A scalar conditional in Greek: looking for the consequent¹

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Abstract. This paper discusses a construction with a conditional interpretation in Greek which differs from "typical" conditionals in interesting ways. I refer to this construction as *puconditional*, since it is always introduced with the particle *pu* whose semantic contribution is to be analysed. *Pu-*conditionals only appear with *subjunctive mood* and they do not combine with a consequent as typical conditionals. Instead, the meaning of the consequent is implied and indicates that if the prejacent holds, a contextually supplied scalar property will hold to a higher degree.

Keywords: Conditionals, Scalar particles, Even, Subjunctive mood, Expressives

1. Introduction

As highlighted in Iatridou (2014), conditional meaning can surface with different forms. The $if\ p,\ q$ form is only one of them but crosslinguistically we find a variety of constructions which appear to have conditional interpetation (e.g. Conditional inversion, Conditional Conjunction, Imperative and Declaratives). This paper, discusses a conditional construction in Greek which deviates from the "typical" $if\ p,\ q$ -conditional both structurally and semantically. pu-conditionals are always introduced with the particle pu^2 and bear $subjunctive\ mood$ whereas the consequent cannot be expressed as part of the same sentence. Instead, the meaning of the consequent is implied and indicates that if the prejacent holds, a contextually supplied scalar property will hold to a higher degree. For example, the sentence in (1) is uttered in a context where Mary is sad for some reason and the speaker knowing that Peter is Mary's good friend implies that if Peter leaves, then Mary will be even sadder. Although throughout the paper I translate pu-conditionals as imagine-if-conditionals we will see that their semantics is quite different. However, this is, I think, the closest translation in English.

(1) Pu na figi o Petros.

PART SUBJ leave.3SG the Peter.NOM

'Imagine if Peter leaves....' → Mary will be even sadder.

- (i) a. Pu ine o skilos Where is the dog?
 - b. O skilos pu ides ine Labrador. the dog that you-saw is Labrador.
 - c. Lipame pu efiges. I-am-sorry that you-left

A SUB-reviewer raised an interesting question about a possible link between *pu*-conditionals and, in particular, the factive *emotive* complementizer *pu*. However, I don't think that there is any evidence for analysing *pu* in *pu*-conditionals as any of these three cases. If one had to make an association, I would favor a diachronic link with the locative *wh*-word *pu*. Cross-linguistically we tend to find locative (e.g. *edo* 'here') and temporal (e.g. *akomi* 'still') elements employed to express scalarity.

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¹I am grateful to Kai von Fintel, Sabine Iatridou, Fabienne Martin, Sophie Moraccini, Andreea Nicolae, Giorgos Spathas, Vina Tsakali and the SuB24 reviewers and attendants for valuable feedback. I wish also to thank Irini Manolaki, Iro Malta and Vicky Rizou for their help with judgements and discussion. All errors are, of course, my own. This work is funded by AL 554/8-1 (DFG Gottfried Wilhelm Leibniz Preis 2014 to Artemis Alexiadou). ²The word *pu* has different functions in Greek. It functions as i) the *wh*-word 'where' as shown in (ia), ii) the relative complementizer 'that' (ib) and iii) the factive complementizer in Greek (ic).

In the rest of the paper we try to uncover the special properties of this construction. In doing so, we discover interesting extensions which relate with the properties of scalar particles in natural language. In the following section, we try to pin down the meaning components of *pu*-conditionals. In order to identify their meaning, we compare *pu*-conditionals with the more widespread *imagine-if*-conditionals suggesting that their distribution and therefore their semantic contribution is not equivalent. Their difference lies in an *even*-component which *imagine-if* conditionals lack. I show that the meaning of the particle *pu* shares a core component with the meaning suggested for the English *even* by Greenberg (2018). Related to this, we show that once *imagine-if*-conditionals are supplemented with a special *even* particle in Greek, *ke*, they acquire similar restrictions as *pu*-conditionals. In section 3, I highlight another characteristic of *pu*-conditionals which distinguishes them from typical conditionals, their experessive component, suggesting that there is an expressive operator involved in the spirit of Grosz (2012). In section 4, we discuss an homophonous construction which however differs in its prosody and conveys infeasibility. Section 5 concludes and points towards further implications.

2. Untangling the semantic contribution of pu-conditionas

2.1. Pu-conditionals vs. imagine-if- conditionals: Presupposition restrictions

As the translation of (1) indicates, in many contexts, pu-conditionals are interchangeable with "Imagine if-conditionals" both inviting the hearer to imagine a situation if the prejacent holds. In the following we show that pu-conditionals are more restricted by presenting environments where imagine-if-conditionals are licensed but pu-conditionals are not. The critical difference between the two is that pu-conditionals require that there is a contextually supplied gradable property which holds at least to a contextually defined standard of comparison⁴. Imagine a situation in which, without any pre-context, Speaker A utters (2a); his interlocutor might wonder what the speaker means but he understands that A invites him to consider what the world will be like if Peter leaves.. A natural response if there is no context is "So, what will happen?" as in (2b). On the contrary, if a pu-conditional as in (3a) is uttered out of context then the interlocutor wonders what he missed in the background and his first question is "Why? What happened?" (3b):

- (2) a. A. Fantasu na figi o Petros.
 imagine SUBJ leave.3SG the Peter.NOM
 ∴ 'Imagine if Peter leaves....'

 b. B. Ee.. Ti tha gini?
 - b. B. Ee.. Ti tha gini? So.. What will happen?
- (3) a. A. Pu na figi o Petros.

 PART SUBJ leave. 3SG the Peter. NOM

³We do not attempt an analysis of *imagine-if*-conditionals in this paper which are also interesting in their own. In particular, in Greek, as the glossing of the examples suggests *imagine* combines with *subjunctive* and invites the hearer to imagine *what will happen* if the subjunctive clause is true. The fact that *imagine* combines with subjunctive in these environments is interesting on its own because by default *imagine* selects indicative (notice though that the syntax of this construction is not entirely transparent, i.e. it is possible that the *na*-clause is a subordinate of a covert *what will happen* consequent. In this paper, we set aside questions concerning the internal make-up of *imagine-if* conditionals and focus on their overall interpretation in comparison with *pu*-conditionals.

⁴See Kennedy and McNally (2005) for an extensive discussion on the definition and the computation of the contextual standard for different types of properties.

b. B. Giati? Ti egine? / #Ti tha gini Why? What happened? / #What will happen?

The contrast becomes even clearer in environments where *imagine-if* conditionals do not require any context because it is obvious what they ask whereas *pu*-conditionals are still judged infelicitous. The hypothetical in (4a) is general and interesting enough so that it doesn't need any contextual background, it introduces a general philosophical concern.

- (4) a. Fantasu na erthun i eksogiini. Imagine SUBJ come.3PL the aliens.NOM 'Imagine if aliens come....'
 - b. Pu na erthun i eksogiini.
 PART SUBJ come.3PL the aliens.NOM

Pu-conditionals as in (3a) and (4b) can only be evaluated if the context makes salient a gradable property. This can be any gradable property and it doesn't matter if it is positive or negative. For example, sadness as in (1) could be replaced by happiness (e.g. Mary is happy and will be happier if Peter leaves), messiness (e.g. the house is already messy and if Peter leaves it will be even messier as he is the only one who tidies up). A sentence as in (4b) would be licensed if, for example, the context established that there are technological developments in the 21st century, and then somebody (who actually believes that there is extra-terrestrial life) utters (4b) suggesting that the development will be even greater, if aliens come to earth. Without such a context however, the sentence is judged infelicitous contrary to (4a) which is fine even when uttered in an out-of-the-blue context.

This requirement suggests that *pu*-conditionals trigger a presupposition that the context involves a gradable property which holds at least to the contextual standard. In the following we present a meaning for *pu*-conditionals capturing their scalar character.

2.2. A meaning for *pu*-conditionals

In all of the examples, we have presented so far it becomes clear that *pu*-conditionals contribute at least two components of information:

- 1. They introduce a presupposition that a contextually supplied gradable property G holds for a salient entity α to a degree at least as high as the contextual standard.
- 2. They indicate that in all situations consistent with the speaker's beliefs in which the prejacent of pu, p, is true, the gradable property G holds to a greater degree.

As the comparison with *imagine-if*-conditionals suggested, 1 & 2 are not plain contextual inferences but they are tied to the meaning of pu-conditionals. Based on the infelicity of the utterances in (3a) and (4b), we can tell that the first inference is a presupposition. For the second inference we will argue that it is part of the assertive component of pu-conditionals, i.e. that the speaker asserts that in all situations where p is true and consistent with what he believes, whatever the contextually supplied property for a salient entity α is, it holds to a greater

⁵For example, another *consequent-less* type of conditional suggested to me by a SUB-reviewer is 'God forbid if Peter leaves.'. However, in contrast with pu-conditionals 'God forbid-conditionals always indicates that the consequent will have a negative value.

degree. As we discuss in Section 3, due to the *expressive* character of *pu*-conditionals it is not easy to tease apart their presupposition vs. assertive component, but we will get back to this discussion when we will discuss their *expressivity*.

Based on this, a first version of the meaning of pu-conditionals is the following, where c is the context of the utterance which involves a judge (J) and g is an assignment function. I assume in purpose a judge and not a speaker because we will see that although usually the judge is the speaker sometimes it can be a distinct individual.

(5) Meaning of *pu*-conditionals⁶ (*first version*)

[[pu]] $^{c,g}(p)$ (w) is only defined if for a salient individual α in c, the context provides a gradable property G that holds for α such that MAX d [λd . $G(d)(\alpha)(w) \ge d_{standard}$. If defined,

$$[[pu]]^{c,g}(p)(w) = \forall w'. DOX_J(w') \land p(w') = 1 \rightarrow MAX d'[\lambda d'. G(d')(\alpha)(w')] > MAXd[\lambda d.G(d)(\alpha)(w)]$$

In words, pu-conditionals trigger a presupposition that there is a contextually supplied gradable property ($G_{< d, < e, st>}$) that holds for a contextually salient individual α with a degree d at least as high as the contextually defined standard ($d_{standard}$) and they assert that in all words w', that conform to the judge's beliefs and in which the prejacent proposition p is true, the gradable property G holds to a greater degree d' > d for the salient individual α .

Based on (5), the sentence in (1) means that in all worlds which are consistent with what the speaker believes in the actual world and in which Peter leaves, Mary is sadder than she actually is (presupposing that she is sad at least to $d_{standard}$):

[((1))]]^{c,g} is only defined if for a salient individual $\alpha(=Mary)$ in c, the context provides a gradable property G(=sadness) that holds for α such that MAX d [λd . $G(d)(\alpha)(w) \geq d_{standard}$. If defined, [((1))]]^{c,g} = $\forall w'$. $DOX_J(w') \wedge leave(Peter)(w') \rightarrow MAX d'[\lambda d'. <math>SAD(d')(\alpha)(w')$] > MAXd [$\lambda d.SAD(d)(\alpha)(w)$]

There are many parts of this meaning which deserve our attention. We discuss these issues one by one below.

2.2.1. Conditional meaning

The meaning we provided for *pu*-conditionals is a conditional meaning implemented in a Kratzerian way. In accordance with their conditional meaning, *pu*-conditionals exhbit canonical "counterfactual" marking.⁷ Iatridou (2000) shows that in Greek, among other languages, certain combinations of Tense and Aspect result in a so-called counterfactual or a Future less vivid interpretation. The Future less vivid is expressed with *Past Imperfective* but crucially the conditional doesn't have to refer to a past situation; it can refer to a future situation which is

⁶I assume that the element pu is responsible for the scalar conditional interpretation. It could also be that there is a covert operator and pu is only a discourse particle facilitating this interpretation. However, since without pu we cannot derive this meaning, I think it is legitimate to treat pu as a semantically contentful operator.

⁷I would like to thank Kai von Fintel for bringing up this issue as well as a SUB-reviewer who raised the question about conditional interpretation.

still possible to be realized but not likely (i.e. a less vivid future). The *pu*-conditional in (7a) is a Future less vivid conditional, as shown by the possible continuation in (7b) suggesting that the prejacent is still a viable (though not vivid) possibility.⁸

<u>Context</u>: Mary is very excited that most of her friends will come to her wedding... However, nobody knows yet whether Peter, her best friend, will come... In this context, we can utter (7a).

- (7) a. Pu na erhotan ki o Petros, ee?
 PART SUBJ come.IMPF.PAST.3SG ADD THE Peter.NOM ee
 'Imagine if Peter came too...
 - b. Ande makari na erthi!

 ANDE WISH.PART SUBJ come.3SG
 'I wish he comes!!!'

The past counterfactual interpretation is realized with Past Perfect and is used for situations which were not realized in the past. Imagine again a wedding context, this time we discuss after the wedding and we know that Peter didn't come. We are saying how much fun we had and we continue with (8) suggesting that if Peter had come we would have even more fun.

(8) Pu na ihe erthi ki o Petros...

PART SUBJ had come.PRTC ADD THE Peter.NOM

'Imagine if Peter had come...' → How much more fun we would have...

Notice that we can also use Past Perfective like in typical conditionals in which case we refer to a situation in the past without knowing whether the prejacent is true or not (Past-non-counterfactual):

<u>Context</u>: Peter is recently very arrogant and all the time he talks about his achievements. Last month, he applied for a senior position at the university. The results have been announced but Mary doesn't know what happened yet... So after explaining the situation to a friend, she goes on with (9), meaning that *if they have hired him, he will be even more arrogant*...

(9) Pu na ton pirane...

PART SUBJ him.CL take.PERF.PAST.3PL

'Imagine if they have hired him...' → How much more arrogant he will be...

As Iatridou (2000) discusses, "counterfactual"-marking is also typical for wishes, but clearly as we have seen (and as we discuss in detail in Section 3) pu-conditionals do not function as wishes but rather as conditionals. The fact that they exhibit the same marking to express the Future less vivid and the past counterfactual makes this association even stronger.⁹

⁸It is a bit harder to have a continuation where we counterwish the prejacent. For example, imagine a context where we host already many people for the wedding and if Peter comes it will be unbearable. In this situation, we can utter (7a), meaning that if he was coming the situation would be unbearable but it seems that we are sure he will not come, i.e. a continuation like "I hope he doesn't come." doesn't seem felicitous to me. However, I get a similar contrast for *if p,q* conditionals. In any case, the status of counterfactuality inferences seem to vary between different types of conditionals (see Iatridou 2000;FT. 2, p.233) but this doesn't change the fact that the particular marking corresponds to a future less vivid interpretation.

⁹Of course, the counterfactual readings cannot be captured by the semantics we have attributed the pu-operator in (5), but whatever analysis one follows for counterfactuals with ifp,q conditionals can be extended to explain pu-conditionals.

2.2.2. On $d \ge d_{standard}$ and d' > d

In Section 2.1 we showed that pu-conditionals are defined only if there is a contextually supplied gradable property G. We also said that it is a necessary requirement that the degree of G is equal or higher than the contextual standard ($d_{standard}$) but we didn't provide evidence for this. Imagine we introduce a gradable property but it doesn't meet the contextual standard. For example, the contextually supplied gradable property of 'likeness' is below the contextual standard in (10) and, therefore, the pu-conditional following is infelicitous. Notice that an imagine-if-conditional as in (10b) can be felicitous, since we are more flexible as to how to interpret the consequent. The sentence in (10b) suggests that if the addressee sees George with a costume he might actually like him.

- (10) A. Did you like George...
 - B. So...so...
 - a. A. #Pu na ton dis (omos) me kostumi...
 PART SUBJ him.CL see.2SG though with costume
 - b. A'. √Fantasu na ton dis omos me kostumi Imagine.IMP SUBJ him.CL though with costume

In addition, the degree of the gradable property cannot be equal with the maximum degree in the scale, since in this case, the assertive component that if the prejacent holds, the gradable property holds to a higher degree cannot be satisfied. Such examples, are difficult to construct because even when we are dealing with endpoints in a scale we can always imagine there could be a higher boundary. For example, imagine the tragic scenario that an entrepreneur commits suicide after bankruptcy. In this context, suppose we know that the bank was planning to sell his house at auction, still (11) sounds infelicitous because it is difficult to imagine a worst scenario than suicide (which indicates a highest degree of desperation).

- (11) A. #Pu na ihe mathi gia to spiti.

 PART SUBJ had learn.PRTC for the house

 'Imagine if he had learnt about the house.'
 - B. Why? what worse could have happened?

Finally, notice that the inference is necessarily about a higher degree not lower. Once more the contrast with the *imagine-if*-conditional suggests this is not a contextual restriction but part of the semantics as the meaning in (5) suggests.

<u>Context</u>: Mary is very happy today. Her friends though know that she has failed the exam. In this context, (12a) is infelicitous whereas (12b) is felicitous, i.e. (12b) can have a continuation *It will be so tragic to spoil her happiness*.

- (12) a. #Pu na mathi gia to diagonisma...
 PART SUBJ learn.3SG for the exam.
 - b. √Fantasu na mathi gia to diagonisma...
 imagine SUBJ learn.3SG for the exam.
 'Imagine if she learns about the exam...' → her happiness will evaporate...

¹⁰Thanks a SUB reviewer who brought up this issue and suggested an example along the lines in (11).

These meaning components of pu-conditionals that concern the scalar property and the degree inferences are also found in other elements cross-linguistically. As we mentioned in the introductory section, according to Greenberg (2018), the contribution of the English even is very similar in some respects with the contribution of pu-conditionals.

2.2.3. pu-conditionals and the even component

The meaning we assigned for the *pu* operator shares a basic component with the meaning for *even* suggested by Greenberg (2018). Building on Rullmann (2007), she presents arguments against the analysis of *even* as operating on a likelihood scale and suggests instead a *gradability-based scalar presupposition* for *even*. Here is her first version which suffices for now:¹¹

(13) Gradability-based scalar presupposition, Greenberg (2018);(26), p. 61 For all q: $q \in C \land q \neq p$, even(C)(p)(w) presupposes that for some salient entity x (denoted by some nonfocused or contrastive topic constituent in p) and a contextually supplied gradable property G, the following holds: $\forall w1,w2 \ [w1Rw \land w2Rw \land w2 \in p \land w1 \in [q \land \neg p]] \rightarrow [the maxd2 (\lambda d2. G(d2)(x)(w2)] > the max d1 (\lambda d1. G(d1)(x)(w1)) <math>\geq stand_G$

In Greenberg's words, the presupposition requires that with respect to x, a nonfocused element in the prejacent of *even*, *p*, and G, a contextually supplied gradable property, the following two conditions hold: (a) x's maximal degree on the scale associated with G is higher in all accessible p worlds than in all accessible q-and-not-p worlds and (b) in the latter kind of worlds x's degree on G is at least as high as the standard of G.

The core components that *even* and *pu* share are:

- 1. The presupposition that there is a gradable property which holds at least to the contextual standard.
- 2. The comparison between p and $\neg p$ worlds in terms of the degree of G.

Clearly, there are also differences which explain the different distribution of the two constructions. First of all, we have treated comparison between p and $\neg p$ worlds as an assertion and not as a presupposition as it is the case for *even*. In addition to this, whereas *even* by its meaning associates with focus and always presupposes a set of alternatives, pu doesn't have to associate with focus. For example, in (1) and (4b) pu does not associate with a focused constituent (and of course there is no additive presupposition either). The second difference is that whereas the entity that the gradable property holds of needs to be part of the prejacent of *even* (*a nonfocused element in the prejacent*), in the case of pu this salient entity can be retrieved from the context even if it is not linguistically encoded. In the case of (1), we measure the degree of sadness for *Mary* who is a salient topic in the context. This salient topic can also be the speaker or the addressee. For example, in (14), it is clear that we compare degrees of astonishment for the speaker, who is the salient individual in this case.

¹¹Greenberg (2018) introduces a revised version which instead of absolute degrees compares *extents* of degrees. This revision is in order to capture certain data which are not relevant for this paper.

<u>Context</u>: The speaker visits his friend's lab and he sees a tiny laptop which can solve difficult problems. In this context, he says "Wow... there is great technological advancement..." Then his friend can answer back with (14) suggesting that if the speaker sees their recently constructed robot his admiration/astonishment will be even greater:

Pu na dis to kenurgio mas robotaki.

PART SUBJ see.2SG the new our robot.DIMIN

'Imagine if you see our new robot...' → Your admiration will hold to a larger degree.

Crucially, if the context allows such a switch we can even have admiration for a different object. Suppose that the lab-visitor looks at the robot and he seems astonished... Then, the lab-person who wants to tease her friend, can answer back with (15):

(15) Pu na fas dolmadakia tu Petru.

PART SUBJ eat.2SG dolma the.GEN Peter.GEN

'Imagine if you eat dolma by Peter...' → Your admiration will be greater.'

Given the *even* component in *pu*-conditionals, the question is if we find a Greenberg-*even* operator in Greek which can appear in *imagine-if*-conditionals and give us the same restrictions. *Pu*-conditionals often come with the scalar particle ke (hence, ke_{sc}). ke_{sc} is optional but especially in some cases it is strongly favored. We can take any of the examples, with *pu*-conditionals, we have presented in this paper and add ke_{sc} and this doesn't seem to change anything in their meaning or presuppositions. On the contrary if we add ke_{sc} to *imagine-if*-conditionals their distribution is constrained similarly to *pu*-conditionals. Consider for example the pair in (10). Once we add ke_{sc} to the *imagine-if*-conditional (16b), it becomes odd like its *pu*-counterpart.

- (16) A. Did you like George...
 - B. So...so...
 - a. A. #Pu na ton dis (ke) me kostumi... PART SUBJ him.CL see.2SG ke_{sc} with costume
 - b. A'. #Fantasu omos na ton dis ke me kostumi Imagine.IMP though SUBJ him.CL see.2SG ke_{sc} with costume

We conjecture that ke_{sc} contributes a presupposition similar to the assertive component of the pu-conditional.¹³ The fact that in many cases ke_{sc} is preferred with pu-conditionals can be then treated as a version of the principle of Maximise Presupposition (Heim, 1991; Sauerland,

Context: Nick woke up very happy today...

(i) a. Tu estile ke i mama tu ton baklava. him.CL.DAT send.PAST.3SG $KE_{\it sc}$ the mama.NOM his the baklava

 $^{^{12}}$ Ke is a multifunctional element in Greek. First, it is the run-of-the-mill conjunction. Second, it is a pure additive particle which is focus sensitive (Chatzikyriakidis et al., 2015). It is also reported to appear in unlikelihood environments as a counterpart of *akomi ke* which in Greek is clearly an unlikelihood 'even' (Giannakidou, 2007). This case is clearly different and to my knowledge it has not been discussed in the literature. Thanks to Vina Tsakali and a SUB-reviewer for questioning the role of *ke* in these environments.

¹³This function of ke deserves much more to be said than we can say in the scope of this paper. For example ke_{sc} seems to be a discourse particle rather than a focus particle. As it has been discussed in Chatzikyriakidis et al. (2015), Greek focus particles need always to be adjacent with the focus constituent, i.e. the *additive ke* necessarily precedes the focused constituent. On the contrary, ke_{sc} preferably appears after the verb and in any case its position doesn't seem to affect the interpretation:

2008). Ke_{sc} contributes the following presuppositions:

(17) Presupposition of ke_{sc}

[ke]] $^{c,g}(p)(w)$ is only defined if i) c provides a salient individual α and a gradable property G that holds for α , such that MAX d [λd . $G(d)(\alpha)(w) \ge d_{standard}$ and ii) $\forall w_1, w_2$. DOX $_J(w_1) \land p(w_1) = 1 \land \text{DOX}_J(w_2) \land p(w_2) = 0 \rightarrow \text{MAX } d_1[\lambda d_1. \ G(d_1)(\alpha)(w_1)] > \text{MAX} d_2 \ [\lambda d_2. G(d_2)(\alpha)(w_2)]$

 Ke_{sc} can appear in any declarative sentence. Consider our original example: in a context where Mary is sad, one can utter (18) if he knows that Peter left implying that since Peter left, Mary will be even sadder. Notice that without ke_{sc} the sentence sounds infelicitous in this context or it would be interpreted as a cause for Mary's sadness, not as cause for Mary's greater sadness.

(18) Efige ke o Petros... leave.PAST.3SG KE_{sc} the Peter.NOM 'On top of this, Peter left...'

Pu and ke_{sc} differ in that the first one asserts the conditional whereas in the latter it is a presupposition. This difference should be detectable in the way we can target this inference. It seems that we can respond to (1) with "I don't agree" but we cannot do so for the sentence in (18). We cannot simply reject (18) by saying "I don't agree... I think she will be happy actually". As we said it is not easy to tease apart the assertion from the presupposition in pu-conditionals but this contrast provides at least a suggestion.

2.2.4. Comparison between two salient entities: the effect of focus

All the examples of pu-conditionals we have provided so far suggest that the comparison is between degrees for a gradable property that holds for a single entity. This is captured by our semantics since the gradable property holds for a contextually salient entity α . However, in some cases it is possible that we compare degrees for the same gradable property but for two different entities. The sentence in (19) is ambiguous; pragmatically, the most accessible reading is that Ana will be even happier than Peter if she learns that Gaga came. Another possible but pragmatically less likely reading is that Peter will be even happier if Ana learns that Gaga came (Ana may actually be sad).

<u>Context</u>: Somebody says: Peter is very happy that Gaga came.

(19) Pu na mathi i Ana ta nea! PART SUBJ learn.3SG the Ana the news.

- b. Tu estile ke ton baklava i mama tu. him.CL.DAT send.PAST.3SG KE_{sc} the baklava the mama.NOM his 'On top of this, his mom sent him baklava.'
- c. ?Tu estile ton baklava ke i mama tu. him.CL.DAT send.PAST.3SG the baklava KE_{sc} the mama.NOM his
- d. #ke i mama tu tu estile ton baklava.

 KE_{sc} the mama.NOM his him.CL.DAT send.PAST.3SG the baklava

The analysis of ke_{sc} as a discourse particle and its relation with the focus additive particle ke is interesting given recent work on the relation between focus and discourse particles (Grosz, 2016). However we have to leave further investigation of this issue and the exact role of the scalar ke for future research.

R1: 'Imagine if Ana learns about it... \simple She will be even happier than Peter.

R2: 'Imagine if Ana learns about it... → Peter will be even happier than he is now.

Crucially, the first and most straightforward reading is not captured by our semantics and therefore we need to revise (5) in order to capture examples like this. Before doing so however it is important to understand under which conditions we can compare degrees that concern two distinct individuals.

In (19) Ana necessarily bears focal stress, for the first reading. If not, only the second reading survives. This suggests that we can compare degrees for two distinct entities only if the second entity is a focused element in the prejacent of pu, p. Whereas we will argue that this indeed the case, there is an apparent counterexample. Consider the sentence in (20), given the context, the most straightforward reading, is the first one, that the speaker's dad will get angrier than Peter's dad. For this reading, focusing is again necessary to introduce a second salient entity, but crucially this is distinct from the entity denoted by the focused constituent (i.e. speaker vs. speaker's father). In this case, we cannot argue that the second entity which is introduced needs to be a focused element of p. However, the sentence in (20) can be read in a slightly modified way; Peter is in trouble and if the speaker runs as a candidate he(=speaker) will be in even more trouble. We take then the comparison to be between the speaker (which is denoted by the focused constituent) and Peter.

<u>Context</u>: Peter's dad is very angry because Peter was involved in politics and ran as a candidate for a university party, then Mary says:

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Part Subj run.1sg I candidate.

Note: 'Imagine if I run as a candidate...' → My dad will be even angrier than Peter's.

Note: 'Imagine if I run as a candidate...' → I will be in more trouble than Peter.

Note: 'Imagine if I run as a candidate...' → Peter's dad will get even angrier.
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Evidence that the compared entity, if distinct, needs to be denoted by the focused constituent, comes from the following example. In (21) the first reading is not available even if we know that Gaga is Mary's favorite singer and that Adele is Sofia's favorite singer. Even in the case that we know that Mary doesn't like Adele, which makes the second reading highly unlikely, the first reading doesn't become available.

<u>Context</u>: Mary is excited because Gaga is giving a concert in her town! John and Sofia discuss about it, and then John, knowing that Adele is Sofia's favorite singer, tells her:

```
oh, oh... Pu na erthi i ADELE, ee?
oh oh PART SUBJ come.3SG the Adele, ee
#R1: 'Imagine if Ad. comes...' → You(=Sofia) will be even more excited than Mary.'
√R2: 'Imagine if Ad. comes...' → Mary will get more excited.'
```

Differently, from (20), in (21) the focused constituent Adele is not affected in any possible way from Sofia's emotions and therefore we cannot make any comparison salient between Adele and Gaga. Therefore, we conclude that focusing is a necessary condition in order to have comparison between two entities and, in addition, that the second entity is identical with the focused constituent in the prejacent of pu. Given these restrictions, we suggest a second version for the meaning of pu-conditionals, which intends to capture comparison between two entities.

The presupposition is always the same. What changes is that if there is a focused constituent and if the initially contextually salient individual α is an element of the alternatives of the focused constituent, then the comparison is between α and the focused constituent (cf. the third version of the meaning for *even* in Greenberg 2018, where she captures the comparison between two contrastive topics). Otherwise, the comparison concerns always a unique individual α . Following Wagner (2006), F stands for the focused constituent, which in our case is necessarily a type e expression and e stands for the lambda-abstracted property.

(22) Meaning of *pu*-conditionals (*second version*)

[[pu]] $^{c,g}(F)(P)(w)$ is only defined if for a salient individual α , the context provides a gradable property G that holds for α such that MAX d [λd . $G(d)(\alpha)(w) \geq d_{standard}$. If defined, then

```
i) if \alpha \in ALT_c(F), then:
```

```
[[pu]]^{c,g}(F)(P)(w) = \forall w'. DOX_J(w') \land P(F)(w') = 1 \rightarrow MAX \ d'[\lambda d'. G(d')(F)(w')] > MAXd [\lambda d.G(d)(\alpha)(w)]
```

ii) if $\alpha \notin ALT_c(F)$, then:

[[pu]]
$$^{c,g}(F)(P)(w) = \forall w'$$
. DOX $_J(w') \land P(F)(w') = 1 \rightarrow MAX d'[\lambda d'. G(d')(\alpha)(w')] > MAXd [\lambda d.G(d)(\alpha)(w)]$

With this modification we can account for all instances of *pu*-conditionals, except that we still miss a component of their meaning related with their expressive character.

3. *pu*-conditionals and expressivity

The meaning of pu-conditionals as presented so far predicts their felicity in the following example where the context provides a gradable property (e.g. thickness) which holds to the contextual standard. However, the sentence in (23) - although we understand very well what it means - sounds odd in a neutral lecture context. Unless we accommodate some attitude by the speaker towards the thickness of the mixture the sentence is not felicitous.

<u>Context</u>: A chef is presenting some thickening effects in class. With neutral intonation he says "*Now this mixture is thick...*" and he goes on again with neutral intonation and utters (23):

```
(23) #Pu na to valume sto psigio...

PART SUBJ it.CL put.1PL in-the fridge

→ 'If we put it in the fridge, the substance will become even thicker...'
```

The sentence improves greatly if we allow the chef to express some attitude towards the thickness of the mixture. For example, if the chef expresses surprise (e.g. *Wow!*) or worry (e.g. *oh! / aman!*) or satisfaction (eg. *Nice! / Perfect!*) as in (24a), the continuation with a *pu*-conditional becomes felicitous.

- (24) a. Wow! / oh!/ Orea! to migma ine pahirefsto! wow! / oh/ Nice! the mixture is thick
 - b. ✓Pu na to valume sto psigio...

 PART SUBJ it.CL put.1PL in-the fridge

 → 'If we put it in the fridge, the substance will become even thicker...'

We argue that this behavior is due to the *expressive* character of *pu*-conditionals. By *expressive* we mean that there is a component in the meaning of *pu*-conditionals which is performative (i.e.

not descriptive) and as a result not subject to rejection or verification (see Potts 2007). Before moving on to an analysis of expressivity, let us go through some examples which actually show the expressive character of pu-conditionals. Potts (2007) provides the following characteristics for expressive content: 14

- 1. *Independence*: Expressive content contributes a dimension of meaning that is separate from the regular descriptive content.
- 2. *Nondisplaceability*: Expressives predicate something of the utterance situation.
- 3. *Perspective dependence*: Expressive content is evaluated from a particular perspective. In general, the perspective is the speakers, but there can be deviations if conditions are right.
- 4. *Descriptive ineffability*: Speakers are never fully satisfied when they paraphrase expressive content using descriptive, i.e., nonexpressive terms.
- 5. *Immediacy*: Like performatives, expressives achieve their intended act simply by being uttered; they do not offer content so much as inflict it.

Potts (2007); pp. 166-167

Independence and Descriptive ineffability are closely related given that both properties refer to the need to separate descriptive from expressive content. In the case of *pu*-conditionals this is not always simple, because part of the descriptive content is a presupposition, therefore not-atissue, but in a different way. However, it seems that we can agree or disagree with the assertive component but we cannot do the same for the expressive component. Let us consider again our first example, repeated in (25). In response to (25), the interlocutor can disagree that Mary will be even sadder, but he cannot target the speaker's attitude, i.e. he cannot deny it or disagree with it but crucially he can target the sincerity of his actions/behavior as (25d) shows.

<u>Context</u>: Mary is sad because there is a disturbing situation. The speaker knowing that Peter is Mary's good friend implies that if Peter leaves, Mary will be even sadder.

- (25) a. Ah... Pu na figi o Petros.
 Ah... PART SUBJ leave.3SG the Peter.NOM
 'Imagine if Peter leaves....' → Mary will be even sadder.
 - b. $\sqrt{\text{Mba...}}$ den ine alithia... tha harei pu tha glitosi aftos tulahiston. NO NEG is true FUT be-happy that FUT escape.3SG he at-least. 'No... It's not true... She'll be happy that he will at least escape (this situation).'
 - c. #(Mba...) Den ine alithia, den niazese gia tin Meri...

 NO NEG is true NEG care.2SG for the Mary
 'No... It's not true.... You don't care about Mary.'
 - d. ✓ Ipokrinese... den niazese gia tin Meri...

 Pretend.2SG NEG care.2SG for the Mary

 'You pretend (to worry)... You don't really care for Mary...'

¹⁴Potts (2007) also mentions *Repeatbility* as a characteristic of expressive content, but it has been shown that this is not a reliable diagnostic (Gutzmann, 2013; Grosz, 2011)), and in addition it is not applicable here since expressivity comes from the properties of subjunctive mood, not from a lexical element.

In addition, *pu*-conditionals share another characteristic with expressive utterances, related to the property of *Nondisplaceability* and *Perspective Dependence*. Like optatives, their embeddability is restricted. The expressive meaning is anchored to the utterance situation and usually to the speaker's perspective. Although *pu*-conditionals also have an assertive component, which as we saw above we can challenge, they exhibit similar embedding restrictions to optatives, imperatives and exclamatives (see Grosz 2011). They are better under the verb *leo* 'say' and not so good with verbs like *believe*, *claim*, *hope*.

(26) ?i Rosa lei / {?#pistevi / ipostirizi} oti pu na erthi o aderfos tis.. the Rosa says / believes / claims that PART SUBJ come.3SG the brother his 'Rosa says/believes/claims that if her brother comes...(the situation will become more...)'

The person seems also to play a role, for a example embedding under *skeftome* 'think' is possible for 1^{st} person but it is degraded with 3^{rd} person (27). This contrast suggests a preference for pu-conditionals to be anchored to the speaker.

<u>Context</u>: Mary has started working in a kindergarten and she looks devastated then I ask her "What's the problem?" / or I ask another employee "What's her problem?"

(27) √Skeftome/#skeftete oti pu na erthun ke ta ipolipa pedia. think.1SG think.3SG that PART SUBJ come.3PL KE the other children '{I think} / {she thinks} that if the rest of the children come as well...' → The situation will become even worse...

Pu-conditionals are also degraded when embedded under *because*. There is a contrast between (28a) and (28b):

Context: Peter is in a bad psychological state...

- (28) a. Kalitera na min tu to pume giati an to mathi...

 Better SUBJ NOT him.CL it.CL say.1PL because if it.CL learns FUT

 'Better not tell him about it because if he learns about it...(he will get worse)'
 - b. #?Kalitera na min tu to pume giati pu na to mathi... Better SUBJ NOT him.CL it.CL say.1PL because PART SUBJ it.CL learns

However, this doesn't mean that we cannot use a pu-conditional to argue against or in favor of the prejacent. What is odd in (28b) is that the pu-conditional is embedded under because. The utterance in (29) sounds much better but in this case the speaker seems to be emotionally more involved than in (28a). For example, (28a) can be uttered by a doctor in a hospital whereas (29) fits better as an utterance by a friend or a relative, somebody who really cares about Peter's situation.

<u>Context</u>: Peter is in a bad psychological state...

(29) Pu na mathi gia tin Ana... Kalitera na min tu to pume! PART SUBJ learn.3SG about the Ana... Better SUBJ NEG him.CL it.CL say.1PL 'Imagine if he learns about Ana... Better we don't tell him.'

The last example is also relevant for another property of expressive content, *immediacy*. Simply by uttering a *pu*-conditional, the speaker directly conveys his *worry/sadness* about the situation

and as we showed with (25) we can only target the sincerity of the speaker's behavior not the truth-content of what he says.

Having shown that *pu*-conditionals are expressive, the first question which arises is the source/ trigger of *expressivity*; Given the fact that all matrix subjunctives seem to have an expressive component we don't want to tie expressivity in particular to *pu*-conditionals but ideally associate expressivity with the properties of matrix subjunctives in Greek.¹⁵ Now the problem is that despite great progress, there are still many mysteries surrounding the notion of *mood* which we can hardly touch within the scope of this paper. For this reason, I just stipulate that all *matrix clauses* which bear *subjunctive mood* in Greek necessarily combine with an expressive operator of the type suggested by Grosz (2011, 2012).¹⁶

According to Grosz (2011, 2012) an expressive operator (henceforth EX) combines with a proposition ϕ and conveys an *emotive* or *evaluative* attitude towards ϕ . Crucially EX is scalar, i.e. it conveys the relative degree in a salient scale to which an emotive or evaluative property relativized to holds (usually for the speaker). This degree must exceed a salient threshold (THRESHOLD(c)).

Under this view then, the expressive operator EX combines with the pu-conditional and turns it into an expressive utterance (The EX-operator Hypothesis in Grosz 2011) thus explaining the expressive properties of pu-conditionals as opposed to $if\ p,q$ conditionals. More formally, the contribution of the expressive operator is described as follows in Grosz (2011):

- (30) For any scale *S* and proposition ϕ , interpreted in relation to a context *c* and assignment function *g*, an utterance $EX(S)(\phi)$ is felicitous iff $\forall \psi$ [THRESHOLD(c)>_S $\psi \rightarrow \phi$ >_S ψ]
 - a. EX expresses an emotion that captures the fact that ϕ is higher on a (speaker-related) scale S than all contextually relevant alternatives ψ below a contextual threshold.
 - b. THRESHOLD(c) is a function from a context into a set of worlds/a proposition that counts as high with respect to a relevant scale S.

Grosz (2011), p. 69

This meaning gives us the flexibility we want for pu-conditionals since the relevant scale is not always the same; as we said, the speaker can express surprise or disappointment or enthusiasm or even finding something ridiculous or funny... various expressive particles can resolve this vagueness as suggested by the following example:

Context: This dress is short...

(31) Oh! / haha! / wow! / Orea! Pu na to plinume...
Oh! / haha! / wow! / Nice! PART SUBJ it.CL wash.3SG...
'Imagine if we wash it...' ~ It will get even shorter.'

¹⁵Being a subjunctive is not a necessary condition for *expressivity*. In particular, *exclamatives* can also bear indicative and they are still expressive. However, being a matrix subjunctive seems to be a sufficient condition for *expressivity*, i.e. all matrix subjunctives are expressive in Greek. The question is, of course, what is considered *matrix*. For example, for *pu*-conditionals one can rightly argue that the subjunctive clause is embedded under *pu*. I would characterize matrix, a subjunctive not embedded under an overt tensed modal predicate.

¹⁶Although, at this point, the association between subjunctive mood and expressivity remains a stipulation, it is definitely not a surprising association in view of the link between verbal and sentence mood (see Portner 2018 for an extensive discussion).

At this point, one might wonder whether it would actually be possible to reduce the meaning of pu-conditionals only to the expressive component. For instance in the previous example, we could argue that the relevant property is speaker's happiness about the dress being short and that if the prejacent is realised the speaker will be even happier. Notice though, that in this case we wouldn't necessarily get an inference that the dress will become shorter if we wash it (after all, usually dresses don't get shorter if we wash them properly). Instead the inference that the dress will become shorter is an obligatory one and as we saw it can also be negated. In addition, if we were to reduce the meaning of the pu-conditional to the expressive component we would expect cases like the following to be good but they are not:

<u>Context</u>: We prepare a surprise-party for John. We want it to be a big nice surprise for him, so we hope that he will feel sad enough before the surprise (otherwise the surprise might not have the happy outcome we wish). In this context, one of us calls him to check and reports back: Good...He is sad enough!

- (32) a. Orea! An tu kanume tin ekpliksi tora, tha ine telia! Nice if him.CL do.3PL the surprise now FUT be perfect
 - b. Orea! Pu na tu kanume tin ekpliksi tora...
 Nice! PART SUBJ him.CL do.3PL the surprise now...
 → It can only mean: If we make him the surprise now, he will be even sadder.

This shows that *pu*-conditionals have two components, on the one hand they convey a scalar conditional meaning and on the other hand they communicate the speakers emotion/attitude towards the assertive component. This is a bit different from the analysis in Grosz 2011, 2012 because there there was only an expressive component, the contribution of the *EX*-operator conveying degrees of desire/surprise/etc. Below we discuss a second case where *EX* is interpreted on top of an assertion.

4. An homonymus construction: Unfeasible pu-subjunctives

There is a construction which looks like pu-conditionals, but its prosody and meaning is very different. Taking our original example in (1), repeated in (33), we see that it can also convey that the speaker doesn't consider feasible the prejacent. Although, the two constructions look exactly the same, their prosody is very different, thus native speakers can clearly distinguish pu-conditionals from pu-subjunctives which convey unfeasibility (henceforth, USs). The focus on USs is on the particle pu and the rest is deaccented with a slightly rising boundary tone in the end¹⁷. On the contrary, in pu-conditionals, there is either broad or narrow focus on a particular constituent. The particle pu is never focused and it bears instead a Prenuclear Pitch Accent.

<u>Context</u>: We discuss about Mary's plans to leave Germany because she has missed her family in Greece. Then somebody asks for Mary's friend, Peter: "Is Peter also going to leave?". We can naturally answer with (33) conveying that we consider it unfeasible that Peter leaves. We can continue explaining the reasons, e.g. he has a good job here, he bought a house, etc.

 $^{^{17}}$ Their intonation can be less marked when they are conjuncted with ala 'but', e.g.

⁽i) Tu ipa na diavasi ala pu na diavasi aftos... him.CL told SUBJ read.3SG but PART SUBJ read.3SG he 'I told him to study but I think it's unfeasible for him to study...'

(33) PU na figi o Petros.

PART SUBJ leave.3SG the Peter.NOM

→ The speaker considers it unfeasible that Peter will leave...

Notice that their meaning can be explicitly denied or confirmed similarly to what we have seen with the scalar meaning of *pu*-conditionals. For example, one can respond to (33) "I don't agree. It think he might as well leave". Unfeasibility seems to better describe what these *pu*-subjunctives convey, though it is not easy to tease apart the notion of unfeasibility from unlikelihood or difficulty¹⁸. Interestingly, USs cannot be used in contexts where we know that the event conveyed by the prejacent has been realized but they can be used if we know that the event was not realized:

<u>Context</u>: John had an oral exam today morning... He comes out from the exam room and disappointed he says "I didn't pass"... In this context, it is possible to say (34) meaning that the speaker considers that it was unfeasible for John to pass under the circumstances...

(34) Pu na perasis more.... Afu den anikses vivlio...

PART SUBJ pass.2SG PART Since NEG open.2SG book

→ Of course, it's unfeasible to pass... since you didn't even open a book...

Crucially, in a context, where finally, despite all expectations, by mere luck, John passed the oral exam, we cannot utter (34) meaning that the speaker considered it unfeasible that John would pass. I think that the reason for this is that USs refer to the speaker's belief *at the utterance time* and therefore if the prejacent has been realized at the utterance time, it will be an obvious proof that the prejacent is feasible. Moreover, notice that although in (34) we refer to a past situation we cannot use Past tense. However, if we don't know the outcome of the exam then we can use past tense:

<u>Context</u>: John had an oral exam today morning... He comes out from the exam room and disappointed he says "I didn't do very well"... However, the results have not been announced yet and so he asks his colleague "*Do you think it's possible that I passed?*". Then, it is possible to answer with Past tense:

(35) Pu na perases more.... Afu den apantises se kamia erotisi...

PART SUBJ pass.PAST.2SG PART Since NEG answer.2SG to any question

→ I think it is unfeasible that you have passed... since you didn't answer any question...

The licensing of past tense in (35) but not in (34) suggests that in the latter we make a more general claim about the unfeasibility of the prejacent under certain circumstances. Past tense is not licensed in (34) because the outcome is already known, so the speaker can only mean that he considers the prejacent unfeasible as a general claim.

Given this complicated picture, we do not try to give a precise meaning for USs. I hope it has become sufficiently clear that USs have different semantics from pu-conditionals (e.g. USs do not have counterfactual marking, they cannot combine with the scalar particle ke_sc). What I would like to emphasize is the properties that the two constructions share; i) they both express

¹⁸A different type of matrix subjunctives in Greek combines with the particle *ande* and conveys difficulty (Oikonomou, 2016; Demirok and Oikonomou, 2019). One major difference between the two is that *ande*-subjunctives conveying difficulty can be used when the speaker admits that the prejacent will be realized whereas USs require that the speaker at the utterance time considers the prejacent unfeasible to be realized.

a scalar meaning (i.e. in the case of *pu*-conditionals there was a contextually supplied scalar property whereas in the case of USs there is an *unfeasibility* scale and ii) they are both expressive. Although, we didn't talk about the expressive character of USs, it is clear that they are not embeddable (at least no more than *pu*-conditionals), they cannot be uttered in an emotiveless context and usually some particle that encodes the speakers emotions is used (e.g. *ah*, *oh*, *hehe*). The expressivity of this construction adds up to the rest of matrix subjunctives which have an expressive character.

5. Concluding remarks: Gradability, subjunctive mood and expressivity

Pu-conditionals is one of these cases where a lot of information is conveyed by a single construction and that is what makes it interesting. First of all, the analysis of the scalar component revealed an operator which makes reference to a contextually supplied gradable property and contributes a conditional interpretation that is based on the comparison between two degrees. This highlights the possibility that cross-linguistically and within a language there are different varieties of even like the "typical" unlikelihood even in Greek, akomi ke (Giannakidou, 2007) or the scalar particle ke, which is closer to a Greenberg-even (but still different from it since it does not necessarily associate with a focused constituent) or a discourse even, scoping above speech acts (Iatridou and Tatevosov, 2016). More in-depth investigation can reveal subtler distinctions across various scalar particles cross-linguistically.

The second core component of pu-conditionals is subjunctive mood. So far, I have avoided on purpose to analyse the requirement for subjunctive mood with pu-conditionals. At a first level, under any theory of mood-selection, the meaning of pu-operator suggests that its complement should have subjunctive mood. Whether we take the original approach by Farkas (1992) which makes reference to strong and weak intentional contexts, a comparison-based approach as for example in Giorgi and Pianesi (1997); Villalta (2008), a veridicality based approach as in Giannakidou (2017) or a commitment-based approach (Portner and Rubinstein, 2012; Schlenker, 2005), pu-conditionals are predicted to surface with subjunctive mood. Therefore, in this respect they are not particularly helpful in evaluating different theories of mood selection.

Instead, *pu*-conditionals bring forth an interesting association between *subjunctive* mood in matrix environments and *expressivity*. Matrix subjunctives in Greek, except their *modal* interpretation which is clearly associated with subjunctive mood, also share an *expressive* component. We leave the question of why subjunctive mood contributes an expressive component in non-embedded environments for future research but we think that it may provide a different path to the overall understanding of the link between verbal and sentence mood (Portner, 2018).

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