

## Complements, relatives, and nominal properties

Anna Roussou ([aroussou@upatras.gr](mailto:aroussou@upatras.gr))

University of Patras

GIST5: “Generalizing relative strategies”

University of Ghent, 22-23.03.2012

**Aim:** to discuss the similarities between relative and complement clauses, focusing on the Greek complementizer *pu*.

**Goal:** to show that a uniform analysis of relatives and complements with *pu* is possible, drawing on the nominal properties of complementizers.

### 1. Introduction

The element *pu* introduces relative clauses, and a subset of complement clauses:

- |     |   |                        |
|-----|---|------------------------|
| (1) | Sinandisa ton fititi <i>pu/o opios</i> pire   to vravio.<br>met-1s   the student that/the which got-3s the prize<br>“I met the student that got the prize.” | Relative clause (RC)   |
| (2) | Lipame <i>pu</i> efijes.<br>be.sorry-1s the left-2s<br>“I’m sorry that you left.”   | Complement clause (CC) |
| (3) | (ton) idha (ton fititi) <i>pu</i> efefje.<br>him saw-1s the student that was.leaving-3s<br>“I saw the student leaving”                                      | Pseudorelative (PRC)   |

- *Pu* developed from the relative locative adverb *opou* > *pu*; a generalized relativizer.
- (4)   *to meros pu pigame* (the place *where/that* we went), *o logos pu irthame* (the reason *why/that* we came), etc.

- Complement clauses: with emotive predicates, a sub-set of factives, as in (2). Factive complements with *pu* are strong islands (Roussou 1994, Varlokosta 1994):

- |     |    |   |                     |
|-----|----|---|---------------------|
| (5) | a. | *?Pjon <sub>i</sub> metanioses <i>pu</i> sinandises t <sub>i</sub> ?<br>who regretted-2s that met-2s<br>“?Who did you regret that you met?”   | Argument extraction |
|     | b. | *Pos <sub>i</sub> metanioses <i>pu</i> taksidapses   stin Athina t <sub>i</sub> ?<br>how regretted-2s that travelled-2s to-the Athens<br>“*How did you regretted that you travelled to Athens?” (e.g. by train) | Adjunct extraction  |

- Relative clauses are also strong islands (CNPC, Ross 1967)

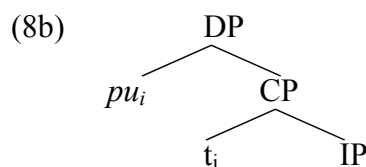
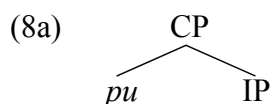
- |     |    |  |                     |
|-----|----|--|---------------------|
| (6) | a. | *Ti <sub>i</sub> sinandises ton fititi <i>pu</i> pire   t <sub>i</sub> ?<br>what met-2s the student that got-3s<br>“*What did you meet the student that got?”                                | Argument extraction |
|     | b. | *Pote sinandises ton fititi <i>pu</i> pire to vravio t <sub>i</sub> ?<br>when met-2s the student that got-3s the prize<br>“*When did you meet the student that got the prize?” (*= embedded) | Argument extraction |

- *Questions:*
  - a) Is *pu* in relative and complement clauses the same element? b) Is it the same as interrogative *pu* ('where')? c) If so, what is the inherent property of *pu* that allows for this distribution and how are the various readings (syntactically) distinguished? d) Are complement clauses hidden relatives? Is this the right question to address and if so, how?

## 2. One, two, how many *pu*?

### 2.1 Background

- The dual status of *pu*: a) a relativizer, b) a complementizer.
- *Pu* as a relativizer: in both restrictive and non-restrictive relative clauses. In restrictive relatives, resumption inside the *pu*-clause is required with indirect arguments (7b); in other cases *pu* may stand for a PP (7c) (see Theophanopoulou 1985, Alexopoulou 2006):
  - (7) a. Sinandisa ton fititi *ston opio* edhoses to vravio.  
met-1s the student to-the whom gave-2s the prize
  - b. Sinandisa ton fititi *pu* \*(tu) edhoses to vravio.  
met-1s the student that he.gen gave-2s the prize  
"I met the student to whom/\*that you gave the prize"
  - c. Ine i triti *dulia pu/ ja tin opia* kano etisi. (Alexopoulou 2006:99)  
is the third job that/for the which make-1s application  
"It's the third job that I apply for/ for which I apply."
- *Pu* in complement clauses: *pu* as the equivalent of the definite determiner at the clausal level (Christidis 1986, adapted by Roussou 1994, 2010, Varlokosta 1994 a.o.).
  - a) *pu* is [+def] or [discourse familiar] and resides in C (Roussou 1994); b) a complex structure with movement of *pu* from C to D<sub>[+def]</sub> (Roussou & Roberts 2001); c) *pu*-clauses stand in a paratactic relation with an empty pronominal in the main clause (apposition) (Varlokosta 1994).



(8c) [...[<sub>VP</sub> V *pro*<sub>i</sub>] ... [<sub>CP</sub> *pu*-clause]<sub>i</sub> ]

(i) Arguments in favour of (8a-b): *pu*-clauses cannot be nominalized.

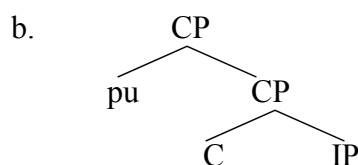
(9) [To *oti*/\**pu* efije] me ekseplikse.  
the that left-3s me surprised-3s  
"It surprised me that he left/The fact that he left surprised me".

(ii) The structure in (c) renders *pu*-complements more like relatives. Arguably that can hold for (b), under the raising analysis of relative clauses (Kayne 1994).

- A third (?) *pu*: interrogative (stressed):

(10) a. *Pú* pas?  
where go-2s  
"Where are you going?"

Wh-words are standardly analyzed as phrasal, occupying Spec,CP:



## 2.2 *Pu*: a locative pronoun

- Roussou 2010: complementizers *oti* (*that*), *pu* (*that/‘where’*), *an* (*if/whether*) are nominal elements (see also Manzini & Savoia 2003)
- Relative/interrogative pronouns as complementizers: *que*, *che* in Romance (Manzini 2010).
- *Que/che/that* as complementizers: they bind a propositional variable; *que/che/that* as pronouns: they bind an individual variable (see above references; on English *that*, see Roberts & Roussou 2003).
- A wh-word as a complementizer in English as well: *how* (Legate 2010)

(10) They told me *how/that* the tooth fairy doesn’t really exist.

- *Pos* ‘how’ in Greek may also be used instead of *oti* (there is no systematic study of their potential distributional differences; *oti* is more formal).

(11) Mu ipan *pos/oti* tha fighume.  
me told how/that fut. leave-1p  
“They told me that we would leave.”

- Going back to *pu*: if *pu* is **definite**, how can it appear in relative clauses headed by an indefinite head, or embed what looks like a subjunctive (*na*-clause)?

- (12) a. Sinandisa *enan/kapjon* fititi *pu* ixē pari to vravio to 2010.  
met-1s a/ some student that had-3s gotten the prize the 2010  
“I met a/some student that had gotten the prize in 2010.”
- b. Dhen sinandisa kanenan *pu na* milai kala Italika.  
not met-1s anyone that prt speak-3s good Italian  
“I didn’t meet anyone who could speak Italian well.”

*If not definite, what?*

- *Pu* is a relative/interrogative pronoun (the interrogative reading is marked by stress), which is characterized as **[locative]**.
- As a pronoun (relative/interrogative) it binds an individual variable corresponding to a locative associated with the predicate (perhaps as part of its event structure).
- Does *pu* bind a propositional variable in complement clauses, as argued for *oti* and *an* (Roussou 2010). In order to provide an answer to this question, we need to re-consider the predicates that select for *pu*.

*Before that*: Bulgarian *deto* (Krapova 2010, hers (1)):

- (13) a. Tova e čovekāt, *deto* (go) snimax včera.  
this is man-the that him.ClAcc photographed-1s yesterday  
“This is the man that I photographed yesterday.”

- b.      Šažaljavam, *deto* ne možax      da      doйда.  
 regret-1s      that not could-1s mod come-1s  
 “I regret that I couldn’t come.”

Also used with an indefinite head (fn. 49):

- (14)    Njama čovek, *deto* ne revnuna.  
 has-not person that not is-jealous  
 “There is nobody who is not jealous”

The origin of *deto*: the locative *kădeto* ‘where’ > *gdeto/deto*. (The other complementizer, similar to Greek *oti*, is *če*).

In short:

- If definiteness is not the relevant property underlying *pu* (and *deto*), then its presence in relatives headed by an indefinite is not a problem.
- We now need to address the role of *pu* in complement clauses, and (re-)examine the claim that *pu* is a factive C. If yes, then it somehow differs from the relative one, and if no, we need to account for the factive reading associated with these complements.

### 3. Factives, relatives and the role of *pu*

#### 3.1 Factives and referentiality

- Complementizer *pu* as a marker of factivity (Christidis 1981, 1986). However, only a subclass of factive predicates, that of emotives, select *pu*. Factives like *paradhexome* (admit) or *antilamvanome* (realize) take an *oti*-complement:

- (14) a.      O Janis (dhen) paradextike *oti*      eklepse ta lefta.  
                  the John not      admitted-3s that stole-3s the money  
                  “John admitted (/didn’t admit) that he had stolen the money.”
- b.      O Janis (dhen) antilifhike *oti* tu      eklepsan ta lefta.  
                  the John not      realized-3s that his stole-3s the money  
                  “John realized (/didn’t realize) that someone had stolen his money.”

Some emotives may alternate between *oti* and *pu*, with different readings:

- (15) a.      O Janis xerete      *pu*/\**oti* efijes.  
                  the John be.glad-3s that      left-2s  
                  “John is glad that you came.”
- b.      O Janis anisixi      *pu*/*oti* efijes.  
                  the John worry-3s that      left-2s  
                  “John worries about the fact/that you left.”

(15b) with *pu*: the propositional content of the embedded clause is true (presupposition); with *oti* it is not (it may or not be the case that you left).

In some cases, *pu* may be triggered when the selecting predicate is focused, as in (16):

- (16) a.      Su IPA      *pu* efije o Janis (!)  
                  you tell-1s that left the John  
                  “I did tell you that John left!”
- b.      EMATHES *pu* efije o Janis?

learn-2s that left-2s the John  
“Did you learn (hear) that John left?”

A ‘factive’ reading under focus (see also Kalluli 2008).

- Factivity with emotives: the lexical properties of the predicates along with *pu*. There is no one-to-one correspondence between factivity and *pu*: the former can appear with *oti* as well, while *pu* also appears in non-factive clauses, i.e. relatives.

- *Another route*:

Clarify the notions: ‘factivity’, ‘presupposition’, ‘background/familiar information’

(i) de Cuba and Ürögdi (2010): factivity is associated with the lexico-semantic properties of the selecting predicates (emotives are a sub-class of factives).

(ii) Factive complements are referential (Haegeman and Ürögdi 2010)

- *Advantages*:

(a) maintain a single *pu* (relatives, interrogatives, complements of emotives),

(b) derive the associated ‘definiteness’ property through ‘referentiality’ (definite descriptions are referential), which is, however, not inherent to *pu* but arises as a property of the selecting predicate.

- So what is the role of *pu* in complement clauses (as opposed to *oti*)?

It assigns a reference to the clause it embeds, i.e. it does not bind a propositional variable, since the embedded clause is interpreted as true (no true/false disjunction).

(17) The three complementizers:

- (a) *oti* (*that*): binds a propositional variable (set of propositions)
- (b) *an* (*if*): binds a propositional variable – also polarity sensitive (see (18))
- (c) *pu* (*that*): assigns reference (single proposition)

- (18) a. Rotisa *an* eftase o Petros.  
asked-1s if arrived-3s the Peter  
“I asked if Peter arrived.”
- b. Dhen proseksa *an* eftase o Petros.  
not noticed-1s if arrived-3s the Peter  
“I didn’t notice whether Peter arrived.”

Notice that *proseksa* can also carry a factive interpretation, when the *oti*-clause is associated with an accusative clitic, i.e. *dhen to proseksa oti eftase o Petros* (he did arrive, but I haven’t noticed it).

- Syntax plays an important role in affecting the selecting properties and interpretation of the predicate.

### 3.2 The structure of *pu*-complements and implications for their islandhood

- Locality attributed to a +definiteness feature on C, or on a D head to which *pu* moves, or to a paratactic construction (basically adjunction).
- However, ungrammaticality is not as strong as the one we get out of adjunct clauses, or out of relative clauses. In the latter case, the presence of another gap inside the relative clause, obviously deteriorates grammaticality.

- (19) a. \*?Pjon<sub>i</sub> stenoxorjese *pu* apelisan t<sub>i</sub>?  
 who be.upset-2s that fired-3p  
 “?Who are you upset that they fired?”  
 b. \*Pjon<sub>i</sub> stenoxorjese *epidhi* apelisan t<sub>i</sub>?  
 who be.upset-2s because fired-3p  
 “\*Who are you upset because they fired?”

- The syntax of emotives is a bit more complex and not uniform: verbs like *stenoxorjeme*, *lipame*, *xerome*, *anisixo* are subject experiencer verbs (*anisixo* can also be an object experience) that take a ‘Subject Matter’ or ‘Target of Emotion’ object (as argued for by Pesetsky 1995).

- (20) a. Stemoxorjeme/anisixo *me ton Petro* (Subject Matter of Emotion)  
 be.upset-1s/worry-1s with the Peter  
 “I’m upset/worried about Peter”  
 b. Stemoxorjeme/anisixo *jia ton Petro* (Target of Emotion)  
 be.upset-1s/worry-1s for the Peter  
 “I’m upset/worried for Peter”

In both cases the object is realized as a PP, i.e. ‘oblique’.

- The *pu*-complement also expresses the ‘Target of Emotion’, and can be considered as corresponding to an ‘oblique’ argument.
- Similar patterns in Bulgarian (Krapova 2010, her (59)):  
 (21) Sāžaljavam za/\*na/\*∅ provala na sreštata.  
 regret-1s for/ of/ failure-the of meeting-the  
 “I’m sorry about the failure of the meeting.”

- Another property of *pu*-clauses shared with *deto*-clauses: they cannot appear in subject position (Bulgarian cited from Rudin 1986: 45):

- (22) a. \*[Pu efije] me stenoxorese  
 that left-3s me upset-3s  
 “That he left, upset me.”  
 b. \*[Deto toj e xubav], ne me iznenada  
 that he is handsome not me surprised-3s  
 “That he is handsome, did not surprise me.”

In Greek, (22a) is OK with *oti* preceded by the definite (neuter) article *to*: *to oti efije me stenoxorese* (a nominalized clause; recall that *pu*-clauses resist nominalization).

How do these properties relate with the structure and islandhood of *pu*-complements?

- Krapova (2010): *deto* clauses are embedded under an abstract *tova* ‘this’ which is a prepositional object, i.e.:

- (23) sāžaljavam [<sub>PP</sub> za/∅ [<sub>DP</sub> tova/∅ [<sub>CP</sub> deto .... ]]]

With *deto*, both the preposition and *tova* remain unrealized.

- Do we need an abstract complex structure of this sort? If *pu*-clauses, for example, behave like oblique arguments, does this mean that they are embedded under an abstract P-DP?
- If that is the case, why are P and D null and never overtly realized when *pu* is present?
- The structure in (23) may assimilate the *pu*-complement to a relative modifying ‘this’. But it’s all abstract.

- *A different suggestion*

- (a) What we see is what we get, i.e. no abstract unrealized heads.
- (b) The element *pu* merges directly with the selecting predicate (see Manzini (2010) on the point of Merge of complementizers, as (nominal) elements outside the embedded IP).
- (c) Complementizers like *oti* merge in the ‘canonical’ (accusative) position of internal arguments.
- (d) *Pu* merges in the position retained for dative or locative arguments (including indirect objects). In this sense it introduces a clause which behaves like an oblique argument in terms of extraction.

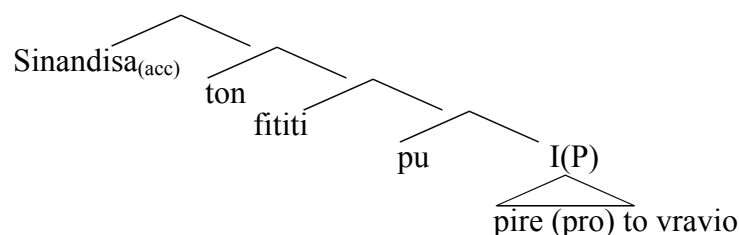
- (24) a. \**Tinos<sub>i</sub> stenoxorjese me/jia tis praksis t<sub>i</sub>?*  
           whose be.upset-2s for/with the actions  
           “About/for whose actions are you upset?”  
       b. *Me/jia tinos tis praksis stenoxorjese?*  
       c. *Tinos<sub>i</sub> akuses tin foni t<sub>i</sub>?whose heard-2s the voice*  
           “Whose voice did you hear?”

- Why ‘obliques’ create islands is a separate issue. Postulating extra functional structure (or sequences as in Caha (2008)) offers a differ description of the problem, without really offering an explanatory account (the idea being that heavier structures in features/functional heads, create more opaque domains/intervenors).

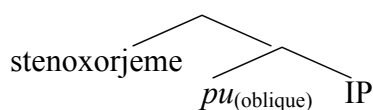
### 3.3 The structure of *pu*-clauses: Complements or relatives?

- An answer to this question partly depends on: a) on how one analyzes relatives (the raising vs. matching/null operator account), b) whether there is a structural distinction between adjuncts and complements.
- A matching analysis may require a null operator, plus adjunction.
- A raising analysis (like Kayne’s 1994) requires neither, but may have different shortcomings.

- (25) a. Sinandisa [<sub>D</sub> ton [<sub>N</sub> fititi [<sub>C</sub> pu [<sub>I</sub> pire to vradio ]]]].  
           “I met the student that got the prize.”



- b. Stenoxorjeme pu efijes  
 “I’m upset that you left.”



In relative clauses there has to be some predication relation between the head of the relative and the clause headed by *pu*.

#### 4. In short

- The same complementizer in relatives, complements, and as an interrogative pronoun.
- *Pu* corresponds to a position identified with oblique arguments.
- Whether complement clauses are hidden relatives or vice versa depends on the assumptions we start with regarding these two constructions. Crucially though viewing complementizers as pronominals can provide us with a fresher look of the properties of these constructions.

#### References

- Alexopoulou, Th. 2006. Resumption in relative clauses. *Natural Language and Linguistic Theory* 24: 57-111.
- Caha, P. 2008. The case hierarchy as functional sequence. In: M. Richards & A. L. Malchukov, *Linguistische Berichte* 86: 247-276, Universität Leipzig.
- de Cuba, C. & B. Ürögdi. 2010. Clearing up the ‘facts’ in complementation. *UPenn Working Papers in Linguistics* 16: 41-50. Available on line: <http://repository.upenn.edu/pwpl/vol16/iss1/6>
- Haegeman, L. & B. Ürögdi. 2010. Referential CPs and DPs: An operator movement account. *Theoretical Linguistics* 36-2/3: 111-151.
- Kalluli, D. 2008. Clitic doubling, agreement and information structure. In: Kalluli, D., 2008. Clitic doubling, agreement and information structure, pp. 227-256. In: Kalluli, D., Tasmowski, L. (Eds.), *Clitic Doubling in the Balkan Languages*. John Benjamins, Amsterdam.
- Kayne, R. 1994. *The antisymmetry of syntax*. MIT Press: Cambridge, MA.
- Kiparsky, P. & C. Kiparsky. 1971. Fact. In: D. D. Steinberg and L. A. Jakobovits (Eds.), *Semantics: An Interdisciplinary Reader in Philosophy, Linguistics and Psychology*, pp. 345-369. Cambridge University Press: Cambridge.
- Krapova, I. 2010. Bulgarian relative and factive clauses with an invariant complementizer. *Lingua* 120: 1240-1272.
- Legate, J.A. 2010. On how *how* is used instead of *that*. *Natural Language and Linguistic Theory* 28: 121-134.
- Manzini, M.R. & L.M. Savoia. 2003. The nature of complementizers. *Rivista di Grammatica Generativa* 28, 87-110.
- Manzini, M.R. 2010. The structure and interpretation of (Romance) complementizers. In: Ph. Panagiotidis (ed.), *The complementizer phase*, pp. 167-199. Oxford University Press: Oxford.
- Nicholas, N. 1998. *The story of ‘pu’*. *The grammaticalization in space and time of a Modern Greek complementizer*. PhD dissertation, University of Melbourne. Available online at: <http://www.tlg.uci.edu/~opoudjis/Work/thesis.html>
- Pesetsky, D. 1995. *Zero Syntax. Experiencers and cascades*. MIT Press: Cambridge, MA.
- Roberts, I. & A. Roussou. 2003. *Syntactic change. A minimalist approach to grammaticalization*. Cambridge University Press: Cambridge.
- Roussou, A. & I. Roberts. 2001. *Pou*-complements and *Acc-ing* constructions: a comparative analysis. *Proceedings of the 4<sup>th</sup> International Conference on Greek Linguistics*, Nicosia, September 1999, pp. 201-208. University Studio Press: Thessaloniki.
- Roussou, A. 1994. *The syntax of complementisers*. PhD dissertation, University College London.
- Rudin, C. 1986. *Aspects of Bulgarian syntax: Complementizers and wh-constructions*. Slavica Publishers: Columbus, Ohio.
- Theophanopoulou-Kontou, D. 1985. Οι που-αναφορικές προτάσεις της Νέας Ελληνικής και η παράλειψη της προθέσεως. *Μελέτες για την Ελληνική Γλώσσα* 2: 51-78.
- Varlokosta, S. 1994. *Issues on Modern Greek sentential complementation*. PhD dissertation, University of Maryland, College Park.