Temporal interpretation in directive speech acts: A competition between imperative and 2nd person subjunctive in Greek[1]

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Abstract. In this study, we examine the distribution of imperative and subjunctive forms in Greek directive speech acts, focusing on their temporal interpretation. We present evidence from a Sentence Evaluation Task that the imperative is subject to an *immediacy* restriction, while the subjunctive mood favors a *laterness* inference and resists immediacy. We argue that this difference is semantic, stemming from the absence of tense in imperatives and its presence in subjunctives. Imperatives, by lacking tense, are interpreted at speech time, resulting in a more specific temporal reading than subjunctives, which convey a non-past meaning. The least specified subjunctive form is therefore blocked in immediate contexts.

Keywords: Directive speech acts, imperatives, subjunctives, tense, aspect, competition

1. Introduction

The *subjunctive* and the *imperative* mood in Greek are both used in Directive Speech Acts (DSAs), to express *command, request, advice, permission*. Both the imperative in (1a) and the subjunctive in (1b) are classified as *direct* directives exhibiting all the properties of performative utterances, as opposed to the deontic statement in (1c) (in the sense of Searle, 1975). The directive utterances in (1a,b), unlike the deontic statement in (1c), cannot be judged as true or false and cannot be modified by evaluative adverbials.

(1) a. Diavase.
Read.IMP.PRF.2SG
'Read!'

b. Na diavasis.
SUBJ read.PRF.2SG
'Read!'

c. Prepi na diavasis.
must/should SUBJ read.PRF.2SG
'You should read!'

Given that the imperative and the matrix subjunctive are interchangeable in many environments, a distributional question arises, followed by a theoretical question about their properties.[2] Are imperatives and subjunctives always interchangeable? Are there environments in which imperatives and subjunctives are in complementary distribution? Do they convey the same meaning?

Across languages, the subjunctive has a much broader distribution. It can be embedded under

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[2]Certain languages replace imperatives with a surrogate form under negation (Rivero, 1994; Rivero and Terzi, 1995). For example, the Spanish imperative *¡Canta!* becomes *¡No cantes!*. Similarly, Greek does not preserve imperative morphology under negation and instead uses the subjunctive form. However, as argued in Oikonomou (2016b), the distinction described here remains intact under negation. There is a negation particle, *min*, used with non-indicative forms. A plain form without the *na*-particle, combined with *min*, patterns exactly like imperatives, whereas a *na*-subjunctive form combining with *min* behaves exactly like root subjunctives.

a wide range of predicates, as illustrated in (2a) (see Giannakidou, 2015). It can also formulate a question, crucially carrying a *permission*-seeking or *instruction*-seeking interpretation, as in (2b) (see Oikonomou, 2016a). Finally, unlike imperatives, it can express a wish, as shown in (2c) (Condoravdi and Lauer, 2012; Oikonomou, 2016a; Kaufmann, 2020)).

(2) a. Prepi/theli/isos na djavasis!
must/want.PRES.3SG/perhaps SUBJ read.2SG
'You should read./(S)he wants you to read/perhaps you will read.'
b. Ti na djavaso?
What SUBJ read.1SG
'You should read!'
c. Na ta perasis omorfa!
SUBJ CL pass.2SG nice
'Have fun!

In addition, subjunctive can express directive force without the restriction that the subject of the prejacent corresponds to the addressee. Thus, as illustrated in (3), 1^{st} person and 3^{rd} person subjunctives are very common and convey that the addressee holds responsible for the prejacent being fulfilled (see Rouchota, 1994; Veloudis, 2010; Oikonomou, 2016a for Greek and Rivero, 1994; Zanuttini et al., 2012; Stegovec, 2016; Oikonomou and Ilić, 2021 for other languages).

(3) a. Na ksipniso noris avrio!
SUBJ wake-up.1SG early tomorrow
'Make sure I wake up early tomorrow.'
b. Na erthi ke o Nikos sto parti!
SUBJ come.3SG and the Nick to-the party
a. 'Make sure Nick comes to the party to.'
b. It's OK with me if Nick comes to the party too.'

While we notice that subjunctives indeed have a wider distribution than imperatives,[3] we also find environments in which an imperative is strongly preferred over the subjunctive. These environments fall into two categories. The first concerns the indifference/concessive interpretation of DSAs, instantiated with the imperative in (4a). The *na*-subjunctive cannot convey indifference (von Fintel and Iatridou, 2017), whereas the *as*-subjunctive can (4b).[4]

(4) a. Djavase! Min diavasis. Kane oti thes.
Study.IMP NEG study.2SG. Kane oti thes.
'Read!'
b. #Na/✓As djavasis, #na/✓as min diavasis. Kane oti thes.
SUBJ read.2SG SUBJ min read.2SG
'#Study, don't study. I don't care.'

[3]The use of the subjunctive has, in some cases, been linked to politeness (Rouchota, 1994). However, recent experimental studies suggest that there is no direct connection between the subjunctive and politeness (Skoulataki, 2023). In fact, the subjunctive is often associated with stronger interpretations, which, in turn, are perceived by speakers as less polite.

[4]von Fintel and Iatridou (2017) observe that if a directive cannot convey indifference, it also cannot participate in Imperative and Declarative conjunctions, such as *Eat this and you'll feel terribly sick* (IaD, Schwager, 2006; Kaufmann, 2012). The link between indifference/concessive and conditional interpretation has not yet been fully explained.

The second environment in which the imperative is preferred over the subjunctive emerges in contexts requiring an immediate, *here-and-now* interpretation. As originally noted by Tzartzanos (1946), the imperative is strongly favored in environments expressing immediacy, whereas the subjunctive tends to be dispreferred (see also Veloudis, 2010). For example, in a situation where the speaker needs a pen and the addressee is closer to the pen case, the speaker would use an imperative (5a) rather than a subjunctive (5b).

(5) a. Dose mu ena stilo.
give.IMP.2SG me a pen
'Give me a pen.'

b. Na mu dosis ena stilo.
SUBJ give.2.1SG me a pen
'Give me a pen.'

The aim of this paper is to account for the contrast between imperatives and subjunctives in terms of their temporal interpretation. Section 2 outlines the relevant background. We then, introduce the Sentence Evaluation Task and present our findings (Section 3). Section 4 provides an analysis, arguing that imperatives, unlike subjunctives, lack both semantic and syntactic tense, leading to competition between the two forms. Finally, Section 5 summarizes the key points and highlights some open questions for further research.

2. Temporal interpretation and DSAs in Greek

As already mentioned in the introduction, an imperative and a subjunctive can alternate in many environments. For example, if someone complains of a headache, one can utter either (6a) or (6b). However, once we introduce an immediacy restriction, i.e. a context in which we instantly offer a pain-killer, the subjunctive in (6b) is considered less felicitous (see Veloudis, 2010).

(6) a. Pare ena pafsipono.
take.IMP.2SG a pain-killer
'Take a pain-killer.'

b. Na paris ena pafsipono.
SUBJ take.2SG a pain-killer
'Take a pain-killer.'

Immediacy is not necessarily associated with urgency or a command interpretation. The critical factor is temporal in nature. Thus, a subjunctive is equally infelicitous both in a context where someone is in danger and we urge them to run, as in (7), and in a situation where we offer a box of chocolates to someone, asking them to take a piece if they wish, as in (8). The subjunctive becomes felicitous if we leave the box on the table and, as we exit the room, we utter (8b).

(7) a. Trekse!
Run.IMP.PRF.2SG
'Run.'

b. #Na treksis.
SUBJ run.PRF.2SG
'Run.'

(8) a. Pare ena sokolataki!
take.IMP.PRF.2SG a chocolate
'Take a chocolate.'

b. #Na paris ena sokolataki!
SUBJ take.IMP.PRF.2SG a chocolate
'Take a chocolate.'

The key question arising from this contrast is the following: What is the source of this difference? Is there a semantic distinction between the two forms? Is one form more specifically associated with an immediacy or lateness feature?

We argue that imperatives lack syntactic and semantic tense, thus being the unmarked/less specified form. This makes them the preferred candidate in immediacy contexts. To determine the degree to which imperatives and subjunctives compete in immediate and later contexts, and

to evaluate whether one form is generally preferred over the other, we designed a Sentence Evaluation Task comparing these forms in the relative contexts. Before presenting our study, we briefly discuss two alternative proposals that, as we will show, do not fully capture the subtle contrasts and the complete set of data.

2.1. Veloudis (2010): Subjunctive marks distance

The contrast regarding the use of the subjunctive and imperative was first noted by Tzartzanos (1946). Veloudis (2010) further elaborates on this observation, analyzing the subjunctive as encoding spatial or temporal distance. In particular, Veloudis (2010) argues that *na* in the subjunctive grammaticalizes non-immediacy (Veloudis, 2010: 182). He develops this idea within the framework of cognitive grammar and the concept of conceptualization in space and time (Langacker, 1987), proposing that the subjunctive particle *na* evolved in parallel with the deictic particle *na*, which indicates a specific direction (see Christidis, 1987). Accordingly, the subjunctive particle *na* points to an irrealis or future world. However, empirically, the proposal that *na* conveys non-immediacy is not fully supported. The contrast in temporality emerges in 2nd person forms, both singular and plural. Veloudis (2010) argues that in 3rd person subjunctives as in (9a), non-immediacy/distance can be understood in terms of the intermediate person involved, i.e., the hearer, who is held responsible for ensuring that Marina will leave (9a). However, the same intermediate person is involved in (9b) with the *as*-subjunctive, which is considered immediate in Veloudis (2010).

(9) a. Na erthi i Marina!
SUBJ come.PRF.2SG the Marina
'Let Marina come.'

b. As erthi i Marina!
AS take.PRF.2SG the Marina
'Let Marina come.'

In addition, 1stsingular subjunctive conveys immediate action in (10a). With or without the particle *ja*, the sentence in (10a) can convey an immediate request by the speaker to see or check on something. Likewise, the subjunctive question with *na* in (10b) can be uttered when the speaker has already started moving the box.

(10) a. Ja na do!
PRT SUBJ see.PRF.1SG
'Let me see.'

b. Na metakiniso to kuti?
SUBJ move.PRF.1SG the box
'Can I move the box?'

Based on these data, we argue that the difference between the two forms is not due to an inherent property of the *na* particle grammaticalizing non-immediacy. We return to this point on the data discussion in Section 4.

2.2. Against a lexical meaning restriction

An alternative explanation would be that one of the forms incorporates immediacy or non-immediacy as part of its meaning. Such a distinction in the domain of DSAs is attested in several languages. In languages like Tucano, Cheyenne, and Indo-Aryan, there is a distinction between immediate and deferred/delayed imperatives (Schwager, 2006; Kaufmann, 2012; Murray, 2016; Aikhenvald, 2017; Banerjee and Kaur, 2022). If the contrast under discussion was part of the lexical meaning of the subjunctive or imperative form, it would be expected that an immediate or delayed imperative cannot combine with an immediacy or future adverbial. In Greek, as illustrated in (11), the subjunctive can combine with temporal modifiers encoding

immediacy, as shown in (11b), and the imperative can combine with future modifiers, as shown in (11a).

(11) a. Pare ena pafsipono argotera / to vradi.
take.IMP.2SG a pain-killer later / the evening
'Take a pain-killer later / in the evening.'

b. Na paris ena pafsipono tora amesos.
SUBJ take.2SG a pain-killer now immediately
'Take a pain-killer right now.'

Therefore, the contrast regarding the use of subjunctive versus imperative cannot be captured by assuming that subjunctive marks distance, nor by assuming that both or one of the forms carries a lexical meaning indicating immediacy. Thus, the question still holds: How does the (non)-immediacy feature come across depending on the form used? Taking into account the gradience across speakers, we designed a Sentence Evaluation Task to assess whether one or both forms are marked, and if so, in what way.

3. Experimental study: Testing temporal interpretation and speech act type

3.1. Experimental design

To empirically evaluate our question, we directly compared the 2nd person subjunctive and the 2nd person imperative in immediate and later contexts. The two utterances were presented together in each context, allowing participants to evaluate them simultaneously (see the argumentation in Marty et al., 2020). Participants were asked to evaluate the acceptability of the two alternatives (i.e. imperative and subjunctive) within a given context on a scale range from 1-5 (1 *not at all natural* to 5 *entirely natural*; continuous response variable) (Figure 1).

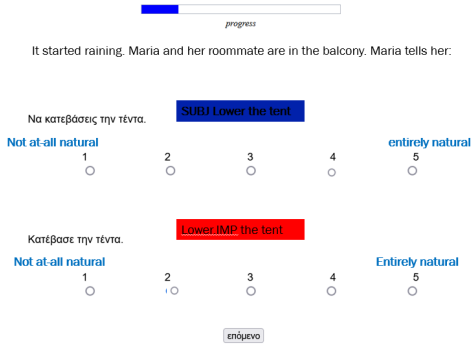

Figure 1. Example from an experimental item with translation.

Each participant rated 20 experimental items and 33 fillers, all in (pseudo)random order. Half of the critical items [n=10] were embedded under the temporal category *later*, and half of them [n=10] under the temporal category *immediate*. Moreover, within each temporal category (laterness vs immediacy), the context also varied with respect to the Speech Act Type (SAT), distinguishing between *advice* [n=5 items] and *request* [n=5 items]. The distinction regarding the SAT, was decided on the basis of whose needs were addressed by the prejacent: if the imperative responded to the addressee's problem, it was classified as advice, while if it responded to the speaker's problem, it was classified as a request. This distinction was motivated by the

intuition that advice might favor the subjunctive. Filler items included 24 pairs of clauses with possibility vs necessity modals and 9 pairs of subjunctives and imperatives expressing wishes. The complete list of critical items and fillers is available in an OSF repository.

The order of written presentation of the two utterances on the screen (i.e., subjunctive–imperative or imperative–subjunctive) was fixed within participants but varied across participants. 37 participants received the order subjunctive-imperative and 47 the reverse order. However, pilot data had shown that the order in the presentation was not a significant factor.

3.2. Experimental hypothesis

We hypothesize that the imperative will be preferred over the subjunctive in immediate contexts, and conversely, the subjunctive will be preferred in later contexts. This expectation arises from the intuitive association between the imperative form and the expression of immediacy. In contrast, the subjunctive, is more likely to be favored in contexts that imply a deferred or future-oriented situation. Thus, we anticipate a clear pattern in which the immediacy factor influences participants' judgments toward the imperative, while the delayed nature of later contexts leads to a preference for the subjunctive.

With respect to the SAT, we intended to test whether advice contexts would result in higher ratings for the subjunctive, in both later and immediate environments. The rationale behind this hypothesis stems from the nature of advice itself: it often reflects a suggestion or recommendation that, although it may be offered immediately, can also be future oriented.

3.3. Results

Our statistical analysis investigated the interaction between the temporacy and mood by comparing the four crossed conditions. Table (1) presents the statistics summary measures (mean, standard deviation [SD], standard error of the mean (SEM), and confidence intervals [CI]) of the conditions of interest.

Table 1. Descriptive Statistics by Temporacy and Mood.

Temporacy	Mood	n	Mean	SD	SEM	CI
Later	Subjunctive	840	4.43	1.08	0.04	0.07
Later	Imperative	840	3.28	1.59	0.05	0.11
Immediate	Subjunctive	840	2.93	1.56	0.05	0.11
Immediate	Imperative	840	4.73	0.71	0.02	0.05

A two-way (temporacy × mood) repeated-measures ANOVA showed an interaction effect of the two factors ($F(1,83) = 298$, $p < 0.001$), when accounting for the within-subject variance of the two main factors. Post-hoc pairwise comparisons (paired t-tests) derived by our predictions showed that in immediate contexts imperative was preferred at a significantly higher rate than subjunctive ($t(839) = 27.745$, $p < 0.001$), while in later contexts, subjunctive was preferred at a significantly higher rate than imperative ($t(839) = 15.885$, $p < 0.001$). Furthermore, the difference in preference was greater in immediate contexts than in later contexts, as shown by the difference of the t values (Figure 2, panel A). Moreover, the imperative was preferred equally in advice and in request SAT. By contrast, the subjunctive preference ratings are significantly

higher in Advice than in Request. Figure 3 displays the ratings of both the imperative and the subjunctive for each experimental item.

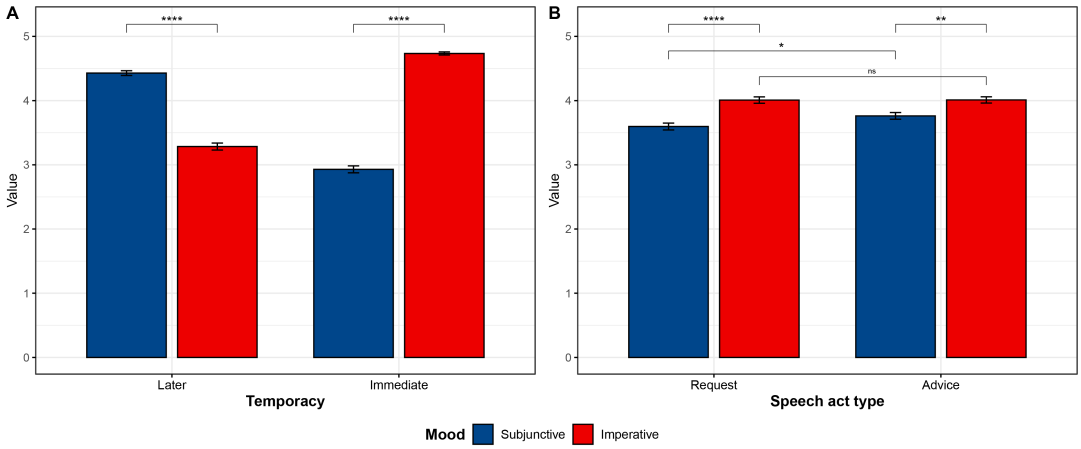

Figure 2. *Overview of participants' rating of the subjunctive and the imperative form by experimental condition for temporacy (panel A) and speech act type (panel B)*

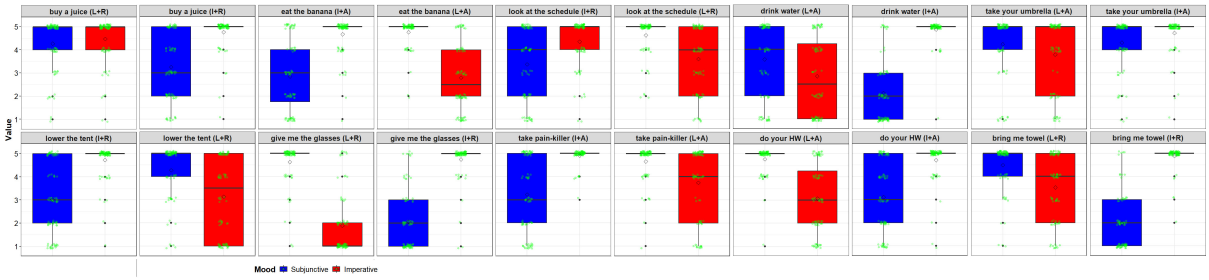

Figure 3. *Distribution of participants' ratings (from 1 to 5) for the subjunctive (blue box) and the imperative (red box) for each item. The contextual factors of temporacy (I: Immediate; L: Later) and speech act type (R: Request; A: Advice) are also marked for each item. Solid black line and white diamond denote the median and the mean of the distribution respectively.*

4. Discussion: Immediacy restriction in imperatives

Our findings confirm the temporal contrast between the two forms. The effect size is larger in the immediate contexts, with imperative being rated significantly higher than subjunctive. In later contexts, the imperative is rated significantly lower than the subjunctive; however, the mean rating for imperative remains above 3, indicating that speakers do not find it entirely unnatural. These findings confirm our hypothesis, as we argue that the imperative directly encodes immediacy by anchoring temporally to the speech time, thereby blocking the less-specified subjunctive in immediate environments.

4.1. Tenseless imperatives

Imperatives have been shown to exhibit defective inflection crosslinguistically (Huntley, 1980; Rivero and Terzi, 1995; Platzack and Rosengren, 1998; Schwager, 2006; Portner, 2004, 2007; Kaufmann, 2012; Zanuttini et al., 2012). The temporal interpretation of imperatives, given their

lack or defectiveness of tense, has been explained in various ways in the literature. Platzack and Rosengren (1998) argue that imperatives lack a Tense layer and that the obligatory future orientation in English imperatives arises from their directive illocutionary force. Similarly, Ogihara (2007) contends that ordering is inherently future-oriented. Specifically, he argues that an imperative with a stative verb, such as *Be quiet*, is still future-oriented despite its stative nature due to the directive force of the utterance (Ogihara, 2007: 403).[5]

By contrast, Schwager (2006)/ Kaufmann (2012) challenges this view arguing that imperatives are not necessarily future oriented. She provides arguments that the restriction is that *the event frame need not lie entirely in the future, it must not lie entirely in the past either* (Kaufmann, 2012: 99). Following Kaufmann's analysis, we show that imperatives do not have to be entirely future-oriented, but crucially, they cannot refer exclusively to the past. In the absence of a temporal modifier, they are interpreted as referring to the *here-and-now*, as demonstrated in our study. A key component of our analysis, in line with Kaufmann's approach, is the role of the aspectual head, which determines whether the interpretation is perfective, imperfective or neutral.

Building on the contribution of aspect, we extend the recent proposal by Pancheva and Zubizarreta (2020) and Pancheva and Zubizarreta (2023) on temporal interpretation in tenseless languages to Greek imperatives. We argue that the differences on the temporal interpretation between imperatives and 2^{nd} person subjunctives can be accounted for, if we assume that imperatives, unlike subjunctives, in Greek lack tense properties. In the remainder of this section, we will provide the evidence for this claim, discussing the aspectual and temporal properties of imperatives.

Similarly to Kaufmann, 2012, we take imperatives to involve an aspectual head, but no tense head. Furthermore, we follow Kaufmann's modal analysis, assuming that a modal operator merges above the aspectual head. The properties of this modal are not directly relevant for this work; however, for clarity, we adopt the analysis in Oikonomou, 2016a, 2023 that the imperative operator has prioritizing flavor, restricting the set of possible worlds to the worlds consistent with the priorities of the speaker. We also assume an existential analysis of the modal operator (see the argumentation in Oikonomou, 2016b, 2023; Francis, 2019). Thus, the structure we end up is given in (12a) and the meaning of the imperative operator in (12b). The imperative clause is evaluated in context c, presenting the speaker's priorities at the speech time in c.[6]

(12) a. [IMP [...[$_{aspP}$ ASP [$_{VP}$ V [NP]]]]]

b. $[\![\text{IMP}]\!]^c = \lambda f_{\langle s,st\rangle}\lambda g_{\langle s,st\rangle}\lambda q_{\langle st\rangle}\exists w' \in Best_{f,g}^{w_c,S_c,t_c} \wedge q(w')$

The perfective - imperfective distinction is not only semantically but also morphosyntactically instantiated in imperatives as illustrated in (13). Semantically, the perfective in (13a) is viewed as a directive to solve all the exercises whereas the imperfective in (13b) has a progressive (or a habitual) interpretation.

[5]Zanuttini et al. (2012) assume the presence of a syntactically defective Tense head but do not take a stance on whether it contributes to future orientation.

[6]Considerations about the performative character of the imperatives and subjunctives are not discussed in this work. For a detailed discussion see Oikonomou (2023) who follows Kaufmann (2012, 2016).

(13) a. Lise tis askisis.
solve.IMP.PRF.2SG the excercises
'Solve the exercises.'

b. Line tis askisis.
solve.IMP.IMPRF.2SG the excercises
'Solve the exercises.'

For the interpretation of perfective - imperfective distinction, we follow the reichenbach distinction between *event time* and *topic/reference* and we adopt the view in (Kamp and Rohrer, 1983; Klein, 1994; Smith, 1997) that aspect is independent of tense, expressing a relation between *reference time* and evaluation time. The imperfective introduces a time variable t, denoting that t is part of the event time ($\tau(e)$) (14a), whereas the perfective introduces a time variable t, denoting that the event time ($\tau(e)$) is part of t (14b).

(14) a. $[\![\text{IMPF}]\!] = \lambda P_{\langle v,t\rangle} \lambda t_i \exists e[P(e) \wedge t \subset \tau(e)]$
b. $[\![\text{PERF}]\!] = \lambda P_{\langle v,t\rangle} \lambda t_i \exists e[P(e) \wedge \tau(e) \subseteq t]$

When there is tense, its function is to restrict the time variable t (either via existential binding or via an assignment function, anaphorically) and convey a relation of t with respect to the evaluation time, which in root clauses typically coincides with the utterance time (see von Fintel, 1999). Given our proposal that imperatives entirely lack tense, the next question to ask is how temporal interpretation is achieved. This is also the central question explored by Pancheva and Zubizarreta (2020, 2023) for languages which appear to lack tense in general, such as their case study of Paraguayan Guarani.

Following their analysis we propose that in the cases in which tense is absent, aspect plays critical role in temporal interpretation. For languages which lack tense altogether the question is more complicated since it has to be shown how the *past - non-past* distinction is achieved. Pancheva and Zubizarreta (2020) achieve this by extending the mechanism of evaluation time shift. In the case of imperatives, there is no *past - non-past distinction*. We argue, following Pancheva and Zubizarreta (2020) that the temporal variable introduced by aspect is interpreted as the evaluation time in context c. and that evaluation time is syntactically represented as a covert indexical pronoun *pro* in the CP domain. When *pro* is evaluated in a context c, $t = t_c$ (15c). Under this assumption, the LF for an imperfective imperative is represented in (15a) and the LF for a perfective one in (15b). Crucially, as we mentioned above, the imperative operator IMP is also interpreted with respect to the evaluation time, i.e. it expresses the priorities of the perspectival center at the evaluation time of the context. This analysis predicts that in the absence of lexical tense, the time of the imperative operator and of the embedded eventuality coincide and match the utterance time.

(15) a. $[_{CP}\ [_{impP}\ \text{IMP}\ pro\ [_{AspP}\ \lambda t\ \exists e\ [\text{P(e)} \wedge t \subset \tau(e)]]]]$
b. $[_{CP}\ [_{impP}\ \text{IMP}\ pro\ [_{AspP}\ \lambda t\ \exists e\ [\text{P(e)} \wedge \tau(e) \subseteq t]]]]$
c. $[\![pro]\!]^c = t_c$

The examples in (16) show that the typical aspectual distinction correctly captures the aspectual distinction in imperatives. The *while*-clause in in (16a) suggests a progressive interpretation for the imperative, thus the imperfective is judged as more natural. The interpretation we derive is shown in (17a). This interpretation suggests that the running event is ongoing at the utterance time, which is our intuition for the imperfective imperative. The interpretation for the perfective imperative is shown in (17b).

(16) a. Oso o Nikos tragudai esi ✓trehe/ #trekse.
While the Nick sings you run.IMP.IMPRF.2SG/ run.IMP.PRF.2SG
'Be running while John is singning.'
b. Molis o Nikos tragudisi esi #trehe/ ✓trekse.
While the Nick sings you run.IMP.IMPRF.2SG/ run.IMP.PRF.2SG
'As soon as John sings, run!'

(17) a. $[\![\textit{Trehe!}]\!]^c = \exists w' \in \textit{Best}^c_{f,g} \wedge \exists e[\textit{run}(e,w',\textit{Ad}_c,t_c) \wedge t_c \subset \tau(e)]$
b. $[\![\textit{Trekse!}]\!]^c = \exists w' \in \textit{Best}^c_{f,g} \wedge \exists e[\textit{run}(e,w',\textit{Ad}_c,t_c) \wedge \tau(e) \subseteq t_c]$

Given the meaning of the perfective and imperfective imperative two major questions arise; the first one concerns the insight about future orientation of imperatives. As Kaufmann (2012) shows imperatives can be uttered while the event is in progress; this interpretation completely matches our intuitions for imperfective imperatives. For example, the imperative in (16a) can be uttered in a scenario in which the addressee is already running in a runner machine for five minutes and the speaker directs him to keep going until the song ends. Similarly, when we hear imperfective imperatives as in (18) we interpret them as a direction to keep performing the action described by the verb.

(18) a. Troge. b. Diavaze. c. Mazeve.
Eat.IMP.IMPRF.2SG read.IMP.IMPRF.2SG tidy-up.IMP.IMPRF.2SG
'Eat.' 'Read.' Mazeve.

Crucially, this *keep-going* interpretation is impossible with the subjunctive form, which, in an *out-of-the-blue* context, can only be understood as general advice. For example, if one utters (18a) to a person who is sitting and eating, it can only be interpreted as encouragement to continue eating. In the same context, if the speaker utters (19a), it will be understood as general advice or approval that the person should always eat.

(19) a. Na tros. b. Na diavazis. c. Na mazevis.
SUBJ eat.IMPRF.2SG SUBJ read.IMPRF.2SG SUBJ tidy-up.IMPRF.2SG
'Eat.' 'Read.' 'Tidy up.'

As we will explain below, the lack of the *keep-going* interpretation is explained once we consider the meaning of the subjunctive and the competition between the two forms. Before presenting the interpretation of the subjunctive, let us consider the second major question arising from the current proposal which concerns the so-called Present Perfective Paradox.

The meaning attributed to the present perfective imperative suggests that the event is completed within the utterance time. The issue with this interpretation is that it has been argued that utterance time is too short an interval to accommodate perfective aspect (Bennett and Partee, 1972; Kamp and Reyle, 1993; Smith, 1997; Vanden Wyngaerd, 2005). There are, however, certain cases in which the perfective aspect is consistent with the present (see Ogihara, 2007 for a discussion and Wit, 2017 for crosslinguistic data). One such case is sports commentary, e.g., *X passes the ball to Y*. Another category of present perfectives includes performative verbs, e.g., *I apologize / I fire you*. In both cases, it has been argued that the duration of the event is very short and that the perfective aspect conveys that the event lasts no longer than the speaker's utterance. De Wit et al. (2018) offers an alternative perspective, building on Langacker (2001), emphasizing the importance of conceptualizing the event in its totality. Under this view, in

immediate *here-and-now* contexts, the event is either unfolding or about to unfold before the observer's eyes, making it easier to conceptualize as a whole. In Greek, the past perfective can be used to refer to the immediate future in the case of short events. Even when these events have not yet begun, the past perfective can still be used to encode immediacy, as in (20).

(20) a. Krajon evala ke ime etimi.
lip-gloss put.PRF.PAST.1SG and be.IMPRF.PRES.1SG ready
'I put on lip-gloss and I'm ready.
b. Efages ti bananitsa su ke ksekiname.
eat.PRF.PAST.1SG the banana your and start.PRF.PAST.1SG
'You eat your banana, and we leave.'

In English, related constructions include those mentioned by Leech (2004), which De Wit et al. (2018) refers to as running commentaries accompanying demonstrations, as illustrated in (21).

(21) Look, I take this card from the pack and place it under the handkerchief – like this.

In commentaries, the perfective aspect is used despite the fact that the event has not yet begun at the time of the utterance. Pancheva and Zubizarreta (2023) do not consider the present perfective paradox to be a result of speech time being very short, suggesting that speech time does not necessarily have to be a very short interval. Thus, under their view the utterance time can contain event time, as long as this can be conceived as completed within the current situation.[7]

Finally, it is important to highlight the existence of a third, morphologically distinct aspectual form in imperatives for certain verbs. This third morphological form is underspecified with respect to the perfective–imperfective distinction and appears only in imperatives. To our knowledge, this phenomenon in Greek inflection has not been extensively discussed. Not all verbs have this third morphological form, but when it does exist, the verb ending is *-a*, and the theme preserves the imperfective morphology.[8] These forms are always shorter and morphologically impoverished. As shown in (22), the form *treha* 'run' is compatible both with a progressive modifier (*while...*) and a perfective one (*as soon as...*), suggesting that the aspectual head is semantically underspecified.

(22) {Oso o Nikos tragudai} / {Molis o Nikos tragudisi} esi ✓treha.
While the Nick sings / As-soon-as the Nick sings you run.IMP.∅.2SG
'Be running while John is singning.' / 'As soon as John sings, run!'

We follow Pancheva and Zubizarreta (2020) in assigning an underspecified meaning to this

[7]Both issues discussed relate to a different question concerning the epistemic uncertainty condition in imperatives (Schwager, 2006; Kaufmann, 2012). The Uncertainty Condition states that the speaker considers p and $\neg p$ to be possible. Crucially, according to Kaufmann (2012) the uncertainty condition is evaluated in a precontext c', which precedes the context of the utterance. In our view, the notion of precontext bears similarities to the concept of *context of thought* as discussed in Schlenker (2004). We leave these notions open here for future research.

[8]Verbs that form an imperative in *-a* typically belong to the 2^{nd} conjugation class. However, this neutralized interpretation extends to some verbs of the first conjugation as well, e.g., *treho* 'run', *fevgo* 'leave'. Given that in the non-active voice, there is no morphological imperfective imperative, it is unsurprising that imperfective aspect becomes underspecified in certain verb classes of Greek. Crucially, the non-active perfective cannot acquire an imperfective interpretation in the absence of an imperfective morphological imperative. In contrast, a subjunctive must be used to convey an imperfective interpretation.

morpheme that is consistent with both perfective and imperfective interpretation.

(23) $[\![\text{ASP}_{\emptyset}]\!] = \lambda P_{\langle v,t\rangle} \lambda t_i \, \exists e \, [P(e) \wedge \tau(e) \text{ at } t]$ $(t \text{ at } t' \iff t \subseteq t' \vee t' \subset t)$

(Pancheva and Zubizarreta, 2023: 1336)

The fact that only in the imperative mood environment aspect is neutralized in Greek, similarly to neutral aspect in Paraguayan Guarani, enhances our proposal that Greek imperatives are tenseless.

4.2. Tensed Subjunctives

In contrast to imperatives, tense in subjunctives is morphosyntactically and semantically present. Beyond the imperfective–perfective distinction, in (24), we observe that there is a past imperfective subjunctive, which retains its directive interpretation, bearing a similar meaning to past imperatives discussed in Mastop (2011), Kaufmann (2012) and Oikonomou (2016a). The past perfective with the subjunctive particle *na* (25) is possible only under a wish interpretation (i.e., not a directive interpretation). However, with the particle *as* (25b), it is possible to have an indifference interpretation which is also performative in nature, that is, it cannot be evaluated for truth conditions. While the sentence in (25b) cannot be characterized as directive, the fact that it can be given a unified semantic analysis with the directive subjunctive and imperative, namely, as encoding consistency with the speaker's priorities, is crucial for the existential interpretation introduced in (28).

(24) a. Na fevgis.
SUBJ leave.IMPF.2SG
'Leave!'

b. Na figis.
SUBJ leave.PRF.2SG
'Leave'

c. Na/as efevges.
SUBJ leave.IMPF.PAST.2SG
'You should have left.'

(25) a. Na efige.
SUBJ leave.PRF.2SG
a. 'I wish (s)he left'
b. #'I don't mind/care she left.'

b. As efige.
SUBJ leave.PRF.2SG
a. 'I wish (s)he left'
✓'I don't mind/care that/if she left.'

What is critical for the present discussion is that tense is fully instantiated in subjunctives, unlike in imperatives. Based on these data, we argue for an LF as in (26):

(26) $[_{saP}$ *subj* $[_{TP}$ T $[_{aspP}$ *asp* $[_{VP}$ V...]]]]

Following extensive discussion in the literature, we argue that the relative temporal distinction in subjunctives is between past and non-past (see Giannakidou, 2009 for discussion). Giannakidou (2009), building on Abusch's (2004) analysis of *will* in English, proposes that the perfective non-past semantically introduces a variable t, as illustrated in (27), which must be bound for the sentence to be interpreted. She argues that the future particle *tha* and the subjunctive particle *na* introduce a *now*-binder n, which binds the t variable in the embedded proposition.

(27) $[\![\textit{non-past}]\!]^{w,i,t} = \lambda P_{\langle st\rangle} \lambda t.\text{P(t,}\infty\text{)}$

The analysis we provided for imperatives bears the similarity that there is an unbound variable which needs to be bound, and is bound by the utterance time. We do not see why *na* and *tha* should function as binders in this sense. What we keep from Giannakidou's proposal is the *past - non-past* distinction, and we argue that the t variable is bound by the evaluation time similarly to what we have argued for imperatives. The critical difference to imperatives is that

there is semantic tense in subjunctives which when it is non-past it expands the time frame from the evaluation time to the future (infinite/contextually defined) (Condoravdi, 2002). Thus a perfective subjunctive as in (7b) (*Na treksis!*), receives the interpretation (28):

(28) $[\![\text{Na treksis}]\!]^c = \exists w' \in Best^c_{f,g} \wedge \exists t' \exists e[run(e,w',Ad_c,t_c) \wedge \tau(e) \subseteq t' \wedge t_c \leq t']$

In the following section, we discuss how the competition between the two meanings derives the preference for the imperative in immediate contexts.

4.3. Competition and Blocking

It becomes clear from the previous discussion that the difference between imperative and subjunctive concerns their temporal interpretation.[9] Let us consider the difference between a perfective imperative as in (29a) and a perfective subjunctive as in (29b).

(29) a. Trekse!
Run.IMP.PRF.2SG
'Run!'

b. Na treksis!
SUBJ run.NON-PAST.PRF.2SG
'Run!'

In the perfective imperative, there is no temporal relation expressed, the t variable introduced by aspect ends up interpreted as the context evaluation time ((30a), repeated from (17a)). By contrast the perfective subjunctive encodes the non-past relation as illustrated in (30b).

(30) a. $[\![(29a)]\!]^c = \exists w' \in Best^c_{f,g} \wedge \exists e[run(e,w',Ad_c,t_c) \wedge \tau(e) \subseteq t_c]$
b. $[\![(29b)]\!]^c = \exists w' \in Best^c_{f,g} \wedge \exists t' \exists e[run(e,w',Ad_c,t_c) \wedge \tau(e) \subseteq t' \wedge t_c \leq t']$

The meaning of the imperative, being evaluated at t_c, is semantically more minimal yet more specified, as the time frame for interpreting the event is much more restricted than in the case of the subjunctive, where the event can take place at any time from the present into the future ($t_c \leq t'$). Following Pancheva and von Stechow (2004), we argue that when the speaker intends to convey the most specified form, i.e., the imperative, it takes precedence over the less specified form, i.e., the subjunctive. In essence, Pancheva and von Stechow (2004) propose that when two forms are consistent with the intended interpretation, speakers opt for the most specified one, that is, the form with the most restricted interpretation.[10] Under this hypothesis, in a context where the addressee is required to run immediately at the utterance time, the speaker will choose the imperative in (29a) to convey this interpretation.

But why is the less specified form excluded? The idea is that the meaning of the least specified form is strengthened to express a time interval that excludes the evaluation time. [11]

[9] In this work we do not discuss differences in the interpretation of the modal operator in the two cases. For example, the restrictions of the subjunctive in expressing indifference is not captured. We think that the meaning of the two operators is associated with distinct restrictions which can be modeled as presuppositions but we leave this issue for future research.

[10] We are grateful to Roumi Pancheva for discussion and for pointing out this alternative analysis.

[11] An alternative explanation could be that tenseless imperatives are structurally and morphosyntactically less complex than subjunctives. It follows that in immediate contexts, the subjunctive, as a more complex alternative, would be expected to be dispreferred. This blocking effect could be derived in terms of a manner implicature based on Horn's *Principle of Least Effort*: The use of a marked expression when a corresponding unmarked alternative expression is available tends to be interpreted as conveying a marked message (see Rett, 2020, building on Horn, 1984). However, given that the difference between imperatives and subjunctives weakens when an overt adverbial is present, we do not think this analysis is on the right track. Under a manner implicature (based on structural

The contrast between imperatives and subjunctives is even clearer in the case of imperfective directives; Imperatives always receive an immediate interpretation whereas subjunctive either require a salient topic time to be interpreted as progressive or they receive a generic/habitual interpretation, which always results in being understood either as advice or as instruction. In this sense, temporal interpretation affects speech act type, rather than the other way around.

(31) a. Trehe! Run.IMP.IMPRF.2SG 'Be running!
b. Na trehis! SUBJ run.NON-PAST.IMPRF.2SG 'Always run'
c. Treha! Run.IMP.∅.2SG 'Run!'

As we see in (32a), the imperfective imperative (*trehe*) is entirely consistent with events that are currently in progress since the only temporal restriction is that the event is happening at the utterance time. We can then understand why imperatives provide the ideal environment for aspect underspecification. Due to the lack of tense, their primary function is to introduce a time variable, which is precisely what is ensured in (32c).[12]

(32) a. $[\![(31a)]\!]^c = \exists w' \in Best^c_{f,g} \wedge \exists e[run(e,w',Ad_c,t_c) \wedge t_c \subset \tau(e)]$
b. $[\![(31b)]\!]^c = \exists w' \in Best^c_{f,g} \wedge \exists t' \exists e[run(e,w',Ad_c,t_c) \wedge t_c \subset \tau(e) \wedge t_c \leq t']$
c. $[\![(31c))]\!]^c = \exists w' \in Best^c_{f,g} \wedge \exists e[run(e,w',Ad_c,t_c) \wedge \tau(e)$ AT $t_c]$

Under this view, two questions arise: (i) what happens when there is lexical tense, i.e., a temporal modifier, and (ii) how do we explain the distribution of the two forms in the future when adverbials are absent? These two questions are interconnected, as they both concern the future interpretation of imperatives. Again, in this analysis, we follow Pancheva and Zubizarreta's account of future interpretation in such languages. Since there is no future tense, they argue that future interpretation is achieved by time-shifting from the speech time to the narrative time, which can be the future.

Does this mean that time shift is unrestricted? Particularly for future narrative shift, Pancheva and Zubizarreta (2020, 2023) show that it is quite restricted. However, we propose that in the case of imperatives, future time shift occurs under the directive illocutionary force in the presence of IMP. Thus, we could say that shifting to the future, but not to the past, is possible. We preserve Pancheva and Zubizarreta's idea of bi-contextual evaluation, since the imperative operator is always evaluated at speech time unless it is embedded in a different situation from the utterance situation (see Crnič and Trinh, 2009). We thus assume two distinct pronominal elements: one at the highest level and one embedded. It is possible that both are anaphoric to speech time, but it is also possible that the highest is anaphoric to context time while the embedded one is shifted to the future. Future shifting occurs only when evaluation at context time is not possible. This happens when there is an overt adverbial or when the context suggests a future interpretation.[13]

complexity), we would expect the same effect regardless of temporal modification. In contrast, under the less vs. more specified distinction, we expect these differences to become milder when a temporal modifier is introduced.

[12]Notice that in past subjunctives, as in (24), the past imperfective is also semantically underspecified—i.e., it can convey either a perfective or an imperfective interpretation, with the perfective interpretation being the most salient. This tendency aligns with the observation that children tend to interpret the imperfective as perfective, suggesting that these environments might be crucial for this developmental stage in language acquisition.

[13]The same mechanism could apply to futurate present, which is quite productive in Greek and occurs mostly in directive meanings.

Let us first examine the case where lexical tense is present. Following Pancheva and Zubizarreta (2020, 2023), we adopt the LF in (33). The meaning of the imperative in (34a) is presented in (35c). The perfective imperative with the adverbial *tomorrow* must obligatorily shift the narrative time to the future.

(33) $[_{ImpP}$ IMP [(LEX.TENSE) $[_{AspP}\ \lambda t\ \lambda w'\ \exists e[\tau(e) \subseteq t]]]$

(34) a. Trekse avrio!
Run.IMP.PRF.2SG tomorrow
'Run tomorrow!'

b. Na treksis avrio!
SUBJ run.NON-PAST.PRF.2SG tomorrow
'Run tomorrow!'

(35) a. [IMP $[_{CP}$ *pro* ... $\lambda t \exists e[run(e,Ad_c,w') \wedge \tau(e) \subseteq t \wedge t \subseteq tomorrow$]]]
b. $[\![\text{pro}]\!]^{c,n} = t_c$ or t_n, $t_n > t_c$
c. $[\![(29a)]\!]^{c,n} = \exists w' \in Best^c_{f,g} \wedge \exists e[run(e,w',Ad_c,t_n) \wedge \tau(e) \subseteq t_n \wedge t_n \subseteq$ day after $t_c]$

By contrast, the subjunctive in (34b) does not require time shift. *Tomorrow* modifies the tense in (34b) deriving the interpretation in (36). By comparing the two meanings, we see that the imperative and the subjunctive end up having the same interpretation; thus, no difference is expected in their distribution when modified by future adverbials, which indeed captures our intuition.

(36) $[\![(34b)]\!]^{c,n} = \exists w' \in Best^c_{f,g} \wedge \exists t' \exists e[run(e,w',Ad_c,t') \wedge \tau(e) \subseteq t' \wedge (t_c \leq t') \wedge t' \subseteq$ day after $t_c]$

Now the second question, concerns future reference of imperatives in the absence of an adverbial. For example an imperative (37a) can be uttered in a context in which *I visit my friend who lives at Aguseliana of Rethymno. He shows me his tasty and juicy tomatoes and tells me*:

(37) a. Fitepse ki esi aftus tus sporus.
Plant.IMP.PRF.2SG and you these the seeds
'You too, plant these seeds that Janis gave us.'

b. Na fitepsis ki esi aftus tus sporus.
SUBJ plant.PRF.2SG and you these the seeds
'You too, plant these seeds that Janis gave us.'

The imperative in (37a) is natural (although there still might be a preference for the subjunctive in (37b)). Clearly the utterance is not about *here-and-now*, it might take months till the conditions are suitable for planting. Still a future adverbial is not necessary for deriving a future interpretation with the imperative. In these cases we take it that the context is so clear, that time shift is possible without a cost, this is the reason why the imperative and the subjunctive are exchangeable.

There are other environments in which time shift is not as easy. The variation in this respect, depending on the context and the content of the prejacent, is apparent in the item variation presented in Figure 3 (Section 3.3). The clearest distinction is found in the example with the item *Give me the glasses*. The experimental contexts are given in (38). The imperative in (39a) is top-rated at 5 by all participants, whereas the subjunctive is rated very low—below 3, with the majority of participants giving it the lowest rating. Conversely, in the later context (38b), the imperative is rated below 2, whereas the subjunctive in (39b) is top-rated by all participants.

(38) a. Immediate context: It's very sunny. Giannis is driving, and the sun is blinding him. They have a pair of sunglasses in the glove compartment, so he says to Christina: *Give me the glasses.*

b. Later context: Maria called her friend to tell her that she will visit her in the evening. Since last time she forgot her daughter's glasses there, before hanging up, she says to her friend: *Give me the glasses.*

(39) a. Dose mu ta gialia.
Give.IMP.2SG CL the glasses
'Give me the glasses.'

b. Na mu dosis ta gialia.
SUBJ CL give.IMP.2SG the glasses
'Give me the glasses.'

Why is time shift easier in some cases than in others? Several factors interact to determine temporal evaluation in imperatives. The lexical semantics of *give* require the speaker and the addressee to be present in the same location, and the action of giving is instantaneous. The later context clarifies that the two individuals are not together and will meet later, but at the same time, the adverbial (in the evening) does not appear immediately before the imperative to facilitate time-shifting. If we add a future-oriented modifier like *afterwards* to the sentence, our judgment is that the imperative becomes much more acceptable.

(40) a. Dose mu ta gialia meta.
give.IMP.2SG CL the glasses after
'Give me the glasses afterwards.'

b. Na mu dosis ta gialia meta.
SUBJ CL give.2SG the glasses after

By contrast, in the case of the planting example in (37a), the meaning of the verb imposes certain restrictions, making it clear that it describes an accomplishment, i.e., a non-instantaneous event that requires time. We argue that one factor influencing this interpretation is the lexical meaning and aspect of the verb. Another factor that varies is how the notion of *now* can be stretched into the future. For instance, advice like *take an umbrella* can be interpreted as immediate, i.e., relevant to the current rainy situation, even if the person is leaving in an hour (see the higher ratings for this item in Figure 3). Thus, the study suggests that contextual time shift depends on various factors, including how the context is perceived, the lexical meaning of the verb, and the aspectual class of the VP. We believe that further research on these factors is necessary to make clearer predictions about the preference for a subjunctive or an imperative depending on temporal interpretation.

5. Concluding remarks and open questions

Beyond the overall wider distribution of subjunctives, we observed that imperatives are preferred over the subjunctive in immediacy contexts. We proposed a competition-based account, arguing that imperatives, which in our view lack tense, are interpreted at speech time, thereby acquiring a more specific interpretation than the subjunctive, which conveys non-past. This explains why the subjunctive is blocked in immediate contexts. Furthermore, it allows us to understand how future interpretation is possible in imperatives via narrative time shift, which is encouraged by the directive illocutionary force of the utterance.

Additionally, this paper highlights the role of aspect in the interpretation of Greek imperatives and the existence of a third underspecified imperative form, which is compatible with both perfective and imperfective interpretations. This neutral form is not attested in subjunctives, reinforcing the view that the primary role of aspect in imperatives is to introduce a time variable.

Temporal interpretation in directive speech acts

Several questions remain open regarding the interaction between lexical meaning, aspectual class, and interpretation in imperatives. Furthermore, it is necessary to further investigate the restrictions on narrative time shift and the role of directive illocutionary force in the availability of tenseless constructions.

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