

Why would you D that? On the D-layer in Greek clausal subjects

Katya Morgunova & Anastasia Tsilia

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1 Introduction

- In some languages, clausal subjects obligatorily have an overt DP element, like a definite article or a demonstrative, preceding them (henceforth D-layer). Researchers posit that the D-layer is essential for the clause to become a subject, as only DPs can occupy SpecTP (Hartman, 2012; Kastner, 2015).
- These facts have been argued to hold across many languages, including Greek (Kastner, 2015).
- However, a more intricate examination of Greek clausal subjects shows that the D-layer is not always necessary.
- In this talk we argue that the distribution of the D-layer in Greek clausal subjects is not governed by syntactic considerations, contrary to previous claims in the literature; rather, it is determined on the basis of semantics and pragmatics.
- We propose that the D-layer in clausal subjects introduces a presupposition that the proposition it modifies is consistent with the beliefs of the speaker. We then show that the proposed semantics along with additional pragmatic considerations accounts for its context-dependent distribution in Greek.

2 Empirical picture

- In Greek, clausal subjects can be headed by the neuter definite article *to*.
- In previous literature, the article has been to always be obligatorily present on Greek clausal subjects (Kastner, 2015; Roussou, 1994).

- (1) [To oti katerefse to ktirio] fenete na ine apli
DET COMP collapsed DET building appear.3SG.PRES SUBJ be simple
fimi.
rumor
'That the building collapsed seems to be just a rumor.' (Kastner, 2015)
- (2) [To oti perase tis eksetasis] me efaristise.
DET COMP passed DET exams me happy.PASS.3SG
'That s/he succeeded in the exams made me happy.' (Roussou, 1994)

- However, in most of the examples presented in the past literature the matrix predicates that were factive; it is not reported whether the properties of the matrix predicate can affect the acceptability of the D-layer.
- Extending the range of contexts showed that in many cases, speakers find the presence of a D-layer in this position optional, as illustrated in (3).

- (3) Context: *There is a rumor that prince Andreas is getting married.*
[(To) oti o prigkipas Andreas pantrevete] ine pithano.
DET COMP DET prince Andreas marry.PASS.3SG be.PRS probable
'That prince Andreas is getting married is probable.'

- While in most cases we found the use of *to* to be optional, we also found that in certain cases speakers can show a preference for using or omitting the D-layer depending on the context.
- In particular, the D-layer is preferred when the main predicate entails that the proposition *p* expressed by the clausal subject is true (i.e., *p* is in the set of the speaker's beliefs), as in (4). The check-mark in this example indicates preference.

(4) Context: *The speaker is a member of the flat Earth society.*

[(✓To) oti i ghi ine epipedhi] ine dedhomeno.
 DET COMP DET Earth be.PRS flat be.PRS given

‘That the Earth is flat is a given.’

- The D-layer is also preferred in subjects of factive verbs that presuppose the truth of their argument.

(5) a. [(✓To) oti to ktirio katerfese] anakalifthike apo
 DET COMP DET building collapse.3SG.PST discover.3SG.PST from
 dio dimosiografus.

two journalists

‘It was discovered by two journalists that the building collapsed.’

b. [(✓To) oti to ktirio katerfese] me
 DET COMP DET building collapse.3SG.PST me.ACC
 fovise.

scare.3SG.PST.PASSIVE

‘That the building collapsed frightened me.’

c. [(✓To) oti kerdhise o panthinaikos] stenachorise ton
 DET COMP win.3SG.PST DET panthinaikos sadden.3SG.PST DET
 Yani.

Yanis

‘That Panthinaikos won saddened Yanis.’

- On the other hand, the D-layer is strongly dispreferred when the main predicate entails that *p* is false (i.e., *p* is inconsistent with the speaker’s beliefs), like in (6).

(6) Context: *The speaker hates the flat Earth society and does not share any of their beliefs.*

[(??To) oti i ghi ine epipedhi] ine adhinaton.
 DET COMP DET Earth be.PRS flat be.PRS impossible

‘That the Earth is flat is impossible.’

- These examples suggest a three-way distinction.

- The use of the determiner is

- **preferred** if the proposition expressed by the clausal subject is part of the set of beliefs of the speaker (4)
- **dispreferred** if it is incompatible with their beliefs (6)
- **optional** if it is compatible with but not part of their beliefs (3).

- Thus, the presence of the D-layer positively correlates with the degree of the speaker’s certainty about the truth of the proposition expressed by the clausal subject.

- Crucially, however, in all the above examples the main predicate influences the acceptability of the D-layer in the clausal subject. We also need to provide a baseline, where the main predicate does not make any claims about the truth, falsity or possibility of the proposition expressed by the clausal subject.

- Instances of logical reasoning, such as when we state that one sentence entails or presupposes another, could be good candidates for this baseline.

(7) Context: *I am a scientist trying to convince via logical reasoning a flat-earther that the earth is not flat.*

a. [(??To) oti i ghi ine epipedhi] proipotheti oti
 DET COMP DET Earth be.PRS flat presuppose.PRS COMP
 boris na ftasis stin akri tis.
 can.PRS COMP reach.SUBJ to-the edge her.DAT

‘That the Earth is flat presupposes that you can reach its edge.’

b. [(To) oti i ghi ine strogili] sinepaghete oti dhen
 DET COMP DET Earth be.PRS round entail.PRS COMP NEG
 ine epipedhi.
 be.PRS flat

‘That the Earth is round entails that it’s not flat.’

- Again, we see that the acceptability of the D-layer correlates with its compatibility with the beliefs of the speaker, even when the main predicate makes no claims about it.

- So far, we have seen that the D-layer is never **necessary**, but can only be added when the proposition expressed by the clausal subject is compatible with the beliefs of the speaker.

- What drives the choice between including or omitting the D-layer when the proposition expressed by the clausal subject is compatible with (but not necessarily part of) the beliefs of the speaker? In other words, when do we add a D-layer in cases like (8)?

(8) Context: *There is a rumor that prince Andreas is getting married.*

[(To) **oti** o prigkipas Andreas pantrevete] ine pithano.
DET COMP DET prince Andreas marry.PASS.3SG be.PRS probable

‘That prince Andreas is getting married is probable.’

- Our intuition is that if the truth of the proposition is in question, or more generally has not been proven yet, then omitting the D-layer shows impartiality or potential disbelief, while including it shows that the speaker is more willing to entertain the proposition as a real possibility. This is exemplified in the following scenario:

(9) Context: *We are in a courtroom and the evidence so far neither proves nor disproves that the defendant is guilty.*

a. Defendant’s lawyer:

[([?]To) **oti** o katighorumenos ine enochos] ine mia
 DET COMP DET defendant be.PRS guilty be.PRS a
 pithanotita. Ala tha sas apodikso tin athootita tu.
 possibility. But will you.DAT prove.PRS DET innocence his.DAT

‘That the defendant is guilty is a possibility. But I will prove to you his innocence.’

b. Prosecution’s lawyer:

[([✓]To) **oti** o katighorumenos ine enochos] ine mia
 DET COMP DET defendant be.PRS guilty be.PRS a
 pithanotita ghia tin ora. Tha sas apodhikso **oti** ine
 possibility for the time. will you.DAT prove.PRS COMP be.PRS
 pragmatikotita.
 reality

‘That the defendant is guilty is a possibility for the time being. I will prove to you that it’s the reality.’

c. Judge:

[(To) **oti** o katighorumenos ine enochos] ine mia
 DET COMP DET defendant be.PRS guilty be.PRS a
 pithanotita. As akusume ta epichirimata sas.
 possibility. Let hear.SUBJ DET arguments yours

‘That the defendant is guilty is a possibility. Let’s hear your arguments.’

2.1 Statements vs. events

- What if the speaker takes someone else’s perspective or there is an attitude holder? With whose beliefs does the proposition have to be comparable, the speaker’s or the perspectival center’s/attitude holder’s?
- The D-layer may appear when the speaker reports on the perspective of another participant, even if the speaker believes the proposition expressed by the clausal subject to be false:

(10) Context: *There is a debate about whether the earth is flat or round. The speaker is a well known scientist, defending that the earth is round. Their opponent is a member of the flat earth society.*

[To **oti** i ghi ine epipedhi] ine mia vlakia!
 DET COMP DET earth be.PRS flat be.PRS a stupidity

‘That the earth is flat is a stupidity.’

- This sentence directly addressed to the speaker’s debate opponent, has in a sense a “quotative” reading, basically saying “the p that is being defended by my opponent is a stupidity”.¹
- The thesis “the earth is flat” exists even if the proposition “the earth is flat” is false. So, this is not an exception to the generalization, since (10) is referring to the thesis; the existence of the latter is compatible with the speaker’s beliefs (trivially so, since any thesis would be), while the event

¹We argue against these cases being “quotes”. First, there is a complementizer. Second, we do not see indexical shift in constructions of that kind. For example, if the opponent had said “My earth is flat!” (as in the earth I perceive), (10) would have “your” instead of “my” earth. Finally, for (10) to be uttered, the proposition expressed by the clausal subject does not need to be explicitly mentioned in the discourse; there need not be a sentence that is clearly quoted. It is sufficient that this is the salient thesis of the speaker’s opponent.

isn't. After all, if the speaker was referring to an event, it would not qualify it as "stupid"; a thesis, on the other hand, can very well be stupid.²

- This can become even more obvious if we vary the main predicate:

- (11) *Context: There is a debate about whether the earth is flat or round. The speaker is a well known scientist, defending that the earth is round. Their opponent is a member of the flat earth society.*

(*To) oti i ghi ine epipedhi ine adhinaton!
 DET COMP DET earth be.PRS flat be.PRS impossible

'That the earth is flat is impossible!'

- The predicate *impossible* targets the event of the earth being flat rather than the thesis/statement that it is. Therefore, the D-layer is not licensed, since the existence of such an event is incompatible with the speaker's beliefs.

2.2 Embedded contexts

- What about embedded contexts where there is an attitude holder that is different than the speaker? Does the speaker's or attitude holder's set of beliefs affect the presence of the D-layer in those cases?
- To test this, we need examples with a mismatch between the beliefs of the speaker and those of the attitude holder.
- Let's see what happens if the speaker is not licensed to use the D-layer, but the attitude holder is:

- (12) *Context: Yanis is a member of the flat earth society, while the speaker is a respected physicist.*

(Aftos o vlakas) o Yianis ipe oti [(to) oti i ghi ine
 That DET idiot DET Yanis say.PST COMP DET COMP DET earth is
 epipedhi] ine mia vasiki archi tis epistimis.
 flat is a fundamental principle of science.

²Another explanation could be to say that the speaker takes on the perspective of another participant, under which *p* is believed to hold. However, if this was perspectival shift we would expect indexicals to shift as well, which is not the case.

'(That idiot) Yanis said that [that the earth is flat] is a fundamental principle of science.'

- This example shows that it's the beliefs of the attitude holder and not those of the speaker that determine whether the D-layer can be used.
- If we now reverse the scenarios and the speaker, but not the attitude holder, is licensed to use the D-layer, we get the following judgment:

- (13) *Context: The speaker is a member of the flat earth society, and Yanis is a prominent physicist opposing the society.*

(Aftos o vlakas) o Yianis ipe oti [(??to) oti i ghi
 That DET idiot DET Yanis say.PST COMP DET COMP DET earth
 ine epipedhi] ine psemata.
 is flat is lies.

'(That idiot) Yanis said that [that the earth is flat] is wrong.'

- The control case is one where both the speaker and the attitude holder believe the clausal subject to be false:³
- (14) *Context: Both the speaker and Yanis are prominent physicists.*

O Yianis ipe oti [(??to) oti i ghi ine epipedhi] ine
 DET Yanis say.PST COMP DET COMP DET earth is flat is
 apodedhigmena lathos.
 proven wrong.

'Yanis said that [that the earth is flat] has been proven to be wrong.'

- We conclude that the D-layer presupposes the proposition expressed by the clausal subject to be compatible with the attitude holder's beliefs.

2.3 Interim summary

- The D-layer in clausal subjects is never obligatory, being preferred when the attitude holder believes in the truth of the proposition expressed by the subject, and dis-preferred when the attitude holder has a belief contradicting the clausal subject.

³Notice, that at the absence of the determiner, a small intonational pause may be needed between the two 'oti' to avoid confusion.

Empirical generalizations

- 1) The D-layer cannot be used when the attitude holder has a belief contradicting the proposition expressed by the clausal subject.
- 2) The D-layer is preferred when the attitude holder believes the proposition expressed by the clausal subject to be true.
- 3) The D-layer is always optional, never required.

- Standard presupposition tests (von Stechow, 2004) indicate that this semantics arises as a presupposition that is contributed by the D-layer.

(15) *Context: Speaker (a.) knows the Earth is round, but speaker (b.) believes it is flat.*

a. [To oti i ghi ine strogili] ine to thema sto
 DET COMP DET Earth is round be.3SG DET subject in-the
 mathima fisikis simera.
 class physics today
 ‘That the earth is round is the topic in physics class today.’

b. E, miso lepto, dhen iksera oti i ghi ine strogili!
 hey half minute NEG know.PST COMP DET Earth be.3SG round
 ‘Hey, wait a minute, I didn’t know the Earth is round!’

- Prediction: if a sentence presupposes p , expressed by the clausal subject, then asserting that sentence would commit the speaker to believe p ; they should then be able to use the D-layer. So, if p is at the antecedent of a conditional, the D-layer should be licensed.

(16) An o prigkipas ontos pandrevete, to oti pandrevete
 If DET prince indeed getting-married, DET that getting-married
 tha ine stin efimeridha!
 will be in-the newspaper
 ‘If the prince is indeed getting married, that he’s getting married will be in the newspaper!’

2.4 Inadequacy of previous proposals

- Notably, this complex distribution of the D-layer is not captured under purely syntactic approaches.

- Hartman (2012) and Kastner (2015) propose that sentential subjects obligatory bear the D-layer to be able to move to Spec,TP, as only DPs can move to the subject position.
- However, this approach does not account for the fact that the presence of the D-layer is **never** obligatory and that its distribution could be affected by the semantics of the predicate or the state of the belief set of the attitude holder.
- Kastner (2015) claims that the presence of the D-layer in clauses could also correlate with the presence of a factive presupposition.
- This does not straightforwardly extend to the Greek data either. Granted, indeed, when the proposition expressed by the clausal subject is clearly false, the D-layer cannot be used at all.
- But, the D-layer does not presuppose that the proposition expressed by the clausal subject is true; it is sufficient that it is possibly true for the D-layer to be licensed.

(17) *Context: There is a rumor that prince Andreas is getting married.*

[(To) oti o prigkipas Andreas pantrevete] ine pithano.
 DET COMP DET prince Andreas marry.PASS.3SG be.PRS probable

‘That prince Andreas is getting married is probable.’

3 Proposal

- We propose that the distribution of the D-layer in clausal subjects is determined by the semantics of the D-layer instead of the syntactic properties of the clausal subjects.
- The D-layer makes use of the doxastic set DOX of the speaker x , representing the set of their beliefs and takes the proposition p expressed by the clausal subject as its argument. It then introduces a presupposition that p is not contradicting with any other proposition in DOX . Thus, for every proposition in DOX , there is a world where it is true and p is too.

(18) $\llbracket \text{to} \rrbracket = \lambda x. \lambda p_{st} : \forall q_{st} \in \text{DOX}(x) \exists w [q(w) \wedge p(w) = 1]. p$

- Note that this presupposition is rather weak. One may be tempted to propose the following entry, where the presupposition is that p is part of the set of beliefs of the speaker:

(19) $\llbracket to \rrbracket = \lambda x. \lambda p_{st} : p_{st} \in \text{DOX}(x) . p$

- However, (19) would make the wrong prediction for predicates like “probable”, as in (20).

(20) Context: *There is a rumor that prince Andreas is getting married.*

[(To) oti o prigkipas Andreas pantrevete] ine pithano.
DET COMP DET prince Andreas marry.PASS.3SG be.PRS probable

‘That prince Andreas is getting married is probable.’

- If the speaker already believed p , then they would not simply state p is probable, since this would give rise to an implicature that p could be false. Thus, (19) would wrongly predict that a D-layer is impossible in (3).
- The compatibility of the D-layer with predicates implying that the speaker does not have beliefs about the truth value of p thus leads us to propose (18).

3.1 Predictions

- The denotation in (18) rules out the presence of the D-layer in examples like (21), where p is incompatible with the speaker’s beliefs. The presupposition is not met, given that the predicate ‘impossible’ entails the proposition to be false.

(21) Context: *The speaker hates the flat Earth society and does not share any of their beliefs.*

[(^{??}To) oti i ghi ine epipedhi] ine adhinaton.
DET COMP DET Earth be.PRS flat be.PRS impossible

‘That the Earth is flat is impossible.’

- This semantics alone, however, does not predict the difference between (3), where the D-layer is fully optional, and (4), where it is actually preferred.

- We propose that in the contexts where the use of the D-layer is not ruled out due to the semantics of the matrix predicate, its distribution is governed by the Maximize Presupposition! principle (Heim, 1991).

- In examples like (5), the presupposition of the D-layer will always be met due to the semantics of the matrix predicates. Thus, the speakers are expected to show a preference for the presence of *to* in these contexts.

- In examples like (3) the matrix predicate does not encode that the presupposition of the D-layer is necessarily met. Thus, whether the presupposition of the D-layer is met or not is not encoded in the semantics of the sentence itself. However, the speaker may choose to enforce this presupposition pragmatically; this predicts that the presence of the D-layer will dependent solely on the conversational intents of the speaker.

- We also predict the optionality of the D-layer, since no anti-presupposition is triggered at the absence of a D-layer; this is because the structure without the D-layer is structurally simpler and thus does not compete with the D-layered one (Katzir, 2007).

4 A note on syntax

- As previously mentioned, it has been argued that the D-layer is necessary in all sentential subject (Hartman, 2012; Kastner, 2015; Roussou, 1994; Roussou & Tsimpili, 1994), the idea being that it needs to be a DP.

- With respect to Greek sentential subjects, there are three theoretical possibilities about their categorial status:

- **OPTION 1:** All sentential subjects are always DPs for syntactic reasons. When there is no overt D-layer, there is actually a covert D present in the structure.

- **OPTION 2:** Sentential subject in Greek can be both DPs and CPs. Whenever a D-layer is pronounced we have a DP structure and whenever it is not we have a CP one.

- **OPTION 3:** Sentential subject in Greek do not need to be DPs, and in fact are always CPs. The D-layer has a purely semantic function and does not change the syntactic category of the clausal subject.

- We will reject the first possibility and also present an argument against the last possibility, showing that clausal subjects can be either DPs or CPs, depending on whether there is an overt D-layer or not.
 - Takahashi (2010) shows that English clausal subjects behave like nominals, even at the absence of an overt D-layer, generalizing:
- (22) **The Moved Clausal Complement Generalization:** A clausal complement is allowed to move only if its base-generated position is one in which a DP is allowed to appear.
- One of his arguments comes from structures where CPs act as complements to preposition.
 - In English, clausal complement CPs cannot appear in the complement of a preposition. This constraint is referred to as the *[P CP] constraint.
- (23) This assumption accounts for the fact that these nouns behave differently.
- (24) *This assumption accounts for that these nouns behave differently.
- Takahashi (2010) notices that this constraint can be obviated by topicalization of a clausal complement:
- (25) That Sonia attended the interview, I couldn't insist on.
- (26) *I couldn't insist on that Sonia attended the interview.
- Takahashi (2010) then proposes that moved clausal subjects are DPs, having a covert D-layer that is overt in some languages.
 - Greek clausal complement CPs cannot appear in the complement of the preposition without the D-layer, so the *[P CP] holds:
- (27) I Maria thimose ghia *(to) oti dhen plirothike tris
 DET Maria mad.PST for DET that NEG paid.PASSIVE.PST three
 mines.
 months.
 'Maria was mad for not being paid for three months.'
- In (27) the presence of the D-layer is required for syntactic reasons, as prepositions only select for nouns. The fact the D-layer needs to be overt here suggests that there is no covert silent D head in Greek in general. that a covert silent D head
 - Thus, it can be suggested that whenever there is an overt D-layer in a clause it is a DP, and whenever there isn't a D-layer, the clause is a CP.
 - This is further supported by the examples of topicalized complements of P.
 - While in English moving the CP escapes the *[P CP] (25), in Greek this is only the case if the moved clausal complement has an overt D-layer:
- (28) ??Oti dhen plirothike ghia tris mines, i Maria fisika
 COMP NEG pay.PASSIVE.PST for three months, DET Maria of-course
 thimose ghia auto!
 mad.PST for this!
 'That she didn't get paid for three months, Maria of course was mad about!'
- (29) To oti dhen plirothike ghia tris mines, i Maria
 DET COMP NEG pay.PASSIVE.PST for three months, DET Maria
 fisika thimose ghia auto!
 of-course mad.PST for this!
 'That she didn't get paid for three months, Maria of course was mad about!'
- Notice that we have a demonstrative being the complement of the preposition, since there is no preposition stranding in Greek:
- (30) *To oti dhen plirothike ghia tris mines, i Maria
 DET COMP NEG pay.PASSIVE.PST for three months, DET Maria
 fisika thimose ghia!
 of-course mad.PST for!
 Intended: 'That she didn't get paid for three months, Maria of course was mad about!'
- This argues in favor of the generalization that clausal subjects are DPs whenever there is a D-layer, and CPs otherwise.

- Therefore, the generalization of Takahashi (2010) about moved clausal complements is not falsified, but needs to be refined. Namely, bare CP clausal subject can never move; they need to have an overt D-layer in Greek.
- Does the D-layer inserted for the syntactic reasons (i.e., to avoid the *[P CP] constraint) also have the associated semantics described in the previous section?
- If it does, this would predict ineffability in cases where the attitude holder knows the CP to be false.

(31) *Maria is the best student in class and is very competitive. While studying with her classmates for an exam, she told them the earth is flat so that they get the answer wrong (even though she knows the earth is round).*

I Maria milise ghia [to oti i ghi ine epipedhi], ki as
 DET Maria talk.PST for DET COMP DET earth be.PRS round and let
 iksere oti ine psemata.
 know.PST COMP be.PRS lies

‘Maria talked about the earth being flat, even though she knew it was a lie.’

(32) Dhen chriazete na ascholitho me [to oti i ghi
 NEG need.PRS.PASSIVE COMP deal.PASSIVE with DET COMP DET earth
 ine epipedhi] ghiati dhen ine!
 be.PRS flat because NEG be.PRS
 ‘I don’t need to care about the earth being flat, because it’s not!’

(33) Dhen chriazete na ascholitho me [to oti to
 NEG need.PRS.PASSIVE COMP deal.PASSIVE with DET COMP DET
 afediko tha erthi], ghiati me pire ke dhen tha erthi!
 boss will come because me.ACC call.PST and NEG will come
 ‘I don’t need to care about the boss coming, because he called me and he’s not coming!’

- The prediction is not borne out and there is no ineffability in such cases. Two possible conclusions can be drawn:

1. There are two D-layers, a purely syntactic one with no semantics, and another one that has the associated semantics.⁴
2. These are cases where the presupposition contributed by the D-layer is cancelled.

- We leave this open for future research. We have shown that at the absence of a D-layer the clausal subject is a CP and that at the presence of a D-layer the clausal subject is a DP for syntactic reasons.
- The question we leave open is: if the D-layer is not necessary for syntactic reasons, but contributes a semantic presupposition, does it also change the category of the CP into a DP?
- Another, related question, that may shed light to this issue is what happens with CPs in base position. The D-layer is in general infelicitous in base position with non-factive verbs, even if they can take DPs as complements:

(34) I Maria ipe (*to) oti tha erthi.
 DET Maria say.3SG.PST DET will come
 ‘Maria said she will come.’

(35) I Maria ipe to piima.
 DET Maria say.3SG.PST DET poem
 ‘Maria said the poem.’

- Yet, it is felicitous (and as always optional) with factive verbs that also take DPs as complements:

(36) I Maria ektimise (to) oti ime evgheniki.
 DET Maria appreciate.3SG.PST DET COMP be.PRS polite.
 ‘Maria appreciated that I am polite.’

(37) I Maria ektimise tin evghenia mu.
 DET Maria appreciate.3SG.PST DET politeness mine.
 ‘Maria appreciated my politeness.’

⁴What is more, if there are two kinds of D-layers, there is the possibility that only the purely syntactic D-layer turns CPs into DPs, while the D-layer that contributes the presupposition we described does not change the category of the CP.

- This is reminiscent of the pattern in clausal subjects, but seems even stronger: the D-layer here seems to only be available with a presupposition that the proposition expressed by the CP is true.
- The crucial question is if we can have a non-factive verb and use the D-layer in base position when we know the CP to be false.
- The answer seems to be ‘no’, since the D-layer is infelicitous in base position with any non-factive verb, independently of whether the proposition expressed by the CP is true or false. More concretely, the D-layer in (34) is odd both with the continuation ‘and indeed she came’ as well as with ‘but eventually she did not come’.
- All in all, we showed that clausal subjects without an overt D-layer are CPs, and whenever the D-layer is syntactically needed, it is overt, turning the CP into a DP. The questions we left open are (i) whether a clausal subject with an overt D-layer is a DP if the D-layer is not syntactically necessary, and (ii) what the contribution of the D-layer in base position is.

5 Conclusion & Future research

- We focused on the optionality of the D-layer in Greek clausal subjects, observing that it is always optional and sometimes strongly dispreferred. We argued that its use correlates with a specific semantics, which we cashed out in terms of a presupposition that the proposition expressed by the clausal subject does not contradict the beliefs of the attitude holder.
- In future research, we would like to give a unified account of the use of the D-layer in indicative and subjunctive clausal subjects. In fact, the use of the D-layer is more wide-spread in the latter, being often preferred:

(38) [(✓To) na katarefsi to ktirio] tha itan megkali tragodia.
 DET SUBJ collapse.3SG DET building will be.PST big tragedy
 ‘The building collapsing would be a big tragedy.’

- This provides further evidence against a factive presupposition, since the collapse of the building is hypothetical; so it is not possible to claim that the proposition described by the clause happened in the actual world.

- Yet, it is also unclear if our presupposition holds for subjunctive clausal subjects, since the D-layer can be used with events contradicting the beliefs of the speaker:

(39) [(To) na erthi o Yanis] ine adhinaton, ghiati
 DET SUBJ-COMP come.3SG DET Yanis be.PRS impossible, because
 dhen zi pia.
 NEG live.PRS anymore
 ‘Yanis coming is impossible, since he’s not alive anymore.’

- The D-layer is also preferred in pure cases of logical reasoning, where the subjunctive clausal subject does not interact with a main predicate like *possible* or *impossible*:

(40) [(To) na sosi o Mario tin prigkipisa] proipotheti
 DET SUBJ-COMP save.3SG DET Mario DET princess presuppose.PRS
 oti kerdhise se olus tus ghirus.
 COMP win.PST in all DET rounds
 ‘Mario saving the princess presupposes he won all the rounds.’

(41) [(To) na pari kanis ptichio] sinepaghethe poli ke skliri
 DET SUBJ-COMP take.3SG one degree entail.PRS much and hard
 prospathia.
 work
 ‘Getting a degree entails a lot of hard work.’

- Thus, we need to explain the asymmetry in the distribution of the D-layer between indicative and subjunctive clausal subjects.
- Another aspect of the empirical picture that needs to be accounted for is that there is a difference between pre- and post-verbal clausal subjects with respect to the acceptability and/or preference of the D-layer in indicative clausal subjects. Namely, the D-layer is dispreferred with post-verbal clausal subjects:

(42) Ine dhedhomeno [(?to) oti i ghi ine strogili].
 be.3SG given DET COMP DET earth be.3SG round
 ‘It is a given that the earth is round.’

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- Last but not least, we would like to connect this to other similar phenomena, such as the obligatoriness of additive *too*:

(43) Mary talked about her home country and John did *(too).

- Additive *too* has many similarities with the D-layer in Greek, contributing or cancelling a presupposition (depending on the theory we accept), and yet it is necessary.
- We need a theory that can account for both kinds of phenomena, predicting obligatoriness in this case and optionality in the case of the D-layer in Greek.

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