Determiner heads as arguments and the Pronominal Argument (macro)parameter[♣]

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ABSTRACT: This chapter looks into Jelinek's Pronominal Argument Parameter and argues it not to predict the existence of languages taking both affixal and phrasal arguments, such as Koranic Arabic, Basso Polesano as well as Greek, Romance and many others. It then goes on to propose an analysis whereby in (at least) these languages all arguments are Determiner heads and that their surface appearance is a result of these Determiner heads' own selectional properties.

1 Introduction

The purpose of this paper is to propose an account of the factors underlying the choice of argument (a phrase or an affix or either) in a natural language. In order to do this, I am going first to argue against an 'on/off' structural parametric approach in sections 3 and 4, after having reviewed the related literature in section 2 below. In section 5 I am going to argue for an analysis along the following lines: only *Determiner heads* (D^0) can be arguments cross-linguistically – whether surfacing with an NP complement or as D^0

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affixes; variation arises exclusively because of different selectional properties of Determiners themselves. After a suggested typological sketch, a conclusion of the discussion follows.

2 DP versus D^0 arguments and parametrisation

Let us consider the English sentences below:

(1) a. [Water] boils at 100° C.

b. [A lawyer] rented the office.

c. Tea is mainly [water].

Considering (1) above, we naturally realise that nominal expressions of some form can serve as *arguments* of verbal predicates. More specifically, in the case of example a., it appears to be the case that a bare noun, *water*, can be a subject. Nevertheless, in the example c., *water* can also act as a predicate. Nominal expressions prima facie appear to be ambiguous between two so different functions: (referential) argument versus predicate; this is certainly an intriguing state of affairs.

Similar considerations have forced Stowell (1991: 209), to formulate the following distinction, in the spirit of Higginbotham (1985):

(2) a. A predicative category may not function as an argument

b. Only a referential category may function as an argument

(3) A lexical predicate may not be the head of an argument

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Both (2) and (3) appear to be interpretive, rather than syntactic, constraints and hence must apply at the level of LF. What they exclude is the possibility of a bare N(P) like *water*, functioning as an argument – as it is by hypothesis a predicative category, like all lexical categories are assumed to be.

Now, if (2) and (3) are true, then (1), containing seemingly bare N(P)s as arguments, *water*, should crash at LF, which is obviously not the case. If we nevertheless take a closer look at the b. example we can immediately realise that the NP *lawyer* is embedded in a phrase headed by the 'indefinite article' *a*. Perhaps *water* under in example a. is also headed by a referential element, albeit a phonologically null one, that denotes type <e> functions and makes *water* a legitimate argument.

In subsequent research the category D(eterminer) was explicitly identified as the 'referential' category in the examples a. and b. of (1). Longobardi (1994) stands out in this line of research and his interpretation of (2) and (3) is given below as (4), from Longobardi (1994: 620), and (5), from ibid. p. 628:

(4) A "nominal expression" is an argument only if it is introduced by a category D.

(5) DP can be an argument, NP cannot

The outcome is conceptually neater: N is a predicative lexical category, D is by definition both a functional item and the locus of reference. Hence, DPs are arguments; in fact, only DPs are arguments, at least *at LF*. This entails that the noun *water* in example a. of (1) is headed by a (phonologically null) D at LF, unlike its predicative instance in example c. The prediction (4) and (5) make for a language like English is that all arguments will be headed by a D head, whether *a*, ∅, *the* or other. The indefinite Determiner *a* agrees (with a Num

head, Ritter 1991) for singular number, whereas the null D ∅ seems to be a 'default' form agreeing for plural and mass number specifications (Delfitto & Schroten, 1991; Longobardi, 1994).

In a parallel strand of research, Jelinek (1995) and Jelinek & Demers (1994) argue for what is known as the *Pronominal Argument Parameter*. They show that in a number of languages, exemplified by Salish, there is no need for full DPs as arguments, because pronominal affixes fulfil the role of arguments instead. Hence, in such languages arguments are *morphological*, affixes, rather than *syntactic*, DPs. What is more, any full DPs in a sentence are adjuncts rather than arguments. Without getting into more detail here – the interested reader is referred to the work mentioned above – we can formulate this state of affairs under (6):

(6) In languages with a positive setting for the Pronominal Argument Parameter, *a pronominal affix can be an argument, DP / NP cannot*.

The tension between (4) / (5) and (6) is evident. First of all, one can no more attempt to formulate (4) and (5) as principles of grammar, in the face of (6) contradicting them. The situation now is that (4) / (5) on the one hand and (6) on the other, each constitute a parametric choice: a language can take *either* full DP arguments *or* pronominal affix arguments. Speakers of languages like English have set the Pronominal Argument Parameter so that their mental grammar abides by (5) and (6): they only have 'syntactic' DP arguments. Speakers of languages like Salish have set this parameter so that their mental grammar only permits pronominal affix 'morphological' arguments.

Now, if Alexiadou & Anagnostopoulou (1998) are correct in arguing that pronominal affix arguments are D^0 heads, then the intuition behind the Pronominal Argument Parameter can

be sharpened even further: the language learner has to make a parametric choice between DP and D^0 arguments, this is what the contrast between (4) / (5) on the and (6) boils down to. Granting that pronominal affix arguments are indeed D^0 heads, we arrive at the welcome result that all arguments are of category D. We can then recast (4) as (7) below and the Pronominal Argument Parameter as (8):[1]

(7) An expression is an argument only if it is of category D.

(8) The choice between D^0 and DP arguments is a matter of an on/off parametric choice.

Given the short discussion above, (7) and (8) appear to be adequate statements and can readily replace (4) / (5) and (6): all arguments will be of category D; whether they have phrasal (XP) or head (X^0) standing is a matter of parametric variation. At a more abstract level, (macro)parameters like the Pronominal Argument Parameter in (8) can capture the possible search space of a learner when constructing a mental grammar, assuming now that (7) has the status of a principle of Universal Grammar.[2] The theoretical advantage of a macroparameter is that a host of properties automatically follows from its setting, like in the case of the more familiar Null Subject (macro)parameter: null subjects entail lack of *that-trace* effects, the possibility of VS orders, the absence of (overt) expletive subjects etc. Languages with a setting of the Pronominal Argument Parameter for D^0, allegedly also possess a number of properties, reviewed in Davis (2001), some of which are: the existence of full agreement paradigms; the freedom of order between DPs; the possibility of Condition C violations; the lack of Determiner quantifiers; the absence of A-movement, of lexical anaphors and of infinitival PRO.

The above briefly illustrate the conceptual desirability of macroparameters, such as the Pronominal Argument Parameter. The problem is whether they are an accurate description (let alone explanation) of what can be an argument in a given grammar. In the following sections, two groups of problems will be presented regarding the Pronominal Argument (macro)parameter, namely problems of conceptual (section 3) and of empirical nature (section 4).

3 Some conceptual difficulties with the relevance of N to argumenthood

In this section I am going to show that it is not viable to talk of an 'on/off' parameter setting that refers to phrasal levels of arguments (X_0 versus XP). Moreover I am going to show that, even if (9) is plausible, it is also inaccurate.

3.1 Distinguishing between X_0 and XP.

Let us now dwell a bit more on those languages that, according to (8) have an XP setting for the Pronominal Argument Parameter: languages that take phrasal (DP) arguments. To begin, suppose that in such languages, say English, it is the *whole* DP that is an argument, not a specific subconstituent thereof, whether head or phrase. In more detail, such a requirement would not only entail that NPs or NumPs cannot be arguments, but also that bare Ds cannot be arguments in English either.

So, it is the DP as a whole that satisfies a particular function of the predicate *or* is assigned a thematic role *or* can be part of an argument structure. Assuming for exposition the structure of a simple DP to be as under (9), we have to affirm that neither of its subconstituents can be an argument on its own, they can only be an argument together and

as a set when c-commanded by D.[3] In any case and as discussed above, an N(P) cannot be an argument.

(9) [$_{DP}$ [D *the*] [[$_{NumP}$ [A *cynical*] Num] [$_{N}$ warmongers]]]

The obvious question is how to implement such a requirement. Is it the case that the internal structure of the DP can be transparent for the purposes of argumenthood? This is a rather undesirable assumption, at least in the theoretical framework employed here, because a requirement that a syntactic argument be a DP, instead of a 'solitary' D head, is not easy to formulate in a satisfactory manner. A serious problem with transparent DPs for the purposes of argumenthood is that a mechanism able to look into a constituent's structure at LF, inside the complement of D in our case, probably violates the Phase Impenetrability Condition (Chomsky, 2001), or its variants: assuming a DP is a phase, only its specifier and its head D should be externally visible.

Suppose now that the transparency issue is somehow resolved – possible ways to do so will be proposed below – and that it is indeed possible for an LF mechanism relevant to assigning argument status to see into a DP. A real problem would now be what such a mechanism would look for. We would certainly like it to scan for particular features, telltale signs of the presence of more categories in the complement of D. Which features, though? Obviously not number features, or gender features, as these can be absent and cannot be credibly related to argument status. Similarly, the hypothetical aforementioned mechanism cannot look for descriptive features of N either, viz. concept-denoting features, as these are altogether absent from pronominal and elliptical DPs (i.e. DPs without a descriptive noun). Hence, we would be forced to say that it is the categorial feature [N] of a

noun that makes a DP appropriate for argumenthood in English.[4] Thus, a D and a categorial feature [N] can make an argument in English.

How is this feature going to be made visible? The visibility of N at LF can be secured by means of a syntactic mechanism like movement of N-to-D (Longobardi, 1994), of NP to SpecDP (cf. Campbell, 1996), feature movement or percolation of [N] features.[5] Suppose now the way the phrasal status of an argument in English is 'secured' is by N-to-D movement. In other words, an argument in English must be an object of the type $[_D$ [N] D], the result of X^0 movement or feature movement. We could now say that although an N con nstituent can never be an argument by itself, it may enable a D constituent to become one. Additionally, in 'pronominal affix argument' languages, this option should be banned. (10) below summarises this hypothetical state of affairs, a recasting of (7) and (8) respectively:

(10) a. An expression is an argument only if it is of category D.

b. The choice between D^0 and $[_D$ [N] D] arguments is a matter of an on/off parametric choice.

Such an analysis could be theoretically adequate and it would entail the following consequence of (7)/(8)= (10): in 'pronominal affix argument' languages, all arguments are *pronominal*: they refer to, but cannot denote, entities.[6] In these languages, the denotation of an argument is guaranteed by linking the pronominal D affix (possibly via an A'-chain) with an adjunct nominal phrase. For the purposes of the discussion here, I shall call the linking between a pronominal D affix and a co-referent nominal phrase ***doubling***, remaining here agnostic on whether it invariably involves A or A' dependencies. We will briefly return to doubling in sections 4 and 5 and endnote 20; for the time being, observe that all referring arguments in 'pronominal affix argument' must be somehow doubled. So,

by clause b. of (10), in DP argument languages arguments must always involve a noun (a categorial feature [N]) on their D, whereas in D^0 argument ones it must never involve a noun (or an [N] feature).

But, is it the case that in DP argument languages arguments always involve a noun? I will show this to be dubious in the following subsection.

3.2 Clausal arguments

In (allegedly) DP argument languages like Modern Greek, *clauses* headed by a D can appear as arguments (11). This state of affairs is obligatory for clausal arguments of prepositions, as in (12): see Roussou (1991).

(11) Idha (to) ti eyine
saw.1stSG the what happened
'I saw what happened'

(12) Apo *(to) oti thimoses…
from the that got.angry.2ndSG
'From that you got angry…'

It is not the case that in (11) and (12) above the D *to* c-commands any nominal constituents that could move to it via either head movement or feature movement: the absence of a noun does not prevent D from being present and apparently selecting a CP. Nevertheless, both D+CP elements function as arguments and, as mentioned, a Determiner is obligatory in cases like (12), when the D+CP element is the argument of a preposition.

Turning now to a prototypical DP argument language, consider POSS-*ing* gerunds in English. Whichever the accurate analysis for them is,[7] most researchers would agree that they include no lexical noun whatsoever. Descriptively, they appear to be made up of a

higher nominal functional field and a lower verbal one but no lexical noun whatsoever, as Borsley & Kornfilt (2000) point out. Now, given all the above discussion and (10) in particular, we would expect all English argument Ds to be associated with Ns and be of the form [$_D$ [N] D]. Nevertheless, this plainly appears not to be the case: Determiners like possessive *'s* (or the empty D it sometimes identifies) can still head gerund arguments despite their not being associated with a local N / NP – hence not being of the form [$_D$ [N] D]:

(13) Philip resented [John's breaking the £300 vase]

An even more potent piece of evidence against the relevance of nouns or [N] for argumenthood in English is, unsurprisingly, the fact that CP arguments do exist in that language: sentences like *I saw* [*what happened*] and *I believe* [*(that) you promised to go*] are perfectly grammatical. If Kayne (1998; 2000) is correct that C(omplementisers) are in fact Ds, then the irrelevance of nominal expressions to argumenthood can be established in a plausible way but even if Cs are not Ds, it is still the case that both C and D are, in a sense, 'referential', as D denotes entities and (one of the heads in the complex of) C denotes events (Rizzi, 1997; Roberts & Roussou, 2002).

What emerges from at least the presence of a D without an accessible N in (11) and (12) as well as the presence of a 'nounless' D head *'s* or ∅ in (13) is that D is indispensable for argumenthood, not N. This appears to be the case for both English and Greek.

Details aside, I think the natural conclusion of the discussion above is that, even in DP argument languages, it is D_0 heads that are the actual arguments. Before exploring this claim in more depth, let us now turn to languages that seem to share both pronominal affix

and DP arguments, thus casting doubt on the empirical value of such an alleged on / off parametric choice.

4 Languages with both D^0 and DP arguments.

There appear to exist languages that can take both pronominal affixes and whole phrases as arguments. The existence of such languages certainly weakens the plausibility of an on/off Pronominal Argument Parameter.

4.1 Yagua

Yagua, an Amazonian language studied by Tom and Doris Payne and as reported in Everett (1989), is one of the languages where a verb can have an "agreement marker" or a full DP as a subject argument and doubling is available. Consider the following examples adapted from Everett (1989):

(14) a. Anita síiy
Anita runs

b. sa-síiy
s/he-runs

c. *síiy
runs

d. sa-síiy Anita
s/he-runs Anita

'(Anita) runs'

As illustrated in (14) above, subject drop is only available when *sa*, a 'subject clitic' according to Everett, is affixed: example c. Hence if neither a lexical subject, as in example a, or a clitic, as in example b., are present, the result is ungrammatical. Because Yagua is a doubling language, and *sa* can co-occur with a lexical subject, as in example d., one could possibly argue that *sa* is not the argument in example b., but rather that it licenses a *pro*. Although one of the working hypotheses here is that *pro* must be eliminated, we will have to look into DP argument languages in which nevertheless the 'pronominal affix' can never be doubled by a full DP, thus corroborating our hypotheses that such languages can also take 'pronominal affixes' as arguments. Such 'non-doubling' languages include Koranic Arabic and the North Italian dialect of Basso Polesano.

4.2 Koranic Arabic[8]

In Koranic Arabic *either* an affix *or* a full DP can be the external argument of a verb. In (15) below, the verb *akal* ('ate') has no subject agreement suffix in examples a. and b. and full DP arguments are possible; moreover, they are necessary: a non-agreeing form is ungrammatical without a full DP argument in example c. The mirror image of this situation is example d., where the pronominal affix *-uu* on *akal-uu* makes a full DP subject argument unnecessary and, eventually, redundant: see example e. Doubling is not an option in Koranic Arabic.

(15) a. akal Ali-un al-tofaha-ta
ate Ali-NOM the-apple-ACC
'Ali ate the apple'

b. akal al-tullab-u al-tofaha-ta
ate the-students-NOM.PL the-apple-ACC

‘The students ate the apple’

c. * akal al-tofaha-ta

ate the-apple-ACC

‘S/he ate the apple’

d. akal-uu al-tofaha-ta

ate-3rdSG the-apple-ACC

‘He ate the apple’.

e. * akal-uu Ali-un al-tofaha-ta

ate-3rdSG Ali.NOM the-apple-ACC

‘Ali ate the apple’

A straightforward account for the complementary distribution of full DP subjects such as *Aliun* and the pronominal affix *-uu* is to say that both are equally good subject arguments in non-doubling Koranic Arabic and hence can never co-occur.[9] Koranic Arabic then is sometimes a DP argument and sometimes a D^0 argument language and a first clear-cut problem for the Pronominal Argument Parameter. An equally interesting aspect of (15) is that it cannot be captured with an analysis according to which Koranic Arabic possesses a ‘Romance style’ *pro*. Such an analysis would rule in the ungrammatical example e., given that full subjects and subject morphology can co-exist in Romance, but would erroneously rule out examples a. and b., as subject inflection is obligatory in Romance languages.[10] So, not only Koranic Arabic has *both* D^0 (*-uu*) and DP (*Ali-un*, *al-tullab-u*) arguments, but also it is impossible to analyse as involving a subject *pro* of the more familiar variety.

4.3 Basso Polesano

Basso Polesano (Poletto, 1996; 2000: Ch.2) is similar to Koranic Arabic, but with a twist that brings it closer to English.

(16) a. el magna

CL.MASC.SGeats

'He eats'

b. Mario magna

Mario eats

'Mario eats'

c. *Mario el magna

Mario CL.MASC.SG eats

d. *(a) ze morto do fiole

EXPL is dead.MASC.SG two girls

'There died two girls'

Like Koranic Arabic, Basso Polesano can take a pronominal affix (subject clitic) argument *el*, a D_0 that is morphologically identical to the masculine singular article in example a.; it can also take full DP arguments like *Mario* in example b., but not both, example c. is out: hence Basso Polesano is a non-doubling language. So, Basso Polesano is also quite happy with both D^0 (*el*) and DP (*Mario*) arguments. The fact that like Koranic Arabic it is a non-doubling language makes this characteristic easier to detect. As above, the availability of both types of arguments poses a serious challenge to the Pronominal Argument Parameter.

For the sake of completeness, let us note that Basso Polesano also features an expletive subject clitic *a* which occurs in what looks like English expletive-associate constructions

(16d). In fact, (16d) looks intriguingly like expletive-associate constructions because it lacks any agreement between the verb *ze morto* and the associate, like in most dialects of English: *#There isn't any coins in here*.[11] Hence, although *a* probably satisfies EPP, *do fiole*, a DP, is the argument.

5 Determiners as arguments

From the discussion above we can clearly see that next to languages that have 'syntactic' arguments, DPs, and languages with 'morphological' arguments, pronominal D^0 affixes, there appear to exist languages where both DP and D^0 arguments are legitimate. I think this is enough evidence to call for a reformulation, or altogether scrapping, of the Pronominal Argument parameter, as by now there is no clear distinction between two types of languages each of which set a parameter either as DP or as D^0. This anomaly substantiates the less practical, albeit equally serious, problems, raised in section 3; namely, how to implement the 'visibility' of DP as an XP and how to capture gerund, clausal and D+CP arguments in 'DP argument' languages under the Pronominal Argument Parameter or any of its variants.

Before proceeding with a proposal on how to capture all these different types of arguments, let me point out that the languages previously mentioned are by no means unique in being 'mixed', in having both DP and D^0 arguments. In other words, the 'mixed' case is not as marginal as it might appear, just because only two examples have been reviewed here: Koranic Arabic and Basso Polesano. Rather, these (and surely more) languages are special because not only can they take both DP and D^0 arguments, but also because *they do not double their D^0 arguments*. Hence, they make good examples, as mentioned above. In fact, I believe that *all* 'pro-drop' languages are 'mixed' argument – but doubling – languages, at

least as far as their subject arguments are concerned, and still the list of 'mixed' languages would be far from complete. Regarding 'pro-drop' languages as 'mixed' doubling languages, decisive evidence comes from the Greek example below:

(17) a. ta ferame
CLIT.ACC.PLU brought.1STPLU

b. ta ferame ta vivlia
CLIT.ACC.PLU brought.1STPLU the.ACC.PLU books

c. ferame ta vivlia
brought.1STPLU the.ACC.PLU books

d. (ta) ferame emis ta vivlia
clit.ACC.PLU brought.1STPLU we the.ACC.PLU books

'We brought them / the books'

While the subject argument throughout (17) can be claimed to be the pronominal suffix *–ame*, a D^0, in a post-*pro* analysis like those in Alexiadou & Anagnostopoulou (1998), Manzini & Savoia (2002) and Panagiotidis (2002), the object argument is still a full DP in example c.: *ta vivlia* ('the books'). So, in example c. we can observe a D^0 subject argument, the pronominal suffix *–ame*, and a DP object argument, *ta vivlia*, co-existing in harmony. Of course, Greek, like most pro-drop languages, can also double the subject affix argument with a full DP, like *emis* in example d.[12] Interestingly, as (17) also illustrates, in Greek a putative D^0 object argument, such as the clitic *ta*, can either be the sole object, as in example a., or be doubled by a full DP, as in examples b. and d.

The above spell trouble for the Pronominal Argument parameter: Greek, at least for subjects, can have either a D^0 or a DP argument, or double a former one with a latter. Still,

if the parameter is invalid, how do we explain the existence of ‘pure’ DP argument languages? Why do English, Malay[13] or German lack D_0 ‘morphological’ pronominal affix arguments? Is there a coherent way to capture the existence of ‘mixed’ languages while granting that others exclusively take either DP or D^0 arguments?

5.1 Only Determiners can be arguments

Given that, for the purposes of argumenthood (theta assignment / satisfying predicates / ‘filling in’ argument structure) D_0 can probably not be distinguished from a maximal projection DP and that some languages are quite happy with both DPs and D^0 heads as arguments, we perhaps need to ascribe parametric variation to the lexicon (more on this below). As far as (quasi-)structural requirements on what can be / cannot be an argument, all we have to say is the following, a revised version of (7) and (10):

(18) Only Determiner *heads* (D_0) can be arguments

The idea above may sound quite radical and overly minimalist in spirit. It amounts to saying that in a sentence like *the horses eat the oats*, the two arguments, subject and object, of the verb *eat* are *the* and *the*, rather than *the horses* and *the oats* respectively. Of course such a claim brings DP argument languages on a par with D_0 ones like Lummi. Observe in (19) what the putative arguments (in italics) will be in Lummi (adapted from Davis, 2001: 5) and English respectively, if this claim is correct:

(19) a. mʸ ŁpkPy/qPg½	rŁ	uzʸ	*Lummi*
help-TRAN-1ST PLU.ACC	PAST	2ND SG.NOM	

‘You helped us’

b. *The* horses eat *the* oats — *English*

The statement in (18) is nevertheless conceptually elegant: the Pronominal Argument Parameter (or its equivalents) is done away with and D heads are arguments in all languages, including those that typically *appear* to take full DP arguments. Having supplied some conceptual and empirical evidence *against* the existence of DP arguments and their being the result of parameter setting, let us now explore arguments *in favour of* (18), namely that arguments are Determiner heads universally.[14]

5.2 The semantics of D and argumenthood

Although it is fair to say that Determiners ensure the referentiality of the argument expression, how could we actually make the leap to (18) and claim that in example b. of (19), for instance, *the* rather than *the oats* is the object argument? Given our brief touching upon clausal arguments in section 3.2, we naturally cannot say that arguments in 'DP languages' must have the form of [$_{DP}$ D … NP], but, surely, shouldn't we argue that *something* exist in the complement of D for the whole expression to be an argument? After all **The horses ate the* is ungrammatical. The answer is still negative. In no language is it necessary that anything (do not) exist as the complement of D so that it can be an argument. All that is needed for an expression to function as an argument is to be a D head and this becomes clearer once we review what Determiners denote, their semantic function.

Intricacies concerning definite descriptions and related matters aside (for recent reviews see Uriagereka, 1998; Lyons, 1999), we can follow Heim & Kratzer (1998: 52-3), and take Determiners to be of the semantic type <<e,t>,e>: Determiners are functions taking a predicate, type <e,t>, (the nominal expression, let's say the NP for concreteness) and yield an individual, type <e>. Illustrating, a Determiner like *the* takes a predicate like *key*, true for all keys, and yields the individual referred to by the expression *the key*.[15] The

Determiner thus *denotes* the function <<e,t>,e>. We can plausibly claim that the function the Determiner denotes is satisfied at LF. Crucially, if Determiners denote functions that yield *individuals*, roughly expressions that refer to objects in the real world, we can derive why Determiners are referential, as expressed in studies like Longobardi (1994). Although the D crucially depends on some kind of predicative expression in its complement,[16] it should be clearer by now that the actual *Determiner head is the locus of referentiality*, it is the D that denotes the argument, an expression of type <e>. So, although D heads do depend on their complement for a predicate which will be true for the entity they denote, it is them that are the real arguments, as they encode referentiality by actually denoting the entity the whole DP is about.

In other words, the function the D denotes *is* the argument, rather than either the nominal predicate (NP or N) this D depends on, or the combination of the two (D *and* N).

5.3 Parametric variation without a Pronominal Argument parameter

What must now be addressed is how we can capture the fact that some languages take only DP arguments while granting (18). Before addressing the existence of 'DP argument' languages, recall the existence of 'mixed' ones, (at least) two of which were presented in section 4. The obvious way to capture all this variety, while not overlooking the robust tendency of a lot of languages to take DPs as arguments, is to express variation in terms of a parameter, albeit a parameter in the lexicon. In other words, siding with Borer (1984), Wexler & Manzini (1987), Ouhalla (1991), Chomsky (1995) and others, I argue that there exist no structural parameters but, rather, that parametric variation is in fact due to the (non)availability of certain lexical items in the lexicon and their properties.

What this boils down to in the case of the D^0 versus DP argument is the availability of a certain kind of Determiners in a given grammar. As noted in Jelinek & Demers (1994), D^0 argument languages possess a full paradigm of pronominal affixes. Such affixes do not exist in English, so the *only* Ds that can be arguments are Ds heading DPs, like *the*, *you*, *these* and the like. Languages like Yagua, Basso Polesano, Arabic, and the other null subject languages, possess D^0 pronominal affixes for the subject positions, hence they can 'drop' full DP subjects.

Let us now spell out the consequences of our analysis for arguments that apparently are DPs. If only Ds can be arguments and not whole phrases, then the consistent or frequent usage of 'phrasal' arguments must be down to some property of the Determiners heading them. In other words, the DP status of arguments in English or Greek is not due to some syntactic requirement concerning argumenthood, but a result of independent selectional requirements of the argument D_0 itself. Hence, *the* is a D head that must always take an overt NP complement; *you* can take either an overt (e.g. *you linguists*) or a silent NP complement; *mine* can only take a silent NP complement (Felix, 1990; Corver & Delfitto, 1999; Panagiotidis, 2002). True, in all three cases, the argument D heads a phrase, but it is the D head that is the argument, rather than the whole phrase. The 'phrasehood' of English arguments is due to the selectional properties of English D heads: they all select NPs (or NumPs) and at least some one of them ('s) whatever constituent gerunds are. In any case, it could be claimed that all English Ds select elements of a nominal nature.

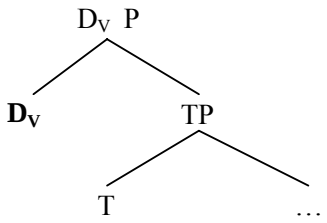
Again, the surface 'appearance' of the argument D_0 depends on its selectional properties, which are encoded on its lexical entry. There are no 'morphological' arguments in English simply because its lexicon does not contain any, rather than because of the setting of an

'argument' parameter. Towards this, recall that Greek contains both Determiners that take nominal complements and 'morphological' D affix arguments, such as the subject agreement in (17) – setting aside the clitic here for want of an analysis of its exact nature. Exactly the same holds for Basso Polesano and Koranic Arabic.

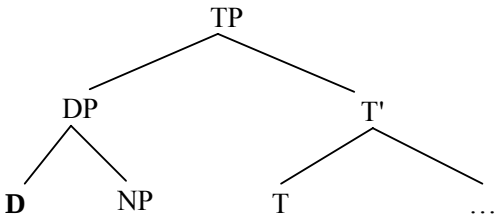
Let us now turn to examining the nature of the pronominal D^0 affixes that can be such morphological arguments. Recall that these include subject agreement in null subject languages (e.g. *–o* in 17), as well as all the arguments in languages like Lummi. These could be argued to be akin to pronominal clitics, that is D heads that attach to the Infl complex originating from within DPs, but such an account would not be without serious problems, especially having to do with doubling (see Panagiotidis, 2002: Ch.4 for discussion). Hence, following Ritter (1995), Torrego (1998) and Manzini & Savoia (2002) I will argue here for the existence of *verbal Determiners*. Such elements appear to be part of the verbal projection line, similarly with heads like T, Asp and v. They do not seem to have moved there from a DP, like pronominal clitics, and although they are also of the type <e,<e,t>>, they do not involve any N head in their complement. In other words, verbal Determiners are D heads selecting part of the verbal functional complex instead of an NP.

A consequence of the total absence of any N associated with verbal Determiners is that verbal Ds will exclusively have a pronominal interpretation, although they can be doubled. Thus, verbal D heads are the pronominal affix arguments of the discussion above. The simplified trees in (20) and (21) below illustrate the possible state of affairs with 'D_0 arguments' (=verbal Determiners) and 'DP arguments' (= 'familiar' Determiners selecting nominal complements) respectively. Arguments are marked in boldface.[17]

(20) 'D^0 argument' languages



(21) 'DP argument' languages



The unavailability of verbal Determiners in the lexicon leads to Determiners selecting NP being used exclusively as arguments. As no functional item can stand without a matching lexical element in its complement (Corver & Delfitto, 1999; Panagiotidis, 2002), these Ds will have an NP complement, whether phonologically overt or not. Observe how such a statement

a. captures the phrasal nature of arguments in English and Malay without the need to 'scan' the internal structure of a D element in order to define its XP status and so 'assess' its legitimacy as an argument
b. does not exclude the possibility of a lexicon possessing both D heads selecting nominal complements as well as verbal Determiners, yielding 'mixed' type languages.

Moreover, in the analysis presented here, nothing prevents a D from selecting either an NP *or* a CP to be an argument, as under (13): what a D can select is an issue pertaining to its selectional properties and is irrelevant to a grammatical requirement on what can be an

argument. The analysis presented here does not only predict the existence of 'mixed' languages like Basso Polesano, Koranic Arabic and – as it turns out – Romance and other 'pro-drop' languages, but also suggests that mixed cases (lexica containing both types of Determiners) should form the majority in the world's languages and that English (a language with only 'nominal' Ds) and Lummi (a language with only verbal Ds) should form a minority.[18]

Before closing this section, I would wish to dedicate a few words in the way of a succinct remark towards explaining the battery of characteristics a 'pure' D_0 argument language like Lummi displays. As Davis (2001) has shown while independently 'deconstructing' the Pronominal Argument Parameter, other closely related Salish languages, also of the D^0 argument ilk, display only a *subset* of these properties; hence, we can no longer talk about a *battery* of properties associated with this or that setting of an argument parameter. Nevertheless, let us list the properties in question:

(22) 'Properties of D^0 argument languages':

a. the existence of full agreement paradigms

b. the freedom of order between DPs

c. the possibility of Condition C violations

d. the lack of Determiner quantifiers

e. the absence of A-movement

f. the absence of lexical anaphors

g. the absence of infinitival PRO

First of all, properties b., and e. follow automatically from every analysis considering verbal Ds to be 'base-generated', instead of pronominal clitics: any full DPs must be

doubled adjuncts, hence the freedom of ordering pointed out in b.; as argument verbal Ds are already part of the verbal projection, they need not move in order to receive Case: θ-assignment and Case checking both probably take place in-situ, simultaneously making them invisible for raising purposes, hence e. If lexical reflexives and quantifiers are Determiner expressions, we would expect a 'pure' D^0 argument language to also possess verbal D ones (thus deriving properties d. and f.) and, a fortiori, to possess a 'full agreement paradigm' (property a.), verbal Ds marking all legitimate φ-feature combinations (so as to void the need for 'nominal' Ds in order to express, say, 2^{nd} person dual arguments). The absence of Condition C effects crucially relates to the by definition inability of pronominals in such languages, verbal Ds, to bind full DPs in A'-positions (all full DPs must be adjuncts), hence to cause Condition C violations – deriving property c. Finally, the absence of PRO, property g., is probably independent of the type of Ds available in a given lexicon and would merit further researching into.

5.4 Verbal vs. nominal D

The analysis presented here is one that reaffirms the finding that Determiners are the locus of referentiality, hence the only valid arguments, as well as one committed to the concept of parametric variation as *variation in the lexicon*, as first expressed in work by Borer (1984) and Wexler & Manzini (1987). Before going on to sketch a typology of arguments based on this analysis, I would like to address the question of whether there is any preference for verbal or nominal Determiners cross-linguistically.

Reviewing the data in example (17), one could be led to believe that verbal Determiner arguments are preferred over nominal ones. Some support for such an assertion could be drawn by looking at the situation with the subject argument in Greek. More specifically, –

ame (1st person plural) in *fer-ame* cannot be omitted even if replaced by a nominal D argument. Hence **fer- emis* is ungrammatical. This is the situation observed in most null subject languages. A first explanation for this could be that indeed verbal Determiner arguments are preferred over nominal Determiner arguments. Nevertheless, this could hardly be the whole story, as **fer-* is morphophonologically ill-formed.

Turning to the Koranic Arabic examples in (15), we encounter a rather different picture. Especially comparing example a. with b., repeated below with subject arguments in italics, we realise that this variety of Arabic seems to show no *grammatical* preference for a verbal D over a nominal one.[19] Both a nominal D argument (*Ali-un*) and a verbal D one (*-uu*) are equally well-formed.

(15) a. akal Ali-*un* al-tofaha-ta

ate Ali-NOM the-apple-ACC

'Ali ate the apple'

d. akal-*uu* al-tofaha-ta

ate-3rdSG the-apple-ACC

'He ate the apple'.

Given the above, we can argue that there appears to hardly exist any evidence for a cross-linguistic preference for verbal Ds over nominal Ds.

Consequently, a question would be the following: if there is no preference for a verbal D (typically an affix) over a nominal D argument (like pronouns), what becomes of the Avoid Pronoun principle? It could positively be alive and well if it remains framed as a preference for *less structure*, an Economy principle, as it has been originally formulated, rather than a preference for a particular flavour of Determiner. Before concluding, notice that the

preference for clitic pronouns over strong pronouns is also irrelevant if clitic pronouns are analysed as extracted from full DPs (Laenzlinger & Shlonsky, 1997; Panagiotidis, 2002). For a discussion of Avoid Pronoun as economy of structure with particular reference to pronominal clitics, weak and strong pronouns, the interested reader is referred to Cardinaletti & Starke (1999).

5.5 A typology of arguments

Elements of a typology of arguments are already present in the discussion above. As already mentioned, there are languages possessing verbal Determiners in their lexicon, or Determiners selecting NP, or both kinds. For completeness, we also need to stress that some languages can actually *double* their verbal Determiner arguments (like Greek verbal D subjects or, even, objects), whereas others cannot (like Koranic Arabic verbal D subjects). Although, as mentioned in section 3.1, an account of doubling or the possible structural positions of doubles is beyond the scope of this contribution, we can construct a typology of arguments by considering first what kind of Determiner is available in a given lexicon and second whether doubling is available in the grammar of a language.[20]

The argument typology can now be expressed as follows:

a. A language may possess *no* verbal Determiners (pronominal affixes) and all arguments are 'familiar' Ds that take nominal complements (and sit in specifiers). English is one of those languages.
b. A language may possess *some* verbal Determiners (pronominal affixes) that *can* be doubled. Yagua, Italian and Greek are examples.

c. A language may possess *some* verbal Determiners (pronominal affixes) that *cannot* be doubled. Pronominal affixes and argument Ds heading DPs are in complementary distribution. Basso Polesano and Koranic Arabic are examples.

d. A language may possess *only* verbal Determiners (pronominal affixes) that *can* be doubled. Pashto is possibly an example.

e. A language may possess *only* verbal Determiners (pronominal affixes) that *cannot* be doubled. *All* full DPs are adjuncts. Lummi is an example.

6 Conclusion

In this chapter I argued that the Pronominal Argument (macro)parameter, an on / off parametric choice between D^0 morphological affix arguments and DP syntactic phrasal arguments is untenable. I further argued that arguments are invariably Determiner heads, either the familiar ones that take nominal complements, or verbal Determiner affixes. The variation involved is a result of the availability of either or both in the lexicon. The interaction between the type of Ds available and doubling options yields an argument typology.

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[1] An alternative conception of the Pronominal Argument Parameter is to construe the parameter setting as one between languages that take DP arguments and languages that take only *pro* arguments, licensed by pronominal affixes (Baker, 1988; 1996). As *pro* cannot ultimately resist scrutiny under current more parsimonious models of grammar, I will take for granted here that *pro* **does not exist**. See Borer (1994), Arad (1996, 1998) Anagnostopoulou & Alexiadou (1998), Philippaki-Warburton & Spyropoulos (1999), Manzini & Savoia (2001), Panagiotidis (2002) for arguments against *pro* and for what should or can replace it.

[2] A caveat is necessary here: Baker (2003: Ch.3) forcefully argues that there are languages without Determiners and with Noun arguments, Mohawk being just one of them. In this case the statement in (7) must be trivially limited to languages possessing Ds, as well as the subsequent discussion here. In Panagiotidis (in preparation) I return to Determiner and Noun arguments in detail.

[3] I place the adjective at the specifier of Num (Panagiotidis, 2000), but little would follow from this here.

[4] Dwelling a bit further on theoretical problems regarding the relevance of N for argumenthood, suppose on top of everything that XPs are not syntactic primitives and, along with Chomsky (1998) and Mahajan (2000), that the XP / X_0 distinction is actually invisible in syntax. Should syntactic operations be blind regarding the XP / X_0 distinction, it becomes even harder to state a requirement that arguments be phrases or heads, and (8) cannot straightforwardly be construed as a matter of parametric syntax.

[5] Percolation or its equivalent would be an optimal solution, but theoretical frameworks like HPSG and LFG, that avail themselves such an operation, are loathe to phonologically empty constituents.

[6] Quite naively, by *denotation* we should here understand 'describing a concept' and by *reference* 'picking out an entity or a set of entities in the universe of discourse'. So, *denotation of an argument* here would roughly mean signifying 'catness' rather than just 'the contextually salient entity' – the contrast between *a cat* and *it*. Note that by the very broad brush used here to delineate 'reference', I mean to also include quantification, as quantified expressions can be, and perhaps exclusively are, arguments. I wish to thank an anonymous reviewer for raising the issue.

[7] Extensive literature exists on the matter, good synopses can be found in Hudson (2003) and Borsley & Kornfilt (2000).

[8] I am grateful to Mohammad Al-Hammad and Eidah Al-Malki for discussing and elaborating the facts about Arabic with me.

[9] A reviewer wonders whether these facts can be captured by an analysis whereby *–uu* is a pronoun that *incorporates* on the verb. Although this could be further researched elsewhere, let me just say here that incorporation *to the right* of an object argument in a 'head-first' and otherwise inflected language (including a lot of infixation, as well) looks rather suspect.

[10] The 'Romance' situation is parallel to the one in *Classical Arabic*, the dialect sometimes known as *akaluni al baragheeth*.

[11] I use negation contra Chomsky (1995: 384, endnote 43), who claims that *there's* is a frozen form.

[12] Greek is almost invariably taken to be a VSO language: Alexiadou (1999); Alexiadou and Anagnostopoulou (1998); Philippaki-Warburton (1987); Philippaki-Warburton & Spyropoulos (1999); Tsimpli (1990), (1995). Hence the postverbal subject in (17) is a 'real' one, not a topic.

[13] I am grateful to Wong Bee Eng for discussing Malay with me.

[14] Pace endnote 2, naturally.

[15] *The oats* and *the horses*, being definite sets, are also of type <e>, of course but issues of individuation and plurality are set aside here.

[16] Be this a concept denoting noun, like *key* or *oats*, or a semantically empty one – like *one* or its null variety – denoting a trivial predicate, or other. See Panagiotidis (2002) for an analysis of semantically empty nouns and chapter 5 therein for their semantics (denoting trvial <e,t> functions) and their role in syntactically licensing Determiners.

[17] A valid question raised by an anonymous reviewer is how it is possible for verbal Ds to interrupt the verbal projection line, i.e. stand between TP and CP. This is indeed a problem not addressed in the relevant literature so far and I expect further research would shed more light on this issue.

[18] An anonymous reviewer wonders what the status of *participle* agreement is under the current analysis. A tentative answer is whichever the status of adjectival agreement, probably the result of checking uninterpretable φ-features, as in Carstens (2000).

[19] I stress *grammatical* here because, obviously, Pragmatics imposes its own restrictions and preferences that have to do with communicative efficiency and/or least effort.

[20] C*litic doubling* is different from the kind of doubling discussed here. Clitic doubling is either between a clitic argument and an adjunct or a clitic and a DP that share argumenthood; it is qualitatively different because pronominal clitics start off as full DPs: Kayne (1989; 1991), Laenzlinger & Shlonsky (1997), but see Alexiadou & Anagnostopoulou (1998).