J. Linguistics **00** (0000) 1–35.
doi:10.1017/S0000000000000000 Printed in the United Kingdom

Afterthoughts in Greek: Gender mismatches under a dynamic framework

This paper deals with the syntax of afterthoughts in Greek under a parsing-oriented perspective. The main claim is that afterthoughts can receive a straightforward explanation once we make the assumption that afterthoughts can be seen as answers to implicit questions. A formal syntactic account based on this assumption is put forth and its ability to deal with gender mismatches exhibited in Greek afterthoughts is shown. Afterthoughts are further discussed on a more general perspective, arguing that once we turn into a dynamic model where context re-use and update are taken to be core components of syntax, a number of issues as regards afterthoughts like connectivity effects, locality constraints, freedom of positioning and reconstruction effects can receive a straightforward explanation.

1. INTRODUCTION

It is a fact that the right periphery has received considerably less attention in the literature than its left periphery analogue. Moreover, even in cases where the right periphery has been studied in Modern Greek (MG), this has been done in order to elucidate a number of specific phenomena and not the nature of the right periphery itself, e.g. clitic doubling (CD) or Clitic Right Dislocation (CRD, see e.g. Agouraki 1993, Anagnostopoulou 1997, Philippaki et al. 2002, among others). The most cited cases of RD include the already mentioned case of CRDs, as well as cases of argumental right dislocation in general. In the former case, an argument NP is doubled by a preceding clitic pronoun while in the latter, an argument NP (not doubled by a preceding clitic) appears in the right periphery separated by comma intonation by the preceding clause:[1]

(1) Ton htipise o Giorgos, to Giani
him.CL-ACC hit the.NOM George.NOM, the.ACC John.ACC
'George hit John.'

(2) Htipise to Giani xtes, o Giorgos
hit the.ACC John.ACC yesterday the.NOM George.NOM
'George hit John yesterday.'

For Greek, it has been suggested in Valiouli (1994) that right dislocations can be separated into two categories depending on the nature of the intonation used in each case.[2] The first category involves comma intonation and its pragmatic import is to re-establish the topic of the discourse, a reminder of previous old information according to De Vries (2007: 245).[3] However, there is a second category of right dislocations that involves period rather than comma intonation, and where the RDed material receives an additional pitch accent.[4] This is the case of afterthoughts (ATs). As Averintseva-Klisch (2006) points out ATs are clarification strategies, i.e. an attempt of the speaker to further elucidate part of the preceding sentence. For example, (1) and (2) can receive this type of intonation as well. In this case the right dislocated NP acts as a clarification rather than a topic re-establisher:[5]

(3) Ton htipise o Giorgos,, to Giani
him.CL-ACC hit the.NOM George.NOM, the.ACC John.ACC
'George hit John (clarifying that John is the one hit by George).'

(4) Htipise to Giani xtes,, o Giorgos
hit the.ACC John.ACC yesterday the.NOM George.NOM
'George hit John yesterday (clarifying that George is the one that hit John).'

This dual partition of right dislocations is in fact far older in the literature on right dislocations or discourse structure, especially outside formal linguistics. For example

one finds terms like 'afterthought NP' or 'afterthought topicalization' in the functional syntactic literature (Dik 1980 and Givón 1990 respectively among many others). Some of these researchers have gone one step further arguing that all right-dislocations are in fact afterthoughts (Hyman 1975, Givón 1976 among others). Of course, this cannot possibly be correct given that at least some cases of RDs act to establish already known information. The first to explicitly oppose this view was Lambrecht (1981). He proposed an account, according to which right-dislocations are in fact anti-topics. An anti-topic roughly corresponds to Vallduvi's (1992) notion of *tail*. In Lambrecht's own words the difference between topics and anti-topics are as follows:

(5) TOP vs. ANTITOP position of a topic expression correlates with the relative pragmatic salience of the topic referent at utterance time: while the order topic-comment signals announcement or establishment of a new topic relation between a referent and a predication, the order comment-topic signals continuation or maintenance of an already established relation [Lambrecht 2001: 1074]

Thus, RDs, according to Lambrecht, typically continue or maintain an already established relation. However, this is again half the truth, given the examples of RDs exhibiting a corrective, afterthought-like interpretation. In the formal syntactic literature, even though there is frequent mention of the use of RDs as afterthoughts, no explicit work on afterthoughts has been put forth until very recently (Averintseva-Klisch 2006,2008,2009,2010; De Vries 2007 and Ott & De Vries 2012a, to appear among others). In the case of Greek, a syntactic account of ATs is still pending. Building on earlier work by De Vries (2007), Ott & De Vries (2012a,b,to appear) and Averintseva-Klisch (2006,2008,2010), I will distinguish right dislocations into a) Backgounded Right Dislocation (BRD) on the one hand and b) ATs on the other.[6] Even though the focus of this paper will be ATs in Greek, a number of issues as regards ATs on a more general perspective will be discussed.

One of the properties of ATs is that the RDed elements in these cases can also be non-argumental, e.g. a PP or an adverbial:

(6) Ton htipise to Giani,, xtes
him.CL-ACC hit the.ACC John.ACC yesterday
'S/he hit John yesterday.'

(7) Ton htipise to Giani,, sto parko
him.ACC hit the.ACC John.ACC to-the park
'S/he hit John in the park.'

A further intriguing property associated with ATs in Greek, is that they can exhibit gender mismatches. In order to exemplify this claim imagine the following scenario: Two friends meet on the street. One has sent to the other a letter (e*pistoli* in Greek, marked for feminine gender). The letter was received and the receiver wants to say that he read the letter. The receiver utters the following, using a neuter clitic and providing the clarification using the feminine NP (gender mismatch):[7]

(8) To diavasa xtes,, tin epistoli
it.CL-ACC-NEUT read.1SG yesterday the.ACC-FEM letter.ACC-FEM
'I read the letter yesterday.'

Imagine now another scenario: two friends are discussing about a tv show (*ekpobi* in Greek, marked for feminine gender). One of the two friends has not seen the show, which he promises to do as soon as he gets back home. So, he does. The next morning the two friends meet again and the one that saw the show the previous night wants to say that he did. He utters the following, again using a neuter clitic and further clarifying with a feminine NP:

(9) To ida xtes,, tin ekpobi
it.CL-ACC-NEUT saw.1SG yesterday the.ACC-FEM show.ACC-FEM
'I saw the show yesterday.'

Both of the above examples involve a gender mismatch between the AT and the co-referential clitic and are indeed possible in Greek. Note that the mismatched NP is marked for feminine gender, but mismatches with masculine gender NPs are also possible as the examples below illustrate:[8]

(10) Anapse to,, ton polieleo
turn-on it.CL-ACC-NEUT the.ACC-MASC chandelier.ACC-MASC
'Turn on the chandelier!'

Examples (9) and (10) are examples that the author has encountered in real life. Some further examples, that have been encountered by the author in real life situations include the following:

(11) To ipa,, tin mpira/ tin votka
it.CL-ACC-NEUT drank the.ACC-FEM beer.ACC-FEM the.ACC-FEM vodka.ACC-FEM
'I drank the beer/vodka.'

(12) To anapodogirisa,, tin trapezaria (enoo)
it.CL-ACC turn-upside-down. the.ACC-FEM dining-table.ACC-FEM
'I turned the table upside down.'

(13) To diesxisa,, ton aftokinitodromo (enoo)
it.CL-ACC crossed the.ACC-MASC highway.ACC-MASC
'I crossed the highway.'

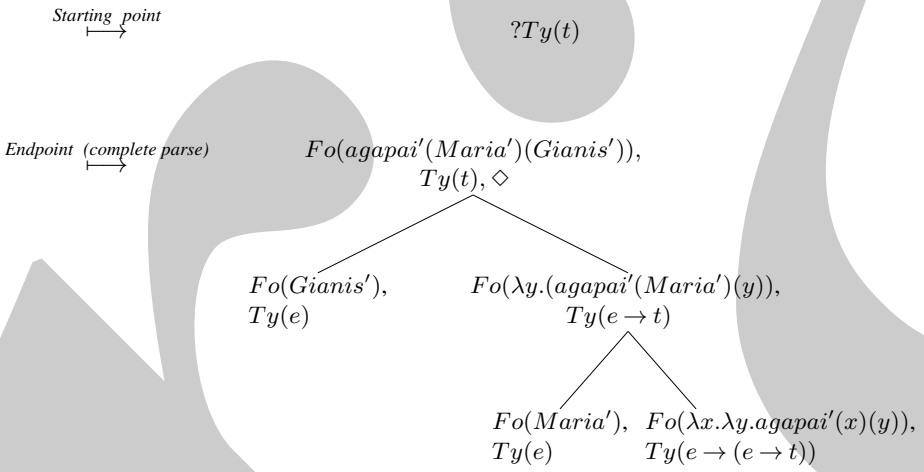
To the best of my knowledge, no one has dealt with this type of construction before syntactically (at least for Greek). In general, and as already said, Greek ATs have not received any syntactic treatment in the literature.[9] In this paper, I take up the challenge to provide a dynamic account of ATs that will naturally explain the gender mismatch facts. It is then my intention to look at the predictions this account makes as regards a more general theory of ATs. The structure of the paper is as follows: in chapter 2, I briefly and informally present the Dynamic Syntax framework. In chapter 3, I present an account of afterthoughts based on the framework of Dynamic Syntax (DS). I follow De Vries (2007) and Ott and De Vries (2012a,b) among others, who argue for an account of ATs on a par with sluicing and fragment answers. Contrary to these accounts however, no assumption of elided structure will be made, but rather a move to a dynamic framework will be attempted, where no such assumptions are needed. More specifically, the idea I'm going to pursue in this paper is that ATs can be seen as fragment answers to implicit questions. Given the vast work in DS w.r.t. dialogue modelling in general and w.r.t. to ellipsis, clarification and fragment answers specifically, I use these DS insights as regards dialogue modelling to the study of Greek ATs. The account will be shown to explain the data on gender mismatches in a rather natural way. Furthermore, it is going to be shown that such an account can potentially provide a means towards a general account of ATs. This task is taken up in section 4 where a discussion on the predictions the proposed account makes as regards a more general account of ATs can be found.

2. A BRIEF INTRODUCTION TO DS

2.1 *Basic assumptions*

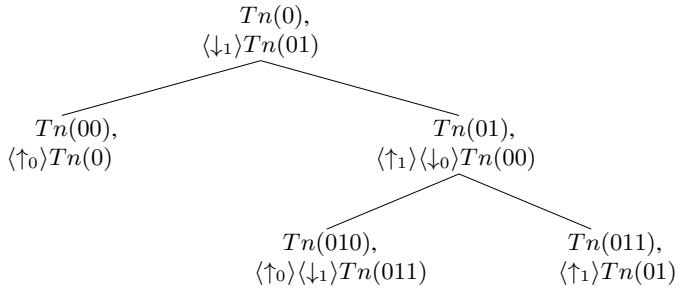
The Dynamic Syntax (DS) framework (Kempson et al. 2001; Cann et al. 2005) is a processing oriented framework. One of the basic assumptions behind DS is that natural language syntax can be seen as the progressive accumulation of transparent semantic representations with the upper goal being the construction of a logical propositional formula (a formula of type *t*). Such a process is driven by means of monotonic tree growth, representing the attempt to model the way information is processed in a time-linear, incremental, word-to-word manner. DS is a goal driven framework generally driven by means of requirements (requirements are denoted by the question mark ?). A well-formed sentence is one where all nodes have a formula (semantic content) and a type (semantic type) value and no outstanding requirements exist. In order, to reach this well-formed structure, a sequence of partial-tree updating takes place. This allows the transition from a sole requirement for a proposition to a complete tree. The example below shows the starting point and the end result of parsing *o Gianis agapai ti Maria* 'John loves Mary':

(14)



In DS, a tree structure is well-formed iff no outstanding requirements remain. A string is then said to be grammatical iff there exists a tree-update that leads to a well-formed structure. As can be seen in the above example, all nodes have formula (Fo) and type (Ty) values. Formula and type values combine via functional application and modus ponens respectively. The ◇ sign, called the pointer, shows the place in the tree where the parsing process is at a given point.[10] The whole system is underpinned by the Logic of Finite Trees (Blackburn and Meyer-Viol 1994), an expressive language to talk about trees. LOFT uses two basic arrow relations ↓ and ↑, corresponding to the daughter and mother relation respectively. Left nodes are addressed as 0 nodes, whereas right nodes as 1 nodes. Conventionally, nodes on the left correspond to the argument nodes, i.e. the nodes in which the arguments will be represented, whereas the 1 nodes correspond to the functor nodes, i.e. the nodes in which all the various types of predicates will be represented. The rootnode, defined as the sole node that does not have a mother node, is given the treenode address 0. The example below illustrates the flexibility of LOFT by showing a binary tree where different nodes are addressed from the perspective of other nodes using treenode relations:

(15) The LOFT treenode relations in action



In the above tree, all nodes have a treenode address and a further statement identifying another node in the tree. For example, the statement $\langle\uparrow_0\rangle\langle\downarrow_1\rangle Tn(011)$ found in the 010 node reads as: you will find treenode 011 if you take a step across the 0 mother relation followed by a step across the 1 daughter relation. Furthermore, the two kleene operators * and + are used in combination with the basic tree relations, denoting the reflexive transitive and the transitive closure of the tree relation in each case. Thus, $\langle\downarrow^*\rangle Tn(x)$ reads as $Tn(x)$ holds at the current node or at a node below the current one (of arbitrary depth), whereas $\langle\downarrow^+\rangle Tn(x)$ reads as $Tn(x)$ holds on a node below the current one.

The procedural part of the framework consists of two basic types of actions, lexical and computational. The first are language specific rules, roughly the lexical entries for individual words. An example of lexical rule is shown below:

(16) Lexical entry for *Bill*

IF	$?Ty(e)$
THEN	$\texttt{put}((Ty(e), Fo(Bill'))$
ELSE	abort

The above example reads as follows: if you are at a node that has a type *e* requirement, then decorate this node with a type *e* value and a formula value representing the concept *'Bill'*. In any other case abort. In that sense, a proper noun like *Bill* in English will be able to get parsed as soon as a node has a requirement for a type *e*. This will allow a word like *Bill* to be parsed either as a subject or as an object in English.

As we said, syntax is seen as the growth of transparent semantic representations. According to this view, morphosyntactic phenomena are also seen in this way. There are different ways in which morphosyntax operates in DS, ranging from providing purely procedural, declarative information as regards the parsing process and restrictions on tree updating to providing underspecified semantic representations or, in other cases, fully-fledged semantic representations. For example, for case marking languages, the above lexical entry given for English would involve further information besides positing a formula value and a type e. It will further involve a tree requirement that the node immediately dominating the current node is the predicate, it will impose in this way the requirement that the present node is the accusative node. Let us assume a language with constructive accusative. Then, the English entry would be transformed to something like the following:[11]

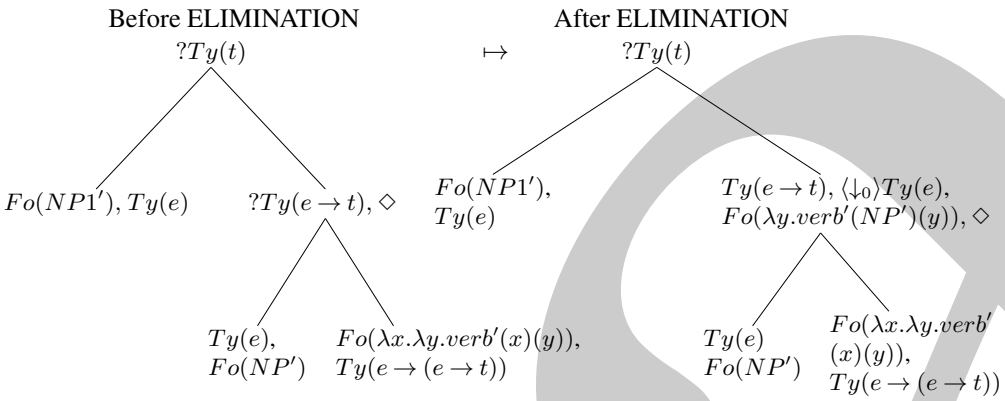
(17) Structural accusative case marked proper name

IF	$?Ty(e)$
THEN	$\texttt{put}((Ty(e), Fo(NP'), ?\langle\uparrow_0\rangle Ty(e \rightarrow t))$
ELSE	abort

The second basic set of actions is computational rules. Computational rules are general computational devices, comprising the basic tree construction mechanism. They are assumed to be a closed set of rules universally available to every language. This closed set of rules are basically rules that help the parsing process unfold. These involve pointer movement rules, rules that perform functional application and modus ponens (for formulas and types respectively) or rules that get rid of requirements as soon as these are satisfied. A

characteristic case of a computational rule is the rule of ELIMINATION. This rule performs functional application on formulas and modus ponens on types, in case both the argument and the function nodes bear complete formula and type values. So, in the example below, the bottom nodes are combined by functional application and modus ponens in order to produce the result at the node above in the second tree (the node where the pointer, $\Diamond$, is at):[12]

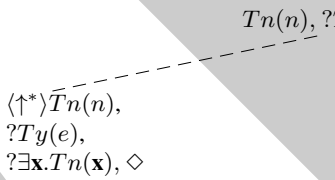
(18) ELIMINATION



2.2 *Structural Underspecification - Unfixed nodes*

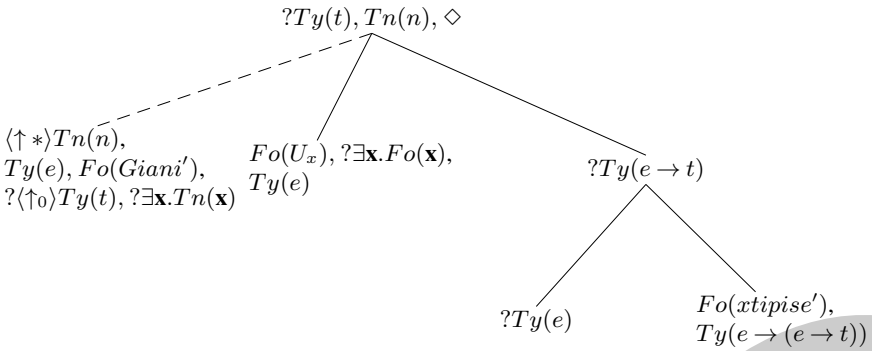
Another basic assumption of DS is that languages are to a large extent underspecified regarding both content and structure. While content underspecification has been largely employed within the formal semantics literature of the past 30 years, no attempts to move underspecification into the area of syntax have been made.[13] DS uses structural underspecification to deal with a range of phenomena, i.e. scrambling, clitic doubling and person restrictions to name a few (see Kempson & Kiaer 2012, Chatzikyriakidis 2010 and Chatzikyriakidis and Kempson 2011 respectively). The basic mechanism used in order to express structural underspecification is unfixed nodes. Unfixed nodes are nodes that have not yet found their position in the tree structure. As such, they are structurally underspecified at the time they are introduced. However, they need to be updated later on in order for the parse to be successful; otherwise, outstanding requirements remain and the tree update fails. The rule of *ADJUNCTION introduces an unfixed node:

(19) *ADJUNCTION: Introducing an unfixed node



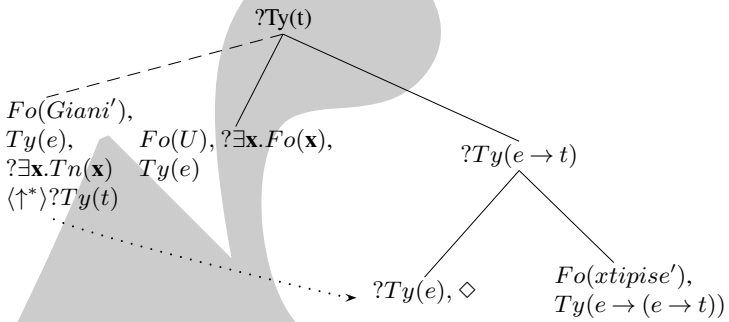
The node is structurally underspecified since it does not carry a fixed treenode address. The only thing the node "knows" as regards its treenode position is that somewhere up above or at the current node, *Tn(n)* must be found.[14] The *ADJUNCTION rule works neatly for OV focus cases in Greek. In such structures, the preposed object is parsed on an unfixed node. Then the verb is parsed, projecting the rest of the propositional structure, a type e and a formula metavariable at the subject node (for the subject drop properties) and leaving a requirement for a type value in the object node:[15][16][17]

(20) After parsing the verb in *ton Giani xtipise*, 's/he hit John'

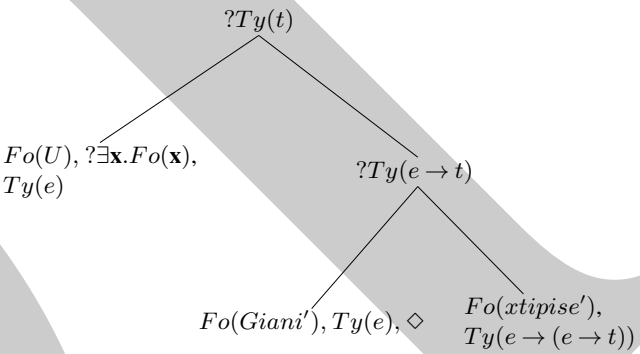


In the above structure there is an unfixed node with a type and a formula value and an open slot decorated with a type *e* requirement (the 010 node). It is at that point that a process of unification between the unfixed node and the fixed object node (010) can take place using MERGE. MERGE is a computational rule which unifies two nodes just in case one of the two updates the treenode address of the other. The notion of update is defined by treenode address entailment. If a treenode address entails another treenode address, then the former can be seen as an update of the latter.[18] The treenode address of the direct object node (010) can be a proper update of the underspecified address the unfixed node carries. Furthermore, the fact that the 010 node has a proper treenode address will eliminate the requirement of the unfixed node that a fixed treenode address should be found ($?\exists \mathbf{x} Tn(\mathbf{x})$).The trees below display the tree structure before and after MERGE has applied:

(21) Before MERGE



(22) After MERGE

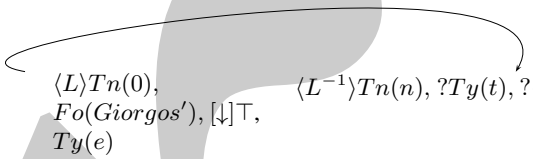


2.3 *Parsing in Context - LINK Structures*

Besides the tree structures in which each sentence involves a single tree (regardless of tree embedding), DS also makes use of pairs of trees which are linked to each other via a relation

called LINK. LINK structures involve two separate tree structures. The node from which the LINK starts can be seen as setting the context in which the LINKed tree is going to be parsed. Examples of LINK relations include relative clauses, in which case the relative clause is parsed within the context of the head noun or Hanging Topic Left Dislocation (HTLD) constructions in which case the HTLD sentence is parsed within the context of having parsed the left-dislocated element first. LINK structures have a variety of uses in DS. Let us illustrate LINK structures in more detail by looking at an HTLD example. In order to analyze HTLD constructions, Cann et al. (2005) define two rules which link a type *e* node, where the dislocated element is parsed, to a type t requiring node, where the rest of the HTLD structure is parsed. The first rule introduces a LINK transition from a type *e* requiring node to a type *t* requiring node, while leaving the pointer in the first of the two. The second rule introduces a requirement for a shared term as soon as the dislocated element is parsed. In parsing an HTLD sentence like the one shown in (23), we apply the first rule (TOPIC STRUCTURE INTRODUCTION) that introduces the type *e* requiring node. The NP is parsed on that node and then the second rule takes effect moving the pointer to the type *t* requiring node and positing (on the same node) a requirement that a copy of the formula found in the node where the LINK begins must be found somewhere in the LINKed tree or to a tree LINKed to the LINKed tree. ($?\langle D\rangle Fo(Giorgos')$). In order to be able to talk about LINK relations in our tree language we introduce the $\langle L\rangle$ relation and its inverse $\langle L^{-1}\rangle$, which are used to refer to LINK relations (L reffering to a LINKed node and $\langle L^{-1}\rangle$ for a node that a LINK starts). D is a generalization of the unfixed node modality $\langle\downarrow^*\rangle$ that further includes the LINK relation:[19]

(23) O Giorgos, ton gnorizo.
the.NOM George.NOM know.1SG him.CL-ACC
'I know George.'



In simple terms, in the above example the result of the two rules is to project a LINK relation from the HTLDed topic *o Giorgos*. Then, in this new LINKed tree, the rest of the sentence is going to be parsed. For our specific example, the requirement that a copy of the HTLDed NP must be found in the LINKed tree will be satisfied as soon as the object clitic is parsed.

For right dislocation, we find a similar treatment, the difference being that the LINK structure is now initiated from a type t complete node, i.e. a complete proposision. This idea has been used in the DS literature for BRD, with particular emphasis to pronoun doubling and CRD in clitic languages like e.g. Greek (Cann et al. 2004; Cann et al. 2005; Chatzikyriakidis 2010 inter alia). DS has a natural mechanism to account for these constructions, via the right periphery analogue of the rules used for HTLD constructions, RECAPITULATION. The difference between the two is that RECAPITULATION builds a LINK transition from a type *t* complete node, i.e. a complete proposition, to a type *e* requiring node by further positing that the formula value of the LINKed tree must be shared with some subterm of the main tree. This captures the intuition that BRDs are in fact topic re-establishers and are used to somehow re-establish the context. The rule is shown below:[20]

(24) RECAPITULATION

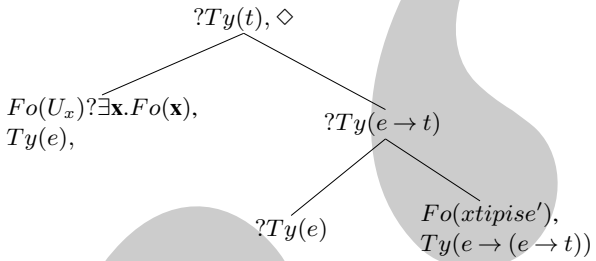
$$\frac{\{...\{Tn(0), ..., Ty(t), Fo(\phi), ...\}\{\uparrow_* Tn(0), Tn(n), Ty(e), Fo(\alpha), ...\Diamond\}...\}}{\{...\{Tn(0), ..., Ty(t), Fo(\phi), ...\}\{\uparrow_* Tn(0), Tn(n), Ty(e), Fo(\alpha), ...\}...\}\quad \{\langle L^{-1}\rangle Tn(0), ?Ty(e), ?Fo(\alpha), \Diamond\}}$$

To put this in perspective, let us say we want to parse (30):

(25) Xtipise to Giorgo, o Gianis
hit the.ACC George.ACC the.NOM John.NOM
'John hit George.'

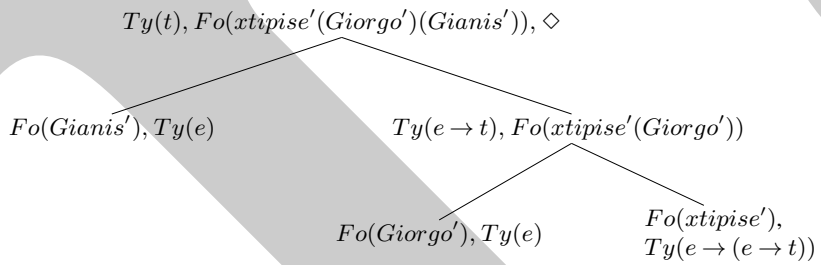
This construction contains a right dislocated subject, i.e. *o Gianis* 'the John'. The first step in parsing such a sentence is parsing of the verb. The verb projects the whole propositional template as well as a type value and a formula metavariable in the subject node:

(26) After parsing the verb *xtipise*, 'hit'



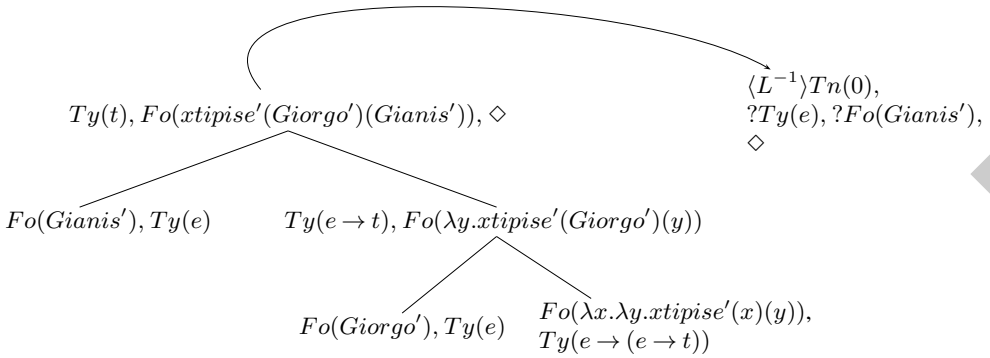
The NP *to Giorgo* comes into parse and decorates the object node with a type and formula value.[21] Then after a value is provided from the context for the subject node ($Fo(Gianis')$) and the application of functional application for formula values and modus ponens for types we arrive at a complete parse:

(27) The result



Notice that parse of the sentence could stop here, since a well formed parse has been established, given that a proposition and no outstanding requirements exist. However, in case of BRD, the rule of RECAPITULATION can further apply, which will create a LINK transition from the type complete *t* node to a type *e* requiring node. It will further posit that a formula value of type *e* found somewhere in the main tree must be the formula value of the node of the LINKed tree. The structure after RECAPITULATION has applied is shown below:

(28) After RECAPITULATION has applied



At that point the right dislocated subject can be parsed in the LINKed tree. Now, The same reasoning can also be used to account for RDed structures in which the RDed element is coreferential with a preceding clitic, i.e CRD.[22] Such an account is based on the idea that right dislocated elements are optional elements that are somehow re-used to further establish known information. This neatly predicts the backgrounding topic effect, since it basically re-introduces an argument that has been already provided.[23]

CRD in Greek shows case connectivity as the examples below illustrate:

(29) Ton xtipisa xtes, *o Gianis/ ton Giani
him.ACC hit yesterday the.NOM John.NOM the.ACC John.ACC
'I hit John.'

(30) Tin xtipisa xtes, *i Maria/tin Maria
her.ACC hit yesterday the.NOM Mary.NOM the.ACC Mary.ACC
'I hit Mary.'

As already mentioned, case in DS is seen as providing tree requirements that act as a filter on output. Simplifying a little bit, nominative case can be seen as imposing a requirement that its mother node is the top node ($Ty(t)$) while for accusative case, this is the predicate node ($Ty(e \to t)$). The two tree relation statements are shown below:

(31) $ACC \Rightarrow ?\langle\uparrow_0\rangle Ty(e \to t)$

(32) $NOM \Rightarrow ?\langle\uparrow_0\rangle Ty(t)$

Chatzikyriakidis (2010) uses this conception of case in order to get the connectivity effects exhibited in CRD in Greek by modifying the above statements as follows:

(33) $ACC \Rightarrow ?\langle L^*\rangle\langle\uparrow_0\rangle Ty(e \to t)$

(34) $NOM \Rightarrow ?\langle L^*\rangle\langle\uparrow_0\rangle Ty(t)$

Basically, the above reads as: you will find a predicate node (for (33)) or a type t node ((34)) if you traverse a LINK relation $*$ times (potentially empty) and then go up the argument node. If the L is empty then we have cases of regular structural case (within the same tree structure). If it is not, this captures peripheral connectivity effects like RD discussed here.

The account in Cann et al. (2002, 2005) and Chatzikyriakidis (2010) just presented, as already said, is not an account of ATs but rather BRDs in Greek. However, ATs are clarifications and as such are used in order to help in the construction of a complete proposition. This means that by definition ATs do not operate on a full propositional structure, on a complete tree. ATs provide more information in order for an element previously introduced to receive reference. If ATs are indeed clarifications, one can look at them as responses to implicit clarification requests. In effect, the speaker in these constructions is trying to avoid a clarification question and does so by providing the answer to this hypothetical question. This answer is the AT. If such an account is to be pursued, one should at least have a way to deal with phenomena like fragment answers in a dialogue setting. In what follows, I take up the challenge to provide an account of ATs on that basis,

showing that the gender mismatches associated with ATs in Greek are a direct consequence of such an approach.

3. Accounting for Greek afterthoughts

3.1 *Some introductory remarks: Affterthoughts vs Backgrounded Right Dislocation*

The first thing that seems to be following out of recent work with respect to RDs is the rather uncontroversial claim that RDs involve two main different constructions: a) Backgrounding Right Dislocation (BRD) and b) Afterthoughts (ATs) (see Averintseva-Klisch 2006, 2008, 2010; De Vries 2007; Ott and De Vries 2012a, to appear among others). All these researchers distinguish between the two on both prosodic and syntactic grounds. As such, there is consensus that the two structures involve different intonational patterns, with BRDs prosodically integrating into the host clause but ATs forming a prosodic unit of their own (Averintseva-Klisch, 2006 and De Vries 2007 among others). There is also consensus that the two structures differ structurally. For example, Averintseva-klisch (2006,2008) offers a number of evidence pointing towards this direction. The first of these, which is also relevant for the needs of this paper, is that morphological agreement is strict in the case of BRDs but not in the case of ATs. This has been shown by Averintseva-Klisch for German, and it is certainly true for Greek, at least as regards gender:[24][25]

(35) To diavasa xtes,, tin epistoli [AT]
it.CL-ACC-NEUT read.1SG yesterday the.ACC-FEM letter.ACC-FEM
'I read the letter yesterday.'

(36) *To diavasa xtes, tin epistoli [BRD]
it.CL-ACC-NEUT read.1SG yesterday the.ACC-FEM letter.ACC-FEM
'I read the letter yesterday.'

Also optional additions between the clause internal pronominal (in our case the clitic), and the RD element are possible in ATs but not with BRDs. In the example below the optional addition *enoo* 'I mean' is used:[26]

(37) To diavasa xtes,, enoo tin epistoli [AT]
it.CL-ACC-NEUT read.1SG yesterday mean the.ACC-FEM letter.ACC-FEM
'I read the letter yesterday.'

(38) *To diavasa xtes, enoo tin epistoli [BRD]
it.CL-ACC-NEUT read.1SG yesterday mean the.ACC-FEM letter.ACC-FEM
'I read the letter yesterday.'

Ott and De Vries (2012a) propose an account for RDs based on the idea that RDs are in effect instances of clausal ellipsis. In effect, the idea found in Ott and De Vries (2012a) is that RDs involve the biclausal structure depicted below (dXP stands for dislocated XP):

(39) *$[_{CP1}$ ... correlate ...]*$[_{CP2}$ dXP_i... ~~ti~~...]

In this paper, we take the view that indeed ATs should be analyzed on a par with elliptical phenomena. In particular, I argue that afterthoughts can be best seen as fragment answers to implicit questions. In order to formulate our claim, we base our analysis on some recent advances as regards dialogue modelling using DS. This is to what we turn now.

3.2 *Dialogue modelling in Dynamic Syntax*

DS, already mentioned, is a parsing-oriented, incremental framework where semantics and syntax work in tandem to provide structured representations of content. DS takes syntax to be procedures for context-dependent interpretation (Gregoromichelaki et al, 2012). Under such an approach, as Gregoromichelaki et al. (2012) argue: "we have to

see 'semantics' as structured representations of content, 'syntax' as the set of actions for constructing these representations, and 'context' as a store of content, i.e. structures, plus the actions involved, hence the semantic representations and the syntactic process combined." (Gregoromichelaki et al. 2012:574). This stance, alongside the incremental nature of the DS framework, has been able to provide a natural account to a number of problematic dialogue phenomena, like fragment answers or split utterances (Purver et al. 2010, Kempson et al. 2011, Kempson et al. 2012, Gregoromichelaki et al. 2012 among others). To give an idea of how these assumptions work, let us see two different cases of dialogue phenomena, a split utterance and a fragment answer:

(40) A: Did you burn? B: Myself? No.

(41) Who hit Mary? John.

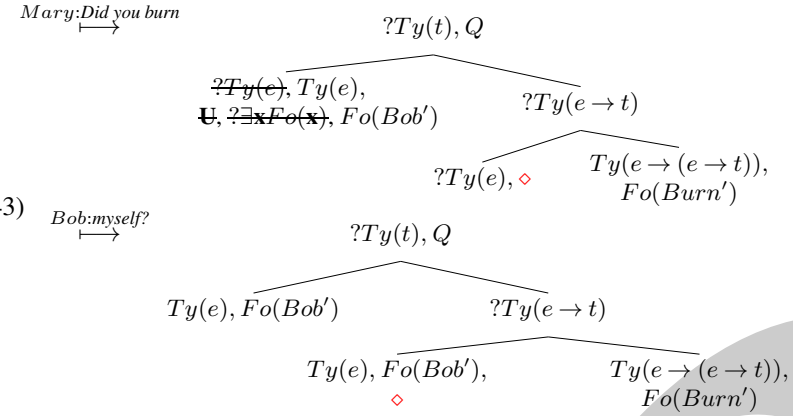
Example (40) is problematic given that the full sentence arising out of the conjunction of the two utterances is ungrammatical. Thus, *did you burn myself* as a single utterance is ungrammatical, but however fine in a split utterance setting. However, it is a perfectly good construction in a dialogue setting. DS offers a solution to this. This is based on the assumption that production and parsing work tightly together, given that the same mechanisms are used in both.[27] Each of the interlocutors is seen as building representations incrementally and relative to some context. This has the welcome consequence that at any point in the parsing process, they can switch the roles of parser and producer at any time. This assumption along with the semantics/syntax of the reflexive, will give us a straightforward account of (40). The reflexive's lexical entry is as shown below:

(42) Lexical entry for the reflexive *myself*

myself	**IF**	$\langle\uparrow_0\rangle\langle\uparrow_*^1\rangle\langle\downarrow_0\rangle Fo(x)$
		$Speaker(x)$
	THEN	$\texttt{Substitute}(\mathbf{U}, x)$
	ELSE	ABORT

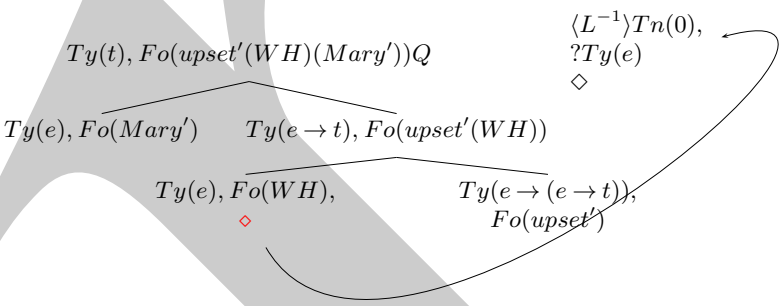
Myself is seen as copying a formula from a local co-argument node onto the current node. This formula must satisfy the conditions set by the person and number of the uttered reflexive, in our case it has to be naming the speaker. In the following example, we see two trees. The first one stands for the partial tree having been constructed by parsing of the first utterance, i.e. *did you burn?*. Note that a value has been provided for the metavariable projected by the 2nd person pronoun *you*, in effect a value that identifies the hearer. Then at that point the second participant can take on and provide the rest of the sentence, building on the previous partial tree. Then *myself* can be used with no problem, since the speaker in this turn was the hearer when the first utterance was parsed. As such, and given the lexical entry for *myself*, the value provided by *you* by the first participant to identify the hearer, can now be copied to the object node, given that it now coincides with the speaker:

(43)



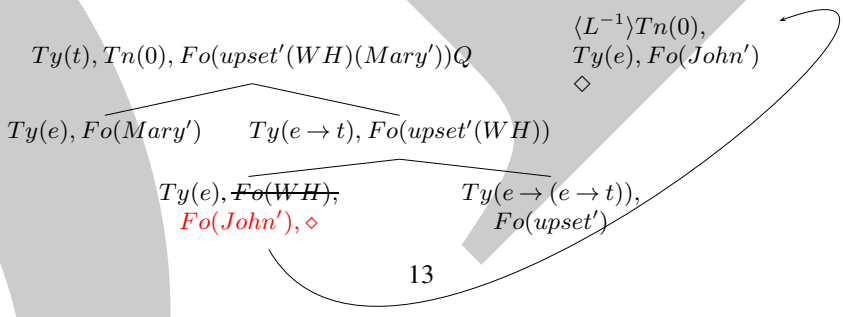
DS is in this respect a framework that cannot only deal with incremental syntactic and semantic processing, capturing the need for allowing the extension of partial semantic structures as well as syntactic dependencies, but can furthermore deal with the speaker/hearer changes at any step in the dialogue. Indeed, other grammatical frameworks can be modified in order to account for incremental semantic/syntactic parsing and indeed such attempts to modify existing syntactic frameworks to handle incremental parsing have been made using Categorial Grammar, Minimalist Grammars or Tree Adjoining Grammar (see Hefny et al. 2011, Stabler 2013 and Demberg 2013 respectively). It is however the speaker/hearer interchanges, an example of which is shown in (40), and the associated problems that this brings about that make DS a better suited and motivated framework to handle incrementality as well as dialogue phenomena compared to other frameworks. For fragment answers like *A: Who did Mary upset? B: John*, *John* is parsed within the context of the WH question. It is parsed on a structure LINKed to that structure with a type e requirement (remember that the structure where the LINK starts can be seen as setting the context):

(44) Before parsing the fragment answer



Now, we can parse the fragment answer *John*. Then LINK evaluation, substitutes *John* for the WH metavariable:

(45) Parsing the fragment and substitution



In what follows, and for ease of exposition we will not show the LINK transition in cases of fragment answers but we will rather substitute the WH metavariable directly. The reader should have in mind that a LINK relation is involved in these cases, which is omitted just for illustration purposes and to make the trees a little bit more readable.

3.3 *Afterthoughts*

ATs as already discussed involve a distinctive period intonation and have been claimed to act as a kind of clarification rather than a means to re-establish an already introduced referent. Averintseva-Klisch defines in this respect the function of ATs as follows:

(46) Afterthought (α,β) is a cognitive-level, subordinating discourse relation, which holds whenever the speaker of α (=host sentence) and β (= AT) supplies α with the speech act related goal of clearing the reference of a discourse referent x that has been introduced in α by establishing a relation $x = z$, where z is a discourse referent introduced in β, and the reference of z in the discourse representation is assumed to be unambiguous [Averintseva-Klisch 2008]

One way to model ATs, as already said, is to look at them as being clarification answers to implicit questions. The idea is that the speaker in these cases provides a clarification in order to "avoid" the question that the AT is an answer to, in effect preventing the hearer from asking a clarification question. For example in (47), the AT *xtes*'yesterday' further clarifies the past event that the sentence before the AT expresses by restricting the past time occurrence of this event to the day before the time of utterance:

(47) Ton ida to Giorgo,, xtes
him.CL-ACC saw the.NOM George.NOM yesterday
'I saw George yesterday (clarifying that it was yesterday).'

The same goes for argumental ATs. For example in (48), it seems that the speaker tries to avoid an explicit clarificatifon request by the hearer, by providing the answer to this never asked question:

(48) Ton htipise o Giorgos,, to Giani
him.CL-ACC hit the.NOM George.NOM, the.ACC John.ACC
'George hit John (clarifying that John is the one hit by George).'

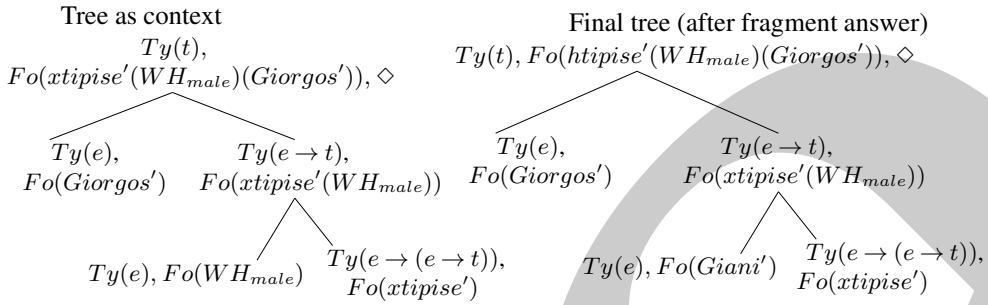
Assuming that ATs are fragment answers to implicit clarification questions then what is firstly needed is a way to analyze clarification answers. Work in dialogue modelling in DS and specifically fragment anwers, among other dialogue phenomena, can provide the basis of such an analysis of ATs. Let us see where such an assumption can lead us to. First of all, we have to look in more detail at how fragment answers are dealt with in DS. Let us assume that the AT in (48) is an answer to a question like *pion htipise o Giorgos* 'who did George hit':

(49) A:Pion htipise o Giorgos B:To Giani
who.CL-ACC hit the.NOM George.NOM, the.ACC John.ACC
'Who did George hit? John.'

Then, given the DS perspective as sketched e.g. in Kempson et al. (2011) or Gregoromichelaki et al. (2012) among others, the fragment answer will be basically parsed within the context of the question. In effect, the fragment will provide a value for the Wh metavariable posited by the Wh element *pion* 'who.ACC'. The Wh question will act in this respect as the context in which the fragment is parsed. The idea is that structure provided by the immediate context can be used by the next utterance. In our case the content provided by parsing the Wh question can serve as the point of departure for the fragment answer

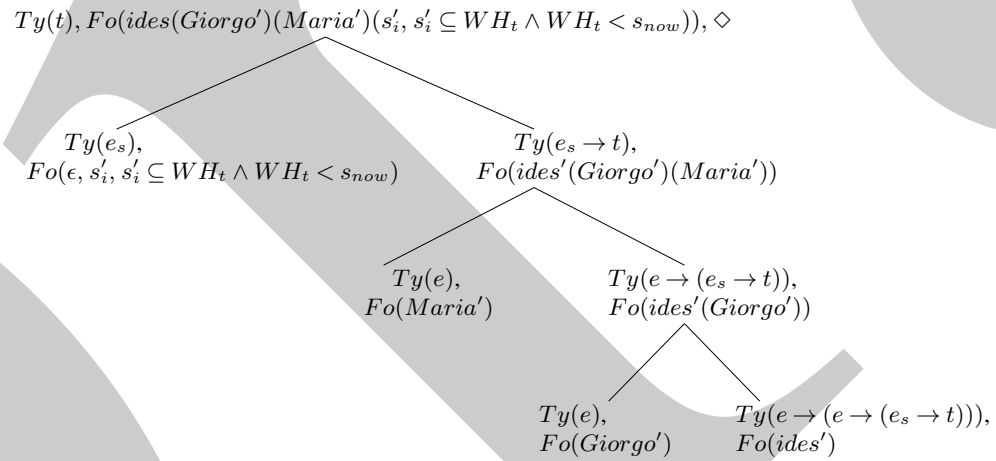
(Gregoromichelaki et al. 2012: 575). In our example, the AT *ton Giani* provides the value for the Wh metavariable ($Giani'$):[28]

(50) After parsing *to Giani*, 'the John' within the context of *Pion htipise o Giorgos?* 'Who did George hit?'



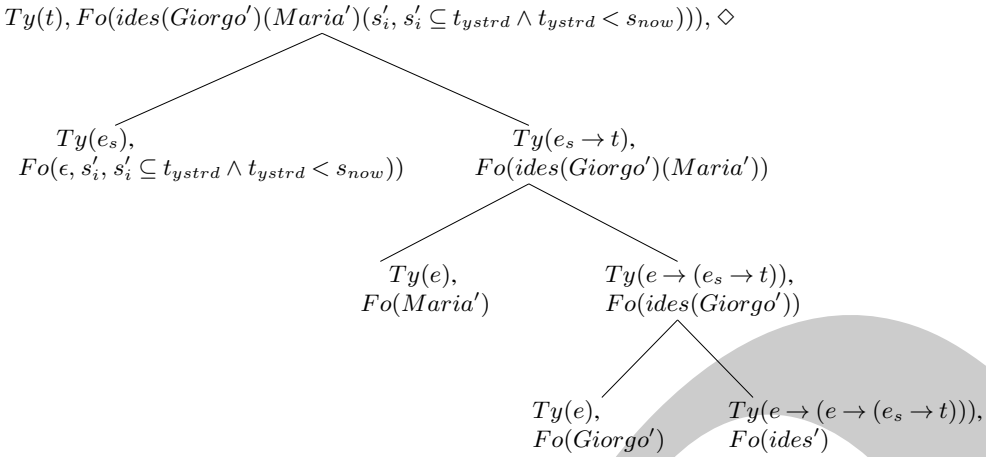
The same process can be argued to occur in cases of adverbial ATs. In the case of (47), the adverb *xtes* 'yesterday', functioning as the AT, can be also seen as a fragment answer to the implicit clarification question *pote ides ton Giorgo* 'When did you see George'. Thus, the adverb *xtes* is parsed within the context of this question. In effect, the AT in this case further specifies the past time metavariable projected by the verb to be those past times spanning the whole day before the day of utterance. The context set by the implicit question is shown below. Note that in this case we are also making use of a situation/event node. This is the node where tense/aspectual information is represented in DS. We will represent this node only in case this is needed (note that the subject metavariable has been updated to the value $Fo(Maria')$):

(51) Tree as context [context: hearer = Maria]



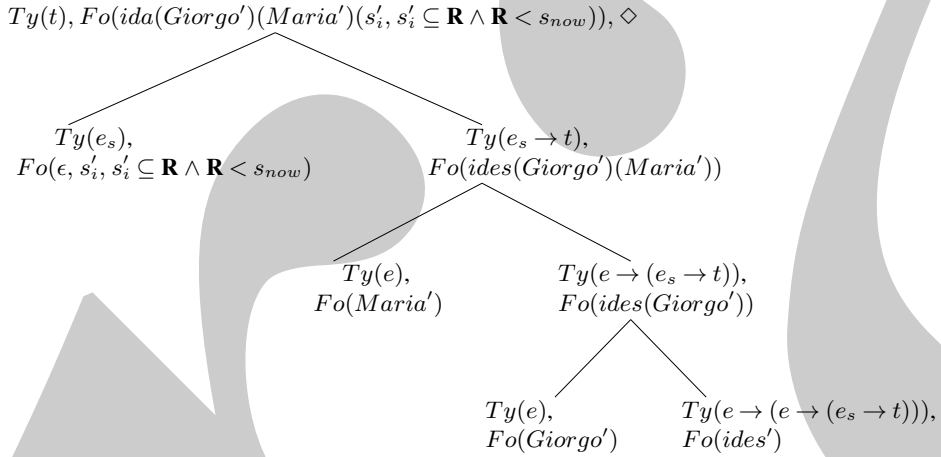
Then the AT comes into parse updating the R time metavariable into yesterday's past time:

(52) Parsing the AT *xtes* 'yesterday'



But we are not over yet. We have not yet provided a story on how this structure shown above is linked to the sentence prior to parsing the RDed element. We start from the parse of the main sentence without the RDed element, i.e. (53):

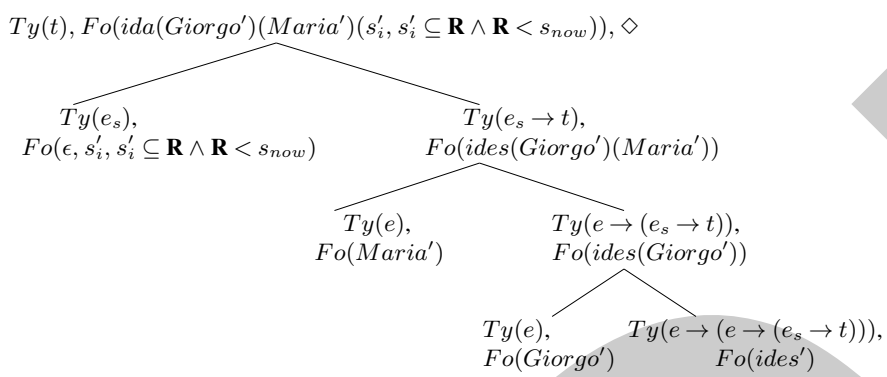
(53) Parsing *ida ton Giorgo* in *ida ton Giorgo,, xtes* 'Yesterday, I saw George':



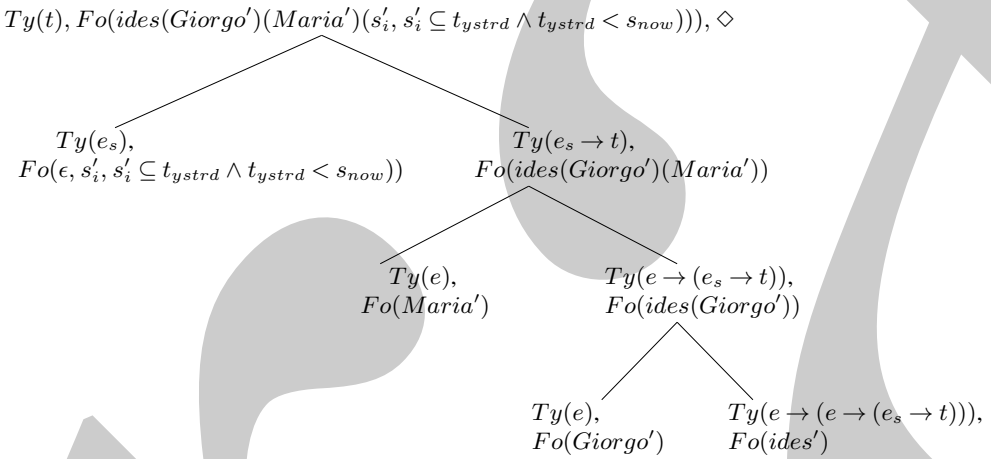
Note that there is an uninstantiated time metavariable, i.e. R. This metavariable along with Wh metavariables are the only metavariables that are allowed to be used in functional application prior to being updated into proper values. All other metavariables (like metavariables standing for argument NPs) have to be substituted before functional application to take effect. In the case above, the R metavariable is turned into a Wh metavariable. In effect, this is the only difference between the declarative sentence just parsed and the implicit question that the RDed element functions as an fragment answer to in terms of the end parse result.[29] The trigger for this might be considered to be the specific AT intonation. However, the exact trigger and whether this assumption has any basis at all has to be further elucidated. Assuming however, that something triggers an afterthought interpretation (like e.g. as already said period intonation), we can assume that as soon the AT is parsed, the context in which it is parsed includes the implicit question. In the example interested, the difference between the already parsed sentence and the implicit question is the R metavariable which is substituted by a Wh time metavariable in the implicit question. Thus, we get the following two steps in parsing the AT: a) we parse the sentence before the AT, b) the AT is parsed within the context of an implicit question potentially triggered by AT intonation:

(54) *Parsing ida ton Giorgo,, xtes* 'I saw George yesterday'

Ida ton Giorgo
$\longmapsto$



xtes
$\longmapsto$



The next step is to see whether such an account can account for gender mismatches found in Greek ATs. This is to what I turn now.

3.4 *Gender mismatches*

The repeated examples below exemplify cases of gender mismatch in MG ATs. In both examples a neuter clitic is doubled by an NP AT which is marked for female gender:

(55) To diavasa xtes,, tin epistoli
it.CL-ACC-NEUT read.1SG yesterday the.ACC-FEM letter.ACC-FEM
'I read the letter yesterday.'

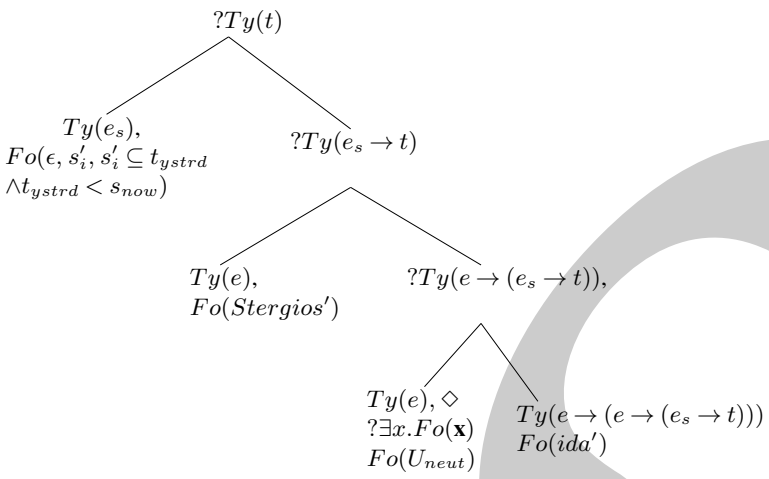
(56) To ida xtes,, tin ekpobi
it.CL-ACC-NEUT saw.1SG yesterday the.ACC-FEM show.ACC-FEM
'I saw the show yesterday.'

(57) To anapsa xtes,, ton polieleo
it.CL-ACC-NEUT turn-on.1SG yesterday the.ACC-MALE chandelier.ACC-MALE
'I turned on the chandelier yesterday.'

How can we make sense of these data? Well, if what we have proposed has any basis at all, we should approach cases like the above as cases involving the same line of reasoning: ATs are treated as fragment answers. Let us see how far this analysis can take us with respect to gender mismatches like the ones in (55)-(57). We first parse the sentence before

the AT, in our case *to ida xtes*. The structure we get is the following where the metavariable projected by the clitic has not managed to be substituted. The structure is shown below (note that we assume that the subject metavariable has received a fixed value, $Fo(Stergios')$):

(58) Parsing *to ida xtes* in *to ida xtes, tin ekpobi* 'I saw the show yesterday'



Note that the tree cannot be compiled given that the object node does not have a proper formula value. This is the structure the producer has in mind. It is not necessarily the one that the parser has, since the addressee might have well resolved the anaphora and provided a value for the pronoun's metavariable. This is in effect the assumption the producer makes as regards the sentence before the AT and this is why he uses a clarification strategy, i.e. the AT. As already said, the AT functions as a fragment answer to a clarification question. The clarification question in the above example, provides a Wh metavariable in the object node and a complete parse can be obtained given that Wh metavariables are allowed to participate in funtional application. This is the key part that will give us the explanation for the attested gender mismatches. The relevant Wh question is the one shown below:

(59) Ti ides xtes? Tin ekpobi
what.CL-ACC saw.1SG yesterday the.ACC-FEM show.ACC-FEM
'What did you watch yesterday? The show.'

The Wh element used in this case, *ti* is underspecified for gender. It can be used to refer to neuter and masculine referents as well:

(60) Ti ides? To vivlio/ Ton polieleo
what.CL-ACC saw.1SG the.ACC-NEUT book.ACC-NEUT the.ACC-MASC chandelier.ACC-MASC
'What did you see? The book/the chandelier.'

This is the key to the attested mismatches. Given that the Wh metavariable will be underspecified for gender, the AT *tin ekpobi*, 'the show', even though marked for feminine gender will be able to get parsed given that no gender restriction is posed by the Wh element. However, there is something missing here. Even though *ti* is underspecified for gender, the clitic correlate is not. In this respect, it is impossible for the metavariable projected by the clitic ($Fo(U_{neut})$) to be updated to the Wh metavariable with no gender restriction. This will violate the requirement for monotonicity of the system. However, this fact, is also the key of why gender mismatches are attested only with the neuter clitic and not with the male or feminine clitic. This has to do with the special status of the neuter clitic *to*. Let us explain. Clitic *to* can function as both a type e argument as well as a type

t propositional argument. In the latter case *to* refers to a whole clause, usually a sentential complement. The examples below are illustrative of the phenomenon. In both cases, the referent of *to* is a type t propositional complement:

(61) To ida oti den su aresi
it.CL-ACC saw.1SG that NEG you like
'I saw that you do not like it.'

(62) Oti irthes to diavasa
that came.2SG it.CL-ACC read.1SG
'I read that you arrived.'

Given this behaviour of *to*, its lexical entry must ensure that both cases (e and t) can be captured. In order to ensure this, the metavariable cannot have a neuter value given that this will not be the case in case *to* is of type t. On the other hand it muse ensure that in case it is a type e value, the metavariable will have a neuter value. In order for this to be captured, the following entry for *to* is proposed. This entry puts both an underspecified type and an underspecified *Fo* metavariable with no gender restriction. However, it posits that if a type *e* has been established and a metavariable is still there, then the metavariable must be gender restricted:

(63) Lexical entry for *to* 'it'

IF	$?Ty(t)$
THEN	$\texttt{put}((Ty(X), Fo(U'), ?\exists X.((Fo(X) \wedge Ty(e)) \rightarrow (Fo(X_{neut}))))$
ELSE	abort

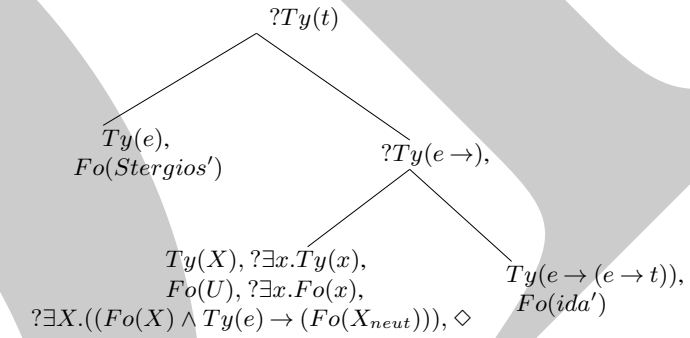
Now, the Wh element *ti*, besides being underspecified for gender is also underspecified for type, given that similarly to *to* can refer to a full proposition. The relevant data are shown below:

(64) A:Ti ides? B:Oti elipes
what saw.2SG that was.missing2SG
'What did you see? That you were missing.'

(65) A:Ti diavases? B:Oti pethane
what read.2SG that died3SG
'What did you read? That s/he died.'

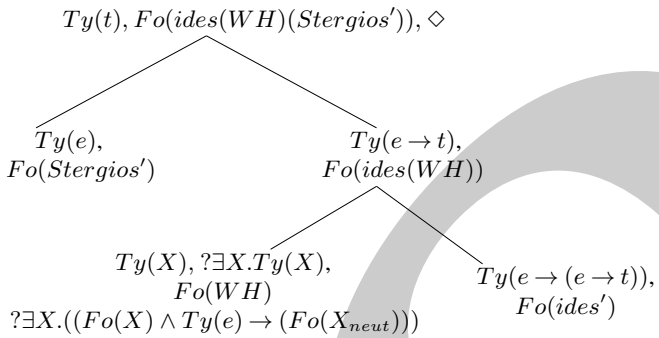
Now let us see how the account works, by looking at the parse of example (56). We first parse the structure before the AT, i.e. *to ida xtes*:[30]

(66) *To ida xtes* 'I saw it yesterday'



This is now the context for the implicit question. Parsing the implicit question *ti ides xtes* 'what did you see yesterday', will return the following tree where *ti* updates the metavariable $Fo(U)$ to $Fo(WH)$, keeps the type metavariable and decoration $Ty(X), ?\exists x.Ty(x)$ given that *ti* is also underspecified for type as we have said and also keeps the restriction $?\exists X.((Fo(X) \wedge Ty(e) \rightarrow (Fo(X_{neut})))$:

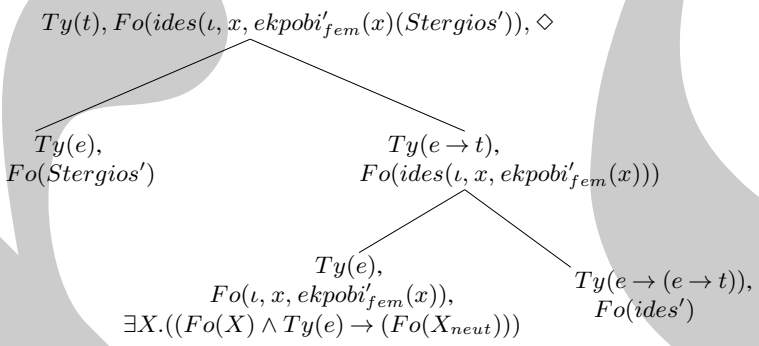
(67) Implicit question



As it stands, the restriction is satisfied given that the first part of the implication is false given that no type e is present ($\exists X.Fo(X) \wedge Ty(e)$), hence the whole formula is true.

Now, within the context of this implicit question, the AT can be parsed, substituting a proper formula value for the Wh metavariable and also updating the type metavariable ($Ty(X)$) into a proper type value ($Ty(e)$):[31]

(68) Parsing the AT



Again, the restriction $(\exists X.Fo(X) \wedge Ty(e)) \rightarrow (Fo(X_{neut}))$ is satisfied since again the first part of the implication is false (given that no metavariables exist anymore).

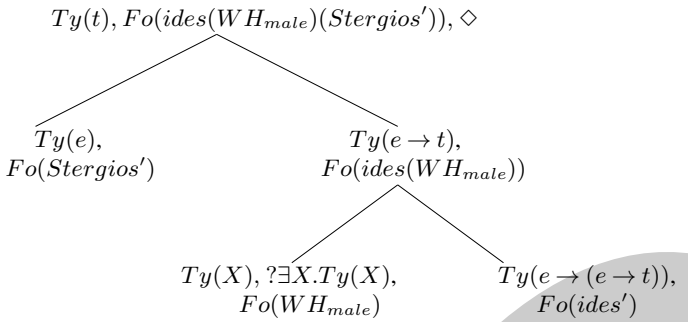
In case of ungrammatical examples where the clitic correlate is either male or female and there is gender mismatch with the AT like the example below, the account makes the correct predictions:

(69) *Ton diavasa xtes,, tin epistoli
him.CL-ACC-MASC read.1SG yesterday the.ACC-FEM letter.ACC-FEM
'I read the letter yesterday.'

(70) *Tin ida xtes,, ton polieleo
her.CL-ACC-FEM saw.1SG yesterday the.ACC-MASC letter.ACC-MASC
'I saw the chandelier yesterday'

Given non-monotonicity of the system and given that the masculine/feminine clitics will contribute a gender restricted metavariable, the metavariable provided by *ti*, will have to be gender restricted to gender as well. Thus, the implicit question in (69) will involve the following:

(71) Implicit question for (69) [context: speaker = Stergios]



Thus, the account proposed makes the correct prediction with respect to gender mismatches. It predicts the licit mismatches while it further explains the non-attested ones. There is however an added complication to the data. In case animate referents are involved, no gender mismatches are allowed as the data below show:

(72) *To pantreftike,, tin Maria
it.CL-ACC-NEUT married.1SG the.ACC-FEM Mary.ACC-FEM
'S/He married Maria.'

(73) *To pantreftike,, ton Giorgo
it.CL-ACC-NEUT hit.1SG the.ACC-MASC George.ACC-MASC
'S/He married George.'

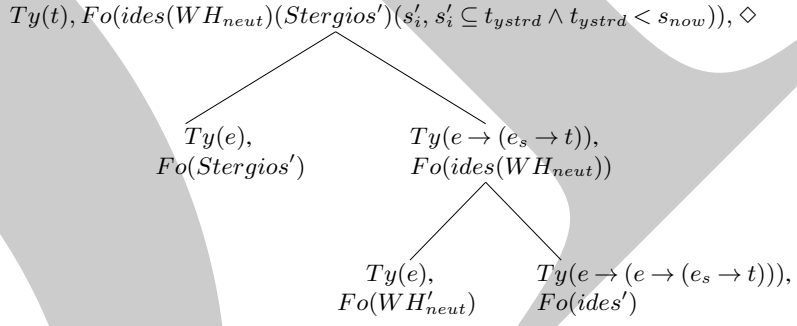
Now, if the same Wh metavariable was used, then both of the above examples should have been grammatical. However, things are a little bit different in case of questions that expect an animate referent as an answer. The relevant question to the AT in the above examples will not involve *ti* but rather *pio*, which is used for neuter animate referents. In this respect, if we want to ask a clarification question given *to pantreftike* 'it married him', the question will use *pio* and not *ti*:

(74) #To pantreftike. Ti? To pedi
it.WH married.3SG what the.ACC child.ACC
'S/he married him (lit: it). What? The boy.'

(75) To giatrepse telika. Pio? To pedi
it.WH-NEUT married.3SG finally who.NEUT the.ACC child.ACC
'S/he married him (lit: it). Who? The boy.'

Thus, in cases like (74) and (75) the context in which the AT is going to be parsed will involve a Wh metavariable specified for gender, and thus will not allow substitution in case a gender mismatch is observed:

(76) Tree context (no substitution is possible - gender clash)



Given this context, the DP *i Maria* cannot be parsed, since update of the metaviariable to the value $Fo(Maria')$ will be impossible due to incompatible gender values. Thus, the approach proposed here provides a natural explanation for the grammaticality of (55)-(57) on one hand, and the ungrammaticality of (72) and (73) on the other.

To recap, let us first summarize the data. The following generalization explains the full range of the pattern:

(77) Gender mismatch is only possible between a neuter clitic correlate and a inanimate masculine/feminine singular NP AT

Thus, the only licit combinations are between *to*, 'it' and a inanimate feminine or masculine NP AT. Now, the reason that gender mismatches are possible in Greek ATs due to the fact that in the cases these are manifested, the implicit question involved can always involve the Wh element *ti*, which is underspecified for gender. In cases of gender mismatch where a clitic and its double are involved in the mismatch, there are two options: a) if the Wh is the neuter clitic *to* and its referent (or at least the referent the speaker has in mind and surfaces as the afterthought) is inanimate, then the implicit question in this case involves the underspecified for gender Wh and thus the construction is grammatical, as in (55)-(57), and b) if the referent is animate, then the marked for gender Wh, *pio* should be used, in which case gender mismatched ATs are not possible, as in (72) and (73). The account proposed here thus explains ATs as well as gender mismatches as a by-product of treegrowth. This follows standard DS assumption that discourse effects can be seen as such.

3.5 *Multiple ATs*

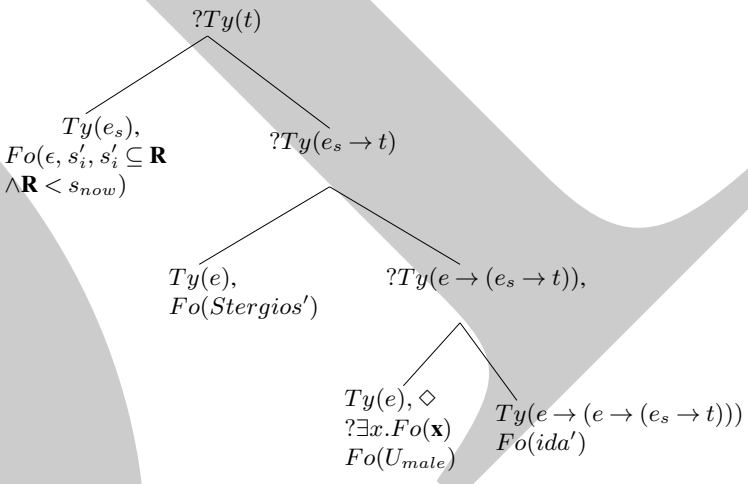
Constructions with more than one AT can be found as witness the examples below:

(78) Ton ida,, ton Giorgo,, xtes
him.CL-ACC saw.3SG the.ACC George yesterday
'I saw George yesterday.'

(79) Ton xtipise,, ton Giorgo,, o Gianis
him.CL-ACC hit.3SG the.ACC George.ACC the.NOM John.NOM
'John hit George.'

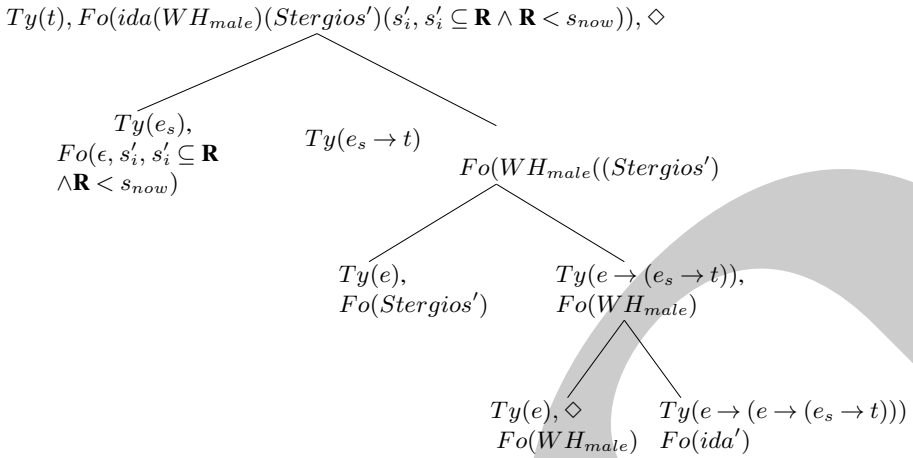
These data are naturally explained within the account proposed in this paper. Let us see (78) in order to see how this is done. We first parse the correlate *ton ida*:[32]

(80) Parsing *to ida* in *ton ida,, ton Giorgo,, xtes* 'I saw George yesterday'



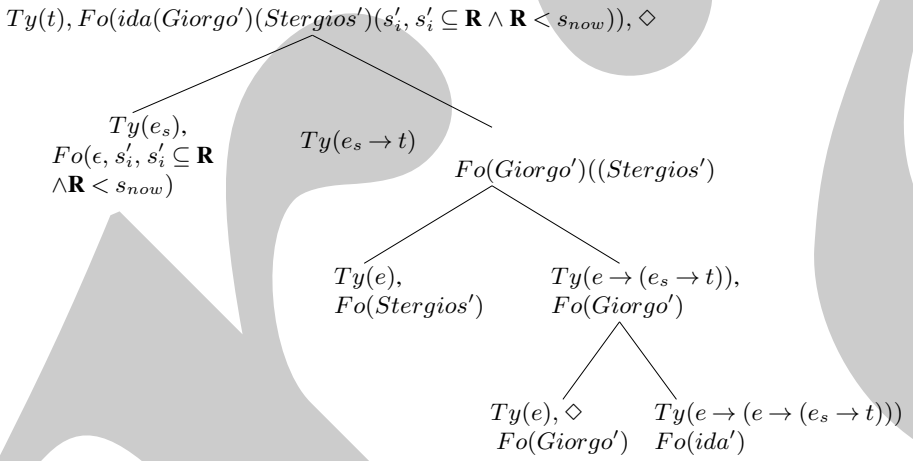
This is now for the context for the implicit question, and after the implicit question what we get is the following:

(81) Just before parsing the first AT in *ton ida,, ton Giorgo,, xtes*



In this context, the AT will update the WH metavariable, leading to the following tree:

(82) Just before parsing the first AT in *ton ida,, ton Giorgo,, xtes*



Now, we reached to a tree exactly the same (modulo the different Fo values for the arguments) like the one in (53). From this point one the same steps can be used to parse the second AT as it is the case in (53).

4. Afterthoughts on a more general perspective

The account put forth here has a number of similarities with recent minimalist accounts of the phenomenon, e.g. De Vries (2007) and Ott and De Vries (2012a,b, to appear). The first general intuition as regards ATs that is shared by this approach and the aforementioned approaches, is that traditional accounts of RDs, involving a monoclausal structure cannot be sustained. This is translated in different ways according to each framework but the intuition stays the same: ATs cannot be captured assuming a monoclausal structure. The account put forth in Ott and De Vries (2012a), claim that ATs are instances of elliptical constructions. They provide an ellpsis account of RDs, coupling as they say RDs along with constructions like sluicing and fragment answers. However, the authors deal with constructions that are considerably different to the ones we have dealt with in this paper. Specifically, Ott and

De Vries (2012a) deal with BRDs as well as a subtype of ATs named specificational ATs. Specificational ATs are different to the type of ATs which are called identificational. The two structures are shown below, using examples from Greek, (83) a specificational AT and (84) an identificational AT:

(83) O Giorgos exi kati omorfo: ena dekaintso tablet
the.NOM George.NOM has something beautiful a.NOM ten-inch.NOM tablet
'George has something beautiful: a 10 inch tablet.'

(84) O Giorgos ton kseri,, ton Giani
the.NOM George.NOM him.CL-ACC knows the.ACC John.ACC
'George knows John.'

The difference with BRDs has already been discussed. The difference between the two types of ATs is roughly the following: the AT in specificational cases provides further information in order for the referent to be identified, while in the case of identificational ATs, the referent is identified directly.

Ott and De Vries (2012a) provide a number of arguments that seem to point to the fact that RDs are instances of ellipsis. The first argument concerns case connectivity of RDs. The account proposed here can derive the connectivity effects easily as well, by using the ideas as set by Chatzikyriakidis (2010) according to which tree requirements provide the role of case requirements that ensure connectivity. The relevant statements already presented in in (30) and **??** are repeated below:

(85) $ACC \Rightarrow ?\langle L^* \rangle \langle \uparrow_0 \rangle Ty(e \rightarrow t)$

(86) $NOM \Rightarrow ?\langle L^* \rangle \langle \uparrow_0 \rangle Ty(t)$

Case connectivity is a fact in Greek in both ATs and RDs in general. However as we have seen, gender connectivity is not. It seems to us that an account within the lines of Ott and De Vries (2012a) would have difficulties in explaining gender mismatches in ATs. The difficulty arises that one has to include this type of mismatches in ATs but exclude them in BRDs, something not possible assuming that both are taken to be the same construction. Providing the same account for both BRDs and ATs might be an intriguing idea, but further has an important shortcoming. It is a well known fact that a major difference between BRDs and ATs is that the former can appear at the end of the clause only while the latter can appear in other positions as well, a fact exemplified below for German (taken from Averintseva-Klisch 2006):

(87) a. Ich habe ihn gestern nur mit Mühe wiedererkannt,, **ich meine den Peter**.
I have him yesterday only with effort recognized I mean the Peter.
b. Ich habe ihn,, **ich meine den Peter**,, gestern nur mit Mühe wiedererkannt.
I have him I mean the Peter yesterday only with effort recognized.
c. Ich habe ihn gestern,, **ich meine den Peter**,, nur mit Mühe wiedererkannt.
I have him yesterday I mean the Peter only with effort recognized
'I hardly recognized him yesterday, I mean Peter.'

In the above example, the AT is not a DP but rather a whole clause. DPs are more difficult to get in other positions but are however possible as the examples below from Greek exemplify:

(88) a. Ton sinantisa,, **ton Giorgo**, xtes ekso apo to kafenio
him met the George yesterday outside from the coffe-house
b. Ton sinantisa xtes,, **ton Giorgo**, ekso apo to kafenio
him met yesterday the George outside from the coffe-house

c. Ton sinantisa xtes ekso apo to kafenio,, **ton Giorgo**
him met yesterday outside from the coffe-house the George
'I met George outside the coffee house'.

On the ellipsis account of ATs (and RDs in general), the idea is that these involve a bi-clausal construction, the two constructions appearing in juxtaposition to each other. For example in the case of the AT *ton ksero kala,, ton Giani* 'I know Gianis well', the following structure is assumed according to Ott & De Vries (2012a):

(89) *[$_{CP1}$ ton ksero kala] [$_{CP2}$ ton Giani$_i$ ksero ~~ti~~ kala]

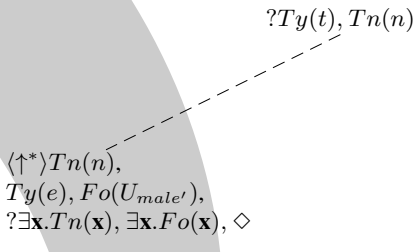
This structure presupposes that the first clause has already been established. This is true for cases where ATs appear at the end, but is however problematic for the cases ATs appear in different parts of $_{CP1}$. Thus, something more should be said about ATs if one wants to capture the fact that these can appear in other parts of the clause as well. The question that naturally arises is whether the DS account proposed here can fare any better with respect to this. Let us thus see, whether this type of data can cause problems to the account proposed by looking at the data in (88-a). Note that the above constructions can also be clitic doubling or CRD constructions on a different intonation. These cases have been dealt with in Chatzikyriakidis (2010) and Gregoromichelaki (2013) under a DS perspective and will not be discussed here. The crucial thing here is to explain the fact that ATs, contrary to regular RDs, can also appear in different parts of the clause besides at the end. At this point, we make a small digression to look at a number of interesting data from dialogue that will help us in providing an account for cases like these. Sometimes in a dialogue setting, we encounter cases which resemble both split utterances (SUs) and fragment answers. This happens in cases one of the interlocutors starts a sentence, let us say with a pronoun or a definite DP, and before moving on to the rest of the sentence, the hearer asks for disambiguation/clarification about this referent. The speaker answers the question and further completes the rest of his utterance:

(90) A: This Man... B: Who? A: George, I saw yesterday.

(91) A:Afton... B:Pion? A:Ton Giorgo, ton ida xtes
him.ACC who.ACC the.ACC George.ACC him.ACC saw yesterday
A: Him B: Who? A: George, I saw yesterday.

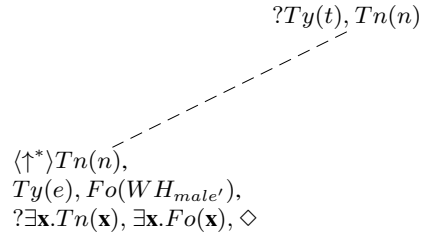
In effect, the above resembles SUs in the sense that the hearer intervenes before the utterance is complete, but s/he does so not to continue the utterance but to further ask for disambiguating information about the utterance. The speaker then provides the disambiguation along with the rest of the sentence. Example (91) can be treated as follows: the pronoun first comes into parse. I follow Cann et al. (2005: chapter 4), Chatzikyriakidis (2010) and Gregoromichelaki (2013) among others and assume that left dislocated NPs (and thus strong pronouns as well) are parsed on an unfixed node. Given this assumption, after parsing the strong pronoun in (91), the partial tree we get is the one shown below:

(92) Parsing the strong pronoun *afton* in (91)



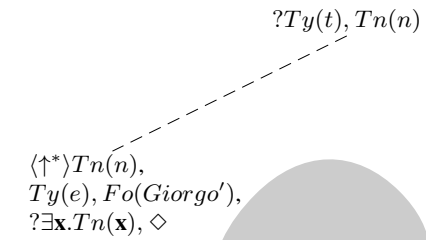
Then, the hearer basically turns this partial tree (which is the context tree) into a partial tree where the metavariable is updated into a question metavariable. This is done via the Wh element *pion*:

(93) Parsing *pion* 'who' in (91)



Then, the speaker re-uses the already constructed actions and continues the parse from the partial tree constructed by parsing the Wh-element. First, the proper name is parsed on the unfixed node, updating the Wh metavariable into a proper formula value:

(94) Parsing *ton Giorgo* in (91)



From that point on, parsing of the sentence goes as normal and we get a well-formed parse which corresponds to the logical formula $Fo(ida'(Giorgo')(Stergios'))$. This way of dealing with such cases can also be proven useful for the cases of ATs we are interested in, namely cases where the AT does not come at the end of the clause. Imagine that we want to deal with the following AT:

(95) Afton,, ton Giorgo, ton ida xtes
him.ACC the.ACC John.ACC him.ACC saw yesterday
'I saw him yesterday,, John.'

This case, as the meticulous reader might have suspected, can be treated in the same sense as (91). The only assumption we have to make is that the AT is actually an answer to an implicit question, an assumption that I have been making as regards ATs all along. Thus in (95) is parsed within the context of the partial tree in (93) involving the Wh *pion*. The proper noun *Giorgo* can provide a value for the Wh metavariable and the rest of the sentence can be parsed. Similar variations can be assumed for all the other cases. It is predicted that ATs should be possible in different parts of the clause and not only at the end. This flexibility of the proposed account puts it, at least for this kind of data, in a better position to accounts like the one proposed by Ott and De Vries (2012a,b). Furthermore, minimalist fragment answer accounts like Merchant (2004) and Arregi (2010) are also not in a better position to explain the facts. Assuming the same idea is followed and afterthoughts are treated as answers to implicit questions, it is not clear how the transition from (66) to (67) will be made, i.e. the transition from the already parsed correlate sentence that has not yet been completed, given that the formula value of the clitic is missing, to the structure where the Wh updates the metavariable slot, and is thus ready for the AT to be parsed. But even if we find a way to do this (which I do not see), there is a problem that still remains: to account for ATs that appear in intermediate parts of the clause. All these accounts operate on full CPs, full sentential structures. As we have seen, in cases of intermediate ATs this is not the case. It is hard to see in this respect, how accounts like Merchant (2004) and Arregi

(2010) will capture these data, if we want to translate the intuition that ATs are basically answers to implicit questions into a minimalist framework. Similar considerations apply to the island repair account like for example Fox & Lasnik (2003) and Wang (2005) among others.[33]

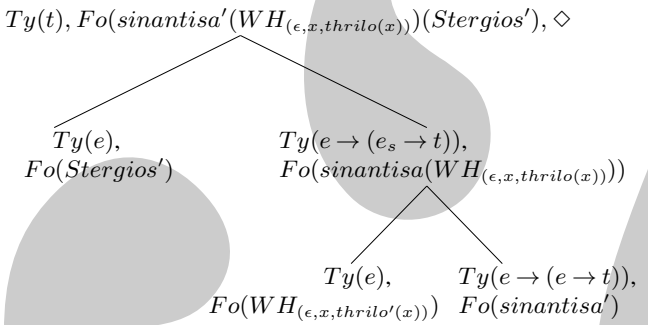
One last case that we have not looked at as regards ATs concerns cases of what have been called specificational ATs. Such cases are shown below:

(96) I met a great hollywood star,, John Travolta

(97) Gnorisa enan thrilo,, ton Miki Theodoraki
met a.ACC legend.ACC the.ACC Mikis.ACC Theodorakis.ACC
I met a legend ,, Mikis Theodorakis'

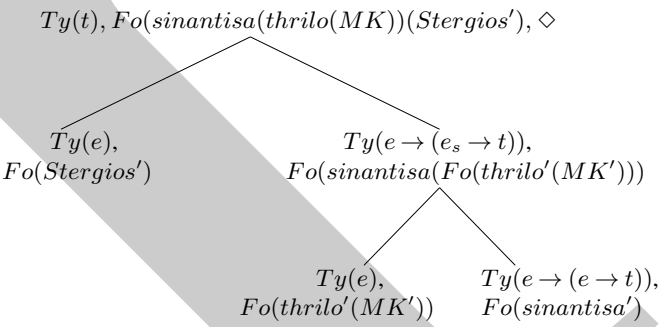
The same account provided so far can be used for such cases as well. The only difference in this case, is that the implicit question will not involve a bare Wh but a restricted Wh. For example in (96) this will be the Wh *which legend* and in the same sense in (97) the Wh *pion thrilo* 'which legend'. Thus, the context of the Wh question will be the following:[34]

(98) Tree as context



The subscript says that the value that will update the Wh metavariable will basically substitute the x metavariable in the epsilon calculus formula $\epsilon, x, thrilo(x)$. Thus, The AT is parsed within this context and provides the substitution for x: [35]

(99) Tree as context



4.1 *Some further properties of ATs*

4.1.1 *Locality constraints*

In a very interesting discussion on locality restrictions associated with RDs in general (and thus ATs as well), Ott and De Vries (2012a) look at the behaviour of RDs with respect to complex constructions. What they find is that RDs are well-formed in complement, relative and adjunct clauses (examples from Ott and De Vries 2012a):

(100) Piet vertelde dat hij haar geplaagd had, die vrouw
Piet told that he her teased had that woman
'Peter said that he had teased her, that woman.' [Dutch]

(101) Ik sprak met iemand die haar geplaagd had, die vrouw
I spoke with someone who her teased had that woman
'I spoke to someone who had teased her, that woman.' [Dutch]

(102) Piet sprong op toen ze aan kwam fietsen, die vrouw
Pete jumped up when she on came cycling that woman
'Peter jumped when she arrived cycling, that woman.' [Dutch]

Similar considerations apply for Greek ATs:

(103) O Petros pidikse apo ti xara tu otan tin ide,, tin
the.NOM Peter.NOM jumped from the joy his when her.ACC saw the.ACC
Maria
Mary.ACC
'Peter jumped out of joy when he saw Mary.'

The problem arises when one assumes that cases like (100) are derived by long distance movement out of the complex $_{CP2}$, which includes both clauses:

(104) [$_{CP1}$ Piet vertelde [dat hij geplaagd had]][$_{CP2}$ die vrouw [~~Piet vertelde [dat hij geplaagd had~~]]]

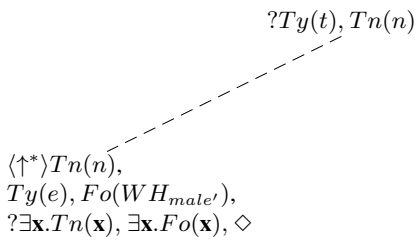
Given that extraction out of relative and adjunct clauses is generally excluded Ott and De Vries (2012a) note that examples (101) and (102) can be seen as problematic. In order to account for these cases, Ott and De Vries (2012a) offer a solution saying that the elliptical $_{CP2}$ contains the embedded proposition only. Similar reasoning has been used by Merchant (2001) for sluicing cases like the one shown below:[36]

(105) They hired someone who speaks a Balkan language, guess which

The reasoning in this example is similar: no locality violation occurs as regards wh-movement because the ellipsis site contains only the embedded proposition.

The account proposed here predicts the behaviour of RDs in these cases straightforwardly without any additional assumptions. This is expected given that there is no assumption of movement over an elided structure in our account. In this respect, the account proposed for ATs is orthogonal to the account for islands. Thus, one predicts that ATs can be present in structures involving strong islands like relative and adverbial clauses without having to say something on the equivalent wh-structures. The island restrictions are derived via independent assumptions, orthogonal as already said, to the account proposed for ATs. Specifically, island restrictions in DS are derived in the following manner. It is standardly assumed in DS (Kempson et al. 2001; Cann et al. 2005 among others) that complement clauses involve a single tree structure while relative, adverbial and coordinate clauses are analyzed as involving a LINK relation linking the two clauses.[37] Then, the idea is that Wh elements are parsed as unfixed nodes, i.e. as nodes that have not found their position in the tree, at least at the time of their introduction:

(106) Parsing a Wh element (say *who*)



The above basically says that the position of the Wh is somewhere below the node with treenode address $Tn(n)$, i.e. the top node. This position is however within the same tree, and does not cover cases where two separate tree structures, as in the case of LINKed structures, are involved. The prediction is that in cases where the Wh needs to be interpreted inside structures that are in the same tree like complement clauses, this is possible. On the other hand, in case it needs to be interpreted inside structures on a separate tree structure, this should not be possible, according to fact. This further explains that Wh-extraction out of backgrounded clauses like the one below is not allowed:

(107) Wenn$_i$ hat Maria das behauptet, dass er t_i geküsst hat
who has Maria that claimed that he kissed has
*'Which person did Maria claim it, that he kissed?' [German]

BRDs involve a LINK relation. The Wh is parsed on an unfixed node and cannot thus be interpreted in another tree structure, correctly predicting that extraction out of BRDed clauses should not be allowed. To the contrary, extraction out of extraposed sentences is predicted to be fine. The classic account of extraposition in DS assumes that extraposition does not involve any kind of LINKing between two clauses but rather one tree structure (see Cann and Kempson 2002, Cann et al. 2005). We cannot go into the details here, nor we will try to extend this account of extraposition to capture all the subleties of west Germanic extraposition. But the general intuition and the accounts that have been proposed for extraposition in DS and the account proposed here for RDs and ATs are compatible with the reported asymmetry as regards extraction between the two structures.

4.1.2 *Reconstruction effects*

ATs also show apparent reconstruction effects. As Ott and De Vries (2012a) show, the AT reconstructs into the host clause. The satisfaction of condition A in the following example is one such case:

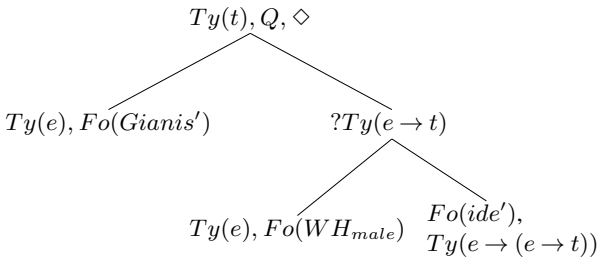
(108) Jan$_i$ zag iemand in de spiegel: ZICHZELF$_I$
Jan saw someone in the mirror himself
'Jan saw someone in the mirror: himself' [Dutch]

A further example involves a principle C violation, where a co-referential interpretation of an R-expression with a pronoun in the host clause:[38]

(109) *Aber einen Menschen liebt er$_i$ ganz besonders: PETERS$_i$ MUTTER
but one person loves he very especially Peter's mother
'There's one person he$_i$ loves especially: Peter$_i$'s mother.' [German]

These facts are also straightforwardly predicted within the account proposed here. In order to exemplify this claim, let us take the Greek equivalent to (108), i.e. *o Gianis$_i$ ide kapion ston kathrefti: TON EAFTO TU$_i$*. According to our analysis the AT *himself* will come into parse within the context of the implicit question *pion ide o Gianis* 'who did John saw'.

(110) Tree context of the question



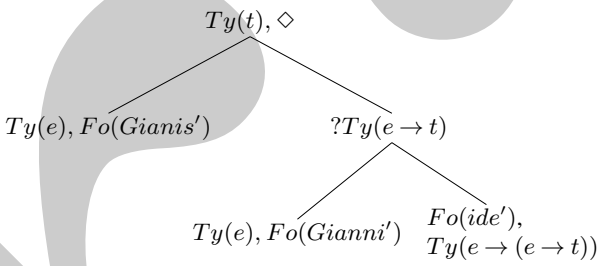
The lexical entry for the reflexive *ton eafto tu*, 'himself' will be the following:[39]

(111) Lexical entry for the reflexive *ton eafto tu*

myself	**IF**	$\langle\uparrow_0\rangle\langle\uparrow^1_*\rangle\langle\downarrow_0\rangle Fo(x)$
		$Male(x)$
	THEN	$\texttt{Substitute}(\mathbf{U}, x)$
	ELSE	ABORT

The above says that if there is a formula value in any local co-argument node that is also specified as being male, then the reflexive receives this value. This is the case in the tree context shown below, where such a value exists, i.e. *Gianis'*. The actions of the lexical entry will update the Wh metavariable with the value for *Giani'*:

(112) Metavariable update



In the same sense a principle C violation in (109) follows naturally assuming that R-expressions just abort in case any co-referring argument exists in the tree structure:

(113) Lexical entry for an R-expression α

R-expression	**IF**	$\langle\uparrow_0\rangle\langle\uparrow_*\rangle\langle\downarrow_0\rangle Fo(\alpha)$
	THEN	ABORT
	ELSE	$putFo(\alpha)$

4.2 *A further remark on a future cross-linguistic comparison*

We have discussed gender mismatches in Greek, in a range of specific constructions involving a clitic correlate and a gender mismatched AT. One of the interesting questions to be asked (also posed by an anonymous reviewer) is what are the predictions that the present account makes cross-linguistically with respect to these structures. The idea is that if you have a language with elements comparable to neuter clitic *to* in Greek, comparable underspecified Wh elements like *ti* and also gender marking, one would expect similar phenomena to arise in these languages as well. A cross-linguistic comparison is out of the scope of this paper. However, there is preliminary evidence that a similar situation might be operative in German. My German consultants have judged sentences containing gender

mismatches with the correlate being *es* to be much better than sentences where the correlate is either the masculine or feminine pronoun. The relevant data are shown below:

(114) Ich habe es gesehen,, die BB Herstellung
I have it seen the.FEM BB establishment.FEM
'I have seen it, I mean the BB establishment' [German]

(115) *Ich habe ihn gesehen,, die BB Herstellung
I have him seen the.FEM BB establishment.FEM
'I have seen it, I mean the' [German]

(116) *Ich habe sie gesehen,, das Program
I have her seen the.NEUT program.NEUT
'I have seen her, I mean the program' [German]

(117) *Ich habe sie gesehen,, den Film
I have him seen the.MASC Film.MASC
'I have seen it, I mean the film' [German]

In principle then, a similar idea can be pursued for the above cases as well. In a more general perspective, it would be good to investigate cross-linguistically and empirically verify or falsify the predictions the current account makes. This cannot be however done in this paper. Even for German, the data are all very tentative and more speakers have to be consulted. For the moment, we leave this as a subject of further research.

5. Conclusions

In this paper, I have looked at ATs from the perspective of a parsing-oriented framework, that of Dynamic Syntax. The main goal was to show that gender restrictions found in Greek ATs can be straightforwardly explained once we make the assumption that afterthoughts are in effect answers to implicit questions. If this assumption is made, then the Greek data exhibiting gender mismatches can be easily explained. The next step was ground the account on a more general perspective by trying to see whether a more general account of afterthoughts can be achieved. It was shown that a number of properties associated with ATs in general can be captured under our account: connectivity effects, locality constraints, freedom of positioning and reconstruction effects. These mismatch phenomena are absent in BRD constructions. BRDs are taken to involve a LINK relation across an already constructed proposition, with the dislocated NP having to match one of the arguments in that proposition by re-introducing known information. The unavailability of mismatch phenomena is predicted since the DP has to match the already introduced requirements of the already introduced information (provided by the correlate).

REFERENCES

Agouraki, Yorjia. 1993. *Spec-Head Licensing: The Scope of the Theory*. Phd Thesis, University College London.

Anagnostopoulou, Elena. 1999. Conditions on Clitic Doubling in Greek. In: Riemsdijk, Henk (ed.), *Clitics in the languages of Europe*. Berlin, New York, Mouton De Gruyter, 761-798.

Arregi, Karlos. 2010. Ellipsis in split questions. *Natural Language and Linguistic Theory 28*, 539-592.

Averintseva-Klisch, Maria. 2006. Separate performative account of the German right dislocation. In *proceedings of the Sinn und Bedeutung 10*, 15-28.

Averintseva-Klisch, Maria. 2008. To the right of the clause: right dislocation vs. afterthought. In: Fabricius-Hansen, Catherine & Wiebke Ramm, *Subordination vs. Coordination in Sentence and Text from a Cross-linguistic Perspective. Amsterdam: Benjamins, 217-239.*

Averintseva-Klisch, Maria. 2009. *Rechte Satzperipherie im Diskurs: Die NP-Rechtsversetzung im Deutschen.* Doctoral Dissertation, University of Tübingen.

Averintseva-Klisch, Maria. 2010. German right dislocation and afterthought in discourse. In: Benz, Anton and Peter Khnlein (Eds.), *Constraints in Discourse*, 225-247.

Blackburn, Patrick & Wilfried Meyer-Viol. 1994. Linguistics, logic and finite Trees. *Bulletin of Interest Group of Pure and Applied Logics* 2, 2-39.

Cann, Ronnie, Ruth Kempson, Lutz Marten & David Swinburne. 2004. On the left and on the right. In: Tsoulas, George & Cecile De Cat (eds.), *Peripheries*. Kluwer, 19-47.

Cann, Ronnie, Ruth Kempson & Lutz Marten. 2005. *The Dynamics of Language*. Oxford, Elsevier.
Chafe, Wallace. 1988. Linking intonation units in spoken English. In: Haiman, John & Sandra A. Thompson, *Clause Combining in Grammar and Discourse*. John Benjamins, 1-27.
Chatzikyriakidis, Stergios. 2010. *Clitics in four Dialects of Modern Greek: A Dynamic Account*. PhD thesis, King's College, London.
Demberg, Vera, Frank Keller, and Alexander Koller. 2013. Incremental, predictive parsing with psycholinguistically motivated tree-adjoining grammar. *Computational Linguistics 39* (4), 1025-1066.
Dik, Simon et. al. 1980. On the typology of focus phenomena. *Leids Taalkundig Bulletin GLOT* 3, 41-74.
Eshghi, Arash, Matthew Purver & Julian Hough. 2012. *Dylan: Parser For Dynamic Syntax*. Technical Report, Queen Mary, University of London.
Fox, Danny & Howard Lasnik. 2003. Successive-cyclic movement and island repair. *Linguistic Inquiry 34*, 143-154.
Givón, Talmy. 1976. Topic, pronoun and grammatical agreement. In: Li, Charles (ed.), *Subject and Topic*. New York: Academic Press, 149-188.
Givón, Talmy. 1990. *Syntax: A Functional-Typological Introduction*, Vol. 2. Amsterdam: John Benjamins.
Gregoromichelaki, Eleni, Ruth Kempson & Ronnie Cann. 2012. Language as tools for interaction: Grammar and the dynamics of ellipsis resolution. *The Linguistic Review 29* (4), 563-584.
Gregoromichelaki, Eleni. 2013. Clitic Left Dislocation and Clitic Doubling: A dynamic perspective on left-right asymmetries in Greek. In: Gert Webelhuth, Manfred Sailer, Heike Walker (eds.) *Rightward Movement in a Comparative Perspective*. John Benjamins.
Hefny, Ahmed, Hassan, Hany, & Bahgat, Mohamed. 2011. Incremental combinatory categorial grammar and its derivations. In *Computational Linguistics and Intelligent Text Processing*. Springer Berlin Heidelberg, 96-108.
ilbert, David & Paul Bernays. 1939. *Grundlagen der Mathematik*. Berlin: Springer.
Hyman, Larry. 1975. On the change from SOV to SVO: Evidence from Niger-Congo. In: Charles Li (ed.), *Word order and Word Order Change*. Austin: University of Texas Press, 113-147.
Kempson, Ruth & Kiaer, Jieun. 2010. Multiple long-distance scrambling: Syntax as reflections of processing. *Journal of Linguistics 46 (1)*, 127-192.
Kempson, Ruth, Wilfried Meyer-viol & Dov Gabbay. 2001. *Dynamic Syntax: The Flow of Language Understanding*. Oxford, Blackwell.
Kempson, Ruth, Eleni Gregoromichelaki, Wilfried Meyer-Viol, Matthew Purver, Graham White & Ronnie Cann. 2011. Natural language syntax as procedures for interpretation: the dynamics of ellipsis construal. In: Alain, Lecomte & Samuel, Troncon (Eds.), *Ludics, Dialogue and Interaction*, 114-133.
Kempson, Ruth, Eleni Gregoromichelaki & Stergios Chatzikyriakidis. 2012. Joint utterances in Greek: their implications for linguistic modelling. In: *Proceedings of the 33rd Annual Linguistics Meeting*, Thessaloniki, 26-27 April 2012.
Lambrecht, K. 1981. *Topic, Antitopic and Verb Agreement in Non-Standard French.* Amsterdam: John Benjamins.
Lambrecht, K. 2001. Dislocation. In: Haspelmath, Martin, Ekkehard König, Wulf Oesterreicher & Wolfgang Raible (eds), *Language Typology and Language Universals: An International Handbook*. Berlin/New York: Walter de Gruyter, 1050-1078.
Merchant, Jason. 2001. *The Syntax of Silence*. Oxford: Oxford University Press.
Merchant, Jason. 2004. Fragments and ellipsis. *Linguistics and Philosophy 27*, 661-738.
Ott, Dennis & Mark de Vries. 2012a. *Right-dislocation as deletion*. Manuscript, University of Groningen.
Ott, Dennis & Mark de Vries 2012b. Thinking in the right direction: an ellipsis analysis of right-dislocation. *Linguistics in the Netherlands* 29, 123-133.
Ott, Dennis & Mark de Vries (to appear 2014). A biclausal analysis of right-dislocation. In *Proceedings of NELS 43*.
Philippaki-Warburton, Irene, Spyridoula Varlokosta, Michalis Georgiafentis & George Kotzoglou. 2002. On the status of clitics and their doubles in Greek. *Reading Working Papers in Linguistics 6*, 57-84.
Purver, Matthew & Masayuki Otsuka. 2003. Incremental generation by incremental parsing: Tactical generation in dynamic syntax. In: *Proceedings of the 9th European Workshop on Natural Language Generation*, 79-86.
Purver, Matthew, Eleni Gregoromichelaki, Wilfried Meyer-Viol & Ronnie Cann. 2010. Splitting the I's and crossing the You's: Context, speech acts and grammar. In: *Proceedings of SemDial 2010* (PozDial), Poznan, Poland, June 2010.
Purver, Matthew, Julian Hough & Eleni Gregoromichelaki. 2014. Dialogue and compound contributions. *Natural Language Generation in Interactive Systems*. Cambridge University Press, 63-92.
Stabler, Edward. 2013. *Two models of minimalist, incremental syntactic analysis*. Topics in cognitive science, 5(3), 611-633
Valduvi, Enric. 1992. *The Informational Component*. New York: Garland.
Valiouli, Maria. 1994. Anaphora, agreement, and right dislocation in Greek. *Journal of Semantics* 11, 55-82.
Vries, Mark de (2007). Dislocation and backgrounding. *Linguistics in the Netherlands* 24, 235-247.
Vries, Mark de (2009). The left and right Periphery in Dutch. *Linguistic review 26*, 291-327.
Wang, Chyan-An Arthur. 2006. Sluicing and resumption. In *The Proceedings of the 37th North East Linguistuc Society*. Amherst, MA: GLSA Publications, 239-252.

FOOTNOTES

1 As one of the reviewers correctly observes, in reality there is no real pause involved. What is actually going on is deaccenting of the RDed phrase. So, it should be kept in mind that the comma in reality means deaccenting rather than a pause.

2 The same has been suggested for Dutch by De Vries, (2007, 2009) and Ott and De Vries (2012a,b, to appear), Averintseva-Klisch, (2006, 2008, 2009, 2010) for German and Chafe (1988) for English among other languages.

3 Valiouli (1994) makes a number of interesting distinctions as regards this form of import. See Valiouli (1994) for more details on this.

4 The same anonymous reviewer suggests the following definition: "Theres an additional pitch accent on the dislocated phrase, usually preceded by a pause or clear intonation break". We keep the period intonation remark following in this respect authors like Chafe (1988) and Valiouli (1994). We cannot go into the fine details of what exactly is going on intonationally in these cases in this paper.

5 The double comma is intended to denote period intonation.

6 Note that researchers like Ott and De Vries (2012a) further classify ATs into: a) specificational and b) identificational. Most of this paper is on identificational ATs but see the discussion in section 4 for specificational ATs.

7 Of course, clarifications are also possible without a gender mismatch, in which case the correlate matches in gender with the DP, e.g. tin.CL-ACC-FEM diavasa xtes,, tin.ACC-FEM epistoli.ACC-FEM. Given the account to be put forth, treatment of these more regular cases will become apparent.

8 For this specific example one can imagine a situation where the options of lighting up the room are two: a) turn on the chandelier and b) turning on the lights. The speaker uses the clarification to point to the chandelier (masculine in Greek) but s/he has used the neuter clitic as the, giving rise to the mismatch as reported in the example.

9 With the exception of Valiouli (1994). However, in Valiouli (1994), there is no discussion on the syntax of these constructions, but rather an informal semantic characterization of right dislocations in Greek in general.

10 There are a number of rules as regards pointer movement. See Kempson et al. 2001 and Cann et al. 2005 for more information on this.

11 The concept of constructive case is reminiscent of the work by Nordlinger (1998) in LFG (albeit with differences). See the discussion in section 4, as regards this issue. Also, readers that are interested to see how DS can deal with morphosyntactic phenomena, are directed to work on DS on clitic related phenomena, ranging from positioning and clitic climbing to person restrictions (Cann & Kempson 2007, Bouzouita 2008a,2008b, Chatzikyriakidis 2010,2011, 2012 and Gregoromichelaki 2013

12 We show the effect of these rules in tree notation. See Kempson et al. (2001) and Cann et al. (2005) for the actual rules.

13 With the exception possibly being the notion of functional uncertainty, formalized within Lexical-Functional Grammar (Bresnan, 2001).

14 Notice that the reflexive satisfaction of the * in which the node unifies with its host trivially is not possible. *Tn(n)* is the treenode address of the type *t* requiring node. In that sense, the only way such a reflexive satisfaction will hold is in case the unfixed node unifies with the type t requiring node. However, such unification is impossible, given the incompatible specifications of the respective type requirements (*?Ty(e)* and *?Ty(t)*).

15 Metavariables act as content placeholders and they need to be replaced by a proper value at some point. For more details on metavariables see Kempson et al. (2001) and Cann et al. (2005).

16 See Chatzikyriakidis 2010 for more details on the lexical entries of Greek verbs.

17 The lambdas are going to be omitted from this point on (unless needed in the discussion) for ease of exposition.

18 See Kempson et al. (2001) for the formal definition of the rule.

19 The interested reader is directed to Cann et al. 2005; Chatzikyriakidis 2010 for the formal details of the LINK rules.

20 Some clarifications on how to read the rule. This schema is similar to the way Gentzen rules work in Gentzen style natural deduction. The top part presents the premise, and the bottom part the conclusion, i.e. roughly if the top part holds then the bottom part follows. With the respect to the actual details of this specific rule, the rule says that if there is a situation in which a tree with a type t complete formula exists and also there exists an argument of value α somewhere below this t node then a LINK transition can be made to a tree with a type e requirement and a requirement for a formula value α to be shared with the tree where the LINK starts.

21 A number of details are omitted here. In particular, the rule of ANTICIPATION first moves the pointer down to the direct object node. For more details on how this rule operates, the interested reader is directed to Cann et al. (2005) and Chatzikyriakidis (2010) among others.

22 Note that such analysis is different from the one given for genuine Clitic Doubling (CD) cases. See Gregoromichelaki (2013) and Chatzikyriakidis (2010) for a treatment of genuine CD in DS. Also see Jaeggli (1989) and Anagnostopoulou (1999) among others for an overview of the differences of the two constructions.

23 Note that on this account the correlate of the RDed object is obligatory, otherwise no complete parse would have been established and thus no RECAPITULATION would apply. This is not the case for adjunct correlates, since their omission can still lead into a well-formed parse. This captures one of the external like properties of RDs identified by Ott & De Vries.

24 The same is true for Ott and De Vries (2012a), who even though they analyze all RDs as instances of ellipsis, they note that in the case of BRDs, the CP_2 is structurally connected with the CP of the main clause, while in the case of ATs, this does not happen (Ott and De Vries 2012a:7).

25 Of course, the BRD structure is grammatical if we substitute the correlate *to* with one matching the DP for gender, i.e *tin*.

26 Even though examples of gender mismatch phenomena are difficult to find on the net, given that these are purely dialogue phenomena which require searching a huge corpus of conversational Greek, mismatch constructions with the optional addition *enoo* are found in the web. We mention one such illustrative example here: *to ida,, enoo tin dimosiefsi su to fb* 'I saw your fb post' where post is of feminine gender. Note that the AT is separated by the ellipsis punctuation mark in the original. The original example can be found here http://www.africatwin.gr/Nemesis/viewtopic.php?p=29287 (link was active on 18/12/2014, 13:15). At this point, it is good to mention that there are cases where additions like *enoo* 'I mean' are not optional but obligatory, for otherwise the construction is ungrammatical. Presumably such examples include cases like those discussed in Averintseva-Klisch (2006: 17), where a mismatch with a full DP correlate is attested.

(118) Und dann passierte das Unglck$_i$, (ich meine) dieser schreckliche Autounfall$_i$.
And then happened the misfortune.NEUT (I mean) this terrible accident.MASC
'And then this misfortune, I mean this terrible accident, happened.'

Trying to carry these examples over to Greek, we see that the addition of *enoo* is obligatory. Dropping of *enoo* leads to ungrammaticality:

(119) *Ki istera egine to kako,, i tromeri sigrusi
And then happened the misfortune.NEUT the terrible crash.MASC
'And then this misfortune, I mean this terrible crash, happened.'

(120) Ki istera egine to kako,, enoo tin tromeri sigrusi
And then happened the misfortune.NEUT the terrible crash.MASC
'And then this misfortune, I mean this terrible crash, happened.'

It seems that dropping *enoo*, renders the sentence ungrammatical. This has been confirmed by my informants for German as well, indicating that (118) is not grammatical without the addition of *ich meine*. The explanation for this is not entirely clear to me at the moment. can be simply the fact that the implicit question in cases like ((119)) is explicitly marked for gender, and thus cannot be later on updated if a conflicting gender value is provided, while this is not the case presumably in (120). The question is why the same sentence is ok by adding *enoo* or *ich meine*. One provisional thought is that these two constructions even though making use of the same mechanism of answering to implicit questions they however answer to different implicit questions. More work is needed, in order to see what is the exact difference between structures that can make optional use of devices like *enoo* and others where this is obligatory. We leave this as a subject of further research.

27 The DS claim is that the only difference between parsing and production is that the latter further involves a subsumption check against a goal tree in every step of the derivation. There is a rather long list of references for this in DS (see for example Purver & Otsuka 2003, Gregoromichelaki et al. 2012 and Purver et al. 2014 inter alia) and computational implementations of how this works also exist (see for example the Dynamic Syntax parser DyLan, Eshghi et al. 2014). The interested reader is redirected there for more information.

28 The formal details of this process are omitted.

29 The way that we reach this semantic formula, i.e. the different partial trees leading to the final tree might be (and are in this case) considerably different.

30 We omit the details of the adverb *xtes* here.

31 The ι operator is used to encode uniqueness but within the epsilon calculus. We cannot go into details of the epsilon calculus here but the interested reader is directed to Hilbert & Bernays (1939) for the original paper and to Cann et al. (2005) for an exposition of how it is used within DS.

32 We include the situation/event node for this example, given that it is needed for the adverbial AT.

33 An anonymous reviewer is thanked for directing us to this literature.

34 Again we use the epsilon calculus here. Since, this is not a topic on quantification, it suffices to say that from $(\epsilon, x, thrilo(x))$ one can derive $(\exists x.thrilo(x))$ in predicate logic.

35 MK stands for *Mikis Theodorakis*.

36 There are other accounts of sluicing in the literature that predict this type of behaviour. The reader can have a look at Merchant (2004), Fox and Lasnik (2003) and Arregi (2010). There are different ways that these analyses look at sluicing, but going into detail lies outside the scope of this paper.

37 ATs are possible in coordinate structures. The explanation proceeds within the same lines described for the other cases of islands and once DS assumptions for coordination have been made. We cannot go into details here.

38 Other kind of reconstruction effects are also observed e.g. bound-variable interpretations and scope reconstruction. The interested reader is directed to Ott & Devries (2012a) for such data. The same data are also observed for Greek ATs. Space prevents from citing these examples.

39 Note that this entry is not compositional since it treats the whole reflexive phrase *ton eafto tu* as a single lexical entry. We leave this issue unresolved for the needs of this paper.