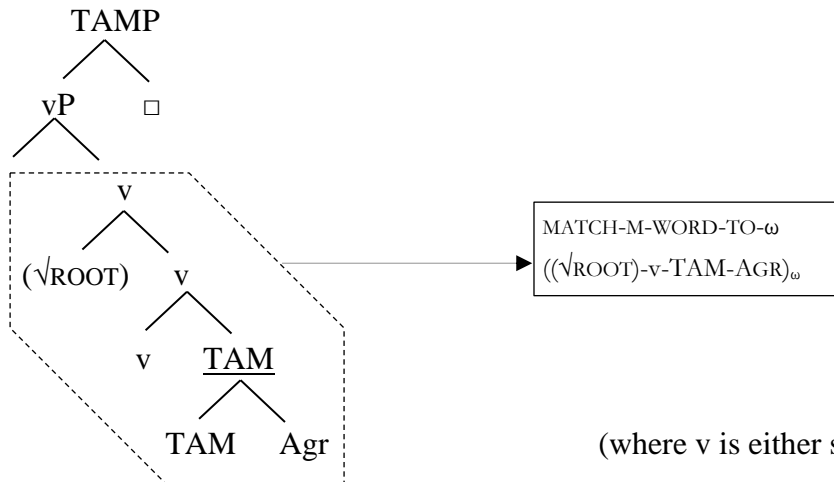
The positional distribution of AGR discussed in section 4.1 does not provide evidence for two different types of lowering. This is because the explanations from section 4.1 for the distribution of AGR do not change regardless of whether partial or full lowering is assumed (as I allow the reader to confirm for herself). However, I claim that the optionality in the parsing of  $AGR_F$  is a direct reflection of the optionality in full versus partial lowering, and therefore the prosody of Turkish provides direct evidence that both types of lowering operation exist.

I propose that TAM heads either lower fully or partially, either taking their associated AGR heads with them to the lower position or stranding their associated AGR heads in the higher position. In the ‘full lowering’ scenario, the extended head that is targeted by lowering includes AGR. When MATCH-M-WORD- $\omega$  applies, the size and the contents of the M-word containing the lowered TAM head will differ depending on whether full or partial lowering occurs, which therefore yields the desired morphosyntactic variability that will be reflected in the prosodic constituency after mapping. The prosodic consequences of full and partial lowering are schematized in (40) below.

(40) *Optional variable parse of AGR in Turkish focused verbs*

a. **Full lowering**

$TAM_{MAX}$  lowers to  $v/v_{COP}$ : AGR and its host TAM occupy the same M-word and hence the same  $\omega$

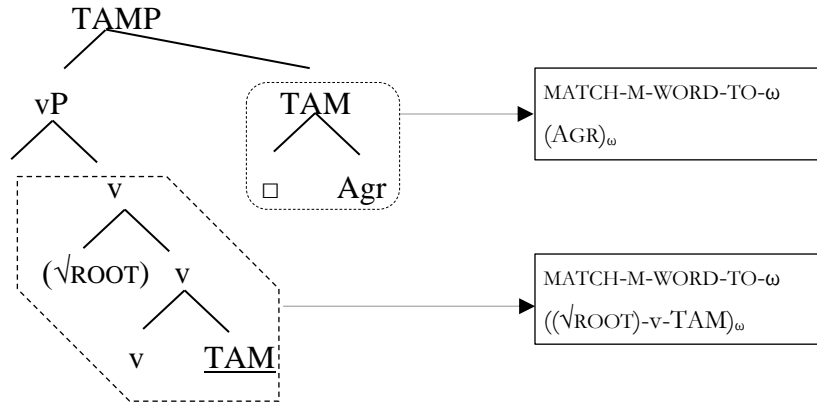


(where v is either standard v or  $v_{COP}$ )



b. **Partial lowering**

TAM<sub>NON-MAX</sub> lowers to v/v<sub>COP</sub>: AGR and its host TAM occupy different M-words / ωs



(where v is either standard v or v<sub>COP</sub>)

In both in full (40a) and partial (40b) lowering, the morphosyntactic requirement that induces lowering is satisfied, because, in both scenarios, v/v<sub>COP</sub> and TAM are contained in the same M-word. Since this lowering operation is not specified to target any particular segment of a (complex) head (as the rule simply states “lower TAM to v”), either partial lowering or full lowering may take place. Thus, this process is truly optional, yielding varied prosodic grouping with no discernible interpretive differences, which is a welcome result.

This analysis straightforwardly captures the observation from section 3.2 that AGR<sub>F</sub> morphemes are optional ‘triggers’ for split ω-formation: they trigger split ω-formation when stranded in a higher M-word due to the partial lowering of their host TAM, and fail to trigger split ω-formation when they accompany their host TAM onto a lower M-word through full lowering of the TAM. To provide a concrete illustration of these two scenarios, consider the two possible morphosyntactic derivations in (42) of the verbal fragments in (41).

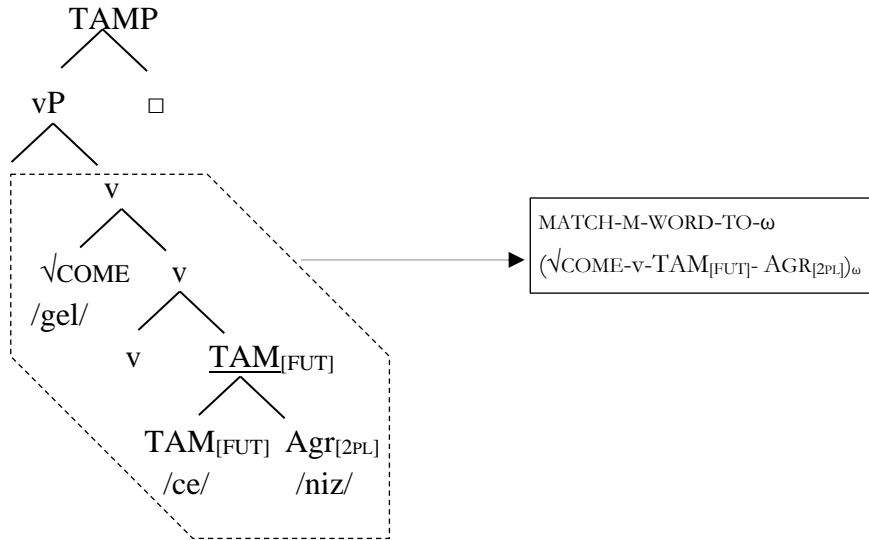
(41) Gel-ce-**niz**.

come-FUT<sub>RZ</sub>-2PL

‘You will all come.’

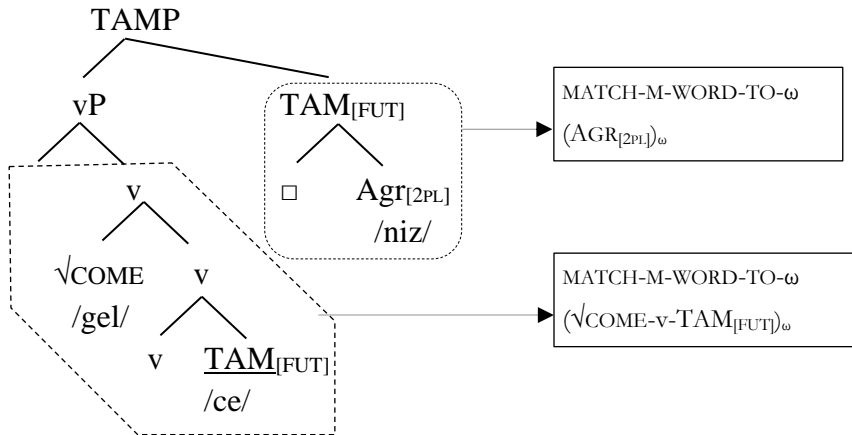
- (42) a. **Full lowering:** TAM<sub>MAX</sub> lowers to v, AGR and its host TAM occupy the same  $\omega$

Result: (gel-ce-niz) <sub>$\omega$</sub>



- b. **Partial lowering:** TAM<sub>NON-MAX</sub> lowers to v: AGR and its host TAM occupy different  $\omega$ s

Result: (gel-ce) <sub>$\omega$</sub>  (-niz) <sub>$\omega$</sub>

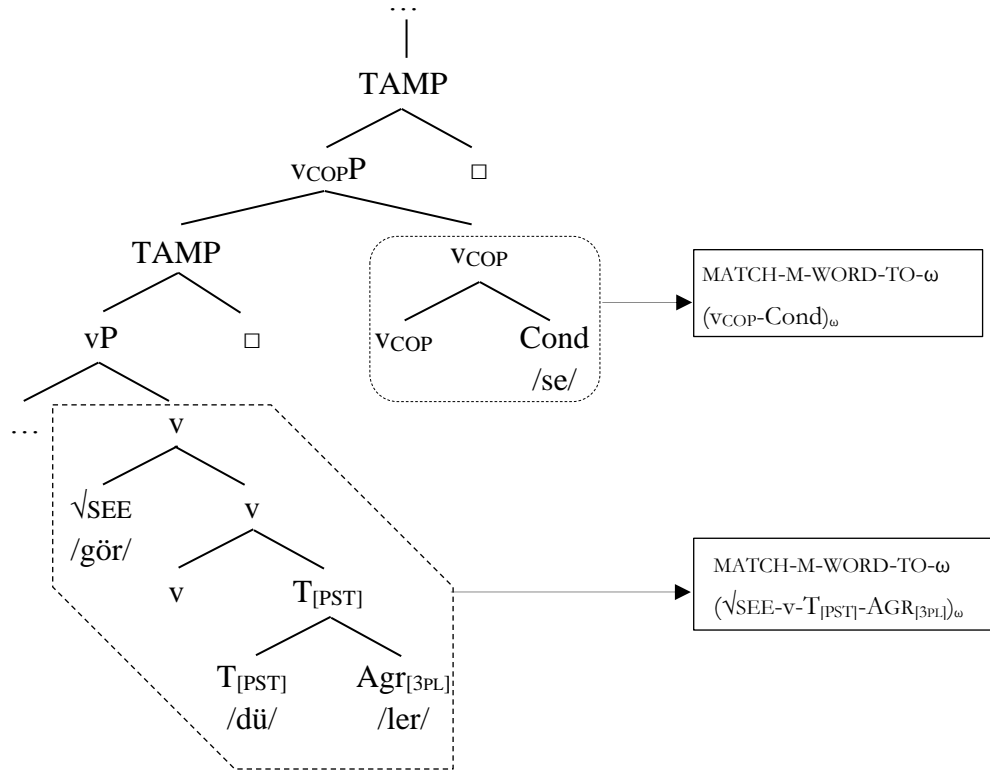


The current analysis extends without modification to medial-AGR cases such as (43). In such cases, AGR<sub>F</sub> triggers split  $\omega$ -formation when stranded in a higher M-word than its partially lowered host TAM. Although the stranded AGR is faithfully mapped as its own independent  $\omega$  (44bi), this faithful mapping is overridden to satisfy BIN<sub>MAX, $\phi$</sub> , resulting in the attested ‘binary  $\omega$ ’ parse in (44bii).<sup>18</sup>

- (43) Gör-dü-ler-se...  
see-PST-3PL-COND  
‘If they saw...’

<sup>18</sup> For details about how MATCH-M-WORD-TO- $\omega$  and BIN<sub>MAX, $\phi$</sub>  interact to determine  $\omega$ -formation in Turkish, see Güneş 2015.

- (44) a. **Full lowering:** TAM<sub>MAX</sub> lowers to v, AGR and its host TAM occupy the same  $\omega$   
*Result:* (gör-dü-**ler**) <sub>$\omega$</sub>  (-se) <sub>$\omega$</sub>



- b. **Partial lowering:** TAM<sub>NON-MAX</sub> lowers to v: AGR and its host TAM occupy different  $\omega$ s
- (i) *Faithful mapping:* \* (gör-dü) <sub>$\omega$</sub>  (-**ler**) <sub>$\omega$</sub>  (-Ø-se) <sub>$\omega$</sub>
- (ii) *Result that satisfies BIN<sub>MAX</sub>,  $\varphi$ :* (gör-dü) <sub>$\omega$</sub>  (-**ler**-Ø-se) <sub>$\omega$</sub>



- b. PST fully lowers onto v, COND partially lowers onto v<sub>COP</sub>  
*Faithful mapping:* \* (gör-dü-**nüz**)<sub>ω</sub> (-Ø-se)<sub>ω</sub> (-**niz**)<sub>ω</sub>  
*Reanalysis to satisfy BINMAX,φ:* (gör-dü-**nüz**)<sub>ω</sub> (-Ø-se-**niz**)<sub>ω</sub>
- c. PST partially lowers onto v, COND fully lowers onto v<sub>COP</sub>  
*Faithful mapping:* \* (gör-dü)<sub>ω</sub> (**nüz**)<sub>ω</sub> (-Ø-se-**niz**)<sub>ω</sub>  
*Reanalysis to satisfy BINMAX,φ:* (gör-dü)<sub>ω</sub> (**nüz**-Ø-se-**niz**)<sub>ω</sub>
- d. PST partially lowers onto v, COND partially lowers onto v<sub>COP</sub>  
*Faithful mapping:* \* (gör-dü)<sub>ω</sub> (**nüz**)<sub>ω</sub> (-Ø-se)<sub>ω</sub> (-**niz**)<sub>ω</sub>  
*Reanalysis to satisfy BINMAX,φ:* (gör-dü)<sub>ω</sub> (**nüz**-Ø-se-**niz**)<sub>ω</sub>

Thus, the interaction of full or partial lowering with BINMAX,φ accurately captures the prosodic distribution of double-AGR configurations outlined in section 3.2, namely that the medial AGR<sub>F</sub> in a doubling construction may optionally trigger split ω-formation, whereas the final, ‘doubled’, instance of AGR<sub>F</sub> cannot.

#### 4.2.2 Why Split ω-Formation is Obligatory with AGR<sub>C</sub>

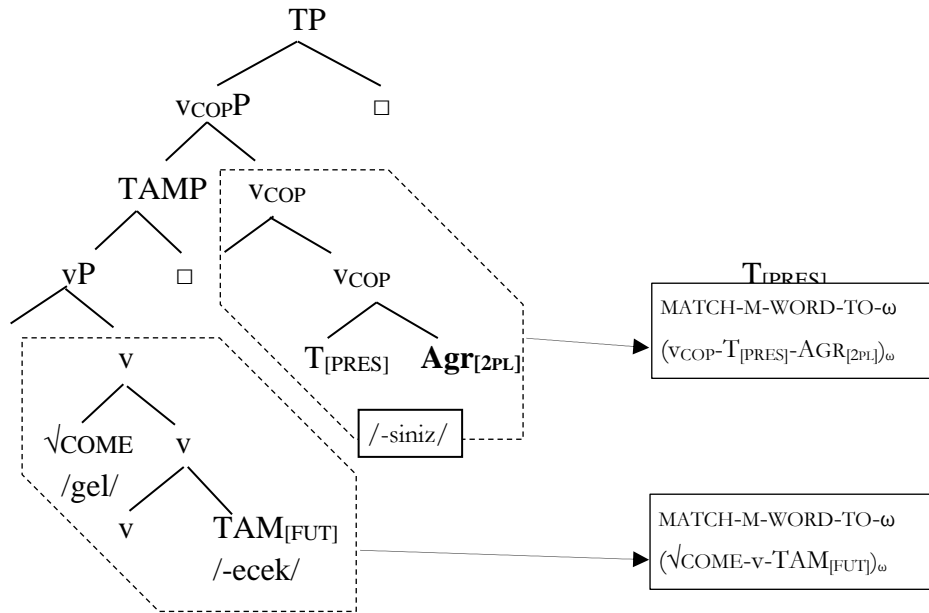
Recall from section 3.1 that, provided that they are not rendered prosodically inactive by BINMAX,φ, AGR<sub>C</sub> morphemes obligatorily trigger split ω-formation – see the parses in (47), which are extracted from Table 5. This observation follows straightforwardly from several facts discussed in this section. Firstly, full or partial lowering only induces prosodic variability if the TAM head being fully/partially lowered is the one that immediately dominates v. This is because BINMAX,φ prevents the lowering of any higher TAM head from having any prosodic effect (see the previous subsection). Secondly, I demonstrated that AGR<sub>C</sub> morphemes are the phonological realization of a group of linearly adjacent functional heads that includes v<sub>COP</sub> (see section 4.1). Because a TAM head that is lowered onto v<sub>COP</sub> is never the structurally lowest TAM head, it is irrelevant to the syntax-prosody mapping in Turkish whether the T<sub>[PRES]</sub> head that AGR<sub>C</sub> morphemes expone. Due to BINMAX,φ, the v<sub>COP</sub> is the only morpheme that triggers split ω-formation in verbal domain that includes AGR<sub>C</sub>:

(47) *Prosodic parse for ‘gel-ecek-siniz’ (come-FUT-AGR<sub>C</sub>)*

- a. (gel-ecek)<sub>ω</sub> (-**siniz**)<sub>ω</sub>  
b. \* (gel-ecek-**siniz**)<sub>ω</sub>

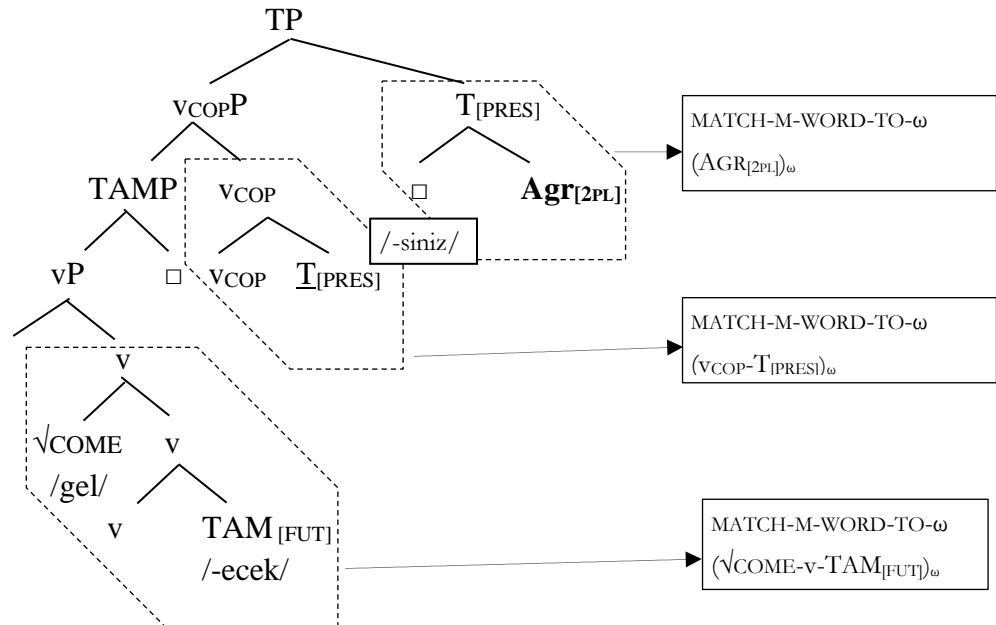
- (48) a. **Full lowering:** TAM<sub>MAX</sub> lowers to vCOP, AGR and its host TAM occupy the same M-word and  $\omega$

Result: (gel-ecek) <sub>$\omega$</sub>  (-siniz) <sub>$\omega$</sub>



- b. **Partial lowering:** TAM<sub>NON-MAX</sub> lowers to vCOP: AGR and its host occupy different M-words /  $\omega$ s

- (i) *Faithful mapping:* ill-defined
- (ii) *Result that satisfies BINMAX, $\phi$ :* (gel-ecek) <sub>$\omega$</sub>  (-siniz) <sub>$\omega$</sub>



#### 4.2.3 Additional Evidence for Full vs. Partial Lowering as the Source of Prosodic Variability

Because the current account ties the prosodic variability with  $AGR_F$  to the availability of full or partial lowering with TAM heads, it makes the additional prediction that, in domains that lack a TAM head, AGR does not exhibit prosodic variability. This prediction is borne out. To see this, consider the nominal fragment in (49), to which first person possessive subject agreement is suffixed. Because nominals do not contain TAM heads that could (partially) lower and strand AGR in a higher M-word, AGR cannot be parsed as a separate  $\omega$  as the head to which it adjoins does not lower (compare (49B) and (49B')), despite the fact that this instance of AGR is phonologically similar to an  $AGR_C$  morpheme.<sup>19</sup>

(49) A: Kim-ler o gece içki içmedi?  
 who-PL that night alcoholic.drink drink.NEG.PST  
 'Who did not drink alcohol that night?'

B: (Araba-lı-lar-ımız) $\omega$

B': \* (Araba-lı-lar) $\omega$  (-ımız) $\omega$

car-ADJ-NUM-1PL.POSS

'Those of us who were with a car.'

#### 4.2.4 Summary of the Prosodic Account

To summarize: I suggested that in Turkish TAM heads lower onto the  $v$  heads below them. When a TAM hosts AGR, then either (i) the TAM head *fully lowers* and takes AGR with it, yielding a configuration in which AGR, its TAM host, and  $v/v_{COP}$  share an M-word, or (ii) the TAM head *partially lowers*, stranding AGR in a higher position and yielding a configuration in which AGR occupies a different M-word to its host TAM head.<sup>20</sup> Because prosodic words are mapped from M-words in Turkish, full versus partial lowering, which yield M-words of different sizes, generate (nuclear)  $\omega$ s of different sizes. In cases of full lowering, the nuclear  $\omega$  contains AGR, whereas, in cases of partial lowering, the M-word that is mapped to the nuclear  $\omega$  does not contain AGR. This analysis not only explains why  $AGR_F$  morphemes, which may be lowered to the structurally-deepest  $v$  head, are subject to optional, variable prosodic parsing, but also explains why (i)  $AGR_C$  is always parsed outside of the nuclear  $\omega$  (it expones a M-word containing an outer  $v_{COP}$ , not the inner  $v$  head), and (ii) no variation in the prosodic parsing of AGR is observed outside of the verbal domain (as other domains, such as the nominal domain, do not contain TAMs that can undergo lowering).

### 5. Refuting Previous Accounts of Split $\omega$ -Formation in the Verbal Domain

In this section, I discuss the plausibility of some previous accounts of M-word formation in the verbal domain in Turkish and show that none is descriptively adequate. The first two

<sup>19</sup> In the nominal spine, I assume that complex M-words are created via head-raising in Turkish.

<sup>20</sup> Partial lowering does not affect the vocabulary-insertion into the stranded AGR head (i.e. it does not destroy the morphosyntactic context that is required to expone AGR) simply because, lowered or not, the host TAM will always be adjacent to a (non-)stranded AGR at the time that vocabulary-insertion into AGR takes place.

proposals I discuss, from Newell 2005; 2008 and Shwayder 2015, are representative of ‘raising accounts’ of Turkish verbal domains. By critiquing them, I show that any account that assumes v-to-TAM raising insufficiently captures the prosody of Turkish subject agreement data. The final proposal that I refute in section 5.2 was advanced by Skinner 2009. Although this proposal is similar to the current one in assuming that a postsyntactic lowering operation occurs in the verbal domain, I show that Skinner’s (2009) analysis makes incorrect predictions with respect to the novel data presented in this paper.

### 5.1. *Problems with TAM-Raising Accounts*

Unlike my proposal, the previous literature often assumes that the M-words which constitute the Turkish verbal domain are created exclusively in syntax by head-raising (Kelepir 2003; Newell 2008; Zanon 2014; and Shwayder 2015). The fact that verbal domains must often be split into two  $\omega$ s is attributed to lexical specifications of certain morphemes (i.e. *pre-stressing morphemes*), such as the copula, which somehow blocks lower heads raising into them, and therefore yield multiple M-words (from which  $\omega$ s are mapped).

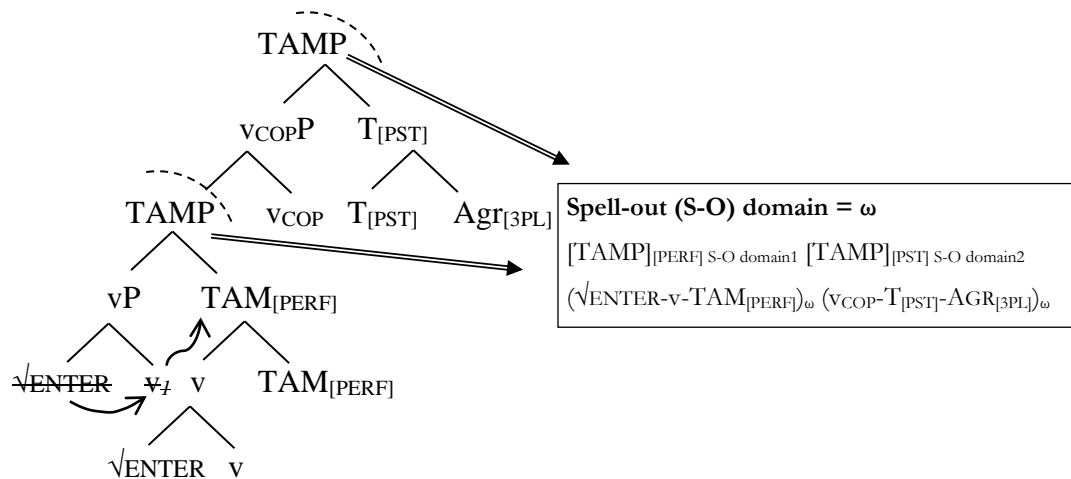
From a conceptual perspective, such accounts are immediately weakened by their appeal to the lexical specifications of morphemes, as this appeal is tantamount to stating generalizations over – but not deriving a deeper explanation for – the observed facts. While such generalizations are often extremely useful, they can only be useful if they accurately describe the dataset at hand. For the ‘TAM-raising’ accounts, this is not the case. Using Newell 2005; 2008, and Shwayder 2015 as exemplars, I will now show how both accounts are descriptively inadequate.

#### 5.1.1 Newell 2005, 2008 and Shwayder 2015

Newell (2005; 2008) claims that, although roll-up head-raising is otherwise ubiquitous in the Turkish verbal domain, it is halted by  $v_{COP}$  due to  $v_{COP}$ ’s selectional restrictions (Newell 2005:54). Newell also claims that  $v_{COP}$  is a phasal head whose complement, a TAMP, is Spelled-Out. In Newell’s system, the prosodic parser applies every time that Spell-Out occurs, and therefore this TAMP is mapped as a  $\omega$  that contains only the content of the TAMP. Any further suffixation of morphemes from higher Spell-Out domains cannot extend the  $\omega$  mapped from this TAMP: such morphemes obligatorily belong to a separate  $\omega$ . Newell’s proposal therefore captures the standard ‘split  $\omega$ ’ configuration exemplified in (50).

- (50) *Spell-out domain* =  $\omega$  (Newell 2005)  
 (Gir-miş) $_{\omega}$  (-Ø-ti-ler) $_{\omega}$   
 enter-PERF -COP-PST-3PL  
 ‘(They) had entered.’



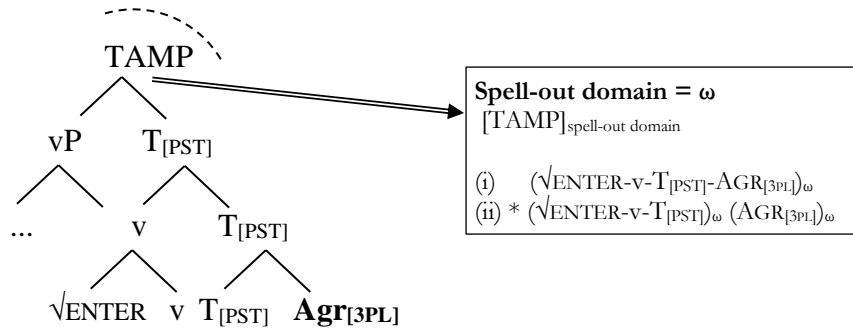


Newell's proposal is unable to explain why  $AGR_F$  morphemes can vary in their prosodic parsing. Because verbal fragments such as '*gir-di-ler*' (enter-PST-3PL) do not contain the copula verb (or any other "pre-stressing" morpheme), their Spell-Out domain will, according to Newell's proposal, always be the entire verbal domain. Because Spell-Out domains are purportedly mapped to  $\omega$ s, this yields the prediction that the fragment *girdiler* must be parsed as a single  $\omega$  (51a). In short, according to Newell's morphosyntax and mapping algorithm, single  $\omega$ -formation for *girdiler* is obligatory. But this is incorrect: as discussed in section 3, final- $AGR_F$  in such configurations can also be optionally parsed as independent  $\omega$ s, leading to a 'split  $\omega$ ' (51b).<sup>21</sup>

- (51) a. (Gir-di-ler)<sub>ω</sub>  
           enter-PST-3PL  
           ‘(They) entered.’  
       b. (Gir-di)<sub>ω</sub> (-ler)<sub>ω</sub>  
           enter-PST-3PL  
           ‘(They) entered.’

<sup>21</sup> An anonymous reviewer notes that Newell's analysis can account for the prosodic variation exemplified in (51a-b) if one assumes that (51b) contains a null copula verb between *-di* and *-ler*, whereas (51a) does not. While this would indeed derive the observed prosodic variation under Newell's account, this is an implausible solution, as there is no independent evidence for copula verbs being inserted between TAM heads and AGR in any known variety of Turkish. Rather, the consensus in the literature is that the copula verb is inserted solely to host TAM heads, and that AGR suffixes only to TAM heads and the Q-morpheme (Kelepir 2001, 2003, 2007; Sağ 2013).

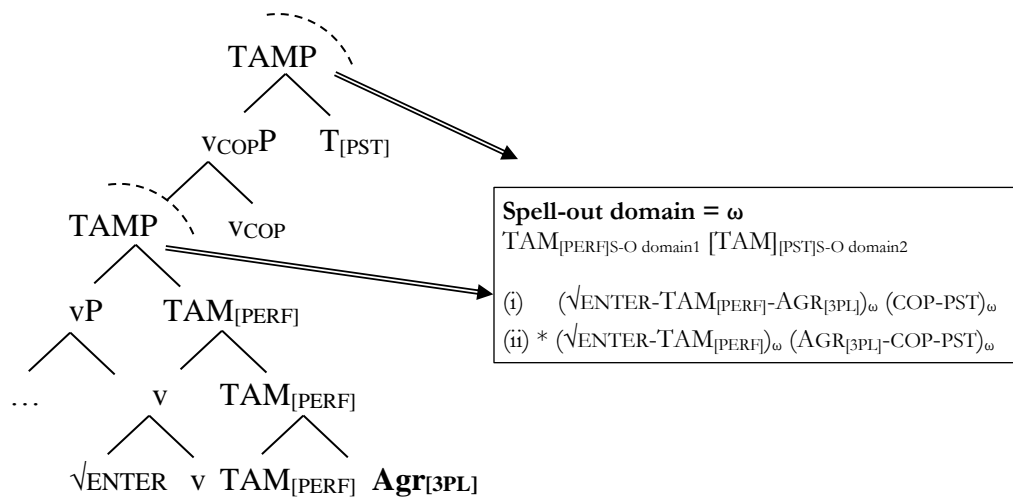
(52) *Predictions of Newell's (2005) analysis, applied to the medial-AGR case in (51)*



The inability of Newell's proposal to capture the variable prosodic realization of  $\text{AGR}_F$  also extends to configurations in which  $\text{vCOP}$  – allegedly a phase head and a trigger of Spell-Out – is observed. According to Newell, the variability exemplified in (53) should not be observed: only (53a) should be permitted. This is because  $\text{AGR}$  head-adjoins to  $\text{TAM}_{[\text{PERF}]}$ , which belongs in the lower Spell-Out domain. The parse in (53b) is predicted to be unattested because  $\text{AGR}$  cannot head-raise from  $\text{TAM}_{[\text{PERF}]}$  to  $\text{vCOP}$ , as  $\text{vCOP}$  is lexically specified to repel heads attempting to raise into it. Given that raising to  $\text{vCOP}$  is blocked in Newell's account, there is no other immediately available mechanism that enables  $\text{AGR}$  to escape the lower Spell-Out domain yielding (53b).

- (53) a. (Gir-miş-ler)<sub>ω</sub> (-Ø-di)<sub>ω</sub>  
           enter-PERF-3PL-COP-PST  
           ‘(They) have entered.’  
       b. (Gir-miş)<sub>ω</sub> (-ler-Ø-di)<sub>ω</sub>  
           enter-PERF-3PL-COP-PST  
           ‘(They) have entered.’

(54) *Predictions of Newell's (2005) analysis, applied to the medial-AGR case in (53)*



In terms of morphosyntax, Shwayder's (2015) analysis is identical to Newell's: head-raising is assumed to be ubiquitous in the Turkish verbal domain unless blocked by certain heads

(such as  $v_{\text{COP}}$ ) that are idiosyncratically specified to disallow head-raising into them. Shwayder's (2015) proposal differs from Newell's in proposing that  $\omega$ s are not mapped from Spell-Out domains in Turkish but are instead mapped from M-words (a proposal I endorse, see section 4.2). Because Shwayder adopts Newell's morphosyntax, his proposal suffers from the same shortcomings (i.e. an inability to capture variable parsing).

## 5.2 Skinner 2009

According to Skinner (2009), AGR is the projecting head of a Topic Phrase (TopP), which undergoes postsyntactic lowering onto the next head down. In configurations in which medial-AGR is optionally available, the head onto which Agr lowers is complex, consisting of at least C and T. In these configurations, a final-AGR pattern is obtained if Agr lowers to C, whereas the AGR-medial pattern is obtained if Agr lowers to T.

(55) a. git-ti -yse -m (adapted from Skinner 2009:102, ex.70)

go-PST -COND -1SG

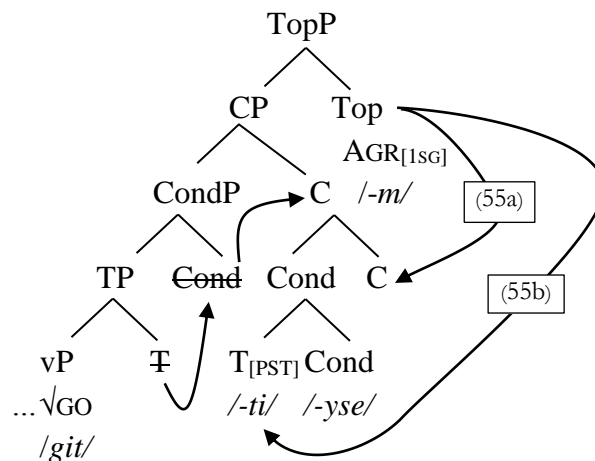
'If I went...'

b. git-ti -m -se

go-PST -1SG -COND

'If I went...'

c.



Skinner stipulates that no functional head H undergoes head-movement to T, which in turn prevents H from ending up as part of the complex head that includes C. Because head-lowering is strictly local, which means that TOP is restricted to lowering onto C (or somewhere within the complex head that includes C), this prevents H from hosting AGR. Seeing as TAM<sub>Z</sub> morphemes are exponents of Aspect heads, which are merged below T in the functional sequence, Skinner's analysis predicts that medial TAM<sub>Z</sub> morphemes can never host AGR. A concrete illustration of how Skinner's analysis works, wherein lowering to Aspect is blocked by intervening (complex) heads, is presented in (56).

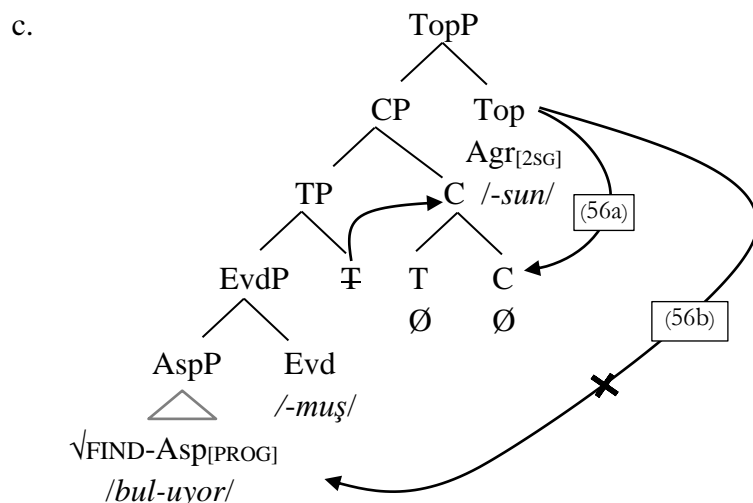
(56) a. bul -uyor-muş-sun

(adapted from Skinner 2009:103, ex.74)

find-PROG-EVD-2SG

'You are apparently finding...'

- b. \*bul-uyor-**sun** -muş  
 find-PROG-2SG-EVD  
 ‘You are apparently finding...’



Skinner’s analysis exhibits several shortcomings. From a distributional perspective, it incorrectly predicts that all medial TAM<sub>Z</sub> morphemes are unable to host AGR (the reality is that the 3PL form of AGR<sub>Z</sub> and all forms of AGR<sub>RZ</sub> can be realized verb-medially; recall the data presented in section 2.3). In its current form, the analysis also incorrectly precludes all cases of double-AGR. This is because Skinner’s analysis allows for AGR to be realized only once, as the exponent of Top. This problem could potentially be resolved by stipulating that double-AGR configurations contain an additional TopP projection immediately below T, but this remedy introduces a new problem, which is how then to prevent this ‘low’ TOP head from being expounded in configurations where it would yield unattested medial-AGR and double-AGR configurations.

Skinner’s analysis also makes a number of incorrect predictions about the prosody of the Turkish verbal complex. The first is exemplified in (57). According to Skinner’s analysis, T head-moves to C, whereas v never head-moves to T. This yields a morphosyntax for (57) in which V+v forms one complex head and T+C+COP+TAM+AGR forms another. Assuming that morphosyntax is mapped to prosody according to the MATCH-M-WORD-TO- $\omega$  rule in (38) in Turkish (see 4.2), this morphosyntax will yield the unacceptable parse in (57a), in which the lexical verb and the past tense morpheme are contained in different  $\omega$ s (see 4.2 for discussion).

(57) Prosodic parse of the sequence of v-T+COP+C+AGR

- a. Predicted to be acceptable by Skinner 2009

\* (Ara) <sub>$\omega$ -NP</sub> (-dı-i-se-niz) <sub>$\omega$</sub>   
 call -PST-COP-COND-2PL  
 ‘If you called...’

- b. Attested constituency

(Ara-dı) <sub>$\omega$ -NP</sub> (-i-se-niz) <sub>$\omega$</sub>   
 call-PST -COP-COND-2PL

Secondly, like Newell's and Shwayder's raising accounts, Skinner's (2009) analysis fails to capture the variable prosodic parse of  $AGR_F$ . Regardless of whether  $AGR$  lowers to  $T$  or  $C$ , it will be always contained within the same  $M$ -word as  $T$  under Skinner's analysis, and hence within the same  $\omega$  as  $T$ . The optional exclusion of  $AGR$  from the  $\omega$  containing  $T$  cannot be explained while upholding Skinner's assumptions about Turkish morphosyntax. What is more, even an attested parse such as (58b), in which  $AGR$  and  $T$  are contained in the same  $\omega$ , is predicted to be unavailable by Skinner's morphosyntax, as the verbal domain (in this case,  $\sqrt{MAKE-CAUS-PASS}$ ) and the tense domain ( $T+C+AGR$ ) are expected to be parsed as two separate  $M$ -words.

(58) a. *variable parse of  $AGR$  –  $AGR$  is out of the  $\omega$  of  $T$  – banned in Skinner 2009*

(yap-tır-ıl-dı) <sub>$\omega$ -NP</sub> (-niz) <sub>$\omega$</sub>   
 make-CAUS-PASS-PST -2PL  
 'You have been made.'

b. *variable parse of  $AGR$  – all within a single  $\omega$  - banned in Skinner 2009*

(yap-tır-ıl-dı-niz) <sub>$\omega$ -NP</sub>  
 make-CAUS-PASS-PST-2PL  
 'You have been made.'

## 6. Conclusion

In this paper I provided a unified analysis of subject agreement in Turkish, focusing on an extensive data that highlights that the morphosyntactic and prosodic distribution of Turkish subject agreement is more complex than previously reported. I showed that a subset of agreement morphemes in the verbal domain (which I called  *$AGR_F$  morphemes*) can occur both verb-finally and verb-medially, and that the morphosyntactic environments that allow medial realisation of agreement also allow double realisation (i.e. both medial and final agreement simultaneously). Additionally, I showed that those agreement morphemes that may receive medial/double realisation are also subject to variation in the way that they are realized prosodically: they may either be contained with the leftmost prosodic word in the verbal domain or be parsed as outside of this prosodic word.

The analysis I offered in this paper derives the reported distributional and prosodic complexity via certain well-motivated postsyntactic and prosodic operations. In particular, I argued for the idea that (i) subject agreement can be (and *is* in Turkish) a *dissociated morpheme*, which postsyntactically adjoins to Tense, Aspect, Mood/Modality heads, and that (ii) a subpart of a complex syntactic head can undergo postsyntactic lowering (entailing that, in addition to standard full lowering, the language system makes use of what I called *partial lowering*). My analysis comprised articulated characterizations of (i) the morphosyntax of the Turkish verbal complex, (ii) the Vocabulary Insertion rules for the subject agreement paradigms of the Turkish verbal domain, (iii) the phonological conditioning on the allomorphs that realize Turkish subject agreement, and (iv) how prosodic structure is mapped from morphosyntax in Turkish. With regards to prosody, I critiqued four alternative explanations of prosodic word formation in the Turkish verbal complex, some of which have been offered in

the previous literature for a subset of the data discussed in this paper. I showed that, once the broader range of facts about Turkish subject agreement is taken into consideration, these analyses become untenable.

More generally, this paper should be viewed as a sustained argument for the idea that complexity in a morphosyntactic paradigm stems not from the core linguistic system but from Vocabulary Insertion rules, which, as memorized phenomena, are idiosyncratic and likely to vary across different groups of speakers. By tackling the prosody of Turkish subject agreement, the article also provides support for modern syntax-prosody mapping theories, according to which prosodic structures are highly faithful to the output of postsyntactic operations, and advancements to certain postsyntactic morphological operations, i.e. full versus partial lowering. In short, this article not only advances our knowledge of the verbal domain in a paradigmatic agglutinative language, but also develops and endorses new tools for morphosyntactic and prosodic analysis.

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