Clitics in Grecia Salentina Greek: A Dynamic Account

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Abstract

In this paper, we attempt an analysis of Grecia Salentina Greek (GSG) clitics within the Dynamic Syntax (DS) framework (Kemspon et al., 2001; Cann et al., 2005). We argue that the use of a parsing oriented framework can provide us with an account of a number of puzzling phenomena regarding GSG clitics and clitics in general. In specific, we will argue that the proclisis - enclisis alternation is the result of two different parsing triggers being available in the lexical entries for GSG clitics. The parsing triggers posited will be argued to be the outcome of a routinization process in the sense of Pickering and Garrod (2004), with the pragmatics atrophying over time within such a process (Bouzouita, 2008a). We furthermore discuss sequences of clitics, and argue that strict DAT-ACC ordering can be accounted by assuming an analysis where dative clitics as well as 1st/2nd person accusative clitics compete for the first fixed node in the tree, while 3rd person accusative clitics on the other hand do not. These assumptions will straightforwardly account for strict DAT - ACC ordering. Finally the Person Case Constraint (PCC) is taken to derive from the same ordering principles that give rise to dat-acc ordering by further positing that 1st/2nd person accusative like dative clitics compete for the first position in the tree structure.

Keywords: Dynamic Syntax; Clitics; Person Case Constraint; Greek Syntax

1. Introduction

Grecia Salentina Greek (GSG) is a term we are going to use in this paper to refer to one of the main varieties of the Greek dialect Grico. This variety is spoken in a number of villages around the area of Lecce in Italy. This area is usually called Grecia Salentina so we will refer to this variety as Grecia Salentina Greek. We do that in order to avoid data inconsistencies with the other main variety, namely Calabrian Greek[1]. Even though these two varieties seem to agree to most (all?) features regarding clitic positioning, there is a possibility that Calabrian Greek is different with respect to a number of features regarding the PCC[2]. In that respect, and since we do not want to overgeneralize, we will base our paper on the analysis of the clitic system of the variety spoken in the Grecia Salentina region. The data will be drawn from a small fieldwork visit undertaken in July 2007 in 3 of the Greek speaking villages in the area of Grecia Salentina, namely Kalimera, Martignano and Sternatia. Additional data sources will be cited when used.

The paper is structured as follows: In section 2, the distributional properties of GSG clitics[3] are presented. In section 3, we briefly discuss the existing analysis on GSG. Before we proceed to the actual DS analysis, we firstly present the relevant framework (section 4). Lastly, in sections 5 to 8 we present our account of GSG clitics using the Dynamic Syntax grammar formalism.

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[1] See Katsoyannou (1995) for a description of this variety.

[2] There is also the possibility that Calabrian Greek is different with respect to restructuring verb climbing, since in Calabrian Greek the use of the infinitive is more widespread than in GSG. In that respect, it wouldn't be implausible to expect restructuring verb climbing to be more generalized in this variety.

[3] It should be noted that an array of terms are used in this paper pre-theoretically in order to make communication with the readers easier and do not involve any framework dependent assumptions. In that respect, we will use the terms *"clitic, clitic climbing, in situ, restructuring, pro - drop"* in a pre-theoretical sense, i.e. without necessarily accepting the standard assumptions that have given rise to these terms in the first place.

2. The data

The clitic system of GSG resembles to a high degree the system of Standard Modern Greek (SMG). Clitics immediately precede the verb except in cases where an imperative verb is present. In the latter case the clitic is encliticized to the verb:

(1) *Ton gapa.*
him$_{cl-acc}$ loves
'He/She/It loves him.'

(2) **Gapa ton.*
loves him$_{cl-acc}$
'He/She/It loves him.'

(3) *Tin kopanitzo.*
her$_{cl-acc}$ hit
'I hit her.'

(4) **Kopanitzo tin.*
hit her$_{cl-acc}$
'I hit her.'

(5) *Grafe to.*
write$_{Imp}$ it$_{cl-acc}$
'Write it.'

(6) **To grafe.*
it$_{cl-acc}$ write$_{Imp}$
'Write it.'

In a sequence of two clitics the order must obligatorily be DAT-ACC [4]. The latter restriction holds for imperatives as well (unlike SMG):

(7) *Tu to doka.*
him$_{him-dat}$ it$_{cl-acc}$ gave
'I gave it to him.'

(8) **To tu doka.*
it$_{cl-acc}$ him$_{him-dat}$ gave
'I gave it to him.'

(9) *Tis to ipa.*
her$_{cl-dat}$ it$_{cl-acc}$ said
'I said that to her.'

(10) **To tis ipa.*
it$_{cl-acc}$ her$_{cl-dat}$ said
'I said that to her.'

(11) *Do mu to.*
give$_{Imp}$ me$_{cl-dat}$ it$_{cl-acc}$
'Give it to me.'

[4] In GSG the dative function is morphologically realized as genitive. In this paper, we will consistently use the term 'dative' instead of 'genitive' in order to make communication with the readers easier.

(12) **Do to mu.*
give$_{Imp}$ it$_{cl-acc}$ me$_{cl-dat}$ it
'Give it to me.'

(13) *Pe mu to.*
say$_{Imp}$ me$_{cl-dat}$ it$_{cl-acc}$
'Say it to me.'

(14) **Pe to mu.*
say$_{Imp}$ it$_{cl-acc}$ me$_{cl-dat}$
'Say it to me.'

Nothing can intervene between the clitic and the verb. In a sequence of two clitics, the clitics must be adjacent:

(15) **Ton arte kopanitzo.*
him$_{cl-acc}$ now hit
'Now I hit him.'

(16) **Tu ivo to doka.*
him$_{cl-dat}$ I it$_{cl-acc}$ gave
'I gave it to him.'

One rather idiosyncratic phenomenon of GSG is the existence of obligatory climbing with the modal verb *sotzo* 'can'. It is crucial to note that the complement of the latter verb must be an infinitive, whereas the general verbal complementation strategy for all the other so-called restructuring[5] verbs in GSG involves the use of finite verbal forms preceded by the subjunctive marker *na*[6].

(17) *To sotzume avorasi.*
it$_{cl-acc}$ can buy$_{Inf}$
'We can buy it.'

(18) **Sotzume to avorasi.*
can it$_{cl-acc}$ buy$_{Inf}$
'We can buy it.'

(19) **Sotzume avorasi to.*
can buy$_{Inf}$ it$_{cl-acc}$
'We can buy it.'

Climbing with other verbs that do involve climbing in a number of languages (Italian, Spanish) is not possible in GSG:

(20) *Telume no(na-to) avorasume.*
want SUBJ-it$_{cl-acc}$ buy$_{1st-pl}$
'We want to buy it.'

(21) **To telume na avorasume.*
it$_{cl-acc}$ want SUBJ buy$_{1st-pl}$
'We want to buy it.'

The Person Case Constraint, widely spread across a number of different languages (Italian, Spanish, Georgian, Kiowa, Basque to name a few), is also relevant for GSG. In GSG no 1st/2nd person accusative clitic can co-occur with a dative clitic:

[5]Restructuring verbs include modal, aspectual and motion verbs
[6]We won't discuss Climbing in this paper. See Chatzikyriakidis (In preparation) for an analysis of obligatory climbing in GSG.

(22) **Su me doke.*
you$_{cl-dat}$ me$_{cl-acc}$ gave
'He gave me to you.'

(23) **Tu me doke.*
him$_{cl-dat}$ me$_{cl-acc}$ gave
'He gave me to him.'

(24) **Dizze tis me.*
show$_{Imp}$ her$_{cl-dat}$ me$_{cl-acc}$
'Show me to her.'

GSG, like *SMG* and unlike Italian, is a clitic doubling language. In that respect both Clitic Left Dislocation (CLLD) and Clitic Doubling are grammatical[7]:

(25) *To Giorgio ton tsero.*
the$_{acc}$ George$_{acc}$ him$_{cl-acc}$ know
'I know George.'

(26) *Ta tsero ta pramata.*
them$_{cl-acc}$ know the$_{acc}$ things$_{acc}$
'I know how things are.'

3. Previous analyses

The only analysis we know regarding GSG clitics is Condoravdi and Kiparksy (2002). This analysis however is a general analysis for all Modern Greek (MG) dialects, and in that respect no dialect is analyzed in depth. But let us see what Condoravdi and Kiparksy (2002) actually propose.

3.1. Condoravdi and Kiparsky

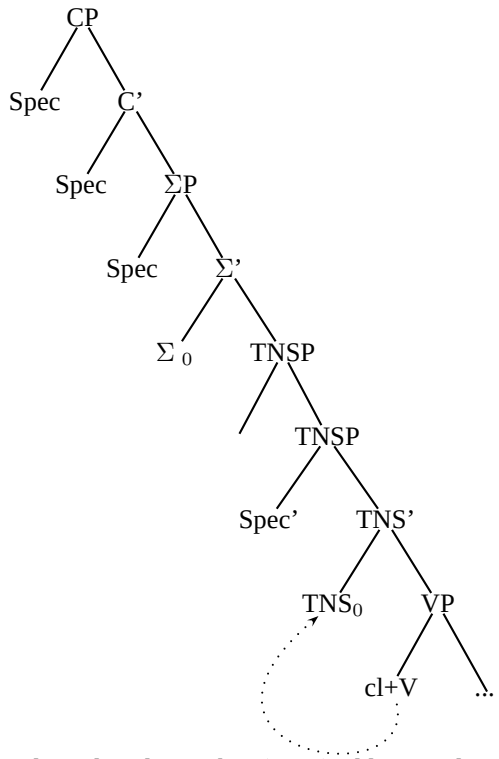
Condoravdi and Kiparksy (2002) propose a tripartite classification of clitic systems for all MG dialects based on the status that clitics are assumed to have in each dialect:

(27)
- Type A dialects: X^{max} clitics, syntactically adjoined to a maximal projection (Cappadocian Greek - CAG).
- Type B dialects: X_0 clitics, syntactically adjoined to a lexical head (Pontic Greek - PG).
- Type C dialects: Lexical clitics, affixed words (SMG, GSG).

According to the above classification, GSG clitics like SMG clitics fall under category C. Clitics in that category as argued by Condoravdi and Kiparsky (2002), are lexical affixes, word- to - word affixes to be more specific. The same phrase structure is assumed to underlie all three categories. Type C clitics, being word to word affixes attach lexically to the left of a finite verb, with subsequent head movement of the verb plus the clitic to Tns_0 as shown below:

[7]We won't discuss any of these phenomena in this paper. For a DS analysis of CLLD and Clitic Doubling in SMG see Cann et al. (2005), Chatzikyriakidis (2006) and Gregoromichelaki (Forthcoming).

(28)



Condoravdi and Kiparksy (2002) adduce evidence that clitics are in fact agreement affixes in type C dialects by comparing them to subject agreement affixes. The latter are present only in finite verbal forms, a fact also true of clitics as Condoravdi and Kiparksy (2002) argue. The exact reasoning is that clitics do not combine lexically with non - finite forms. However, this is not true since clitics are possible with non - finite verbal forms, namely imperatives and gerunds or only gerunds assuming that imperatives are finite. No matter what assumptions we make with respect to imperatives, such an analysis will give us the wrong results. Assuming imperatives are non finite verbal forms, we should explain why clitics are possible with these forms. Assuming they are finite verbal forms, the generalization that Condoravdi and Kiparsky (2002) propose, i.e. clitics in C dialects attach lexically to the left of a finite verb, won't capture the imperative case. Whatever the analysis of clitics with non finite forms and whatever their stance on the imperative issue is, Condoravdi and Kiparsky will need two different assumptions to cover the whole range of phenomena. This will basically mean that clitics are affixes with finite verbal forms and something different with non finite verbal forms, something rather unmotivated. Furthermore, there is no discussion about sequences of clitics and how more than one clitic lexically adjoins to the verb.

Summarizing, Condoravdi and Kiparksy (2002) propose an analysis that tries to capture the whole range of clitic phenomena found in the dialects of MG by classifying these into three major categories with respect to their linguistic status. However, their analysis does not go into the specifics of each dialect. In that respect, the peculiarities of each clitic system are not discussed. In our case, a number of issues regarding GSG clitics remain open. Since there is no other analysis regarding GSG clitics[8] we move on to propose our DS based analysis of GSG clitics. But before we do that, we will first briefly and informally present the DS framework.

[8]There is a vast literature on clitics in SMG (Agouraki, 1993; Sportiche, 1993; Anagnostopoulou, 1994; Phillipaki, 1994; Philippaki and Spyropoulos, 1999; Terzi, 1999a,b; Mavrogiorgos, To appear, among others) which are to a large extent relevant to GSG. However it is not our intention to go into the specifics of a number of analyses within the GB/minimalism tradition but rather to argue that once we shift to a parsing oriented framework a number of puzzling phenomena receive a natural explanation. In that respect, we won't discuss these analyses here.

4. An informal introduction to Dynamic Syntax

4.1. Basic intuitions behind DS

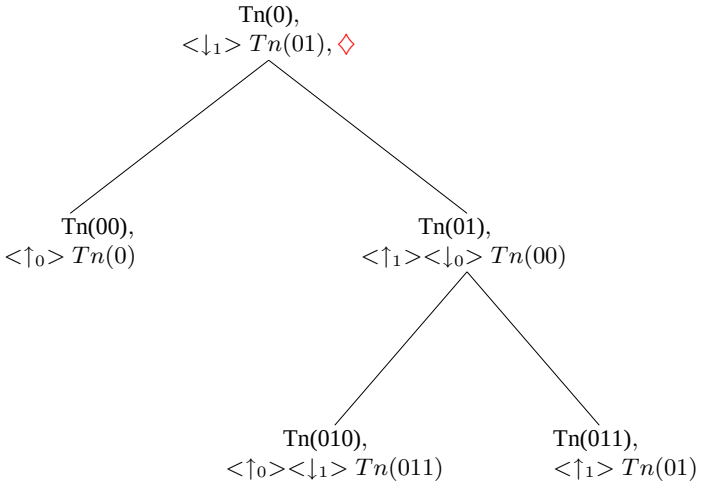
The basic assumption behind DS is that natural languages are interpreted via an incremental, word-to-word, left-to-right cumulative construction of transparent semantic representations with the upper goal to finally construct a logical form of type t (?Ty(t)). Such an interpretation is driven by means of monotonic tree growth, representing the attempt to model the way information is processed in a time-linear, word-to-word manner. However, tree-structures in DS are considerably different from those found in derivational or declarative frameworks like minimalism or HPSG respectively, in that they are not inhabited by words as such, but rather from the representations of those words (Fodor, 1975). Furthermore, the tree structure corresponding to the representation of the ending result of parsing a natural language string is a semantic representation assigned to this natural language string with respect to some context. This semantic representation does not correspond to word order but rather represents argument structure. However, the incremental left-to-right parsing via an array of successive, monotonically growing tree structures, handles word order through the mere definition of incremental parsing. The partial tree structures or the history of parsing stages are used to capture word order phenomena, since this whole process is totally dependent on the way words are ordered[9]. In order for all these intuitions to be carried out, a number of formal tools are employed.

4.2. The formal framework in a glance

4.2.1. LOFT, Tree decorations, Requirements

The parsing process is represented by means of binary trees underpinned by the Logic Of Finite Trees (LOFT, Blackburn and Meyer - Viol, 2001). Left branches are addressed conventionally by adding 0 to the value of the mother node, while right branches by adding 1. The position of a given node is expressed using the predicate Tn (standing for treenode) followed by the actual treenode address. Furthermore two basic tree modalities, $<\uparrow>$ and $<\downarrow>$, standing for the mother and daughter relationship respectively, allow relations between the trees to be represented:

(29)



Notice that a given treenode can be addressed from the perspective of a different treenode. For example $<\uparrow_0><\downarrow_1> Tn(011)$ in the 010 node reads as follows: You will find treenode 011 if you first go up the 0 mother relation and then go down the 1 daughter relation. The $\diamondsuit$ symbol, found in the 0 node in our example is called the pointer, and its basic function is

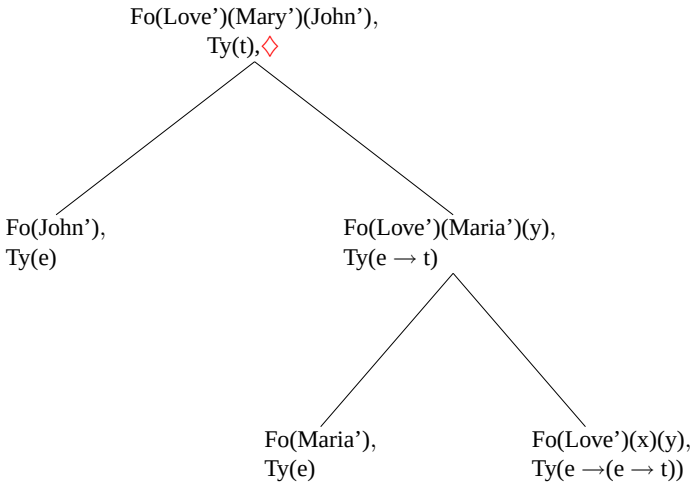
[9] An anonymous reviewer wonders if there is a different syntactic component apart from the parser in DS. The answer is that for DS the parser is the grammar. Parametric variation in natural languages is accounted via the interactions of the lexical entries of a given language with general computational and pragmatic actions. Computational actions are also subject to parametric variation. Some languages may exhibit different variants of computational actions while others not. Furthermore, generation is assumed to involve the same mechanism assumed modelling parsing. We do not have the space to provide examples of parametric variation in DS but the interested read will find vast examples of such variation in Kempson et al (2001), Cann et al (2005). Furthermore, anyone interested to see the assumptions DS makes regarding the parser should consult Kemspon et al. (2001), Purver and Kempson (2004), Cann et al (2005), Purver et al. (2006).

to track which node is the current node under construction any time during the parsing process[10]. Nodes in DS are inhabited by a set of labels, conventionally called "Tree Decorations". The basic elements comprising this set are:

a. **Formula value decorations**. These are represented using the predicate Fo followed by the representation of the entity in brackets, e.g. Fo(John')[11].
b. **Type value decorations**. These are represented using the predicate Ty followed by the type of the word/concept in question in brackets, e.g. Ty(e)[12].

A basic concept in the DS framework is that of requirements. Requirements can be seen as goals that need to be achieved. Requirements have the general form ?La$_i$[13] (e.g. ?Ty(e)). In order for a given parse to be successful, no outstanding requirements must exist in the ending tree. In that respect, requirements can be also seen as a device explaining ungrammaticality. Example (29) shows a complete tree in DS. Notice that no outstanding requirements exist[14]:

(30)



4.2.2. Computational - Lexical - Pragmatic rules/actions

The parsing process is driven by three kinds of rules/actions: a) Computational b) Lexical and c) Pragmatic rules/actions. The former are general computational devices, comprising the basic tree construction mechanism. They always involve an input and an output description. The former designates where the pointer must be along with information about the node that the pointer is on or other nodes with respect to the pointer node, while the latter shows the transformation of the input in terms of requirements, adding nodes, pointer movement etc. An example of a computational rule, the rule of COMPLETION, is shown below:

(31) $$\frac{\{...\{Tn(n),...\},\{<\uparrow_i>,Tn(n),..,Ty(X)..,\diamond\}...\}}{\{...\{Tn(n),...,<\downarrow_i>Ty(X),...,\diamond\},\{<\uparrow_i>Tn(n),...,Ty(X),...\}...\}}$$[15]

The above rule moves the pointer to the mother node as soon as any type of requirement is satisfied on any of the daughters of that mother node. The top part reads as follows: There is a node with treenode address Tn(n) and another one dominated by Tn(n) ($<\uparrow_i>, Tn(n))$ that has a satisfied type requirement and also bears the pointer. The output description (second line) presents a situation where the pointer has moved to the Tn(n) addressed node, with an additional statement that records

[10]The Pointer function is also one of the ways to account for ungrammaticality in DS. For instance, if the pointer is at a given node which has an outstanding requirement for a type e expression to be found, and the next word that is parsed does not provide such a Type, by providing e.g. a Ty(e→t) expression, the parse will abort rendering the whole string ungrammatical.

[11]The prime indicates that the concept and not the word John is represented.

[12]The difference between DS and most of the formal semantic theories with respect to typing is twofold. Firstly, DS has an additional type (cn) standing for common noun, and furthermore there is no recursion on types. Types are a rather closed set. For a more detailed discussion on DS typing see Kemspon et al. (2001), Cann et al. (2005).

[13]Where La stands for label and i⩾1. For a formal presentation of declarative units in DS consult Kemspon et al. (2001), chapter 7.

[14]The lambda terms in the Fo formulas have been excluded for ease of exposition.

[15]Where i=(0,1,*).

the daughter's satisfied requirement ($<\downarrow_i> Ty(X)$). There are a number of procedural computational rules like the one we have just seen but we won't go into the rest of them for reasons of space. The interested reader is referred to Kempson et al. (2001), Cann et al (2005) for a detailed presentation of a number of computational rules. Additional computational rules will be introduced if needed.

On the other hand, lexical rules are basically entries associated with a given word providing instructions on how the parsing must or must not proceed. There are no general rules regarding the content of these instructions. They rather depend on the syntactic nature of these words. However, there is a generalized schema involved in the way these words introduce their content. This general procedural schema followed by a sample lexical entry is shown below:

(32) Lexical entry format

IF	Trigger
$THEN$	Actions
$ELSE$	Elsewhere statement

(33) Sample lexical entry for *Bill*

IF	$?Ty(e)$
$THEN$	$put(Ty(e), Fo(Bill'))$, $[\downarrow]\bot$
$ELSE$	$Abort$

Example (33) reads as follows: If you are in a node that has a type e requirement, then decorate this node with a type e value and a formula value representing the concept given by the word *'Bill'*. In any other case abort. 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. Other languages with overt noun case marking will have further restrictions for their equivalent entry for *Bill* that will ensure that the proper noun will be parsed in the relevant node depending on case marking. For example we can associate a given case marking with a fixed structural position by means of tree modalities as shown below:

(34) Structural accusative lexical entry

IF	$?Ty(e), <\uparrow_1>?Ty(e \rightarrow t)$
$THEN$	$put(Ty(e), Fo(x'))$, $[\downarrow]\bot$
$ELSE$	$Abort$

The above entry will block a noun of the above type to be parsed in the subject node (00) simply because the condition $?Ty(e \rightarrow t)$ is not going to be satisfied[16].

Lastly, pragmatic actions involve contextual information providing information with respect to the parsing process. One very basic rule is the rule of SUBSTITUTION which updates a formula metavariable into a proper formula referring to some entity in the context[17]. We won't discuss any other pragmatic actions in this paper but the interested reader is directed to Kemspon et al. (2001), Cann et al. (2005) for further information on pragmatic actions.

4.2.3. Underspecification, LINK

Central within the DS framework is the concept of underspecification, the idea that parts of natural language may not be fully specified by the time they enter into the parsing procedure. Of course underspecification is not in itself a new concept in linguistics. It has been extensively used the last 20 years by formal semanticists to deal with ambiguity and

[16] In DS binary trees, as already mentioned, do not encode word order but rather represent argument structure. In that respect the subject node is always in the same position no matter what the actual word order is. This position is the 00 node. Given that, it is clear why the condition is not satisfied.

[17] See Kemspon et al. (2001), Cann et al. (2005) for a formal definition of the rule of SUBSTITUTION.

anaphora resolution. What is novel however, is that underspecification is moved into the area of syntax[18], making the syntax the dynamic part rather than the semantics. DS uses two types of underspecification: a) Content underspecification and b) Structural underspecification. With respect to content underspecification, DS employs the use of metavariables, functioning as mere content placeholders with a requirement that substitution of the metavariable will take place at later stages of the parse. A classic example of content underspecification is pronouns. DS assumes that the lexical entry for a pronoun, say *he*, involves the projection of a metavariable as the value the Formula takes. This metavariable must be updated as soon as a proper formula value is provided by the context or by the natural language string itself. The metavariable comes with person and case restrictions depending on the pronoun. A requirement that a proper Fo value must be found ensures that the node which bears the metavariable will eventually get a proper formula value. The lexical entry for the pronoun *he* is shown below:

(35) Lexical entry for *he*

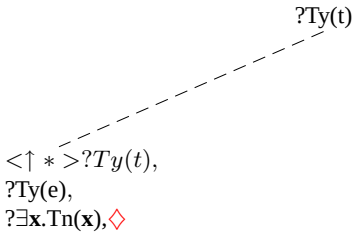
IF	$?Ty(e), <\uparrow_1>?Ty(t)$
$THEN$	$put(Ty(e), Fo(U_{male-sg}), ?\exists \mathbf{x}.Fo(\mathbf{x}), [\downarrow]\bot)$
$ELSE$	$Abort$

Structural underspecification on the other hand is represented in DS by employing a set of rules, the family of ADJUNCTION rules[19]. *ADJUNCTION effectively introduces a node, which position in the tree is not yet fixed at the time of its introduction. To be more specific, the rule of ***ADJUNCTION*** projects such an unfixed node from the initial ?Ty(t) node which bears a requirement for an expression of type e to be found at that node:[20]

(36) $$\frac{\{...\{Tn(a), ...?Ty(t), \Diamond\}\}}{\{...\{Tn(a), ...?Ty(t)\}, \{<\uparrow * > Tn(a), ?\exists x.Tn(x), ..., ?Ty(e), \Diamond\}\}}$$

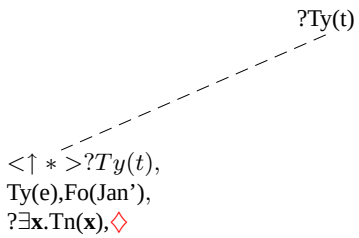
The effect of the rule is shown schematically below:

(37)



An NP can be parsed on that unfixed node satisfying the type e requirement:

(38) Parsing *ton Jani* 'John' on an unfixed node[21]



[18]There is however a similar notion, the notion of functional uncertainty in LFG (Bresnan, 2001).

[19]We will present two of the various variants of the ADJUNCTION rule here. Additional *ADJUNCTION rules will be introduced later on if needed.

[20]The kleene star operator is a way to encode underspecification in the modal language. $<\uparrow * > X$ reads as: X holds at a node above me or at the current node. Using the opposite modality, i.e the daughter modality, the kleene star denotes the notion of dominance plus reflexiveness. The pure notion of dominance is encoded by means of the kleene plus operator (+). In that respect $<\uparrow^+> X$ reads as: There is a node above me where X holds. We will see later on how we will exploit both of the operators in our analysis.

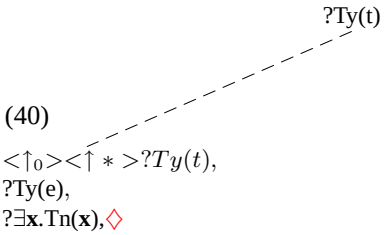
[21]We ignore determiners for the moment.

The ?∃**x**.Tn(**x**) restriction will ensure that the node must be fixed at a later stage in the parse[22]. The underspecified relation $<\uparrow *>?Ty(t)$ will enable the NP to be parsed in different structural positions. The **ADJUNCTION* rule is a natural way to encode this intuition. The *ADJUNCTION rule will account for long scrambling cases as well, since the tree modality used does not restrict the full NP to apply in the local domain. A variant of *ADJUNCTION however, *LOCAL ADJUNCTION will do just that, i.e. it will restricts the potential fixing sites of the node to local nodes. The rule is shown below:

(39) $$\frac{\{...\{Tn(a),...,?Ty(t),\Diamond\}...\}}{\{...\{Tn(a),?Ty(t),\}...\{<\uparrow_0><\uparrow *> Tn(a),?\exists x.Tn(x),...,?Ty(e),\Diamond\}...\}}$$

The effect of the rule in tree notation is the following:

(40)



Notice that the modality has changed from $<\uparrow^*>$ to $<\uparrow_0><\uparrow_1^*>$. This will ensure that the NP in question is parsed in the local propositional domain [23]. The two rules are used for long and short distance scrambling effects respectively. We will see later on the relevance of these rules with respect to clitics.

While the ADJUNCTION rules involve the creation of an unfixed node that has a requirement for a specified treenode address in the tree under construction to be found, LINK structures involve the construction of a second tree structure independently of the initial one, which however posits a requirement for a shared term between the two trees. In order for LINK structures to be modelled, we need to introduce two new modal operators, $< L >$ and $< L^{-1} >$. The former refers to a tree structure which is linked, as it is shown schematically in (43), by means of an arrow, with the current node, while the latter refers to that node. LINK rules are also a family of rules, sharing the characteristics just mentioned. For demonstration purposes we will present one of them. The latter comes in the form of two rules, the rules of TOPIC STRUCTURE INTRODUCTION and TOPIC STRUCTURE REQUIREMENT [24] respectively. These two rules are used by (Cann et al., 2005) to account for Hanging Topic Left dislocation structures(HTLD). The first rule effectively creates a *LINK* transition between the initial node and a top node with a *type e* requirement. The rule is shown below:

(41) $$\frac{\{\{Tn(0),?Ty(t),\diamond\}\}}{\{\{Tn(0),?Ty(t)\}\},\{< L > Tn(0),?Ty(e),\diamond\}}$$

Notice that the above rule does not mention anything about a shared term. That is because there is no shared term at the time the rule applies. The requirement for a shared term is introduced via the second rule the rule of TOPIC STRUCTURE REQUIREMENT shown below. This rule applies as soon as the dislocated argument is parsed (*as for Mary* in our example)[25]:

(42) $$\frac{\{\{Tn(0),?Ty(t)\},\{< L > Tn(0),Fo(a),Ty(e),\diamond\}}{\{\{Tn(0),?Ty(t),?< D > Fo(a),\diamond\}\},\{< L > Tn(0),Fo(a),Ty(e)\}}$$

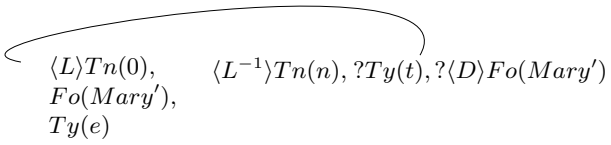
After the introduction of these two rules, we get the following:

[22] ?∃x.Tn(x) reads as: There is a requirement for a proper treenode address (fixed) to be found. If the latter does not happen, then the parse cannot be completed as at least one outstanding requirement will exist in the tree.

[23] Assuming that all argument nodes are the 0 nodes and an additional propositional domain will involve a type t in one of the argument nodes, this rule will exclude cases where the NP is associated with an argument in the next propositional domain.

[24] The prototypical LINK rule is the rule of LINK *ADJUNCTION used by Cann et al. (2005) to account for relative clauses. We choose to present the *TOPIC STRUCTURE INTRODUCTION* and *TOPIC STRUCTURE REQUIREMENT* rules instead, which are basically a variant of the prototypical LINK rule. The interested reader is referred to Cann et al. (2005 - 85-94) for the prototypical LINK rule.

[25] The D modality stands for the downward modality that encodes the kleene star operator and can furthermore extend over LINK structures. In that respect D is defined as D=$\{\downarrow_0,\downarrow_1,\downarrow,\downarrow^*,L\}$.

(43) 

In an HTLD construction, the dislocated NP will be parsed in the node where the LINK begins. After TOPIC STRUCTURE REQUIREMENT has applied, a requirement for the same Formula value provided in the first tree will be put in the LINKed tree. This will ensure that a copy of the formula *Mary* will also be provided by the linguistic string, for example a resumptive pronoun in English. There are a number of important things with respect to the general LINK rule, but we won't discuss them here since these are not relevant to the scope of the paper. The interested reader is however referred to Kempson et al. (2001) and Cann et al. (2005) for more information on the various LINK rules.

5. A DS analysis - One clitic constructions

For DS, as already mentioned, natural language parsing is triggered by three types of actions, namely computational, lexical and pragmatic actions. Lexical actions are basically the lexical entries that words are assumed to have. Clitics in our analysis will have their own lexical entries. However, this does not mean that we a priori decide on the status of GSG clitics as words. For DS every linguistic element, no matter how it is traditionally characterized, can be associated with a lexical entry. It is often assumed in various DS analyses that affixes, that is traditionally non - words, can have their own lexical entries (see for example the lexical entries for Japanese case suffixes given by Cann et al., 2005). Such a move is not contradictory assuming that for DS lexical entries are just pieces of information on how parsing must or must not continue. In that respect, any element that provides such information can have its own lexical entry. Within this line of reasoning, the affix - word debate (Philippaki, 1998; Philippaki and Spyropoulos, 1999; Condoravdi and Kiparksy, 2002, among others) can be easily side - stepped as irrelevant with respect to the DS framework, since we can give an account that will effectively be the same no matter what our stance regarding the affix - word debate is. We will present an analysis of GSG clitics where the different distributional properties of these are captured via the interactions of the lexical entries we will give for clitics and general computational actions. These interactions are further underpinned by general pragmatic actions. But let us see in detail how this can be done.

Clitics in GSG, resemble SMG clitics in that they appear preverbally with all verbal forms except imperatives. In the latter case, they must appear postverbally. In ensuring proclisis, we need a mechanism that will not alow a clitic to be parsed after a verb has already done so. In DS terms this means that no verb must exist when the clitic will enter the parsing process. There is a rather straightforward way to do that. We will use the third person neuter accusative clitic *to* 'it' to illustrate how. In our brief introduction to the DS framework we have said that DS does not directly represent word order, but rather uses binary trees to represent argument structure. In that respect, the position of the verbal argument in the tree is always the same no matter the word order the sentence exhibits. As mentioned, what we need to exclude is the case where a verb has been parsed first. On the other hand, we do want to include a number of cases where a preverbal subject or object has been parsed first. We will propose two ways to do that, and we will see which one is more plausible as more phenomena are examined. The first proposed restriction is shown below:

(44) First proposed restriction

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^+]?\exists x.Tn(x)$
	$THEN$	...
	$ELSE$	...
$ELSE$		...

The above restriction reads as follows: If you are in a node which bears a type t requirement, then if all the nodes below that node bear a requirement for a proper treenode address to be found, i.e. all the nodes dominated by the type t bearing node

are unfixed, then proceed to the actions (which we have not given yet). Such a restriction will give us the desired results. The clitic cannot be parsed if a verb has already done so, since the verb will project a number of fixed nodes if parsed (See the entry for indicative verbs in (63)) . It can however when a preverbal object has, since the restriction takes into consideration only nodes that have already found their fixed position in the tree structure. A preverbal object will always involve either an unfixed node or a LINKed structure. These will find their proper treenode addresses only after the verb is parsed. The next thing we need to discuss is whether 3rd person accusative clitics in GSG are better analyzed as unfixed or as projecting a fixed structure (Bouzouita, 2008b) for Spanish,(Chatzikyriakidis, 2006) for *SMG*). An unfixed node analysis for the 3rd person accusative clitic will immediately imply that the clitic, being structurally unfixed, can receive more than one structural position in the emerging tree. Based on the data we have for GSG, an accusative clitic is always linked to the direct object. Our informants in Grecia Salentina noted that there are no double accusative verbs in GSG [26]. Given these facts, the lexical entry for the accusative neuter clitic will involve the projection of fixed structure:

(45) 3rd person accusative neuter clitic *to* 'it'

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^{+}]?\exists x.Tn(x)$
	$THEN$	$makego(<\downarrow_1>), makego(<\downarrow_0>);$
		$put(Fo(V_{neut,sg}), Ty(e), ?\exists x.Fo(x));$
		$gofirst(?Ty(t))$
	$ELSE$	$Abort$
$ELSE$		$Abort$

Let us comment on the embedded THEN part of the rule a little bit. This is where the actual actions induced from the lexical entry are encoded. The clitic builds both the 01 and the 010 node. It annotates the 010 node with a type e decoration and projects a formula metavariable to be substituted from context or from the natural language string. The metavariable carries presuppositions (i.e. the subscripts) which must be satisfied by the candidate value in order for the latter to be accepted as the metavariable's update. These presupositions are in effect restrictions on metavariable update. The second proposed trigger on the other hand, involves a statement about the potential functor nodes only:

(46) Second proposed trigger

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow_1^{+}]?Ty(x)$
	$THEN$	...
	$ELSE$	...
$ELSE$		...

The above restriction states that all functor nodes should bear a type requirement in order for the clitic to get parsed. In case a verb is parsed, this will decorate a functor node with a type value. In that respect the above trigger won't get satisfied, and the clitic will be unable to get parsed. The full lexical entry is shown below:

(47) Alternative entry for *to* 'it'

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^{+}]?Ty(x)$

[26] Katsoyannou (1995) mentions that in the other main Grico variety, Calabrian Greek, double accusative constuctions are restricted to just one verb, the verb "matenno/learn" and even in that case they are extremely rare (only one instance is found in her corpus). Even in SMG where a number of double accusative verbs exist, a number of complications arise when we substitute full NP's with clitics in these constructions. For example it is impossible to substitute both of the accusative marked full NP's with two accusative marked clitics. In case we do that, the clitic functioning as an indirect object must be genitive marked. We remain agnostic as to what is going on in these constructions in SMG and we won't discuss this issue further. The interested reader is directed however to Anagnostopoulou (2001) for a detailed discussion on double accusative verbs in Modern Greek.

	$THEN$	$makego(<\downarrow_1>), makego(<\downarrow_0>);$
		$put(Fo(V_{neut,sg}), Ty(e), ?\exists x.Fo(x));$
		$gofirst(?Ty(t))$
	$ELSE$	$Abort$
$ELSE$		$Abort$

Both of the entries we have given correctly predict sentences (1) and (2), repeated here as (48) and (49), to be grammatical and ungrammatical respectively:

(48) *Ton* *gapa.*
him$_{cl-acc}$ loves
'He loves him'.

(49) **Gapa* *ton.*
loves him$_{cl-acc}$
'He loves him.'

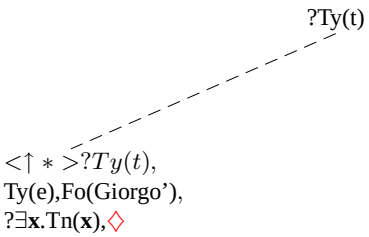
Furthermore, cases where a preverbal object or a subject has been parsed are also predicted to be grammatical. The examples below are correctly captured by the entries we gave:

(50) *Ton* *Giorgo* *ton* *gapa.*
the$_{acc}$ George$_{acc}$ him$_{cl-acc}$ loves
'He loves George.'

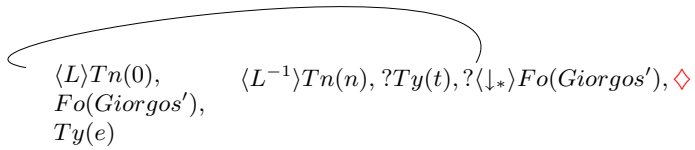
(51) *O* *Giorgos* *ton* *gapa.*
the$_{nom}$ George$_{nom}$ him$_{cl-acc}$ loves
'He loves him.'

Assuming that preverbal objects are parsed using *ADJUNCTION or *LOCAL ADJUNCTION, no node with a proper treenode address will exist below the initial type t requiring node. No type value will exist in any of the functor nodes either. In case a preverbal subject is parsed, a LINKed or an *ADJUNCTed structure will be used. Thus, in that case, a separate tree structure or an unfixed argument node is involved:

(52) After parsing a preverbal object



(53) After parsing a topic subject



The two lexical entries we've given correctly capture preverbal positioning of the 3rd person accusative clitic *to* 'it'. Before proceeding to the entries for genitive and 1st/2nd person accusative clitics, first we need to account for postverbal clitic positioning with imperatives.

5.1. Enclitic positioning with imperatives

5.1.1. Minimalist analyses

It is a rather puzzling phenomenon that clitics in a wide range of languages, while proclitic in general, appear postverbally with imperatives. A number of different proposals have been given for enclisis with imperatives within chomskyan frameworks (Phillipaki, 1994; Rivero and Terzi, 1995; Terzi, 1999a,b, among others). The standard assumption in these analyses is that imperatives in Greek exhibit movement to a functional projection past TP. This functional projection is CP in Rivero (1994), Rivero and Terzi (1995), Terzi (1999a,b) and MP in Philippaki (1994). Clitics in these approaches are situated below these projections or they move along with the verb to this projection as in Terzi (1999b). In that respect, what we get is enclisis.

In their classic paper, Rivero and Terzi (1995) examine the behaviour of the imperative in Ancient Greek (AG), SMG and Cypriot Greek (CG). The crucial difference between AG on the one hand and SMG - CG on the other according to Rivero and Terzi (1995), is that in the latter two cases imperatives obligatorily move to C to satisfy their own requirements, while in the former case they optionally move to the Wackernagel phrase (WP) to satisfy requirements of the W phrase. Let us see what the proposed analysis actually predicts for CG and SMG. Rivero and Terzi (1995) assume the same clausal structure for both SMG and CG. In this analysis negation is situated between C and the IP. Assuming clitics are situated in the IP domain, V - C movement will result in a situation where the verb precedes the clitic, thus the enclisis. In the presence of negation, movement is blocked assuming relativized minimality (Rizzi 1991). In order to account for the differences in positioning in CG and SMG while retaining the same clausal architecture, Rivero and Terzi (1995) have to further assume that the clitic must be licensed in the domain of a head with operator like properties in CG but not in SMG. In the absence of such a head, the verb has to move to a position below C that Rivero and Terzi do not specify. However, in Rivero (1994) and Terzi (1999a) such a head is specified to be a Mood Phrase (MP). The plausible question to ask given the latter fact, is why imperatives do not move to that MP projection that licenses Mood features as its name suggests, but rather move to C instead. It seems worth emphasizing that the same argument was raised by Roussou (2000) with respect to the same analysis. The answer seems to be that if we abandon the V-C movement of imperatives and adopt a unified V-M movement approach for all verbs in CG, then assuming as Rivero (1994) and Terzi(1999a,b) that NegP is higher than MP, we would expect negated imperatives to be licit. A further problem with such an analysis concerns the status of the so - called operator like heads. One major discrepancy involves the assumption that the complementizer *pu* carries operator like properties while *oti* does not. Without getting into the debate of whether such a claim is true, Rivero and Terzi (1995) do not mention that complementizer *oti* exhibits variation in positioning in CG as reported in Revithiadou (2006) and Chatzikyriakidis (In preparation)[27]. Under these variation data, Terzi and Rivero have to assume that in some cases *oti* does and in some cases does not behave as an operator, something rather strange. A further problem for such an analysis comes from languages like Later Medieval Greek (LMEG), a language which under Rivero and Terzi (1995) should fall within the same category as CG, namely under the type of languages showing imperatival distinct syntax as the lack of negated imperatives in LMEG would suggest (Pappas 2002). Assuming however the same analysis as in CG, i.e. V-C movement of imperatives, then an apparent problem comes from LMEG examples where proclisis with imperative verbs is possible in the presence of a focused element in the left periphery:

(54) *Ala* *me* *ipe* *(Pappas - 2001: 95).*
other-$_{acc-pl}$ me$_{cl-acc}$ say$_{Imp}$
'Tell me something else.'

(55) *Aγia* *tin* *ipe* *(Pappas - 2004: 70).*
holy$_{acc}$ her$_{cl-acc}$ said
'Call her holy.'

Terzi (1999a) argues for the existence of a MoodP in Modern Greek as well. In fact, this is the projection where gerunds move to. Then, as in the case of CG, the same question can be asked for SMG, i.e. why the presence of MP does not trigger movement of imperatives to the M_0 and imperatives have to rather raise all the way up to C to check their mood features.

We won't discuss these analyses any further since it is not our intention to give a detailed account of the analyses proposed in minimalism or to further elaborate any of them. Our intention was to show that the existing analyses concerning Greek

[27] An anonymous reviewer asks whether this variation has something to do with the positioning of *oti* with respect to foci/topics. The data presented in Revythiadou (2006) as well as those we have collected do not indicate any such correlation.

imperatives are not devoid of problems and to further propose an alternative DS analysis. The interested reader is however referred to Phillipaki (1994), Rivero (1994), Rivero and Terzi (1995), Terzi (1999a,b) and Roussou (2000) for more details and argumentation on the discussed analyses.

5.2. Imperatives in DS

Clitic positioning in DS, as we have already seen, is captured by imposing restrictions on the entry for the clitic that refer to the current parse state of the tree. In the case of imperatives, an imperatival feature (IMP) is going to be used as a second disjunctive trigger in the entry for clitics.

Assuming that an imperatival verb will project such a feature in the type t requiring node, enclitic positioning is effectively captured assuming this second disjunctive trigger. The new entry for the 3rd person neuter accusative clitic 'to' in GSG is shown below:

(56) Entry for the 3rd person accusative clitic *to* 'it' (imperatives included)

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^+]?\exists x.Tn(x)$
	OR	
	IF	$Mood(Imp)$
	$THEN$	$makego(<\downarrow_1>), makego(<\downarrow_0>);$
		$put(Fo(V_{neut,sg}), Ty(e), ?\exists x.Fo(x));$
		$gofirst(?Ty(t))$
	$ELSE$	*Abort*
$ELSE$		*Abort*

(57) Alternative entry for the 3rd person accusative clitic *to* 'it' (imperatives included)

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^+]?Ty(x)$
	OR	
	IF	$Mood(Imp)$
	$THEN$	$makego(<\downarrow_1>), makego(<\downarrow_0>);$
		$put(Fo(V_{neut,sg}), Ty(e), ?\exists x.Fo(x));$
		$gofirst(?Ty(t))$
	$ELSE$	*Abort*
$ELSE$		*Abort*

Both the above lexical entries capture enclisis with imperatives. However, we should explain why an imperative verb cannot be parsed after a clitic has already done so. Assuming a lexical entry in the same style as the lexical entry for an indicative verb, i.e. an entry in which the verb starting from the initial node builds the whole propositional structure and furthermore decorates the subject node with a type value and a formula metavariable, ungrammatical examples like (58) are predicted to be grammatical. Nothing will stop an imperative verb to be parsed after a clitic in the same sense as an indicative verb will:

(58) **To dizze.*
it$_{cl-acc}$ show$_{imp}$
'Show it!'

What we are going to argue is that imperative verbs (at least for SMG and GSG[28]) have a similar restriction to the one we have given in the first of the two entries for the 3rd person accusative clitic. This means that imperatives compete for the first fixed node in the domain. Assuming the ACTIONS for the 3rd person accusative clitic[29], the imperative won't be able to get parsed due to that restriction. The rather peculiar characteristic of enclisis with imperatives can be attributed to the impossibility of imperative verbs to be preceded by fixed nodes. In that respect the clitic has to follow rather than precede the imperative. What is the nature of such restriction is something that we should discuss however. Looking back at the history of clitic distribution from LMEG to the MG dialects, we can derive a natural explanation for this restriction. Looking for example at LMEG, we do find categorical restrictions regarding clitic positioning but in most cases what we find is tendencies or almost categorical restrictions (Pappas, 2004). For example, in the case of imperatives there is a clear tendency for enclitic positioning, but this is by no means a categorical restriction as we have already seen in examples (59) and (60), repeated below:

(59) *Ala* *me* *ipe* *(Pappas - 2001: 95).*
other-$_{acc-pl}$ me$_{cl-acc}$ say$_{Imp}$
'Tell me something else.'

(60) *Aγia* *tin* *ipe* *(Pappas - 2004: 70)*
holy$_{acc}$ her$_{cl-acc}$ said
Call her holy

The fronted constituent is probably the reason for proclisis in the above examples. It is quite interesting to observe that no Modern Greek dialect presents any variation with imperatives anymore. CG, a dialect which pretty much resembles LMEG in terms of clitic distribution does not allow proclisis with imperatives no matter what the nature of the preceding element is:

(61) *TO* *VIVLIO* *δo* *mu.*
the$_{acc}$ book$_{acc}$ give$_{Imp}$ me$_{cl-dat}$
'Give me the book.'

(62) **TO* *VIVLIO* *mu* *δo.*
the$_{acc}$ book$_{acc}$ me$_{cl-dat}$ give$_{Imp}$
'Give me the book.'

Enclisis with imperatives is categorical in the dialect we are examining as well. . In that respect, we can assume that the entries for imperative verbs obtained a triggering restriction that would prevent proclisis. In the dialects we are interested in, all proclitic triggers have collapsed into one and all clitic distribution is defined solely with respect to the verbal form. However, the imperative restriction was retained in the entry for the clitics. The latter, given an entry for imperatives that bans proclisis, gives us the desired distribution, i.e. a situation where enclisis is categorically restricted in case an imperative is present. In order for proclitic triggers to collapse, what was needed was an overgeneralization of proclitic environments. We argue that the pragmatic basis behind clitic positioning with fronted focused constituents was lost, giving rise to proclisis in a number of other environments involving non focused objects and subjects, all adverbs and PP's. The whole process can be described as a stepwise routinization process in the sense of Pickering and Garrod (2004) with the pragmatics atrophying over time within that process in the sense of Bouzouita (2008a,b). Such a process eventually led to a generalization of proclisis with finite forms, effectively leading to a collapse of the preverbal triggers to just one. The fact that imperatives lack subordinate conjunctions, or any of the particles triggering proclisis (*na* 'subjunctive marker', *min* 'NEG') and are less likely to be preceded by focused constituents, is probably what prevented proclisis to further extend to imperatives. In that respect, what we get is as system with two triggers, one for imperative and one for non imperative verbs. Within such an approach, dialects like Pontic Greek (PG) which are strictly enclitic, followed the opposite route, i.e. a route where proclitic triggers did not collapse to a general proclitic trigger but rather disappeared, while enclisis on the other hand was generalized to all environments. Thus, in the case of PG the form of the verb does not play any role with respect to positioning anymore. This could be made possible in the transition from Medieval Pontic Greek (MPG) to PG, since MPG as shown by Pappas (2001)

[28]We discuss imperatives in dialects where in general enclisis is the rule, i.e. CG and PG, in Chatzikyriakidis (In preparation).
[29]We will see how the clitics that will be treated as unfixed will be accommodated under that assumption.

displayed a system where the proclitic triggers where considerably fewer compared to LMEG or even Medieval Cypriot Greek (MCG). Assuming that triggers are something like parsing heuristics, i.e. facilitators of the parsing process, both of these evolutions led to greater simplicity by collapsing an array of disjunctive triggers into just two or one in the case of PG. However, the fact that some languages collapsed a set of disjunctive triggers in favor of simplicity does not mean that all languages or dialects are expected to behave like that. It is true that there is a strong tendency towards that direction, but there are a number of Greek dialects which would immediately falsify such a claim, notably CG and Cappadocian Greek (CAG - See Janse 1994). The latter dialects, with some degree of deviation, exhibit pretty much the same patterns in terms of clitic positioning that LMEG did. In fact, these clitic systems seem to be rather stable, since almost all patterns of distribution of LMEG are still obeyed in both dialects. However, this is not exactly the case. For example, comparing MCG to CG, someone can easily realize that a number of proclitic triggers present in CG are absent in MCG, namely temporal expressions and fronted constituents (Pappas, 2001, 2004). In that respect, the CG clitic system resembles more the LMEG system that its Medieval ancestor did. Thus, despite the first appearances, the CG system has been in a state of change like all the other MG dialects. The direction of change in each case seems to depend highly on the medieval ancestors of each of the modern dialects.

Returning to the actual way of encoding the triggering restrictions in DS and assuming the heuristic like role of parsing triggers, it is highly expected that these triggers will be encoded in the same heuristic like way. For example, moving to a dynamic syntactic model where each word is parsed in relation to the current state of the partial tree at the time these words come into parse, every word will have to ensure that the given tree satisfies some restrictions imposed by its entry that will correctly account for its distributional behavior. In the case of GSG, two different triggers are imposed, one that aborts in case a verbal type is present in the tree and one that proceeds to the actions in case an imperative feature is present on the initial type t requiring node. The former will give us proclitic distribution, while the latter enclitic distribution. Furthermore, imperatives in GSG have a trigger, similar to the one we have given for third person accusative clitics in (44), that aborts in case any fixed nodes are present in the tree. This will correctly predict that enclisis is categorical with imperatives in GSG. The entries for an indicative monotransitive and an imperative monotransitive verb are shown below:

(63) Entry for an indicative monotransitive verb

IF	$?Ty(t)$
$THEN$	$put(Tns(T)), Mood(Ind);$
	$makego(<\downarrow_1>); put(?Ty(e \rightarrow t));$
	$makego(<\downarrow_1>); put(Fo(verb')),$
	$Ty(e \rightarrow e(\rightarrow t), [\downarrow]\bot);$
	$go(<\uparrow_1>), makego(<\downarrow_0>); put(?Ty(e));$
	$go(<\uparrow_0>)(<\uparrow_1>), makego(<\downarrow_0>);$
	$put(Ty(e), Fo(U_{pers-num}), ?\exists x.Fo(x))$
$ELSE$	$Abort$

(64) Lexical entry for an imperative monotransitive verb [30]

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^+]?\exists \mathbf{x}.Tn(\mathbf{x})$
	$THEN$	$put(Mood(Imp));$
		$makego(<\downarrow_1>); put(?Ty(e \rightarrow t));$
		$makego(<\downarrow_1>); put(Fo(verb')),$
		$Ty(e \rightarrow e(\rightarrow t), [\downarrow]\bot);$
		$go(<\uparrow_1>), makego(<\downarrow_0>); put(?Ty(e));$

[30] Both verbs impose a restriction with respect to the update of the subject node metavariable. An indicative verb will project person and number restrictions $Fo(U_{pers-num})$ while an imperative verb presumably only a number restriction $Fo(U_{num})$.

$go(<\uparrow_0>)(<\uparrow_1>), makego(<\downarrow_0>);$
$put(Ty(e), Fo(U_{num}), ?\exists x.Fo(x))$

$ELSE$ $Abort$

$ELSE$ $Abort$

The restriction $[\downarrow^+]?\exists \mathbf{x}.Tn(\mathbf{x})$ in the lexical entry for the imperative verb will prevent it from being parsed if any node with a proper treenode address exists below the initial node when this comes into parse. This means that such a verb won't be able to get parsed after a clitic or in general any element that will project a fixed node(s) is parsed[31]. Example (58) is ruled out with our new triggering restriction. It is easy to see why. The accusative clitic will have built the 01 and 010 node when the imperative verb will enter the parsing procedure. Two nodes with proper treenode addresses will exist, and thus parsing of the imperative verb will be blocked.

Concluding this section we should note that the explanation we provide with respect to the emergence of the clitic system of GSG cannot be fully justified, unless a thorough investigation of the transition process from regional dialects of Medieval Greek that gave rise to the dialect under question has been done. Specifically, within such an approach, one should expect to find a stage in GSG or its ancestral Medieval dialect where proclisis gets generalized to more environments and enclisis is gradually reduced. Indeed, this is what we find in 18th century Spanish (Bouzouita 2008a, 2008b). Such an investigation is still in its first stages and we cannot say anything yet. We won't pursue this issue further, since firstly it is not our intention to give a full diachronic account of the facts in GSG and secondly as we've said earlier we have not yet the results of an investigation regarding the Medieval clitic system of GSG.

6. Ordering of a sequence of two clitics

As we've already mentioned, GSG exhibits strict DAT - ACC[32] order in both imperative and non imperative environments. Examples (7), (8) and (11), (12) repeated here as (65), (66) and (67), (68) respectively, clearly illustrate the latter fact:

(65) *Tu* *to* *doka.*
him$_{him-dat}$ it$_{cl-acc}$ gave
'I gave it to him.'

(66) **To* *tu* *doka.*
it$_{cl-acc}$ him$_{him-dat}$ gave
'I gave it to him.'

(67) *Do* *mu* *to.*
give$_{Imp}$ me$_{cl-dat}$ it$_{cl-acc}$
'Give it to me.'

(68) **Do* *to* *mu.*
give$_{Imp}$ it$_{cl-acc}$ me$_{cl-dat}$
'Give it to me.'

The first thing we need to do in order to capture DAT-ACC order, is to think how a lexical entry for genitive clitics should be. Accusative clitics are always associated with the direct object node, so their position is fixed in the tree. For genitive clitics on the other hand, one might argue (at least for GSG and SMG) that their interpretation is ambiguous between a direct and an indirect object interpretation. Constructions involving the verb *areso* 'like' are classic examples of constructions requiring their sole object to be marked for dative. The following example is grammatical in both *SMG* and *GSG:*

[31] A welcoming result is that auxiliary verbs will be predicted to be impossible with imperatives, assuming that auxiliaries will project fixed nodes after they are parsed. See Chatzikyriakidis (In preparation) for an analysis of auxiliaries in DS.

[32] We note once again that the two terms dative and genitive will be used interchangeably to denote the indirect object function. The reason for that is that dative is morphologically realized as genitive in GSG.

(69) *Mu* *aresi*
me$_{cl-dat}$ like
I like that

A small number of other monotransitive verbs also subcategorize for dative in both GSG and SMG:

(70) *Tu* *milo*
him-$_{cl-dat}$ talk
I talk to him

(71) *Tu* *tilefonisa*
him$_{cl-dat}$ called
I called him

This positioning duality of dative clitics can be accounted assuming that genitive clitics as opposed to accusative clitics are structurally underspecified with respect to the position they will eventually occupy in the tree structure. However, there are a number of restrictions as regards these positions. The first one is that the clitic must be interpreted locally. The other restriction is that dative clitics can never function as subjects. These two facts have rather straightforward solutions within DS. The first restriction can be implemented in DS by encoding the rule of *LOCAL ADJUNCTION in the THEN part of the clitic's entry. This will ensure that the clitic will be underspecified but will however fix its position locally[33]. On the other hand, if we want to exclude clitics from being interpreted as subjects, we need to posit a variant of the *LOCAL ADJUNCTION rule that will effectively do that. The underspecified address $<\uparrow_0><\uparrow_1^*>$ of *LOCAL ADJUNCTION is further restricted to $<\uparrow_0><\uparrow_1><\uparrow_1^*>$, in order to avoid clitics being updated in the subject node. The next thing we have to think is how we will ensure that dative clitics are always first in a sequence of two clitics. Assuming that all preverbal arguments in GSG will use one of the *ADJUNCTION or LINK rule variants to get parsed and that accusative clitics will always project fixed structure, the restriction ($[\downarrow^+]?\exists\mathbf{x}.Tn(\mathbf{x})$) we have used in the first entry we have given for the 3rd person accusative clitic *to* 'it' will give us the ordering facts. Putting all these assumptions together we get the following lexical entry:

(72) Lexical entry for the first person dative clitic *mu* (preverbal cases only)

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^+]?\exists x.Tn(x)$
	$THEN$	$makego(<\downarrow_1><\downarrow_1^*>), makego(<\downarrow_0>);$
		$put(Fo(V_{Speaker'}), Ty(e), ?\exists x.Fo(x));$
		$gofirst(?Ty(t))$
	$ELSE$	$Abort$
$ELSE$		$Abort$

(73) Lexical entry for the first person dative clitic *mu* (imperatives included)

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^+]?\exists x.Tn(x)$
	OR	
	IF	$Mood(Imp)$
	$THEN$	$makego(<\downarrow_1><\downarrow_1^*>), makego(<\downarrow_0>);$

[33]The rule says that the node where the clitic is, is a node where one step across the 0 node must be taken in order to be reached. This means that the clitic will be always interpreted as an argument of the local domain. The clitic cannot extend to another domain since a different domain will either involve a LINK structure or more than one steps across the 0 daughter relation to be taken. See Cann et al. (2005) for a definition of locality in DS.

		$put(Fo(V_{Speaker'}), Ty(e), ?\exists x.Fo(x))$;
		$gofirst(?Ty(t))$
	$ELSE$	$Abort$
$ELSE$		$Abort$

Given the above entry, it is now a good chance to test the two alternative entries for the third person accusative clitic ((56) and (57)) against the data. At a first glance, it seems that both the entries will give us the correct results with respect to DAT - ACC ordering. Assuming a dative clitic has been parsed first, the triggering restrictions of both accusative entries seem to be satisfied. The dative clitic, being an unfixed node, will satisfy the $[\downarrow^+]?\exists \mathbf{x}.Tn(\mathbf{x})$ restriction and thus an accusative clitic will be able to get parsed after it. On the other hand, since the dative clitic won't project any type value in any of the functor nodes, the second restriction is also satisfied ($[\downarrow^+_1]?\exists \mathbf{x}.Ty(\mathbf{x})$). Thus, it seems that both entries we've given for the third person accusative clitic would work. Taking a closer look at the triggers however, someone will realize that this is not the case, and in fact only the second entry is able to capture DAT - ACC order. Let us explain. The restricted version of *LOCAL ADJUNCTION we've given in the THEN part of the entry for the dative clitic specifies that the parser should construct the 01 node followed by the construction of an unfixed node which is an arbitrary number of steps below the 1 relation, followed by a step down the 0 relation. This means that the parser will always construct the 01 node. What effectively happens in that case is, that even though we have an unfixed node projected by the clitic, a fixed node is projected too. If however the parser always builds the 01 node in parsing a dative clitic, then the triggering point of the first entry we have given for the 3rd person accusative clitic ($[\downarrow^+]?\exists x.Tn(x)$) won't work, since a fixed node will have already been constructed, i.e. the 01 node. No problem arises for the second entry we have given, since no type value will exist in any of the functor nodes after a dative clitic has been parsed. We will thus keep the second alternative for the third person accusative clitic, even though it may seem nicer from a framework internal point of view to have the same restriction for both clitics. We will see the relevance of keeping this second alternative when we will discuss 1st/2nd person accusative clitics.

What is left now, is to see whether the above lexical entry can capture DAT-ACC ordering with imperatives as well. It is easy to observe that this is not the case. Nothing stops a dative clitic to be parsed after an accusative clitic has already done so in an imperative construction. Indeed, this is the case for SMG where clitic ordering in imperatives is free. The above lexical entry will thus work for SMG but not for GSG. A minimal modification in the entry can however treat this overgeneration:

(74) Lexical entry for the first person dative clitic *mu* (imperatives included)

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^+]?\exists x.Tn(x)$
	OR	
	IF	$Mood(Imp), [\downarrow^+_1][\downarrow_0]?Ty(x)$
	$THEN$	$makego(<\downarrow_1><\downarrow^*_1>), makego(<\downarrow_0>)$;
		$put(Fo(V_{Speaker'}), Ty(e), ?\exists x.Fo(x))$;
		$gofirst(?Ty(t))$
	$ELSE$	$Abort$
$ELSE$		$Abort$

The restriction $[\downarrow^+_1][\downarrow_0]?\exists\, \mathbf{x}.Ty(\mathbf{x})$ requires that all object nodes should bear a type requirement. In case an accusative clitic is parsed, this requirement won't be satisfied since the accusative clitic will project a type value in the direct object node. Note that preverbal objects or preverbal strong pronouns are not excluded. Assuming that preverbal objects are parsed using one of the ADJUNCTION rules with MERGE taking place after the verb has been parsed or via LINK in which case we are dealing with a different tree structure not accessible by the modalities given, no such problem arises. Notice that this triggering restriction actually says that the clitic should be the first fixed argument in the tree structure. In that respect it looks like a more specified version of the $[\downarrow^+]?\exists \mathbf{x}.Tn(\mathbf{x})$ restriction. The entries for the rest of the singular dative clitics are identical

to the one we've given above, provided we do the necessary changes regarding the presuppositions the Fo metavariables have [34].

7. The person case constraint

The PCC is a phenomenon spread in a wide range of both related and unrelated to each other languages (Spanish, Italian, Bantu Languages,Kiowa, Georgian, Basque to name a few). Various accounts have been given in the literature (Bonet, 1991, 1994; Haspemath, 2004; Anagnostopoulou, 2003, 2005; Adger and Harbour, 2007; Ormazabal and Romero, 2007, among others). We briefly discuss two of the most recent syntactic accounts given before moving on to the analysis we propose.

7.1. Anagnostopoulou(2003, 2005), Adger and Harbour (2007)

In Anagnostopoulou (2003,2005), the PCC is the result of feature checking failure against one functional head. Both clitics have to check their features against one functional head, the latter bearing a number and a person feature. Dative clitics bear person features but not number features, first - second person accusative clitics bear both number and person features and lastly third person accusative clitics bear only number features. Assuming checking against one head which can check number and person features once, the only licit combinations are the ones where a 1st/2nd person accusative clitic does not co-occur with a dative clitic. In a similar vein, Adger and Harbour (2007) argue that the PCC is the result of a first second person accusative clitic carrying participant features and the presence of an Appl head. The generalization they propose bans features present in the specifier of a functional head to be used as probes in the complement domain of that same head:

(75) **Adger and Harbour's Generalization**

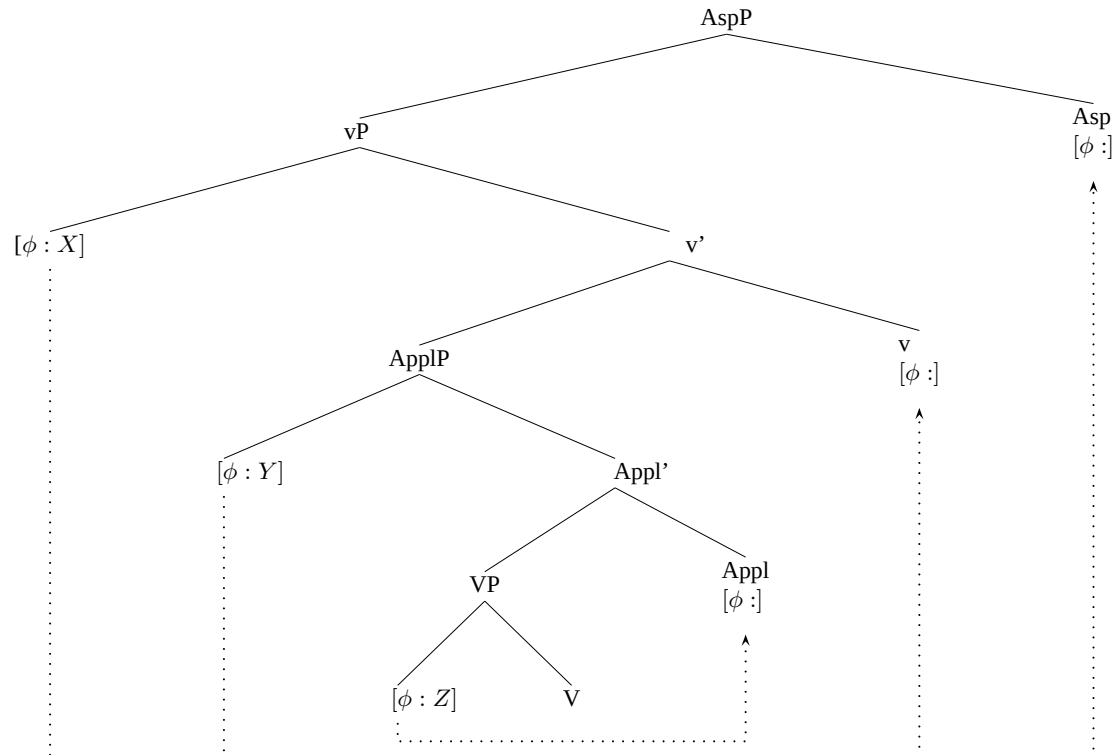
The requirements which a functional head requires its specifier to bear cannot be used as probes in the head's complement domain.

A first or second person accusative clitic is then excluded when an APPL head is present (i.e. in ditransitive constructions), since the participant features of such a clitic will remain unchecked assuming (75). The following tree diagram represents a ditransitive construction in Kiowa [35]:

(76)

[34] Notice that ordering phenomena are dealt inside the lexicon, i.e. by triggering restrictions in the lexical entries and not via general computational rules. This is a conscious decision, since we do not believe that some sort of universal clitic ordering exists. We would expect a number of other languages with similar clitic phenomena to be dealt within the same analysis but we do not want to posit any strong universal ordering constraints for clitic sequences, at least for the purposes of this paper. The interested reader is however directed to Manzini and Savoia (2004) for an interesting discussion plus references on the clitic ordering issue.

[35] Kiowa is verb final. With the obvious modifications the tree diagram also applies to MG and Romance.



Each argument as shown above is checked against the closest c-commanding head. Thus, the direct object is checked against Appl, the indirect object against v and the subject against Asp. In case an applicative head is present, its specifier will contain participant features. However, this will exclude the possibility of the Appl head to probe for participant features in its complement domain, thus the PCC.

Both the analyses presented share the intuition that the PCC is caused by feature checking failure. What is however problematic is whether these features actually exist and if they do, how does someone decide which features to attribute to which clitic. For example, Anagnostopoulou(2003), (2005) assumes that third person dative clitics contrary to third person accusative clitics do carry person features but this person feature they carry is specified as minus (-). In the case of third person accusative clitics no such feature exists. The plausible question to ask then, is what is the difference between absence of a feature and its negative specification and why two different specifications with respect to person have to be made for the two clitic forms. If these specifications are given as such to maintain the proposed analysis, then the generality of the account is altogether collapsing. At the moment, we do not find any other principled reason besides such a move. The same reasoning applies to the assumption that dative clitics are defective heads and as such they do not check number features in virtue of these not being being accessible for checking. This latter assumption is based on participial agreement data where dative clitics do not trigger participial agreement. However, this last assumption has already been criticized by Bonet (2007: footnote 14) for Catalan where only third person accusative clitics and not first second person accusative clitics trigger participial agreement, and thus such evidence cannot be decisive.

Accordingly, in Adger and Harbour (2007) dative clitics are all assigned a participant feature. This is based on the assumption that all indirect objects are animates. However, we believe that this is a very strong claim to make at least for MG even though there is definitely a preference for animate indirect objects. However, constructions with an inanimate indirect object are perfectly grammatical in MG. There is a tendency for animate indirect objects but this fact remains a tendency, not a categorical restriction[36]:

(77)

Tis	eδose	mia	klotsia	(tis	kareklas).
her$_{cl-gen}$	gave$_{past-3rd-sg}$	a$_{acc}$	kick$_{acc}$	the$_{dat}$	chair$_{dat}$

'He kicked the chair.'

[36]The same problem is reported for Catalan by Bonet (2007) in discussing the same analysis.

(78)

Tis	eδose	mia	klotsia	(tis	Marias).
her$_{cl-gen}$	gave$_{past-3rd-sg}$	a$_{acc}$	kick$_{acc}$	the$_{dat}$	Mary$_{dat}$

'He kicked Mary.'

Examples where the doubled inanimate NP is not present but is however present in the immediately preceding context are also grammatical. This should not be the case according to Adger and Harbour (2007) since inanimate objects do not bear participant features:

(79)

A:	Pos	egine	etsi	to	vivlio?	B:	Tu	eδosa	mia	klotsia	kata	lathos.
	how	happened	that	the	book		it$_{cl-dat}$	gave	a	kick	by	mistake

A: 'Why is the book like that? B: I kicked it by mistake.'

(80)

A:	Pos	ton	halases	ton	ipologisti	sto	grafio?	B:	Apla,	tu	esteila	enan	io.
	how	it$_{cl-acc}$	damaged	the	computer	in-the	office		simply	it$_{cl-gen}$	sent	a	virus

A: 'How did you manage to destroy the computer in the office? B: I just sent it a virus.'

We believe that even though a number of ditransitive constructions involving inanimates are somewhat degraded compared to the ones involving animate NP's, a generalization banning inanimates from ditransitive constructions is on the wrong track. What exactly is going on in these constructions is something that we do not know since the data are far from being clear cut. For example, there are a number of constructions involving inanimate indirect objects that are if not sharply ungrammatical, question mark grammatical. Substituting the dative with the preposition *se* 'to' plus an accusative NP, the sentence becomes grammatical. The peculiar thing is that a dative clitic can be used to refer back to the PP construction[37]:

(81)

A:	???Δose	mia	efkeria	tis	/*delta*imokratias.	B:	Θa	tis	δoso.
	give	a	chance	the$_{dat}$	democracy$_{dat}$		FUT	her$_{cl-dat}$	give-I

A: 'Give democracy a chance. B: I will.'

(82)

A:	???Δose	mia	efkeria	sti	δimokratia.	B:	Θa	tis	δoso.
	give	a	chance	to-the$_{acc}$	democracy$_{acc}$		FUT	her$_{cl-dat}$	give-I

A: Give democracy a chance B: I will.

Further research is needed in order to understand what is the exact correlation between animacy and double object constructions. It is clear to us however that a strong generalization like the one given by Adger and Harbour (2007) cannot be maintained. In that respect, at least for MG, the assumption that all indirect objects are interpreted as animates is rather dubious.

7.2. Ormazabal and Romero - 2007

Ormazabal and Romero (2007) dissociate the PCC into two different, according to them, phenomena. On the one hand, there is a universal tendency of object agreement sensitivity to animacy while on the other hand there is a restriction on agreement with multiple objects. Ormazabal and Romero (2007) go through data from a number of languages arguing that the PCC, should be split into the following two generalizations :

(83) **Object animacy realization** *Object relations, in contrast to subject and applied object relations, are sensitive to animacy.*

(84) **Object agreement constraint**

If the verbal complex encodes verbal agreement, no other argument can be licensed through verbal agreement.

[37] An anonymous reviewer mentions that (81) improves if the order of the two objects is switched. We do not see any difference in grammaticality but certainly this is something that needs to be further checked. The reviewer also notes that the example in question is not that bad as it is. If this is so, then our claim that the animacy restriction with indirect objects is a preference and not a constraint is further vindified.

In particular, the above two generalizations are argued to be adequate enough to capture the complexity that the PCC exhibits. Ormazabal and Romero (2007) predict that in clitic languages where the PCC is active, it should be active only for argumental clitics. In that respect, in a construction where the dative clitic is a non - argumental clitic, say an ethical dative, the PCC should be inactive. Indeed that is what we find in Spanish. However, things are not the same in SMG and GSG since the PCC remains active with ethical datives as well. The examples below from SMG clearly exemplify the latter claim:

(85) *Mu* *ton* *skotosan.*
me$_{cl-dat}$ him$_{cl-acc}$ killed
'They killed him (and I'm affected by it).'

(86) **Mu* *se* *skotosan.*
me$_{cl-dat}$ you$_{cl-acc}$ killed
'They killed you (and I'm affected by it).'

Speakers of GSG indicated the same for GSG. Ormazabal and Romero's (2007) generalizations are inadequate with respect to SMG and GSG, since their prediction is that the PCC should not be active with ethical datives in those two dialects. One other further issue we need to discuss with respect to Ormazabal and Romero (2007) is the account they give regarding the third person Spanish clitic *lo*. Since their second generalization does not allow two objects to agree with the verb, they argue for a non - agreement, determiner - like analysis for *lo* to explain the grammaticality of sentences involving two argument clitics, where the accusative clitic is *lo*.They use a number of examples to prove that *lo* does not agree with the verb. They present data from doubling, to prove that *lo* is indeed a different kind of clitic compared to dative or 1st/2nd person accusative clitics. The latter can only double in particular environments, and when they do they must be interpreted as [+]specific. However, extending Ormazabal and Romero's (2007) explanation to MG,once more things don't seem to work. The reason is that the equivalent MG clitic for *lo*, at least for SMG[38], can double at least the same phrases that first and second person accusative clitics do. The first two sentences are ungrammatical in Spanish, but however grammatical in SMG

(87) *To* *iδame* *to* *spiti.*
it$_{cl-acc}$ saw the house
'We saw the house.'

(88) *Tus* *idame* *merikus* *sto* *maγazi.*
them$_{cl-acc}$ saw some in shop
'We saw some of them in the shop.'

(89) *Mas* *fantazomai* *merikus* *sti* *filaki.*
us$_{cl-acc}$ imagine some in prison
'I imagine some of us in prison.'

(90) *Tha* *sas* *do* *merikus* *avrio.*
FUT you$_{cl-acc}$ see some tomorrow
'I will see some of you tomorrow.'

As for specificity, even though it has been argued that indeed this is the case for MG doubling constructions, (Iatridou, 1995; Anagnostopoulou, 1997) there are plenty of sentences involving a bare quantifier plus doubling which do not exhibit any specificity effect or optionally exhibit a specificity effect[39]:

(91) *Polus* *anθropus* *den* *tus* *enδiaferi.*
many people NEG them$_{cl-acc}$ care
'Many people do not care' (specific or non - specific).

[38]I do not have any data from GSG regarding this construction. The clitic doubling data I have so far suggest that GSG shows pretty much the same behaviour with respect to clitic doubling. However, this needs to be further checked. CG on the other hand follows the same pattern as SMG (Chatzikyriakidis, In preparation).

[39]The same observations are noted in Kallulli (2000).

(92) *Mia kokini bluza ti θelo afton ton kero.*
one red blouse her$_{cl-acc}$ want this the time
'I need a red blouze at this time of the year' (specific or non - specific).

(93) *Merika pota ta pino apopse.*
some$_{acc}$ drinks$_{acc}$ them$_{cl-acc}$ drink tonight
'I would have some drinks tonight' (specific or non - specific).

(94) *Mia bluza θa tin agoraza.*
one blouse FUT her$_{cl-acc}$ bought
'I would buy a red blouse' (non specific only).

(95) *Opjoδipote traγuδi tu to sfiriksis, tha to peksi.*
whichever song him$_{cl-dat}$ it$_{cl-acc}$ whistle, FUT it$_{cl-acc}$ play
'He will play any song you will whistle to him.'

The above examples from SMG suggest that n determiner like analysis of third person accusative clitics loses its empirical support and cannot maintained at least for a number of MG dialects including the dominant SMG variety. What we will attempt to do next, is to present an account of PCC within the DS framework based on the same assumptions we have already made in our analysis of clitics so far.

7.3. A DS analysis

We've already given the entries for dative and 3rd person accusative clitics. Since we want to address the PCC, what is left is to give the lexical entries for 1st/2nd person accusative clitics. Remember that when we were discussing the entries for 3rd accusative clitics, two alternative entries were given (examples (56) and (57)) until one of them was rejected when the entries for dative clitics were eventually given. The acute reader will remember that the reason for excluding the first of the two entries, i.e. the entry shown in (56), was that it fallaciously predicted sentences like (7) repeated below as (96) to be ungrammatical:

(96) *Tu to doka.*
him$_{him-gen}$ it$_{cl-acc}$ give$_{Past-1st-sg}$
'I gave it to him.'

This is exactly what we need in order to capture the PCC. We need an entry that will ban any combination of a 1st/2nd accusative clitic with a dative. In that respect, the first entry we've given for third person accusative clitics turns out to be relevant for the PCC. We will in that respect posit a lexical entry for the 1st/2nd person accusative clitics in the same lines we did for the first of the two entries we proposed for 3rd person accusative clitics. The entry is shown below:

(97) Entry for the 1st person accusative clitic *me* (imperatives included)

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^+]?\exists x.Tn(x)$
	OR	
	IF	$Mood(Imp), [\downarrow^+_1][\downarrow_0]?Ty(x)$
	$THEN$	$makego(<\downarrow_1>), makego(<\downarrow_0>);$
		$put(Fo(V_{Speaker'}), Ty(e), ?\exists x.Fo(x));$
		$gofirst(?Ty(t))$
	$ELSE$	$Abort$
$ELSE$		$Abort$

Notice that both 1st/2nd accusative as well as dative clitics involve the same restriction in their entry. The two clitics compete for the first fixed node in the tree. If there is such a node, neither clitic can be parsed. With this assumption both the *PCC* and ACC-DAT ungrammaticality is captured. On the other hand, the lexical entry we eventually kept for the third person accusative clitic does not have the "first fixed node" restriction but instead posits a different restriction. According to this restriction every functor node must bear a type requirement, i.e. no verb must have been parsed by the time the clitic comes into parse. In that respect, DAT - ACC order with 3rd person accusative clitics is predicted to be grammatical. ACC-DAT order is blocked due to the "first fixed node" requirement that dative clitics bear. Note that 1st/2nd person accusative clitics, like dative clitics, carry an additional restriction to be the first fixed arguments in the tree in an imperative construction. This will capture the PCC effects with imperatives as well. Generalizing we can say that the PCC is the result of competition between 1st/2nd person accusative clitics and dative clitics for the first fixed position. In case of proclisis, this restriction is stated as the first fixed node in the tree. Since imperatives also compete for the first fixed node, the restriction is modified from "first fixed node" in the tree to "first fixed argument" in the tree in enclitic environments. It is obvious however, that the first restriction entails the second i.e. the second restriction can be seen as a more specified version of the first.

One might wonder how can such an account explain the nature of the constraint under consideration. An anonymous reviewer asks for example what do dative and first and second person accusative clitics have in common and thus exhibit the same triggering restrictions. The answer is that identical parsing triggers can be used for a number of elements in DS that do not necessarily have anything in common to each other. For example both a verb and a clitic in GSG will involve the same initial triggering restriction, namely that the pointer should be at a type t requiring node in order for these to be parsed. On the other hand, restrictions like the "first fixed node" restriction can be seen as parsing shortcuts that cover a wide range of phenomena without actually referring to any of them. Such a restriction will capture the ordering facts with respect to clitics themselves, the proclitic nature of clitics in non imperative environments while it will predict preverbal objects or subjects to be possible assuming that the latter will be parsed as either unfixed nodes or LINKed structures. Under the assumption that the parser is the grammar, we actually expect these parsing shortcuts to exist. We furthermore expect some of these parsing shortcuts to be the result of routinization processes minimizing parsing costs. In effect, a number of different phenomena related to clitic positioning boil down to one single parsing restriction, a parsing facilitator, facilitating the parsing process without actually referring to the phenomena it is meant to capture.

The above discussion naturally poses another very basic question. How general the PCC is, and if a great deal of generality is indeed involved, how does the proposed analysis account for it? In the literature two versions of the PCC are used. One is the strong version, the version that GSG clitics exhibit. There is however another version the weak version of the PCC according to which, 1st/2nd person accusative clitics cannot combine with a 3rd person dative clitic but they can do so with a 1st/2nd person dative clitic. This is true for languages like Catalan even though disputed by some speakers (Bonet, 2007)[40]:

(98)

Te	m'	ha	recomanat	la	Mireia.
te_{sg}	me_{sg}	has	recommended	the	Mireia

a. 'Mireia has recommended me to you.'
b. 'Mireia has recommended you to me.'

There are furthermore languages like Romanian that obey none of the two versions of the PCC (see (Savescu, 2007) for the relevant data). These types of languages pose a serious threat to analyses that predict PCC to be a universal constraint. What we rather find, is person restriction tendencies, found in many clitic languages. We should also not forget that there are clitic languages that do not exhibit any person restrictions like Polish (Franks and King, 2000; Haspemath, 2004)[41]. Our claim is that person case restrictions are also the result of routinization. This means that some combinations of clitics became calcified, routinized clusters while others did not. Since in order for routinization to occur, a relative high frequency of such expressions must occur, we concur with Haspemath (2004) that one of the reasons for such restrictions could be frequency

[40] Example from Bonet (2007).

[41] An anonymous reviewer asks whether Polish is a clitic language at all. It is true that polish clitics behave differently with respect to positioning to other clitic languages like Romance or other West Slavic and Slavic in general languages (see Franks and King, 2000). However, such a fact does not mean that Polish is not a clitic language. We should not forget that the term "clitic" is an umbrella term for elements that cannot be classified as either words or affixes. In that respect, it is normal to expect the elements that are characterized as clitics to have different properties in different languages, leaning more or less towards words or affixes in each case. The exact differences of Polish clitics with other clitic systems is well beyond the scope of this paper. The interested reader is however directed to Franks and King (2000) for a relevant discussion.

rates[42]. What other reasons may lie behind such restrictions is something that we do not know. We strongly believe however that person is not the cause of such a phenomenon. The fact that some clitic sequences are sharply ungrammatical while the individual elements comprising this sequence are perfectly grammatical on their own, suggests that a number of restrictions should be employed in the grammar to capture the phenomenon. Different languages in that respect will require different restrictions in order to capture the relevant facts or the PCC phenomena they might exhibit. There is a great deal of generality associated with the actions the clitics induce in our analysis (check the THEN actions of accusative clitics for example) but the triggering point in each case might be totally different. We believe that triggering points can become, as we've said, parsing heuristics, pure facilitators of the parsing process. In that respect, conditions on tree unfolding or on partial trees are perfectly legitimate. It is a good challenge to check whether our triggering restrictions extend to other languages as well, and if not, what amount of modification will they need to do so. We cannot do that in this paper for obvious reasons of space. We will leave this issue open as a subject of future research. See however Chatzikyriakidis (2006, In preparation), Kempson and Cann (2007), Bouzouita (2008a,b) for DS analyses in other languages or different dialects of MG.

7.4. The case of first and second accusative plural clitics

In GSG, while 1st/2nd person singular clitics are distinctively case marked, i.e. two different forms corresponding to the dative and the accusative clitic exist, the plural forms of these clitics exhibit case syncretism. In that respect two different case markings correspond to one form. The table below shows the relevant facts:

	1^{st}	2^{nd}	3^{rd}
Sg accusative	me	se	ton/tin/to
Pl accusative	ma(s)	sa(s)	tus/tis - tes/ ta
Sg genitive	mu	su	tu/tis
Pl genitive	ma(s)	sa(s)	tos

Syncretized forms of the GSG clitic system can be straightforwardly accounted in DS, by giving a lexical entry within the lines of the analysis of singular dative clitics. This entry will effectively be identical to the one we have already given for singular dative clitics [43] :

(99) Lexical entry for the first person plural dative clitic *mas* (including imperatives)

IF		$?Ty(t)$
$THEN$	IF	$[\downarrow^{+}]?\exists x.Tn(x)$
	OR	
	IF	$Mood(Imp), [\downarrow^{+}_{1}][\downarrow_{0}]?Ty(x)$
	$THEN$	$makego(<\downarrow_{1}><\downarrow^{*}_{1}>), makego(<\downarrow_{0}>);$
		$put(Fo(V_{Speaker'}), Ty(e), ?\exists x.Fo(x));$
		$gofirst(?Ty(t))$
	$ELSE$	$Abort$
$ELSE$		$Abort$

The syncretized forms in that respect can be very easily accounted in DS using the notion of structural underspecification, namely encoding a variant of *LOCAL ADJUNCTION into the clitic's lexical entry as we did in the case of singular dative clitics.

[42]This is however an assumption that must be further elaborated, showing that indeed in older stages of the language the clitic combinations that are now banned, had full pronoun counterparts with lower frequency rates compared to the full pronoun counterparts of legitimate clitic clusters.

[43]There is something we should note however. The entry we have given for singular genitive clitics, i.e. an entry encoding locally restricted structural underspecification, will predict that singular dative clitics will be also able to get parsed as arguments of monotransitive verbs requiring an accusative. There is nothing to stop such a thing within the analysis given. On the other hand we do believe that the analysis given is in the right track. The overgeneration caused by our entry can be easily treated assuming that the verb will impose a some kind of a requirement for a case filter to be found on the relevant node. This case filter will presumably be projected by the accusative clitic but not from the dative clitic. The details of such an analysis are irrelevant to this paper. The interested reader is referred to Chatzikyriakidis (In preparation) for further details on how this can be done.

8. Conclusion

In this paper we've argued for a parsing based analysis for GSG clitics. It was shown that a grammar formalism which assumes incrementality and underspecification to be a part of the grammar formalism itself can help us account for various otherwise problematic phenomena regarding clitics. The proclisis - enclisis alteration was argued to be the result of two distinct parsing triggers being present in the entries for clitics. These two parsing triggers were argued to have derived from a more complex, highly disjunctive entry via a stepwise routinization process in the sense of Pickering and Garrod (2004) and Bouzouita (2008a). In general, we have given an analysis of clitics based on the notion of fixed and unfixed nodes. In that respect, we've argued that dative and 1st/2nd person accusative clitics always compete for the first fixed node in the tree. This immediately gave us the desired results regarding the PCC. On the other hand, 3rd person clitics were argued not to carry such a restriction and thus do not compete with genitive clitics. Note however that this is asymmetrical, because dative clitics do compete with them. Thus, DAT - ACC and ACC- DAT orders are predicted to be grammatical and ungrammatical respectively. Lastly, the syncretised forms for first and second person plural clitics are straightforwardly accommodated in DS by assuming that these clitics actually encode a weaker version of the *LOCAL ADJUNCTION rule, i.e. they project unfixed nodes.

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