Modal anchoring in covert modals: *a dichotomy between mood and aspect in Greek*

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Introduction One of the puzzles in the domain of modality is the polysemy of modal verbs (e.g. *epistemic/deontic may*), Kratzer (1977, 1981). A fruitful line of research is that modal flavor is conditioned by the position of the modal operator in the clausal spine (Brennan 1993; Hackl 1998; Cinque 1999; Hacquard 2006, 2009). Hacquard (2006) suggests that modal anchoring depends on the syntactic position of the operator and she models this idea by relativizing the modal base (MB) to an event variable, which can be anchored either to the main clausal event, deriving root/dynamic modals or to the *speech-act* event deriving epistemic and deontic performative modals.

This work provides evidence from the domain of covert modality in favor of the syntactic approach to modal "polysemy". By investigating covert modality associated with syntactic categories like *mood* and *aspect*, whose position is fixed in the clause (1), we show that there is a correlation between their syntactic position and their modal flavor. In particular, *non-indicative mood* in Greek (i.e. *imperative & subjunctive*) is associated with an epistemic MB anchored to the perspective center (*PC*), i.e. the speaker in matrix clauses (*epistemics & deontic performatives*) whereas *imperfective aspect* with a *circumstantial* MB anchored to the subject.

(1) $[_{saP} [_{CP} C [_{moodP} \textbf{mood}_{imp/subj} [_{TP} T <FUT> [_{AspectP} \textbf{Aspect} [_{vP} v [_{vP} V DP]]]]]]]$

Mood-**modality** A well-known case of *mood*-conditioned modality is imperatives and matrix subjunctives (MSs) which typically convey *permission, request, advice, wish, etc.* (Rivero & Terzi 1995; Giannakidou 2009; Portner 2007; Kaufmann 2012; Condoravdi & Lauer 2012). One of their inherent properties is *speaker endorsement,* i.e. that the speaker must endorse at least to a certain extent the prejacent, illustrated by the infelicitous continuation in (1a,b) (Kaufmann 2012; Condoravdi and Lauer 2012; Stegovec 2019).

(1) a. Fige! b. Na figis {a,b}#ala den thelo na figis.
    Leave.IMP SUBJ leave.2SG but not want.1SG SUBJ leave.2SG
    'Leave!' 'Leave' 'but I don't want you to leave.'

Assuming that there is a modal operator at the level of *imp/subj*-mood, speaker anchoring receives a natural explanation under a syntactic approach to modal anchoring (see Stegovec 2019). Similarly, a *past*-marked subjunctive expresses a wish (2a) (Iatridou 2000) or an actual past imperative (2b) (Mastop 2005; Mastop 2011) about a past situation given the epistemic state of the speaker at the **utterance time** (UT).

(2) *a. I just realized my best friend was*   *b. Today we didn't have any work to do and so my*
    at a party that I didn't want to go...   *boss regretted that he didn't give me a day-off*:
    As iha pai sto parti...   As efevges htes telika.
    SUBJ had gone to-the party   SUBJ leave.IMPF.PAST yesterday finally
    '(now) I wish I had gone to the party.'   'I now think it would be ok if you had left yesterday'

One might conjecture that speaker/UT-anchoring, can also be accounted under a different approach, by associating *imp/subj*-mood with directive illocutionary force (Han 2000; Portner 2007; Zanuttini, Portner and Pak 2012), but crucially we also find environments in which MSs and imperatives lack any directive force, acquiring instead an epistemic flavor (Giannakidou 2009, 2015). First, imperatives and MSs participate in a construction conveying that *the speaker considers the realization of the prejacent to be difficult* (Demirok & Oikonomou 2018):

(3) a. Ande {diavase} / {na diavasis} me tetjo thorivo..
    PRT read.IMP SUBJ read.2SG with such noise
    'It is very difficult to study with such noise.'

Secondly, MSs can receive an *epistemic interpretation* in a question as in (4a) (Rouchota 1994; Giannakidou 2009, Giannakidou & Mari 2016) or in combination with the particle *pu*. A MS combined with the particle *pu* conveys that the prejacent is unlikely to be realized as in (4b).

(4) a. Na   efige   i Maria?   b. Pu na   figi   i Maria…
       SUBJ leave.PAST the Maria   PRT SUBJ leave.3SG the maria.NOM
       'the speaker wonders if maria left'   'the speaker considers it unlikely that Maria leaves.'

Finally, the future particle *tha* 'will', whose position is argued to be at the TP-level (Giannakidou 2009), can have an epistemic interpretation (i.e. *epistemic future*, Giannakidou & Mari 2015, 2016)

(5) Tha efige i Maria.
    FUT left   the Maria.NOM
    'It is highly possible that Maria left

Aspect-modality Turning to the domain of aspect, we observe that all patterns involve root or priority modals. Dispositional middles as in (6a) are analysed as involving a modal operator at the level of aspect (Condoravdi 1989; Lekakou 2004, Menéndez-Benito 2013), conveying circumstantial modality anchored to the properties of the subject. A different pattern of dynamic modality, which to the best of my knowledge has not been discussed so far, expresses the *subject*'s ability to realize the prejacent. Crucially, (6a,b) are felicitous in a context where the prejacent has not been realized before, indicating that they are not habituals (Carlson 1995).

(6) a. Afto to fito   trogete.   b. Afti tin apostasi tin kolibai   o Ion.
       This the plant eat.NACT.IMPF.PRES.3SG   This the distance CL swim.IMPF.PRES.3SG the Ion
       'This plant is edible.'   'Ion can swim this distance.'

In (7a) we observe another pattern of aspect-modality which has not been discussed. Similar to (6b), imperfective doesn't contribute its regular meaning in these constructions (Iatridou 2000, Ferreira 2016). (7a) conveys that *the subject is willing to fulfil the prejacent*. This pattern can be compared with the corresponding bouletic subjunctive-construction in (7b). Crucially, we observe the reverse pattern; in (7a) we can deny the speaker's but not the subject's desire for the prejacent to be realized and vice versa in (7b). This is explained if at the level of aspect, the bouletic ordering source is relativized to the subject whereas at the level of mood is relativized to the PC.

(7) a. o Nikos mu   dini   to amaksi tu √*but I don't want him to give it to me.*
       the Nick CL.1SG give.IMPRF.3SG the car   his #*but I know he doesn't want to give it to me.*
       'Nick is willing to give me his car.'

    a. o Nikos na mu   dosi   to amaksi tu # *but I don't want him to give it to me.*
       the Nick SUBJ CL.1SG give.3SG the car his   √ *but I know he doesn't want to give it to me.*
       'I want Nick to give me his car.'

Mood-aspect dichotomy and beyond The present work establishes a semantic dichotomy between *mood* and *aspect* modality which can be explained under a syntactic approach to modal anchoring. This can be modelled in different ways, for instance, following the insight in Kratzer (2012) who builds on Hacquard (2006), a MB can be anchored to entities of various types, e.g. individuals or situations, deriving a doxastic modal base anchored to the PC or a circumstantial MB dependent on the properties of the subject. This hypothesis is testable crosslinguistically (e.g. many Balkan languages exhibit the same dichotomy) and it has certain implications not only on our understanding of modal polysemy but also on the role of grammatical categories like *mood* (Villalta 2008, Quer 2009; Portner & Rubinstein 2012; Giannakidou 2015 a.o.) and *aspect* (Iatridou 2000, Ferreira 2016 a.o.) which appear to license different types of modals.