The realization of agreement in the Turkish verbal domain

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Abstract. Different realizations of the agreement morpheme in the Turkish verbal domain have been argued to signal differences in the underlying syntax. Concretely, Kornfilt (1996) has proposed that verbs with agreement markers from the *z*-paradigm contain a silent copula whereas those with *k*-paradigm agreement do not. This paper is concerned with yet another, understudied agreement paradigm – the reduced *z*-paradigm – and investigates how it fits into the dichotomy posited by Kornfilt. I find that the new forms have mixed properties and do not pattern clearly with either of the two older sets of verbs. In response, I propose that the syntactic distinction between verbs that do and verbs that do not contain a copula is being levelled in diachronic development, and I develop an analysis of how contemporary grammars encode the distinct properties of the three sets of verbs.

Keywords. agreement; allomorphy; simple and participial tenses; Turkish

1. Introduction. Subject-verb agreement in Turkish has long been reported to surface in two different paradigms, known as the *k*- and the *z*-paradigm. Which of the two surfaces is determined by the preceding TAM (tense/aspect/mood) morpheme. For instance, the past tense morpheme *-DI* is followed by the *k*-paradigm (1-a), whereas the progressive marker *-Iyor* requires the *z*-paradigm (1-b):

(1) a. gel-**di-k**
come-**PAST-1PL**
root-**TAM$_k$-Agr$_k$**
'we came'

b. gel-**iyor-uz**
come-**PROG-1PL**
root-**TAM$_z$-Agr$_z$**
'we are coming'

In an influential paper, Kornfilt (1996) has argued that verbs with *k*-agreement and those with *z*-agreement differ in their underlying structure. Concretely, TAM markers such as progressive *-Iyor* in (1-b) are participial tenses which must be followed by a silent copula in order to be used in finite contexts. Agreement morphemes from the *z*-paradigm inflect this copula and then cliticize onto the participle. In contrast, TAM markers such as past tense *-DI* in (1-a) are simple tenses which are directly inflected by agreement markers from the *k*-paradigm. Kornfilt shows that this analysis correctly predicts a range of diverging properties of the two sets of verbs.

In addition to the *k*- and *z*-paradigm, Erdem-Akşehirli (2018); Göksel (2010); Güneş (2020, 2021) have recently documented a third agreement paradigm, the reduced *z*-paradigm, following yet another set of TAM markers, as seen in (2):

(2) gel-**ece-z**
come-**FUT-1PL**
root-**TAM$_{rz}$-Agr$_{rz}$**
'we will come'

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The reduced *z*-paradigm is colloquial and largely limited to spoken language. While it has only been documented in the 21st century, this does thus not preclude that it dates further back. I nevertheless assume in the following that it has developed more recently than the *k*- and the *z*-paradigm, which are already attested for Ottoman Turkish (Redhouse 1884) and whose origins have been traced back to Old Turkic (e.g., Good & Yu 2005).

The question pursued in this paper is whether verbs such as (2), which were not documented in Kornfilt's (1996) original paper, should be analzyed as simple or participial forms. To this end, I apply Kornfilt's diagnostics to this new set of verbs, drawing partly on data reported in earlier work by Güneş (2020, 2021). The result is, crucially, mixed: the new verbs pattern with simple tenses with respect to some diagnostics and with participial tenses with respect to others. To accommodate this finding, I argue that the syntactic distinction posited by Kornfilt has broken down, or is in the process of breaking down, in diachronic development. Verbs with *k*-agreement and verbs with *z*-agreement did, at some point in the history of Turkish, differ in their syntactic structure and therefore had different properties, but this is not how speakers of contemporary Turkish encode these facts.

Instead, I propose a new analysis of the three agreement paradigms as contextual allomorphs. Affixes from different paradigms thus differ from each other in their morphophonological realization but not in their underlying syntax. This contrasts not only with Kornfilt (1996) but also with other earlier approaches which have posited that the different paradigms correspond to different syntactic structures (Bobaljik 2000; Good & Yu 1999, 2005; Güneş 2020, 2021). I show that the novel reduced *z*-paradigm constitutes a hybrid of the *k*- and the *z*-paradigm, combining properties of each of the two other sets of morphemes in terms of its morphophonological shape, in terms of its distribution and in terms of Kornfilt's diagnostics. As for the latter, I argue that they are determined not by the presence of a silent copula but are sensitive to either the morphosyntactic features of the TAM morpheme or the morphophonological shape of the agreement morpheme.

On a methodological note, the new data reported in this paper are based on systematic consultation of a wide range of native speakers. Part of the evidence was collected in in-depth interviews with 21 informants that I conducted over the course of two months with the help of a Turkish-speaking research assistant. The informants were selected so as to cover a wide variety of ages, socioeconomic backgrounds and regional dialects; all grew up in Turkey and all but four of them still lived there at the time of the interviews. A few other data points were collected later and equally confirmed and reconfirmed by several speakers, and yet others come from examples sourced from videos and forums online. At some points, judgments show inter-speaker variation, which I report wherever applicable.

I proceed as follows. Section 2 introduces the three agreement paradigms and their distribution, partly based on new empirical findings. Section 3 develops the allomorphy analysis and establishes the hybrid status of the reduced *z*-paradigm. In Section 4, I then engage with Kornfilt's earlier work and argue that the distinction between simple and participial tenses is undercut by the mixed behavior of the reduced *z*-paradigm. Section 5 concludes.

2. Data. The three agreement paradigms in the Turkish verbal domain are presented below, together with the contexts in which they have been reported to by licensed by Güneş (2020, 2021):

(3) *k*-paradigm agreement morphemes

	Singular	**Plural**
First	*-m*	*-k*
Second	*-n*	*-nIz*
Third	∅	*-lEr*

(4) TAM morphemes preceding the *k*-paradigm
-DI – past (PAST)
-sE – conditional (COND)

(5) *z*-paradigm agreement morphemes[1]

	Singular	**Plural**
First	*-(y)Im*	*-(y)Iz*
Second	*-sIn*	*-sInIz*
Third	∅	*-lEr*

(6) TAM morphemes preceding the *z*-paradigm
-Iyor – progressive (PROG)
-(y)EcEk – future (FUT)
-Er – aorist (AOR)
-mIş – evidential (EVID)

(7) Reduced *z*-paradigm agreement morphemes

	Singular	**Plural**
First	*-m*	*-z*
Second	*-n*	*-nIz*
Third	∅	*-lEr*

(8) TAM morphemes preceding the reduced *z*-paradigm
-Iyo – progressive (PROG)
-(E)cE – future (FUT)[2]

I use the terms Agr_k (3), Agr_z (5) and Agr_{rz} (7) for the different agreement paradigms. These labels should be understood to exclude the null 3SG morpheme as well as the 3PL morpheme *-lEr* which is syncretic across all three paradigms. The distribution of third-person agreement, being trivial, will not concern us in the following. I refer to the three sets of TAM morphemes which license the different paradigms as TAM_k (4), TAM_z (6) and TAM_{rz} (8).

The new data I collected confirm the above picture partially. The results are summarized in (9); each cell indicates the acceptability of the TAM morpheme on the y-axis followed by the agreement morpheme on the x-axis.

(9)

	Agr_k	Agr_z	Agr_{rz}
TAM_k	A: ✓	B: *	C: *
TAM_z	D: *	E: ✓	F: *
TAM_{rz}	G: %	H: ✓	I: ✓

The diagonal cells A, E and I correspond to the morpheme combinations previously reported to be acceptable – TAM_k-Agr_k, TAM_z-Agr_z and TAM_{rz}-Agr_{rz} –, which was unsurprisingly confirmed by my informants. Equally unsurprisingly, sequences of TAM_k-Agr_z (10) and TAM_k-Agr_{rz} (11) were rejected:

[1] The glide at the onset of the first person agreement morphemes of the *z*-paradigms surfaces only after a vowel.
[2] As indicated by the bracketing, speakers use both *-EcE* and the further reduced form *-cE*. All examples in the following use *-EcE*; I am not aware of any differences between *-EcE* and *-cE* verbs.

(10) a. *gel-di-siniz
come-PAST-2PL
root-**TAM$_k$**-**Agr$_z$**
'you (pl.) came'

b. *at-ar-sa-yım
throw-AOR-COND-1SG
root-TAM$_z$-**TAM$_k$**-**Agr$_z$**
if I throw

(11) a. *gel-di-z
come-PAST-1PL
root-**TAM$_k$**-**Agr$_{rz}$**
'we came'

b. *bırak-tı-ysa-z
leave-PAST-COND-1PL
root-TAM$_k$-**TAM$_k$**-**Agr$_{rz}$**
'if we left'

TAM$_{rz}$-Agr$_k$ sequences (cell G) can only be tested for 1PL due to the syncretism between Agr$_k$ and Agr$_{rz}$. Agr$_k$ was accepted by many speakers after the progressive TAM$_{rz}$ morpheme *-Iyo* (12-a). These forms were consistently perceived as dialectal and associated with the Black Sea region. On the other hand, Agr$_k$ following the future TAM morpheme *-EcE* was rejected (12-b). This might be due to the fact that the resulting string is homophonous with the 3SG form in (12-c) in which the final velar is parsed as part of the TAM$_z$ morpheme *-EcEk* while Agr is null.

(12) a. %bul-uyo-k
find-PROG-1PL
root-**TAM$_{rz}$**-**Agr$_k$**
'we are finding'

b. *at-**aca-k**
throw-FUT-1PL
root-**TAM$_{rz}$**-**Agr$_k$**
'we will throw'

c. at-**acak**-∅
throw-FUT-**3SG**
root-**TAM$_z$**-Agr
's/he will throw'

Next, combinations of TAM$_{rz}$ and Agr$_z$ morphemes such as (13) are licensed (cell H), contrary to Güneş (2020, 2021):

(13) oyn-uyo-sunuz
play-PROG-2PL
root-**TAM$_{rz}$**-**Agr$_z$**
'you (pl.) are playing'

Two independently motivated confounds apply. First, TAM$_{rz}$ *-Iyo* cannot surface before first person Agr$_z$ markers (14-a) due to an interference effect from the similar form (14-b). The Agr$_z$ morphemes 1SG *-(y)Im* and 1PL *-(y)Iz* both surface with an initial glide if the preceding morpheme ends on a vowel, as after progressive *-Iyo*. This glide is perceived as a mispronunciation of the tap at the end of *-Iyor* in the semantically identical TAM$_z$-Agr$_z$ form in (14-b), resulting in (14-a) being rejected on these grounds.

(14) a. *bul-uyo-**y**um
find-PROG-1SG
root-**TAM$_{rz}$**-Agr$_z$
'I am finding'

b. bul-uyo**r**-um
find-PROG-1SG
root-**TAM$_z$**-Agr$_z$
'I am finding'

Secondly, the TAM$_{rz}$ future tense morpheme *-EcE* is sometimes only licensed before Agr$_z$ if its second vowel is realized as long and rejected otherwise (15):

(15) a. gid-ec**ē**-sin
go-FUT-2SG
root-**TAM$_{rz}$**-**Agr$_z$**
'you (sg.) will go'

b. %gid-ec**ĕ**-sin

However, the same effect can be observed in standard TAM_{rz}-Agr_{rz} verbs (16):

(16) a. at-ac**ā**-z
throw-FUT-1PL
root-**TAM_{rz}-Agr_{rz}**
'we will throw'
b. %at-ac**ă**-z

For reasons of space, I cannot discuss these restrictions on vowel length in detail;[3] for our purposes, it suffices to note that this issue is independent of the paradigm of the following agreement morpheme. Overall, sequences of TAM_{rz} and Agr_z morphemes are thus licensed as long as these two confounds are controlled for.

Finally, TAM_z cannot be followed by Agr_k or Agr_{rz} (cells D and F). Some of these forms might be ruled out phonotactically due to illegal consonant clusters word-finally as in (17):

(17) a. *gid-iyo**r-m**
go-PROG-1SG
root-TAM_z-$Agr_{k/rz}$
'I am going'
b. *bul-uyor-mu**ş-k**
find-PROG-EVID-1SG
root-TAM_z-Agr_k
'we are apparently finding'

However, the 2PL Agr_k/Agr_{rz} morpheme *-nIz* should phonotactically be able to follow TAM_z morphemes; nevertheless, such forms are rejected (18):

(18) a. */??gel-ecek-**niz**
come-FUT-2PL
root-TAM_z-$Agr_{k/rz}$
'you (pl.) will come

b. */??gid-iyor-**nuz**
go-PROG-2PL
root-TAM_z-$Agr_{k/rz}$
'you (pl.) are going'

While most informants rejected these forms, a few found them marginal, reporting that they could perhaps surface in slurred speech. Many had difficulties perceiving them correctly, mishearing the Agr_k/Agr_{rz} morpheme *-nIz* either as the Agr_z morpheme *-sInIz* or as an intermediate

[3] This vowel length variation arguably relates to the k-to-zero alternation, a regular phonological rule of Turkish which deletes or softens morpheme-final [k] under certain circumstances (e.g., Denwood 2002; Ünal-Logacev et al. 2019; Zimmer & Orgun 1999). Since the alternation affects the length of the vowel preceding the velar, the data reported above might suggest that the TAM_{rz} morpheme *-EcE* is simply the output of the TAM_z morpheme *-EcEk* undergoing the k-to-zero alternation, as opposed to an independent morpheme. This might then also account for the restrictions on the distribution of *-EcE* noted later in Section 4. However, note that the choice between *-EcEk* and *-EcE* has genuine morphological consequences, in that the latter but not the former can be followed by Agr_{rz} morphemes and in that the two TAM morphemes induce a different ordering of the question marker *-mI*. Assuming that morphology – allomorphy selection and affix ordering – precedes phonology, these facts could not be accounted for. I thus argue that *-EcE* does have its roots in the k-to-zero alternation applying to *-EcEk* but that the output of this alternation has been morphologized in diachronic development and now constitutes an independent lexical item. For reasons of space, I must leave a further investigation of these matters to future work.

form, *-InIz*. The latter was often found moderately acceptable following evidential *-mIş* (19-a) but degraded following other TAM_z morphemes (19-b):

(19) a. %bul-uyor-muş-**unuz**
find-PROG-EVID-2PL
root-TAM_z-**Agr**
'you (pl.) are apparently finding'

b. */??bul-uyor-**unuz**
find-PROG-2PL
rot-TAM_z-**Agr**
'you (pl.) are finding'

Following *-mIş*, informants also reported the intermediate form *-In* (Agr_k/Agr_{rz}: *-n*, Agr_z: *-sIn*), again perceived as degraded after other TAM_z morphemes:

(20) a. %bul-uyor-muş-**un**
find-PROG-EVID-2SG
'you (sg.) are apparently finding'

b. *ok-ur-**un**
read-AOR-2S
'you (sg.) read'

In sum, sequences of TAM_z and Agr_k/Agr_{rz} morphemes are never considered straightforwardly acceptable, even if not ruled out on phonotactic grounds. I argue that what is accepted reluctantly is an acoustic reduction of TAM_z-Agr_{rz}, which is perceived only with difficulty, judged only marginally acceptable and attributed to fast and careless speech. This reduction is gradient, giving rise to the intermediate forms *-In*/*-InIz*, and also appears to be sensitive to phonological factors, in that the sibilant at the beginning of the second person agreement morphemes *-sIn*/*-sInIz* is more likely to be reduced after the sibilant at the end of the TAM morpheme *-mIş*. Morphotactically, TAM_z cannot be followed by Agr_k and Agr_{rz} morphemes.

To summarize, the new findings on the distribution of the three agreement paradigms differ from what has previously been reported by Güneş (2020, 2021) in two ways. First, Agr_k morphemes can follow the progressive TAM_{rz} morpheme *-Iyo* in some dialects. Secondly, Agr_z can follow TAM_{rz} while the opposite – Agr_{rz} following TAM_z – is not licensed. We now turn to the analysis of these results.

3. Analysis: Allomorphy and hybridity. I propose to analyze the three agreement paradigms as contextual allomorphs, and the full and reduced *z* variants of the progressive and future TAM morphemes (TAM_z *-Iyor*, *-EcEk* / TAM_{rz} *-Iyo*, *-EcE*) as allomorphs in free variation. I thus do not subscribe to the view that Agr_{rz} and TAM_{rz} morphemes are simply phonological or phonetic variants of Agr_z and TAM_z morphemes, an intuition held by some native speakers based on the fact that the former are identical to the latter except for being one or two segments short. Since there are no regular phonological rules in Turkish which could generate the former from the latter, Agr_{rz} and TAM_{rz} morphemes would have to be regarded as mere acoustic reductions of Agr_z and TAM_z. However, this does not account for their restricted distribution; in particular, it does not explain why sequences of TAM_z-Agr_{rz} morphemes are disallowed even if phonotactically licit, whereas TAM_{rz}-Agr_z verbs are allowed. Moreover, acoustic reduction could derive a wide variety of strings, which would make the fact that speakers consistently produce and accept forms which are identical to Agr_k in three out of four person/number combinations an odd coincidence. Finally, we will see in Section 4 that TAM_z-Agr_z and TAM_{rz}-Agr_{rz} verbs differ with respect to the placement of the question marker *-mI*, which again does not fall out if the difference between the two sets of morphemes is located at the level of phonetics. Hence, I regard the different variants of TAM and agreement morphemes as independently stored lexical items.

More concretely, I propose that the three agreement paradigms, analyzed as contextual allomorphs, surface under the conditions outlined in (21):[4]

(21) a. Agr_k is inserted after a morpheme with PAST, COND or (in some dialects) PROG features and which ends on a vowel;
b. Agr_z is inserted after a morpheme with PROG, FUT, AOR or EVID features;
c. Agr_{rz} is inserted after a morpheme with PROG, FUT, AOR or EVID features and which ends on a vowel.

In a Distributed Morphology framework (DM; Halle & Marantz (1993, 1994)), these conditions on insertion can be expressed using the spell-out rules in (22), demonstrated here for 1PL agreement:

(22) a. 1PL $\rightarrow$ *-k*/{PAST, COND, (PROG)} and V_
b. 1PL $\rightarrow$ *-Iz*/{PROG, FUT, AOR, EVID}
c. 1PL $\rightarrow$ *-z*/{PROG, FUT, AOR, EVID} and V_

Note that although the spell-out rule in (22-c) is more specific than the one in (22-b), they are not in competition but in free variation. In contexts which meet either specification, both Agr_{rz} and Agr_z can surface (23):

(23) a. oyn-**uyo**-**nuz**
play-PROG-2PL
root-**TAM_{rz}**-**Agr_{rz}**
'you (pl.) are playing'

b. oyn-**uyo**-**sunuz**
play-PROG-2PL
root-**TAM_{rz}**-**Agr_z**
'you (pl.) are playing'

The crucial intuition expressed in (21) is that while all three paradigms impose morphosyntactic restrictions on the preceding TAM morpheme, only Agr_k and Agr_{rz} morphemes also impose morphophonological restrictions in that they must follow a vowel. As for Agr_k, it can follow the progressive TAM_{rz} marker *-Iyo* in some dialects but not TAM_z *-Iyor*. Since the two TAM morphemes are morphosyntactically identical, Agr_k must be sensitive to their morphophonological features. By the same token, Agr_{rz} can follow progressive TAM_{rz} *-Iyo* and future TAM_{rz} *-EcE*, but not the corresponding TAM_z morphemes *-Iyor* and *-EcEk*, again selecting for an open syllable. In this way, we derive the asymmetry between Agr_{rz} and Agr_z observed above: the former cannot follow TAM_z since it must be preceded by a vowel (24-a); the latter can follow TAM_{rz} since it is indifferent about the morphophonological shape of the preceding TAM morpheme (24-b), caring only about its morphosyntactic features.

[4] In addition, Agr_z morphemes also surface on verb-less nominal (i-a) or adjectival (i-b) predicates:

(i) a. öğretmen-im
teacher-1SG
root-**Agr_z**
'I am a teacher'

b. hasta-yım
sick-1SG
root-**Agr_z**
'I am sick'

Depending on the analysis given for such examples, Agr_z would thus additionally be licensed after copular *v* or a silent [+pres] tense head. Since our focus here is on the verbal domain, I will not discuss these matters in more detail.

(24) a. */??gel-ecek-niz
come-FUT-2PL
root-**TAM$_z$-Agr$_{rz}$**
'you (pl.) will come'

b. oyn-uyo-sunuz
play-PROG-2PL
root-**TAM$_{rz}$-Agr$_z$**
'you (pl.) are playing'

Note that the distribution in (21) lists EVID and AOR among the features licensing Agr$_{rz}$ although the latter has only been observed following PROG and FUT. Since Agr$_{rz}$ must follow a vowel and since EVID and AOR have no realization ending on a vowel, including them in (22-c) is vacuous. What it achieves is highlight the symmetry between Agr$_z$ and Agr$_{rz}$ morphemes in that both are licensed in the same morphosyntactic environments. At the same time, Agr$_{rz}$ is licensed in the same morphophonological environments as Agr$_k$ in that both must follow a vowel. Overall, Agr$_{rz}$ thus shares properties with both other paradigms in terms of its distributional requirements as summarized in (25); circled cells signal shared properties.

(25)

	Agr$_z$	Agr$_{rz}$	Agr$_k$
MS	PROG, FUT, AOR, EVID	PROG, FUT, AOR, EVID	PAST, COND (PROG)
MP	/	open syllable	open syllable

At the same time, Agr$_{rz}$ also bears similarities to both other paradigms in terms of its morphophonological shape, being identical to Agr$_k$ in three out of four person/number combinations but also being identical to Agr$_z$ except for missing one or two segments. These relations are summarized in (26); solid lines signal identical, dotted lines similar forms.

(26)

	Agr$_z$	Agr$_{rz}$	Agr$_k$
1SG	*-(y)Im*	*-m*	*-m*
2SG	*-sIn*	*-n*	*-n*
1PL	*-(y)Iz*	*-z*	*-k*
2PL	*-sInIz*	*-nIz*	*-nIz*

Overall, Agr$_{rz}$ morphemes can thus be considered hybrids of Agr$_k$ and Agr$_z$ morphemes, inheriting properties from each set of forms. Equally, TAM$_{rz}$ are hybrids of TAM$_k$ and TAM$_z$, instantiating the same set of morphosyntactic features as a subset of the latter (progressive and future) while also having the same open syllable shape as the former.

4. Simple, participial and hybrid tenses. Against the background of the allomorphy analysis developed above, this section now revisits a competing proposal by Kornfilt (1996), who has argued that TAM$_k$-Agr$_k$ and TAM$_z$-Agr$_z$ verbs differ in their underlying syntactic structure. Under her analysis, TAM$_z$ morphemes are participial tenses which must be followed by a silent copula (27-a). This copula is inflected by Agr$_z$, which cliticizes onto the participle. In contrast, TAM$_k$ morphemes are analyzed by Kornfilt as simple tenses which are directly inflected by the copula (27-b).

(27) a. gel-**ecek** ∅-siniz
come-**FUT COP**-2PL
root-**TAM$_z$ COP**-Agr$_z$
'you (pl.) are coming'

b. gel-**di**-niz
come-**PAST**-2PL
root-**TAM$_k$**-Agr$_k$
'you (pl.) came'

In an implementation of Kornfilt's analysis, Kelepir (2001) has argued that TAM$_k$ morphemes realize T whereas TAM$_z$ tenses correspond to a lower Asp head which must be supplemented by a copula in T to build a complete verbal domain.

This analysis correctly derives a number of contrasts between TAM$_k$-Agr$_k$ and TAM$_z$-Agr$_z$ verbs.[5] First, TAM$_z$ (28-a) but not TAM$_k$ verbs (28-b) can be used as modifying participles in the nominal domain:

(28) a. kitab-ı oku-**yacak** kız
book-ACC read-**FUT** girl
'a girl who will read the book'

b. *oku-**du** kişi
read-**PAST** person
'the person who has read'
(Kornfilt 1996:112)

An exception to this generalization is the progressive TAM$_z$ marker *-Iyor* which does not license a participial use (29):

(29) *oku-**yor** kişi
read-**PROG** person
'the person who is reading'

Furthermore, TAM$_z$ but not TAM$_k$ morphemes can be followed by the negation marker *-değil* (30) and the epistemological copula *-DIr* (31), both of which, Kornfilt argues, require a nominal, i.e., participial complement:

(30) a. gid-**ecek değil**-im
go-**FUT NEG**-1SG
'I will not go'

b. *git-**ti değil**-im
go-**PAST NEG**-1SG
'I did not go'

(Kornfilt 1996:105)

[5] In addition to Kornfilt's diagnostics, Good & Yu (1999, 2005); Güneş (2020, 2021) have claimed that the different paradigms also differ in their ordering properties. Concretely, they maintain that in verbs with two or more TAM morphemes, Agr$_k$ and Agr$_{rz}$ but not Agr$_z$ morphemes can surface between two TAM morphemes, with judgments reported as in (i):

(i) a. gel-di-**k**-se
come-PAST-**1PL**-COND
root-TAM-**Agr**-TAM
'if we came'

b. gel-ece-**z**-di
come-FUT-1PL-PAST
root-TAM$_{rz}$-**Agr$_{rz}$**-TAM$_k$
'we will have come'

c. *gel-iyor-**uz**-du
come-PROG-1PL-PAST
root-TAM$_z$-**Agr$_z$**-TAM$_k$
'we were coming'

However, in extensive work with informants, I could not replicate this empirical claim. Medial agreement as in (i), as well as double agreement not discussed here, is subject to rampant variation both within and between speakers without any discernible patterns. Their acceptability is not categorically determined by the paradigm of the agreement morpheme; for instance, one of my informants accepted 5 out of 6 medial Agr$_z$ agreement forms such as (i-c) which they were presented – forms previously reported to be fully unavailable –, another 6 out of 10, and yet another 7 out of 8. Medial and double agreement raise intriguing questions but those are orthogonal to the nature of the different agreement paradigms which this paper is concerned with.

(31) a. gid-**ecek**-**tir**
go-**FUT**-**EPIST**
'she will definitely leave'

b. *git-**ti**-**dir**
go-**PAST**-**EPIST**
'she definitely left'

(Kornfilt 1996:108)

The next piece of evidence comes from the phenomenon of suspended affixation, in which a single affix scopes over multiple members of a conjunction. According to Kornfilt, verbs ending on TAM_z (32-a) but not those ending on TAM_k (32-b) morphemes are licensed as affix-less first conjuncts in suspended affixation contexts. This is because the former but not the latter are independent words, i.e., participles.[6]

(32) a. oku-**yacak** ve anla-**yacak**-**sın**
read-**FUT** and understand-**FUT**-**2SG**
'you (sg.) will read and understand'

b. *oku-**du** ve anla-**dı**-**n**
read-**PAST** and understand-**PAST**-**2SG**
'you (sg.) read and understood'

(Kornfilt 1996:110)

Yet another difference concerns the polar question marker *-mI*, which surfaces between TAM_z and Agr_z (33) but after Agr_k (34):

(33) a. gel-ecek-**mi**-siniz
come-FUT-**Q**-2PL
'Will you (pl.) go?'

b. ??/*gel-ecek-siniz-**mi**
come-FUT-2PL-**Q**
'Will you (pl.) go?'

(34) a. git-ti-niz-**mi**
go-PAST-2PL-**Q**
'Did you (pl.) go?'

b. *git-ti-**mi**-niz
go-PAST-**Q**-2PL
'Did you (pl.) go?'

(Kornfilt 1996:106)

Finally, Agr_z morphemes are obligatorily prestressing (35) whereas Agr_k morphemes are, if syllabic – i.e., in the second person plural – only optionally prestressing (36):

(35) a. gel-**ecék**-siniz
come-FUT-2PL
'you (pl.) will come'

b. *gel-ecek-**siníz**

(36) a. gel-**dí**-niz
come-PAST-2PL
'you (pl.) came'

b. gel-di-**níz**

Kabak & Vogel (2001) have argued that this contrast falls out naturally if (35) but not (36) contains a copula, since the latter morpheme can independently be shown to be prestressing. To summarize, TAM_k-Agr_k and TAM_z-Agr_z verbs systematically differ from each other with respect to a number of properties. These contrasts follow elegantly from Kornfilt's analysis whereas the present proposal so far has nothing to say about them.

[6] Judgments on suspended affixation are notoriously unstable, and the judgments in (32) were only partially confirmed by my informants. I assume that the contrast in (32) is real for at least some speakers, but that suspended affixation is subject to additional constraints and complications which are beyond the scope of this paper.

However, Kornfilt's analysis has an empirical gap in that ir does not deal with TAM_{rz} and Agr_{rz} morphemes. In the following, I apply the diagnostics to these novel forms. First, the progressive TAM_{rz} morpheme *-Iyo* but not the future TAM_{rz} morpheme *EcE* can be followed by *değil* (37). Similarly, my informants accepted *-DIr* following *-Iyo* whereas most rejected it after *-EcE*, only a few finding it acceptable as a dialectal form (38).

(37) a. gid-**iyo** **değil**-im
go-**PROG** **NEG**-1SG
'I am not going'
b. *gid-**ece** **değil**-im
go-**FUT** **NEG**-1SG
'I will not go'

(38) a. gid-**iyo**-**dur**
go-**PROG**-**EPIST**
'she is definitely leaving'
b. %gid-**ece**-**dir**
go-**FUT**-**EPIST**
'she will definitely leave'

Since the progressive TAM_z morpheme *-Iyor* cannot be used as a participial modifier, TAM_{rz} unsurprisingly cannot either (39-a). The same holds for future *-EcE* (39-b).

(39) a. *oku-**yo** kişi
read-**PROG** person
'the person who is reading'
b. *kitab-ı oku-**yaca** kız
book-ACC read-**FUT** girl
'the girl who will read the book'

Suspended affixation was accepted for progressive *-Iyo* (40-a) but only marginally for some speakers for future *-EcE* (40-b):

(40) a. gid-**iyo** ve gör-**üyo**-z
come-**PROG** and see-**PROG**-1PL
'we are coming and seeing'
b. */?gel-**ece** ve gid-**ece**-niz
come-**FUT** and leave-**FUT**-2PL
'you (pl.) will come and leave'

Both with *-Iyo* and *-EcE*, the question marker *-mI* must surface word-finally, as reported by Güneş (2020, 2021):

(41) a. gel-iyo-nuz-**mu**
come-PROG-2PL-**Q**
'are you (pl.) coming?'
b. *gel-iyo-**mu**-nuz

(42) a. gel-ece-niz-**mi**
come-FUT-2PL-**Q**
'will you (pl.) come?'
b. *gel-ece-**mi**-niz

Lastly, Agr_{rz} morphemes are only optionally prestressing both after *-Iyo* (43) and after *-EcE* (44) (Güneş 2020, 2021):

(43) a. gel-**iyó**-nuz
come-PROG-2PL
'you (pl.) are coming'
b. gel-iyo-**núz**

(44) a. gel-**ecé**-niz
come-FUT-2PL
'you (pl.) will come'
b. gel-ece-**níz**

The results are summarized in (45). In short, TAM_{rz}-Agr_{rz} verbs pattern partly with TAM_k-Agr_k, partly with TAM_z-Agr_z verbs.

(45)

	TAM_k	TAM_{rz}: *-EcE*	TAM_{rz}: *-Iyo*	TAM_z
Can be followed by *değil*	no	no	yes	yes
Can be followed by *-DIr*	no	%	yes	yes
Can be used as a participial modifier	no	no	N/A	yes
Can end a conjunct under suspended affixation	no	no	yes	yes
Can be immediately followed by *-mI*	no	no	no	yes
Must bear stress when followed by Agr	no	no	no	yes

This mixed behavior of TAM_{rz}-Agr_{rz} verbs is unexpected under Kornfilt's analysis, which predicts TAM_{rz} morphemes to be either simple or participial tenses. If the diagnostics were indeed tied to the presence of a copula, they should not overlap, and it is not clear how TAM_{rz} markers could both require and not require a copula, and realize a T head in some respects and an Asp head in others. Note, for instance, that if TAM_{rz} morphemes were participial – which is to be expected, given that they realize the same morphosyntactic features as a subset of TAM_z morphemes –, the copula that would follow them would induce obligatory prestressing, contrary to fact (46):

(46) a. gel-**iyó** ∅-nuz
root-PROG COP-2PL
'you (pl.) are coming'
b. gel-iyo ∅-**núz**

In response to these findings, I propose that the contrast between simple and participial tenses posited by Kornfilt is a historical fact which has disappeared, or is in the process of disappearing, in diachronic development. What motivates this process is, on the one hand, a pressure towards analogical levelling (e.g., Kiparsky 2012; Lahiri 2000), in that a contrast between two sets of forms which serves no function for speakers is abandoned in favour of a uniform treatment. Another factor driving the development is the tendency of syntactically independent forms such as the inflected copula following TAM_z markers to become gradually integrated into other words, following the well-known trajectory from words to clitics to affixes (see Heine 2017 for an overview).

Once the syntactic distinction between TAM_k-Agr_k and TAM_z-Agr_z verbs had been levelled for at least some speakers, Agr_{rz} and TAM_{rz} morphemes, I propose, evolved as hybrids of the other two sets of forms, as evidenced by their morphophonological form and their selection behavior, and thus inherit a subset of the properties of each of the other two paradigms. On the one hand side, while I have rejected the claim that Agr_{rz} and TAM_{rz} morphemes are derived from Agr_z and TAM_z morphemes via an on-line process of acoustic reduction and have defended their status as independent lexical items, I argue that the form these items take does historically stem from a shortening of the full *z*-forms, in line with the general tendency of highly frequent words and morphemes to become shorter over time (e.g., Haspelmath 2021). On the other hand, Agr_{rz}

and TAM_{rz} are formed in analogy to Agr_k and TAM_k; in particular, Agr_{rz} recycles several forms which are already part of the Agr_k paradigm.

The diagnostics used by Kornfilt to distinguish between simple and participial tenses are thus no longer determined by the presence or absence of a silent copula but sensitive to the more concrete properties of TAM and agreement morphemes. Concretely, the diagnostics from *değil*, *-DIr*, participial modifiers and suspended affixation are sensitive to the morphosyntactic features of the TAM morpheme and not affected by the paradigm of the agreement morpheme. In the context of participial modifiers, no agreement morpheme surfaces at all, and the contrast with respect to *değil* and *-DIr* holds up even for null 3SG agreement. Suspended affixation with *-Iyo* is possible regardless of whether it is an Agr_{rz} (47-a) or an Agr_z (47-b) morpheme which is suspended:

(47) a. gid-iyo ve gör-üyo-**nuz**
come-PROG and see-PROG-2PL
root-TAM_{rz} and root-TAM_{rz}-**Agr_{rz}**
'we are coming and seeing'

b. gid-iyo ve gör-üyo-**sunuz**
come-PROG and see-PROG-2PL
root-TAM_{rz} and root-TAM_{rz}-**Agr_z**

The claim that these diagnostics are sensitive to the morphosyntactic TAM features predicts that TAM_{rz} morphemes – progressive *-Iyo* and future *-EcE* – should pattern with progressive and future TAM_z morphemes in these respects. This prediction is borne out straightforwardly for *-Iyo*. As for *-EcE*, which passes only some of these diagnostics and only for some speakers, an additional confound applies. Note that *-EcE* cannot surface word-finally with null 3SG agreement, in contrast to both progressive TAM_{rz} *-Iyo* and future TAM_z *-EcEk*:

(48) a. *gel-**ece**-∅
come-**FUT**-3SG
root-**TAM_{rz}**-Agr
's/he will come'

b. gel-**iyo**-∅
come-**PROG**-3SG
root-**TAM_{rz}**-Agr
's/he is coming'

c. gel-**ecek**-∅
come-**FUT**-3SG
root-**TAM_z**-Agr
's/he will come'

Crucially, in the context of *değil*, *-DIr* (a prestressing morpheme) and suspended affixation, *-EcE* would have to surface at the edge of a prosodic word, which appears to be independently ruled out given (48-a). For reasons of space, I cannot discuss why *-EcE* cannot surface in this position (but see footnote 2), but I conclude that this constraint is responsible for the fact that *-EcE* does not behave like *-EcEk* despite bearing the same morphosyntactic features.

While four out of six diagnostics are thus sensitive to TAM features, the remaining two diagnostics – placement of the question marker *-mI* and stress – depend exclusively on the morphophonological form of the agreement morpheme. Concretely, Agr_z but not Agr_k and Agr_{rz} morphemes are obligatorily prestressing and must be followed by *-mI*. Accordingly, verbs containing Agr_z morphemes still pattern with participial tenses with respect to these two diagnostics even if they contain a TAM_{rz} instead of a TAM_z morpheme (49)–(50):

(49) a. oyn-**uyó**-sunuz
play-PROG-2PL
root-TAM_{rz}-Agr_z
'you (pl.) are playing'

b. *oyn-uyo-**sunúz**

(50) a. oyn-uyo-**mu**-sunuz
play-PROG-Q-2PL
root-TAM$_{rz}$-Q-Agr$_z$
'are you (pl.) playing?'

b. ??/*oyn-uyo-sunuz-**mu**

The different placement of *-mI* can be handled by morphotactic templates (Stump 2006) or bigram ordering constraints (Ryan 2010) as long as said templates or constraints make reference to overt morphophonological forms instead of abstract morphosyntactic features, needed to differentiate between the different agreement allomorphs. As for stress assignment, prestressing morphemes in Turkish are widely acknowledged to require lexical prespecification of some sort (Inkelas (1994); Inkelas & Orgun (2003); Özçelik (2014)). Thus, instead of attributing the prestressing pattern of TAM$_z$-Agr$_z$ verbs to a silent prestressing copula, I propose that Agr$_z$ morphemes themselves must be listed as obligatorily prestressing. I leave it to future work to establish more in detail how these properties are encoded in contemporary grammars.

5. Conclusion. This paper has been concerned with the various sets of TAM and agreement morphemes in the Turkish verbal domain and has investigated whether their different properties indeed signal a difference in their underlying syntax. I have argued that the distinction posited by Kornfilt between simple TAM$_k$ and participial TAM$_z$ tenses is diachronically real but has disappeared, or is disappearing, in contemporary grammars. This analogical levelling has given rise to hybrid TAM$_{rz}$-Agr$_{rz}$ verbs, which inherit properties of both Agr$_k$/TAM$_k$ and Agr$_z$/TAM$_z$ verbs with respect to their morphophonological shape, their distribution – couched here in an allomorphy analysis – and Kornfilt's diagnostics. The latter are no longer determined by the presence or absence of a silent copula but are partly sensitive to the morphosyntactic features of the TAM morpheme, partly to the morphophonological shape of the agreement morpheme.

So far, my proposal might be taken to suggest that the copula grammar described by Kornfilt has straightforwardly disappeared, having been replaced by the allomorphy grammar developed in the present paper. This is arguably a simplification. Some speakers of Turkish in fact lack TAM$_{rz}$ and Agr$_{rz}$ morphemes, and nothing rules out that they still maintain a copula grammar. At the same time, nothing rules out either that copula grammars have gone extinct a long time ago since in the absence of TAM$_{rz}$ and Agr$_{rz}$ morphemes, the allomorphy grammar proposed here makes the same predictions. Speakers might also have both grammars simultaneously. If this paper is on the right track, Turkish is in the process of transitioning from the copula grammar to the allomorphy grammar, with speakers finding themselves at different points on this trajectory and travelling at different speeds.

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