

The Syntactic and Semantic Properties of Free Relatives in Modern Greek*

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1. Introduction

In addition to 'headed' relatives there exists a type of relative clause which, using the traditional terminology, 'lacks an overt head'. Such constructions are known as 'free' or 'headless' relatives (henceforth FRs). Unlike 'headed' relatives which modify a head NP (cf. (1)), FRs are not head modifiers (cf. (2)). Rather they are arguments of the matrix verb similarly to *wh*-questions (cf. (3)):

- (1) I will buy the car which you are selling
- (2) I will buy what(ever) you are selling¹
- (3) I don't know what you are selling

FRs have attracted a great deal of attention within linguistic theory. Three major issues have been the focus of a considerable amount of debate in the generative literature: A) their semantic properties, B) their matching effects and C) their internal structure.

A) As shown in (2), FRs in English are introduced by *wh*-words, which sometimes can be suffixed by *-ever*. It has been argued that FRs introduced by plain *wh*-words have a reading

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¹English exhibits FRs in a number of categories, NPs, PPs, APs, and AdvPs (cf. Bresnan and Grimshaw 1978):

- (i) a. I will buy [NP what(ever) you are selling]
- b. John will leave [PP when(ever) Mary leaves]
- c. John will grow [AP however tall his father grew]
- d. I will word my letter [AdvP however carefully you word yours]

Larson (1987) points out that assuming categorial variation for FRs, involves a puzzling asymmetry between full and free relative clauses since the structure of the former involves a head which is uniquely NP, whereas the structure of the latter involves a broader range of categories. Furthermore, he points out that the positions occupied by the FRs are not exactly positions where PP, AP, or AdvP exclusively occur but positions which admit a broader spectrum of categories whose semantics is locative, temporal, and so forth:

- (ii) I will leave [FR whenever Mary leaves]
- (iii) I will leave [AdvP subsequently]
- [PP on Thursday]
- [NP the day that Mary arrives]

Independently, there is evidence that *when* and *where* can be seen as bare NP adverbs (cf. Larson 1985, Enç 1986, Alexiadou 1994). Thus, the categorial variety of FRs, as put forward in Bresnan and Grimshaw (1978), is an epiphenomenon. Throughout this paper we will be assuming that FRs are DPs and that all FRs have a DP structure, in the spirit of a more unified analysis of FRs a la Larson (1987). (We refer the reader to the Appendix for arguments in favor of the position that FRs are DPs and not CPs).

similar to the one of definite NPs like 'the thing', whereas FRs suffixed by *-ever* have the meaning of a universal quantifier (cf. Larson 1987):²

- (4) a. I ordered what he ordered =
I order the thing he ordered
b. I will read whatever you assign =
I will read everything/anything you assign

This claim has been challenged first by Jacobson (1988, 1995) and subsequently by others (Srivastav 1991a,b, Grosu 1994, 1996, Rullmann 1995). These authors argue that *what* and *whatever* can result in both definite and universal readings and that the universal reading of FRs is due to some other factor. For example, according to Jacobson (1988, 1995) the universal reading of FRs is in fact a plural definite reading, i.e., it arises because FRs can denote maximal plural entities.

B) A second property of FR constructions which has attracted a lot of attention is the so-called **Matching Effects** FRs exhibit in some languages (first discussed in Grimshaw 1977 and Bresnan & Grimshaw 1978). Matching refers to the fact that the wh-phrase must be of the same category as the position associated with the FR in the matrix, as shown in (5):

- (5) a. I will love [NP [NP whoever] you tell me]
b. I will love [NP this man]
c. *I will love [NP [PP with whom] you go for a walk]

In languages with overt case marking, we observe Case Matching as well, that is, the case of the FR pronoun is determined by the matrix verb and not by the verb of the FR clause. Spanish and Modern Greek (MG) are matching languages (cf. Suñer 1984 for Spanish and Philippaki & Stavrou 1986 for MG):

- (6) Pare opjon /*opjos erthi
take-2Sg whoever-ACC/*-NOM come-3Sg
'Take whoever may come'

C) The third issue of controversy, and one very closely related to the other two just discussed, is the **internal structure** of FR constructions. Some researchers have argued that the wh-phrase in (2) is in the head position and a null nominal is in the clause-internal base position (cf. Bresnan & Grimshaw 1978). This is claimed to explain the matching effects observed in some languages (cf. Bresnan & Grimshaw 1978). Additionally, it is argued that an analysis along these lines provides an explanation for the semantic properties of FRs since the burden of supplying the quantificational force of a FR is borne by the lexical meaning of the FR wh-word in the head position (cf. Larson 1987). On the other hand, some other researchers have argued that the wh-phrase is in Spec, CP while a null nominal occupies the head position, appealing to some other mechanisms in order to explain the matching effects observed in some languages (COMP-accessibility hypothesis in Groos & Van Riemsdijk 1981 and for different varieties of this proposal see Hirschbuehler & Rivero 1981, 1983, Harbert 1983,

² Larson's argument in favor of *whatever* having universal quantificational force comes primarily from 'missing-Preposition' FR constructions; we refer the reader to Larson (1987) for more details and to Grosu (1996) for a critic.

Suñer 1984, Grosu 1994, among others) or the semantics of these constructions (type-shifting operations as in Jacobson 1988, 1995).

In this paper we attempt to shed more light onto the aforementioned issues by examining the FR construction in MG. But, why Modern Greek? Unlike English FRs, FRs in MG are not introduced by the same elements that introduce wh-questions, but by a series of pronouns which are morphologically distinct both from the wh-words used in interrogative complements and from the series of relative pronouns that introduce 'headed' relatives. This is shown in (7).³

³ The FR series in MG includes the pronouns *opjos/a/o* 'whoever' *o,ti* 'whatever', *opou* 'wherever', *opote* 'whenever', and *osos/i/o* lit. 'however much/many':

- (i) a. Tha fao o,ti mu pis
FUT eat-1Sg whatever me tell-2Sg
'I will eat what you tell me'
- b. Erxete opjos theli
come-3S whoever want-3S
'Whoever wants, may come'
- c. Pai opou theli
go-3Sg wherever want-3Sg
'He goes wherever he wants'
- d. Erxete opote theli
come-3Sg whenever want-3Sg
'He comes whenever he wants'
- e. Troi oso theli
eat-3Sg as much as want-3Sg
'He eats as much as he wants'

With the exception of *osos*, all these pronouns are formed by a wh-element (*pjos* 'who', *ti* 'what', *pu* 'where' *pote* 'when') and the morpheme *o-*, which according to some scholars (cf. Andriotis 1967) is related to the determiner, but according to others (cf. Hatzidakis 1907) is a morpheme responsible for the 'indefinite' reading these relative pronouns have. Since the opinions vary, we will not put too much weight on the morphological decomposition of these elements. Our approach here is compatible with either view.

FRs in MG can also be introduced by the *-dhipote* series (*opjosdhipote* 'whoever', *otidhipote* 'whatever', *opoudhipote* 'wherever', *opotedhipote* 'whenever', *ososdhipote* 'however much/many'). There are distributional and interpretational differences between the two series which arise from the fact that the *-dhipote* series has the distribution and interpretation of a free choice item and thus, a semantically dependent use (see Varlokosta 1995 and Giannakidou in preparation). We will not discuss these cases here; we will restrict ourselves to the *o,ti/opjos* series.

A final note about the FR pronoun *osos*: FRs introduced by *osos* seem to display an 'amount reading' (see Carlson 1977 for amount relatives) and a behavior similar to *what* (cf. Carlson 1977, Grosu 1996). More specifically, *osos* FRs, like *what* FRs, appear with mass nouns or non-individual NPs, unlike the rest of the FR pronouns:

- (ii) a. Ipja oso krasi mu dosane
drank-1Sg as much wine me gave-3PL
'I drank what wine they gave me'
- b. *Ipja oso potiri krasi mu dosane
drank-1S as much glass wine me gave-3PL
'*I drank what glass wine they gave me'

- (7) a. Potisa pjos irthe (Question)
 asked-1Sg who came-3Sg
 'I asked who came'
- b. Opjos theli erhete (FR)
 whoever-NOM want-3Sg come-3Sg
 'Whoever wants, may come'
- c. Agorasa to spiti pu/to opjo mu arese (Headed Relative)
 bought-1Sg the-house-ACC that/which me pleased
 'I bought the house that I liked'

Besides their distinct morphological composition Modern Greek FRs exhibit very distinct semantic and syntactic properties. First, although FR pronouns in Modern Greek appear to behave like *whatever* and not like *what* with respect to a series of diagnostics (cf. Iatridou & Varlokosta 1995), we will show that their quantificational force is essentially determined by the tense-aspectual properties of the sentence.

Furthermore, Modern Greek FRs exhibit matching effects. However, these matching effects are restricted to certain positions, namely object and postverbal subject position. In (preverbal) subject or dislocated positions FRs may not show matching, that is, (preverbal) subject and dislocated positions allow for both matching and non-matching FRs (cf. Philippaki & Stavrou 1986). The option of non-matching FRs in non-subcategorized positions has been pointed out for Catalan (Hirschbuehler & Rivero 1981, 1983) and Spanish (cf. Suñer 1984) as well. However, in this paper we show that at least in Modern Greek matching is also available in preverbal positions. We argue that matching vs. non-matching effects in Modern Greek FRs simply follow from the fact that these constructions occupy different syntactic positions; non-matching FRs are instances of left-dislocated structures (including preverbal subject FRs) whereas matching FRs are either instances of focus constructions or hanging topics (in the case of subject FRs).

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- c. *Ipja osa potiria krasi mu dosane
 drank-1S as many glasses wine me gave-3PL
 'I drank what glasses of wine they gave me'
- d. Ipja opjo potiri krasi mu dosane
 drank whatever glass wine me gave-3PL
 'I drank whatever glass of wine they gave me'

They receive a 'least amount' interpretation:

- (iii) Ipja oso ligo krasi mu dosane
 drank-1S as little wine me gave-3PL
 *oso poli
 as much

And they occur with Ns which do not cooccur with the other FR pronouns, crucially non-referential amounts:

- (iv) zigizi osa/*opja kila perimena oti tha zigize
 weighs what/whatever kilos expected-1S that FUT weighed
 'he/she weighs what kilos I expected he/she would'

We will not discuss *osos* FRs here.

Finally, we will claim that our facts and the conclusions we reach with respect to the syntactic and semantics properties of Modern Greek FRs are compatible with the analysis of FRs along the lines of Vergnaud (1974) and Kayne (1995).

The paper is organized as follows: in section 2 we discuss the semantic properties of FRs. In section 3 we review previous analyses of the structure of FRs. In section 4 we extensively discuss the Matching effects.

2. The Semantic Properties of FRs

Before we turn to the semantic properties of FRs in MG, we will briefly review the discussion concerning the semantic properties of FRs in English.

2.1. The Semantic Properties of FRs in English

As we mentioned earlier, it has been argued in the literature (cf. Bresnan & Grimshaw 1978 and Larson 1987) that *wh-FRs* appear to have an interpretation similar to definite NPs, whereas *ever-FRs* have the quantificational force of a universal:

- (8) a. I ordered what he ordered =
I order the thing he ordered
b. I will read whatever you assign =
I will read everything/anything you assign

Jacobson (1988, 1995), on the other hand, argues that this distinction is an oversimplification and that all FRs are ambiguous between a definite and a universal reading (following essentially Cooper 1983). According to Jacobson, there are FRs introduced by *what* that appear to have universal force:

- (9) I read what was on the reading list =
I read everything that was on the reading list

On the other hand, there are FRs introduced by *whatever* that do not have universal quantificational force but a meaning much like a definite NP, with *-ever* simply indicating ignorance on the part of the speaker as to the identity of the thing in question:^{4 5}

⁴ The 'speaker's ignorance' reading is first discussed in Jacobson (1988, 1995) who attributes it to Elliot (1971). Tredinnick (1995) argues that this use of *whatever* has an existential presupposition associated with it absent in the normal use of *whatever*.

⁵ Jacobson (1995) points out the following differences between *whatever* and universal quantifiers:

I) universals can be modified by *nearly* or *almost*, *whatever* cannot:

- (i) a. For years I did nearly/almost everything/anything you told me
b. *For years I did nearly/almost whatever you told me

II) universals license NPIs, *whatever* does not:

- (ii) a. I can read everything Bill ever read
b. *I can read whatever books Bill ever read

- (10) Everyone who went to whatever movie the Avedon is now showing
 said it was boring

Hence, Jacobson concludes that FRs have uniform semantics that are similar to that of definite NPs, that is, they denote maximal individuals. The apparent universal force of a FR comes from the fact that it can denote a maximal plural (i.e. non-atomic) entity (or from summation in Rullmann's (1995) terms).

However, there are arguments in the literature in favor of the original position, put forward in Bresnan & Grimshaw (1978), and Larson (1987), that *what* has distinct distributional properties from *whatever*. All these arguments show that *whatever* patterns with universals like *every* in a number of ways:

- i) *what* can participate in the making of a specificational pseudocleft *whatever* cannot (cf. Iatridou and Varlokosta 1995):⁶
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III) universals do not support anaphora by it, *whatever* does:

- (iii) a. *Everyone who went to every movie the Avendon is now showing
 said it was boring
 b. Everyone who went to whatever movie the Avendon is now
 showing said it was boring

However, there is counterevidence to Jacobson's claims about *whatever*. Concerning Jacobson's point (I), Iatridou & Varlokosta (1995) point out that there are other universal quantifiers, namely *each* and *both*, that behave like *whatever* with respect to modification by *nearly/almost*:

- (i') a. *For years I did nearly/almost each thing you told me to do
 b. *I did almost/nearly both things you told me to do

As for (II), Tredinnick (1995) presents evidence that NPIs are possible in *whatever* FRs:

- (ii') a. He got into trouble for whatever he ever did to anyone
 b. I will go wherever the hell you go

Regardless of the disparity in judgements though, Iatridou & Varlokosta (1995) point out that universal quantifiers like *each* and *both* cannot license NPIs either:

- (ii'') a. *I can read each book that Bill ever read
 b. *I can read both books that Bill ever read

Concerning (III), Tredinnick (1995) argues that in cases similar to (iiiib) *whatever* has the so-called 'speaker's ignorance' reading. Iatridou & Varlokosta (1995) argue that pronominal anaphora is possible in (iiiib) because the sentence has as part of its presupposition that the Avedon is, indeed, showing some (of course, specific) movie and it is this presupposition that licenses the pronoun; i.e., it is a referential pronoun, not a bound variable. If one constructs an example with *whatever* but without the speaker's ignorance reading, anaphora becomes impossible and Jacobson's sentence becomes bad (contrast iiiib) to (iii'i')):

- (iii'i') *Everyone who talks to whatever woman he meets on the street says she is beautiful

⁶ Iatridou & Varlokosta (1995) argue that *whatever* is not possible in (11b) because in the specificational pseudocleft the FR functions as the predicate of predication (cf. Williams 1983) and universals cannot serve as predicates. Jacobson (1988, 1995) does not provide an explanation for this fact, nevertheless, she states that this behavior of ever-FRs "seems to be orthogonal to their quantificational force".

- (11) a. What John is is important to himself
 b. *Whatever John is is important to himself
 c. *Everything John is is important to him

ii) *What* but not *whatever* can restrict adverbs of quantification (cf. Tredinnick 1995, Iatridou and Varlokosta 1995):

- (12) a. When I go to the store, I mostly buy potatos
 b. *Whenever I go to the store I mostly buy potatoes⁷
 c. *Everytime I go to the store I mostly buy potatoes

iii) *whatever* is incompatible with epistemic modality in its clause (cf. Tredinnick 1995):⁸

- (13) a. He does what must be a difficult job
 b. *He does whatever must be a difficult job
 c. *He does everything that must be a difficult job

Hence, according to these authors *whatever* and generally *-ever* FRs, have universal force which is derived from the nature of the particle *-ever*. What about the universal readings of plain *wh*-words? Tredinnick (1995) argues that bare *wh*-words are also compatible with situations that favor the universal reading, however, they do not have quantificational force of their own. In contexts which are ambiguous between a definite and a universally quantified reading, *-ever* simply disambiguates in favor of the universal reading (or yields the speaker's ignorance reading). In contexts which are universally quantified from some other source the presense of *-ever* is not redundant, but it performs the function of widening the domain in the same manner as free choice *any* does (cf. Kadmon & Landman 1990) (see also Srivastav 1991a and Grosu 1996).

2.2. The Semantic Properties of FRs in MG

Iatridou & Varlokosta (1995) argue that the FR pronoun *o,ti* in MG behaves not like *what* but like *whatever* and hence with universals with respect to the aforementioned diagnostics:

i) *o,ti* does not participate in the formation of specificational pseudo-clefts, although it can form predicational pseudoclefts:

- (14) a. **O,ti ine o Janis ine arostos*
 whatever is John-NOM is sick-Masc
 'What John is is sick' (specificational)

⁷ (12a) can mean either 'on most occasions when I go to the store, I buy potatoes' or 'on occasions I go to the store, most of what I buy is potatoes'. (12b) has only the latter interpretation.

⁸ According to Tredinnick (1995) the ungrammaticality of (13) indicates that *whatever* can never appear in non-quantificational environments, such as those of epistemic modality.

- b. O,ti ine o Janis ine spanio
 whatever is John is rare
 'What John is is rare' (predicational)

ii) *o,ti* cannot restrict adverbs of quantification:⁹

- (15) *O,ti agorazi o Yanis ine spania akrivo
 whatever buy-3SG John is rarely expensive

iii) *o,ti* is incompatible with epistemic modality:

- (16) a. *Kani o,ti prepi na ine dhiskolo
 (s/he) does whatever must be difficult
 b. *O,ti prepi na simveni eki ine fovero
 whatever must happen-3Sg there is horrible

To these diagnostics we also add that FRs in MG seem to be able to license NPIs:

- (17) a. Thavune opjus pune kamja kali kuvenda
 burry-3PL whoever-ACC say-3PL any good word-ACC
 ja to Jani
 about John-ACC
 b. O,ti ithele pote i Maria to agoraze
 whatever wanted ever Mary-NOM it bought-3S

Examples (14) to (17) show that MG FRs pattern distributionally with *whatever* and not with *what* with respect to a number of diagnostics, i.e. a universal reading is strongly preferred with MG FRs. Does this mean that MG FRs lack definite readings altogether? We would like to point out that *o,ti/opjos* are in fact compatible with the definite reading. Consider for example the following situation, where John went to the bookstore and the speaker utters (18):

- (18) O Janis agorase o,ti tou protine i Maria
 John-NOM bought FR cl-Gen suggested Mary-NOM

The continuation of this sentence could be: namely, any book that Mary likes. (18) can also result in the speaker's ignorance reading: but I don't know what exactly it was that he bought. However, the continuation of (18) could also be: namely, War and Piece. In other words, (18) is also compatible with a definite reading (i.e. a reading where the speaker knows the identity of the thing John bought).¹⁰

⁹ The ungrammaticality of the example simply indicates the inability of the *o,ti*-clause to restrict the adverb of quantification, that is the unavailability of the reading in which the adverb quantifies over instances of buying.

¹⁰ In MG the definite reading is also expressed by a construction which is headed by the demonstrative pronoun *aftos/i/o* 'this' and the relative complementizer *pou*, i.e. by a headed relative:

- (i) O Yanis eface afto pou mageirepse i mitera tou
 John ate this that cooked his mother
 'John ate what his mother cooked'

In (18) both the verb of the FR and the verb of the main clause is in the past tense and marked with perfective aspect. If both the main verb and the verb of the FR are in the present tense, as in (19), only the universal reading arises (note that the present tense in Modern Greek is always marked with the imperfective stem). (19) means that John buys anything or the things that Mary suggests to him:

(19) O Janis agorazi o,ti tou protini i Maria
 John-NOM buys FR cl-Gen suggests Mary-NOM

Similarly, different combinations of tense and aspect in the FR and in the main verb result in various readings:

(20) O Janis tha agorasi o,ti tou protini i Maria
 John FUT buys-Perf FR cl-Gen suggests Mary-NOM
 --> both definite and universal readings

(21) O Janis agoraze o,ti tou protine i Maria
 John bought-IMP FR cl-Gen suggested Mary
 --> universal

It seems therefore that the **tense-aspectual** properties of both the matrix and the FR sentence play a role in the interpretation of the FR clause. This is reminiscent of Srivastav's (1991a) claim that universality effects arise when the tense-aspectual-modal properties of the clause (the FR and the main clause) allow the FR to be evaluated in a plurality of worlds, whereas definiteness effects arise when a multiple world evaluation is incompatible with the tense-aspect-mood properties of one of the clauses. In (18) perfective aspect forces evaluation at a single world, while in (19) imperfective aspect allows a universal like construal.¹¹

To conclude, Modern Greek FRs appear to behave distributionally like *whatever* in English (cf. Iatridou & Varlokosta 1995), however, they result not only in universal interpretations but are compatible with definite interpretations too. Crucially, MG FRs exhibit both 'definite' and 'universal' force.¹² Thus, they seem to behave like indefinites in the sense of Heim (1982)¹³ in that they get their quantificational force from their environment.

¹¹ Grosu (1996), following Srivastav (1991a), shows that universality effects in English also arise when the context (in particular generic or modal operators found in both the relative and the matrix) allows the FRs to be evaluated at a plurality of worlds; definiteness effects arise when a multiple-world evaluation is inconsistent with the tense-aspect-mood properties of one of the clauses:

- (i) a. I'll visit who/whoever you visited yesterday at exactly 5 p.m.
 b. I'll visit who/whoever you visit

In (ia), Grosu argues a 'definite' reading is present, while in (ib) due to the generic specifications in both clauses a 'universal' construal is established. Thus, English FRs seem to behave similarly to MG FRs in this respect. A more careful examination of all factors that affect the quantificational nature of (MG) FRs awaits for further research.

¹² Potentially the force of the FR is not really that of a universal but that of a generic nominal which is responsible for the 'on most occasions' interpretation (see Grosu 1996 for discussion).

¹³ See however Srivastav (1991a) for arguments against an 'indefinite' type approach.

In the next section we turn to the syntactic properties and the structure of FRs. The various combinations of tense-aspect-mood operators in the FR and the matrix ought, in principle, to have the same semantic effects whether the wh-phrase is in external head position or it is clause internal.

3. The Structure of FRs

One of the most controversial issues concerning the structure of FRs has been whether they have the internal structure of an NP or their internal structure is similar to that of other wh-constituents. There are two main proposals concerning the internal syntax of FR constructions. According to the first one put forth in Bresnan & Grimshaw (1978), the wh-phrase is the head of the construction. According to the second proposal, the wh-phrase is found in Spec,CP of a clause right adjoined to an NP (see Groos and van Riemsdijk 1979).

Larson (1987) points out that, if Bresnan & Grimshaw are correct in analysing the FR pronoun as the external head of the construction, then the burden of supplying the quantificational force of an FR is borne by the lexical meaning of the free relative wh-word in head position. Similarly to ordinary headed NPs, where it is uncontroversial that the definite or universal meaning is supplied by the lexical meaning of the Determiner *the* and *every*, English FRs are assumed to derive their universal force from the presence of *-ever* in the external head position of the clause and their definite reading from the presence of *what* in the head position (see Larson 1987 and Kayne 1995). Larson claims that Groos and van Riemsdijk's account cannot capture the quantificational properties of FRs, since these are related to the lexical items and cannot be assigned by higher predicates. Yet, Larson is based on the assumption that definite and universal readings are related to the presence of *what* and *whatever* respectively.

Leaving the status of the English FR pronouns aside, we have illustrated in the previous section, MG FRs exhibit both definite and universal readings with the same pronoun. Seeing this as evidence that it is not the external head that supplies the definite or universal readings of MG FRs but rather these readings are determined by other factors, the variability exhibited should in principle be able to arise irrespectively of the actual structure of the FR clause. To account for this variability either type shifting operations such as the ones proposed in Jacobson (1995) and Rullmann (1995) or a clear specification of the conditions under which the notion of *maximalization* (cf. Grosu 1996) can be maintained are needed.

In the following sections we will present syntactic evidence that the head-analysis is not tenable and discuss briefly the syntactic role of the external head, leaving the exact semantic formalization for further research.

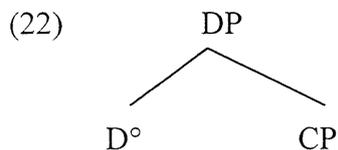
3.1. LCA and the DET-hypothesis

Before we turn to the structure of FRs, let us outline our assumptions concerning phrase structure and briefly discuss the structure of 'headed' relatives, since our claim is that FRs should be analysed in a similar manner.

The standard view on the structural representation of relative clauses is that they are right adjoined to an XP. Since one consequence of the *Linear Correspondence Axiom*¹⁴ (LCA cf.

¹⁴The essence of Kayne's proposal is that hierarchical structure fully determines linear order, according to the LCA. The Axiom can be stated as follows: For any two non-terminals X, Y, if X asymmetrically c-commands

Kayne 1995) is that right adjunction is prohibited, relative clauses cannot be right adjoined to a maximal projection: if Y is adjoined to X, Y asymmetrically c-commands X, the terminals of Y may only precede those of X in the string. A relative clause string typically follows the string it is supposed to be adjoined to. Hence, the right-adjunction analysis is excluded. Thus, relative clauses must be reanalysed as complements of D° or complements of N°. The latter solution, Kayne argues, seems implausible, as the clause does not seem to function as a complement of a lexical predicate and does not capture certain facts concerning the interpretation of gaps in relative clauses.¹⁵ (22) illustrates the structural configuration we will assume.¹⁶



3.2. FRs and Matching

3.2.1. General Facts

According to Bresnan and Grimshaw (1978), a FR is matching if the syntactic category of the wh-phrase is of the same category as the whole FR. A FR is non-matching when the wh-

Y then all terminals x dominated by X precede all terminals dominated by Y.

¹⁵ For instance the adjunction hypothesis cannot capture facts involving idiom expressions:

- (i) a. The headway that we made was insufficient
 b. *The headway was insufficient

The nominal part of the idiom must be generated as the complement of the verb of the expression. Under the head raising analysis the idiom N head of the relative has raised from the object position of made. A second argument which has been identified as a problem for the base generated external head hypothesis is the lack of definiteness effects on the trace of wh-movement:

- (ii) a. *there were the men in the garden
 b. the men that there were in the garden

(iib) shows that it is not a definite DP that is interpreted in the position of the gap. See also Carlson (1977) for more arguments in favor of the head-raising and the determiner complementation hypothesis.

¹⁶ In support of this, note that MG in general permits CPs to appear as complements of D°, having the distribution of DPs (see Roussou 1991). In other words, MG has nominalized clauses (cf. i). Furthermore, only the definite singular article can be prefixed, as we see in (ii):

- (i) a. To ti vivlia grafi mu kani endiposi
 the what books writes me makes impression
 b. To na agosome aftokinito den ine kali idea
 the SUBJ buy-1PL car-ACC NEG is good idea
 c. me stenahori to pu ise makria
 me upsets the that are-2S away
 d. apo to oti kokkinise katalava tin tarahi tu
 from the that blushed-3S understood-1S the excitement his
- (ii) *ena oti efige
 a that left-3S

phrase is different from the category corresponding to the syntactic position associated with the FR relative in the matrix. In languages with overt case marking, matching requires the case of the wh-word/FR pronoun to be identical to that of the position the FR clause occupies, i.e., the case of the element is determined by the matrix verb.¹⁷

There are three language types with respect to matching (cf. also Grosu 1994):

I) *strictly matching* languages like English:

- (23) a. John loves whom you despise
 b. *John loves with whom you go for walks

II) *strictly non-matching languages* like Gothic (cf. Harbert 1983), Classical Greek (cf. Harbert 1983, Stavrou & Philippaki 1987) or Medieval Greek (cf. Chila-Markopoulou 1991). We observe in (24) that although the syntactic position of the FR is an NP position, the wh-phrase is a PP:

- (24) a. ushafjands [NP [PP ana pammei] lag] (Gothic)
 picking up on which he-lay
 'picking up (that) on which he lay...'
 b. aras [NP [PP eph'ho] katekeito] (Classical Greek)
 lifting on what he-lay
 'picking up (that) on which he lay...'

III) *position-dependent non-matching languages* like Modern Greek, or Spanish. In these languages matching is obligatory in some contexts but not in others, as we will show in the next subsection for MG.

3.2.2. MG

MG requires matching FRs in **object position**, as illustrated in (25a, b) (cf. Philippaki & Stavrou 1986):

- (25) a. Agapo opjon/*opjos me agapa
 love-1S whoever-ACC/NOM me loves
 'I love whoever loves me'

¹⁷ Interestingly enough identification of morphological appearance suffices, i.e. it is sufficient that the relative pronoun is marked for a case that is not overtly different from the case assigned to the whole FR as the following German facts (from Groos & Riemsdijk 1979) show:

- (i) [was Du mir gegeben t_{ACC} hast]_{NOM} ist prächtig
 what you me given have-2S is wonderful

- b. Tha voithiso opjon tu dosis to onoma mu
 FUT help-1S whoever-ACC cl-GEN give-2S the name my
 *opjou 'whoever-GEN'
 *s'opjon 'to whoever'
 *opju tu 'whoever him-GEN'
 'I will help whoever you give him my name'

Observe in (25b) that the presence of a genitive clitic in the FR clause is obligatory in order for the sentence to be grammatical. We will come back to these facts when presenting our account for Case Matching.

Matching is also required with **postverbal subjects**, as shown in (26):

- (26) Tha timorithi opjos / * opjon piaso
 FUT be punished-3SG whoever-NOM/*ACC catch-1Sg
 'Whoever I catch will be punished'

On the other hand, in **non-subcategorized and in dislocated positions** MG permits non-matching FRs. In other words, in (preverbal) subject (cf. 27a) and in dislocated positions (cf. 27b) both matching and non-matching FRs can appear (cf. Philippaki & Stavrou 1986):

- (27) a. Opjon / opjos piaso tha timorithi
 whoever-ACC /-NOM catch-1S FUT be punished-3PL
 'Whoever I catch will be punished'
- b. Opjos / opjon argisi ton timorun
 whoever-NOM / -ACC is late-3Sg him-ACC punish-3Pl
 'Whoever is late they punish him'

Notice the minimal pair in (26/27a). Postverbal FR subjects are obligatorily matching and thus always marked with Nominative whereas preverbal FR subjects can also be non-matching and thus marked with either Nominative or Accusative.

Furthermore, observe the presence of the clitic in the matrix clause in (27b). The presence of the clitic is obligatory in (27b). In the absence of the clitic the non-matching option (*Nominative*) is ungrammatical, whereas the matching option (*Accusative*) can be grammatical only with heavy stress. We will return to this point later.

There is further evidence from pied-piping for the pattern just described. In general, pied-piping is not allowed when the FR is in a subcategorized position. However, when the FR appears in a dislocated position then pied-piping is obligatory, as the contrast in the following strings shows:

- (28) a. *Kerdize m' opjon epeze mazi
 won-3S with whoever-ACC played-3SG together
- b. M' opjon epeze mazi ton kerdize
 with whoever-ACC played-3SG together him won-3SG
 'Whoever he/she played with, he/she won against him'

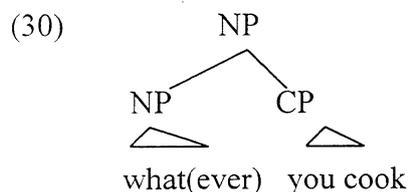
- (29) a. *Tha voithiso s' opjon dosis to onoma mou
 FUT help-1SG to whoever give the-name my
- b. S'opjon dosis to onoma mu tha ton voithiso
 to whoever-ACC give-2SG the-name my FUT him help-1sG
 'Whoever you give my name to, I will help him'

3.3. Previous Analyses

In what follows we will review the main analyses that have been proposed in the literature concerning the Matching Effects and the internal structure of FR constructions attempting to reformulate them in the spirit of Kayne (1995).

3.3.1. The Wh-Head Hypothesis

The first attempt to account for the properties of FRs was presented in Bresnan & Grimshaw (1978). According to these authors, matching FRs are constructions with the wh-element base generated in the head position and a CP adjoined to the wh-element:



Let us assume in a Kaynian reformulation of their proposal that the wh-element is base generated in the Determiner head position, as proposed for MG independently in Horrocks & Stavrou (1987) and in Philippaki-Warbuton & Spyropoulos (1996). In that case a *pro* form is assumed to be in clause-internal position. This analysis, if tenable, accounts for the matching effects in a straightforward way, because a head is expected to agree in Case and Category with the construction it heads. However, there exist arguments based on a number of languages which show that a 'head' analysis is not possible (for a thorough discussion on German and Dutch see Groos & Riemsdijk 1979, Pittner 1995, and Grosu 1994 for Romanian, Afoli 1994 for Norwegian among many others).

In this section we will present some of the arguments against the Head-Hypothesis. First of all, as Bonneau (1990) points out, if the Head-analysis was on the right track, we would not expect FRs to allow parasitic gaps and to show WCO effects. However, the prediction is not borne out, as shown in the following examples:

- (31) a. *Ida opjon-_i ide i adelphi tu-_i
 saw-1S whoever-ACC saw-3S his sister
- b. aperripsa opjon fititi edose eksetasis horis na eksetaso
 rejected-1SG whoever student gave exams without examine-1S

A further argument against the head proposal can be constructed from word order alternations in MG. SVO and VSO are equally possible in MG. If the wh-phrase was base generated in D° ,

one would expect that it would be insensitive to these alternations. However, this is not the case as the ungrammaticality of (32b) indicates:

- (32) a. O,ti ithele i Maria to ihe
 whatever wanted Mary-NOM it had-3S
- b. *O,ti i Maria ithele to ihe
- c. *Opjos ton Petro ton ide mu to ipe
 whoever the-Peter-ACC him saw-3S me it said

The above facts and the claim that preverbal subjects are topics in MG (cf. Philippaki 1985, Tsimpli 1990, Alexiadou 1994, Anagnostopoulou 1994, Alexiadou & Anagnostopoulou 1995, 1996a among others) illustrate that we are dealing with a movement dependency. That preverbal subjects are left-dislocated in (32) is shown by the parallel behavior of (32b & 32c), the latter involves a clitic-left dislocated DP)

Another argument against the head-hypothesis exploits the constraints imposed by the focus position of a cleft construction in English is given in Grosu (1994, 1996):

- (33) a. I wonder what it is e that you saw
 b. *Bob, who it is e that you saw
 c. Whatever it is e that you saw must have been scary

Grosu assumes that focused phrases (in general, and in cleft-constructions in particular) must include an emphatically stressed element and that focused phrases in clefts have the force of a comment rather than of a topic. The latter assumption is based on the observation that a phrase in cleft-focus position may not be manipulated in ways that would force on it a topic/independent variable construal. For example, it may not be reordered by topicalization (cf. 33b). Wh-movement is of course permitted (cf. 33a). The grammaticality of (33c) is accounted for under an analysis which places the wh-phrase in Spec,CP and not in the head position.

Furthermore, if the wh-phrase was generated in head position, one could not account for the fact that in some languages, as for instance English and MG, overt complementizers cannot co-occur with the overt head.

Finally, if the whole wh-phrase was base-generated in initial position we would not expect (34) to be grammatical, where the reflexive can be bound by the NP 'Bill'. Assuming Chomsky's theory (1993) of reconstruction, which only applies to A'-movement, the reflexive after having been moved overtly to Spec, CP can be reconstructed in its initial position, i.e. the complement of 'take', where it is bound by the NP 'Bill':

- (34) Mary gave Jane whatever pictures of himself Bill had taken

With respect to non-matching FRs, Bresnan & Grimshaw (1978) allow for the possibility that at least some of these constructions are derived by movement of the initial wh-phrase to Spec,C'. For instance, in Moroccan Arabic, the FR fails to exhibit the matching effect and allows for pied-piping with the relative morpheme. As Bresnan & Grimshaw point out

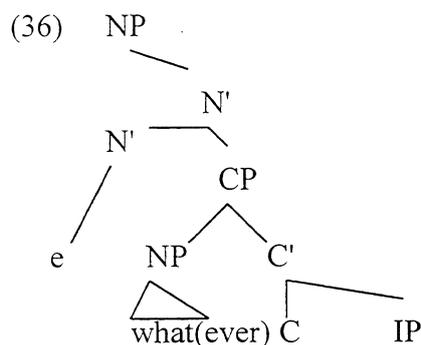
themselves, in cases of pied-piping a movement analysis may lead to the simplest grammar, as one could not possibly argue that the preposition is base generated in the head position, at least for the cases where the preposition is not selected by the matrix clause:

- (35) ja: m'a mn dwiti
 came with whom talked you

To conclude, we consider the crosslinguistic facts as evidence that a Head-analysis for FRs is not tenable.

3.3.2. The Wh-in-Spec,CP Hypothesis (Groos & Riemsdijk)

Bresnan & Grimshaw's proposal was challenged by Groos & Riemsdijk (1979) who argued that the wh-element of the FR is in Comp adjoined to a null head:



Let us assume in a Kaynian reformulation of this proposal that the CP is a sister of a null D head.

Groos & van Riemsdijk (G&R) point out that in languages like German and Dutch, FRs appear in contexts of extraposition where simple NPs do not occur, but where clauses do. Thus, they assume that extraposed restrictive relatives and FRs should be analysed on a par, and that in (37b) the clause has been extraposed leaving a null head behind:

- (37) a. Hans hat den Boten empfangen [den Gretchen ihm geschickt hat]
 Hans has the messenger receive who Gretchen him sent has
 b. Hans hat empfanged [wen Gretchen ihm geschickt hat]
 Hans has received who Gretchen him sent has

To account for the matching effects, the authors propose that in some languages the null head of the FRs can be, as put in Grosu (1994), by-passed, making the lower Comp accessible to government from the higher verb. The result is that the wh-phrase is treated as being the head of the construction with respect to case and subcategorisation properties.

A variety of the G&R proposal is found in Suñer (1984) who proposes that the empty head of all free relatives is *pro*. *Pro* needs to be licensed and identified (cf. Rizzi 1986) and this is achieved through case-matching according to the case-matching condition which states that *pro* must be non-distinct in case from the wh-phrase in Spec,CP. In languages such as Spanish, when the free relative is already in subject position, *pro* is determined by Infl, so the

case-matching does not apply (see Chila-Markopoulou 1991 for an analysis of MG FRs along the lines of Suñer 1983). In English, Infl does not determine *pro*, thus case-matching must apply.

Grosu (1994/6) proposes that the null element *pro* plays the role of an anaphor. The clause itself serve as a sort of an antecedent to the external nominal. Anaphora in this case is characterized as follows: the antecedent and the anaphor combine together to form a single mention of a set. The antecedent is seen to be discourse novel. As Grosu argues, *pro* has to be identified FR-internally. The basic mechanism for the licensing of the FR head is Case. The domain of *pro* identification is the minimal domain of the head which includes its complements and the constituents adjoined to it and its projections.

This wh-in-Spec,CP analysis captures the pied-piping facts and the movement dependencies being able to account for all the problems that we have pointed out for B&G's approach, namely the WCO, the parasitic gaps and the reconstruction. It is considered as the most appropriated one for the non-matching cases. Hence, we will assume it throughout.

However, Bonneau (1990) points out several theoretical problems within the GB framework which this analysis faces. Namely, it is not clear how the governing head would govern inside S' when this S' is not an argument of the head of the relative nor of the governing head. Additionally, this analysis entails that in matching cases the category-requirement of the V must be satisfied after wh-movement to COMP. These problems do not arise with the Kaynian structure. In section 4 we will present a way in which such theoretical problems can be dealt with and how Matching can be accounted for in a more straightforward way. In our alternative analysis, we will not appeal to *pro* but rather to the observation in both Suñer and Grosu that matching is a property of the morphological component and does not involve syntactic identity. Note also that an analysis which uses *pro* cannot straightforwardly capture the quantificational properties of FRs, since *pro* does not support universal readings.

3.3.3 Mixed Analyses

In order to account for the matching effects, Borsley (1984), Hirschbuehler (1976) and Vergnaud (1974), have proposed that the wh-phrase moves first to Comp and then to the head position.¹⁸ Crucially, both structures are exploited: Bresnan and Grimshaw's structure for completely matching cases and G&R's structure for non-matching cases. A version of this approach has been proposed for MG by Philippaki & Stavrou (1986). They argue that in the matching cases the phrase raises into head position, whereas in the non-matching ones, it remains in COMP. The basic problem an analysis along these line faces is that it seems to involve improper movement from an A' to an A position (cf. Chila-Markopoulou 1991).

A version of these mixed proposals is put forth in Kayne (1995). In his brief discussion of English FRs, he suggests that *-ever* is in D°. The wh-phrase raises from inside its clause first to Spec,CP and subsequently incorporates into the D°. This is a case of N-to-D movement, which is obligatory since *-ever* has a clitic nature and for reasons of Case licensing, though the latter notion is not further specified. According to Kayne, this analysis explains the impossibility of (38), where *-ever* cannot co-occur with an overt determiner:

¹⁸ Also Haider (1988) proposes a kind of mixed analysis where the wh-phrase is both the head of the NP and the specifier of CP.

(38) *We will hire the people whoever you choose

However, the 'cleft-focus' data presented above indicate that such an analysis cannot be along the right lines.

4. Matching and Positions

4.1. MG

Before turning to the internal syntax of the free relatives in MG let us first deal with matching vs. non matching relatives in subject/object position.

With respect to matching FRs in object positions and non-matching FRs as the ones in (28&29b), the account given in Hirschbuehler & Rivero (1981) can in principle be maintained. A number of qualifications with respect to the former will follow in the section dealing with the internal structure of FRs.

Let us now have a closer look at subject and dislocated FRs. As we have seen in section 3.2, the generalization that *pro-drop* languages allow for non-matching relatives in subject position is not correct. By this, however we do not imply that the *pro-drop* nature of the language is not a factor determining the form of FRs. What is meant is that the data are more subtle than originally assumed. Thus, there appear to exist cases where FRs in subject position are matching. Below we repeat the relevant cases. (39a) is an example with a optionally matching FR in preverbal subject position, (39b) shows that a matching FR is obligatory in post-verbal subject position. (Note that MG does not stand alone in this contrast: similar facts are reported in Grosu (1994) for Romanian and Izvorski (1996) for Bulgarian):

- (39) a. Opjon / opjos piaso tha timorithi
 whoever-ACC /-NOM catch-1S FUT be punished-3PL
- b. Tha timorithi opjos / *opjon piaso
 FUT be punished-3SG whoever-NOM/*ACC catch-1Sg

How is this contrast to be accounted for? First of all with respect to the non-matching FRs in preverbal subject position, we would like to propose that they involve left dislocation. Crucially, FRs -which are DPs- behave like the other DP preverbal subjects in languages like MG, a *pro-drop* language, (see Philippaki-Warbuton 1985, Tsimpli, 1990, Alexiadou & Anagnostopoulou 1995, 1996a a.o. for discussion). Left-dislocated DPs are base generated in initial position and thus always non-matching.¹⁹ The fact that in languages like German and English matching FRs appear in preverbal position FRs has to do with the unavailability of *pro-drop* in these languages. In these languages but not in MG or Spanish the subject DP has to move from its base position to Spec,IP to check the EPP feature in I (see Chomsky 1995 and Alexiadou & Anagnostopoulou 1995, 1996a for a comparative study of subjects in Null Subject Languages and Germanic). Our proposal follows the intuition in Hirschbuehler and Rivero (1983) unifying dislocated and preverbal subject positions. Supporting evidence for our claim is presented below. As (40) shows, left- dislocated FRs precede wh-constituents:

¹⁹ Usually in these cases co-indexation between the left-dislocated FR and *pro* inside the IP is assumed.

- (40) opjon nikisume stus telikus ti tha kerdisi
 whoever-ACC win-1PL in the finals what will he win

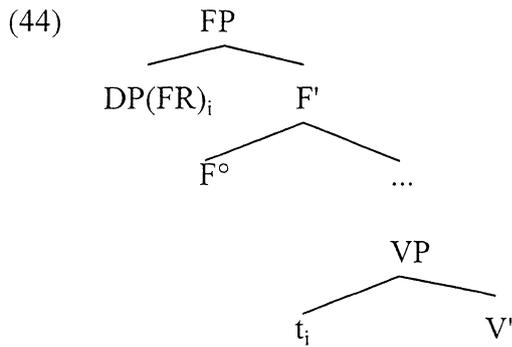
As discussed in Alexiadou (1994) for MG, topics precede wh-constituents (see also Tsimpli 1990). (40) illustrates precisely this point. Therefore, the behavior exhibited by non-matching subject FRs is essentially the same as the one of dislocated FRs in general. The only difference between dislocated object FRs (which can be matching (cf. 41a)) and non-matching subject FRs is the presence of an overt clitic in the former which pattern similarly to left-dislocated object NPs:

- (41) a. Opjon argisi ton timoroun
 whoever-ACC is late cl-ACC punish-3PL
- b. to Jani ton timorisan
 the-John-ACC cl-ACC punished-3PL

Let us turn now to matching FR in preverbal subject (27a) as well as object (27b) position. The matching effect exhibited in these cases is a characteristic of focused constituents (see Tsimpli 1990 and Aggouraki 1990 on Focus). One major difference between dislocated and focused noun phrases concerns the type of case assigned. Dislocated noun phrases bear the case assigned to the resumptive clitic they are linked to (instances of Left Dislocation (cf. 42b)) or the default Nominative case (instances of Hanging Topics (cf. 42a)). For discussion on the differences between Left-Dislocation and Hanging Topics in MG see Alexiadou (1994), Anagnostopoulou (1994), and generally Cinque (1990) a.o. Focused noun phrases bear the case assigned to the argument position they are linked to (cf. Tsimpli 1990 and 43b below):

- (42) a. I fitites, oli i kathigites tous ipostirizoun
 the students-NOM all the professors cl-ACC support-3PL
 'The students all the professors support them'
- b. Tus fitites, oli i kathigites tus ipostirizoun
 the-students-ACC all the professors cl-ACC support-3PL
 'The students all the professors support them'
- (43) a. * I FITITES ipostirizoun oli i kathigites
 the students-NOM support-3PL all the professors
- b. TOUS FITITES ipostirizoun oli i kathigites
 the-students-ACC support-3PL all the professors

This is exactly the pattern exhibited by matching preverbal subject FRs; they bear the case assigned to the argument position they are linked to. We would like therefore to argue that matching subject FRs are instances of focus, at least some of them (see also Izvorski 1996 for a similar conclusion independently). These FRs are sharply different from the ones that we proposed to analyse in terms of left dislocation. Rather, these are moved to clause initial position in a manner parallel to the movement of focused constituents in MG. Crucially, these FRs are arguments and are linked to an argument position through a movement chain. This is illustrated in (44):



We will come back to matching subject cases shortly, after we examine the non-matching preverbal object FRs, like (27b) repeated here as (45):

- (45) Opjos argisi ton timoroun
Whoever-NOM is late cl-ACC punish-3PL

These are clearly not instances of focus. First, as noted, a typical characteristic of focus is the absence of a resumptive clitic pronoun and in (45) a clitic is present. Second and most importantly, Focus preverbal object FRs are possible in Modern Greek, but they are always matching and bear heavy/focal stress as the contrast in (46a&b) indicates. This is expected under the assumption that focused constituents are fronted from their base position to Spec,FP:

- (46) a. OPJON ARGISI timoroun
Whoever-ACC is late punish-3PL
- b. *OPJOS ARGISI timoroun
Whoever-NOM is late punish-3PL

What about (45) then? We propose that (45) is an instance of a Hanging Topic, also base generated in initial position. The default Nominative case and the presence of a resumptive clitic are characteristics of Hanging Topics. Furthermore, these cases pattern like Hanging Topics with respect to two more diagnostics. Hanging Topicalization is a root phenomenon, as indicated by the ungrammaticality of (47). Moreover, Hanging Topics are characterized by the presence of an emphatic pronoun, as shown in (48).

- (47) *o Janis ipe oti o Nikos den ton andehi
the John-NOM said that the-Nikos-NOM NEG cl-ACC stand-3S

- (48) O Janis, afton den ton andeho
the-John-NOM him NEG cl-ACC stand-1S

This is exactly the behavior we observe with object non-matching FRs in preverbal position:

- (49) O Janis ipe oti opjon/*opjos argisi
the-John-NOM said that whoever-ACC/whoever-NOM is late
ton timoroun
cl-ACC punish-3PL

- (50) Opjos/*Opjon argisi, afton ton timoroun
 whoever-NOM/whoever-ACC is late him cl-ACC punish-3PL

Returning now to the matching preverbal subject cases like (27a/39a), we would like to make a few clarifying points. We proposed that these cases are instances of focus. In fact there are two varieties of matching preverbal subject FRs. Those that are focused and which are characterized by a heavy/focal stress. FRs of this sort are essentially answers to the question "Who will be punished" (cf. 51). But there is another variety of matching preverbal subject FRs, those that do not bear heavy stress but are characterized by an intonational break (cf. 52):

- (51) OPJOS PIASO tha timorithi
 whoever-NOM catch-1S FUT be-punished-3S
 'Whoever I catch will be punished'

- (52) Opjos piaso, tha timorithi
 whoever-NOM catch-1S FUT be-punished-3S
 'Whoever I catch will be punished'

We propose that the latter are Hanging Topics. They bear the default Nominative case and they are not allowed in embedded contexts (cf. 53). Moreover, they do permit an emphatic pronoun (cf. 54):

- (53) O Janis pistevi oti *opjos/OPJOS piaso
 the John-NOM believes that whoever-NOM catch-1S
 tha timorithi
 FUT be punished-3S

- (54) Opjos/*OPJOS piaso aftos tha timorithi
 whoever-NOM catch-1S him FUT be punished-3S

Let us conclude this section by discussing postverbal FRs which are also matching as we have shown above (cf. 26/39b). Postverbal subject in general in a language like MG are either focused or part of the focus (see Alexiadou 1995 for discussion). However, one could not possibly attribute the appearance of matching relatives in these positions to their 'focus' nature. What seems to be essential for their matching properties is the syntactic position they occupy which is an argument position. In these cases, the FR remains in Spec,VP as all subjects in inverted constructions in MG (see Alexiadou & Anagnostopoulou 1995, 1996a for discussion). In support of this, consider the following strings:

- (55) a. ihe fai kala opios/*opion ihame kalesi sto parti
 has eaten well whoever-NOM/whoever-ACC had-1PL invited to-the-party
 b. ihe fai kala o Janis
 has eaten well the-John-NOM

(55a) is parallel to (55b). The order of the elements in the above examples, is participle, light manner adverb and subject. In Alexiadou (1994) the relative order of the participle, and the light manner adverb which marks the left edge of the VP, was taken as evidence for arguing that the participle has moved out of the VP to the AspP (and see Varlokosta, Vainikka and

Rohrbacher 1996 for a similar proposal on the basis of acquisition data). In both cases the subject follows the adverb. Hence, we can conclude that the subject (the FR and the DP) is VP internal. Thus, what seems to be crucial for the matching factor is the argument vs. non-argument position. From the above facts we can conclude that FRs in argument position are necessarily matching (see also Izvorski 1996 for similar ideas). Subject FRs which are left dislocated need not be matching. Moreover, object and subject Hanging left dislocated FRs which are base generated in initial position are also expected to be non-matching.

4.2. Some Comparative Remarks

Strictly matching languages such as German allow for non-matching FRs in dislocated positions (data from Grosu 1994). However, languages such as English and French have matching FRs even in contexts of left-dislocation. As known, pied-piping is generally banned in English (cf. 56b&c [c from Grosu 1994]).

- (56) a. wonach man eifrig strebt, das bleibt oft unerreicht
 what-after one eagerly aspires, that remains often unattained'
 'That towards which one eagerly aspires that remains often, beyond
 reach'
 b. ?*To whatever place you go, I do not care
 c. *With whom you spoke, I do not want to see him any more

For the German cases an analysis along the lines of our proposal for dislocated FRs in MG is in order. English and French pose a problem for such an approach. However, witness the following example which show that dislocated FRs in English at the left edge are not that bad:

- (57) In whatever state he is, just ignore him

If the judgements in (57) turn out to be widely accepted, then even in English in dislocated positions non-matching FRs are possible. Thus, their treatment can be parallel to the Greek cases.

Languages such as Classical Greek, Latin and Gothic permit non-matching FRs in object position as well. As Grosu (1994) points out, in those cases what seems to be pied-piping is nothing other than what he calls *Kase*. Under his view both Prepositions and Case are viewed as special instances of a more general category called *Kase*. In other words, Prepositions are regarded as a sort of Case (see also Suñer 1984). *Kase* is assumed to be the highest functional category in a sequence of projections of a nominal extended projection. Grosu argues that universally material that it is not included in the Extended Projection of the wh-phrase cannot be pied-piped. Also Emonds (1993) proposes that prepositions and morphological case markings actually play the same role in case-assignment. This property is open to linguistic variation. If this is true, and in order to be able to reach a conclusion a more careful and detailed study of corpora of the above mentioned 'dead' languages is needed, then these cases can be straightforwardly accounted for.

Having dealt with the matching/non-matching FRs with respect to the positions they occupy, let us turn to some details of their internal syntax and to the issue of Case-Matching.

4.3. D-CP and Case Matching

As mentioned, we assume that FRs are nominal constructions. Their clausal type internal syntax is linked to the presence of a CP which is embedded to the nominal head responsible for the nominal properties of the constructions. We take this nominal head to be a D head. That a nominal head must be assumed to occupy the head position follows from the fact that these constructions show exactly the distribution of uncontroversial nominal constructions (cf. the discussion in section 4 and the appendix). We believe that the presence of D actually makes the clause into a nominal argument. As Borsley & Kornfilt (1996) point out clausal constructions with nominal features are a consequence of the association of verbal functional categories with one (or more) nominal functional categories, appearing above any verbal functional categories. Thus, the possibility of CPs to appear in positions strictly reserved for DPs is linked to presence of the determiner.²⁰

Stavrou & Philippaki-Warbuton (1987) argue that the suffix 'o-' which differentiates between question wh-phrases and free relative pronouns (see footnote 3) is situated in D° given that it is very similar to the definite article *o* 'the'.²¹ If this was the case, we could in principle account for the adjacency between the 'o' in D° and the wh-word in Spec,CP and the movement dependencies observed. However, there are some problems with such a proposal. The fact that we find non-matching relatives preceded by a preposition (cf. 58), strongly suggests that the whole phrase is in Spec,CP:

- (58) m'opjon epeze ton kerdize
 with whoever-ACC played-3S cl-ACC won-3S
 'lit- She won whoever she played against'

The light preposition that precedes the wh-pronoun could potentially be analysed as a case marker (cf. Vergnaud 1975 and the analysis of the English cases *to however many people one speaks, it is never enough* in Kayne 1995. See also Suñer 1984 and Grosu 1994). If this is the so, then the preposition must be part of the projection of the wh-phrase. Crucially, one cannot argue that the preposition is base generated in D° together with 'o'. Thus, such a proposal under which 'o-' is in D cannot be maintained.

Moreover, we proposed that the wh- pronoun obligatorily raises to Spec, CP. It is clear that the movement to Spec,CP is A'-movement due to the presence of some strong nominal (wh) feature in C (Chomsky 1995).²² This being so, how can we account for Case Matching? Kayne (1995) implicitly proposes that Case Matching is the result of the movement of the wh-phrase from Spec,CP to D°. We will show that such a movement is not necessary.²³

²⁰ Roussou (1991) in her discussion of MG nominalized clauses (see footnote 16) accounts for the presence of the determiner as follows: the determiner is present for reasons of case assignment to a CP, since as Kayne (1984), Scabolcsi (1987), Ouhalla (1988), among others argue the function of C is to turn the proposition into something that can function as an argument. Roussou argues that if the above proposals are on the right track, then nominalization is not due to D, since C is responsible for this role, but rather D is present for case reasons.

²¹ Actually Stavrou & Philippaki-Warbuton in order to derive the adjacency propose that the wh-word subsequently right-adjoins to D°.

²² Note that the wh-phrase in itself cannot move to check its case in a higher position as this would be an instance of improper movement. If checking of case-features takes place these would be the features of the whole DP which includes the FR.

²³ Kayne crucially follows Larson's (1987) analysis. Note that Kayne proposes that only the wh-head moves to D°.

When the FR appears in a non argument position the wh-phrase obeys the case and subcategorization requirements of the predicate of its clause. When the FR appears in argument position, the DP which includes the FR and the FR pronoun have the case that the non-complex DP arguments of the matrix predicate would have:

- (59) a. agapo to Jani
 love-1S the-John-ACC
 'I love John
- b. agapo opjon me agapa
 love-1S whoever-ACC me loves
 'I love whoever-ACC

In (59b) the FR pronoun shows up in accusative case, the case the whole FR clause is associated with. In the embedded CP though, the pronoun is interpreted as the subject and should be associated with Nominative case. In (60) we see that the presence of a clitic in the genitive is obligatory, but the wh-pronoun carries accusative which is associated with the matrix predicate.

- (60) tha agapiso opjon tu dosi ena vivlio o pateras mu
 FUT love-1S whoever-ACC cl-GEN give-3S a book-ACC the-father-NOM my
 *opjou 'whoever-GEN'
 *s'opjon 'to whoever'
 *opju tu 'whoever him-GEN'

In the following we attempt an approach to Case matching which dispenses with the problems of the COMP Accessibility Hypothesis, following the intuitions in Suñer (1984), Grosu (1994) and Marantz's (1991) proposal concerning Case Theory. As we have already pointed out, matching is relevant for the morphological component and it does not concern abstract syntactic identity. In other words it seems to be relevant for the **PF** and **not** for the **LF** interface. As is well known, all NPs appear at PF bearing a certain case affix. Marantz (1991) argues that the licensing of arguments is not related to the presence of Case or of any morphological properties, but rather the surface appearance of arguments is linked to the relations these bear to items in whose domain they appear. Case affixation takes place **after Spell-Out** and more specifically at Morphological Structure (MS). *Case realisation* is based on what 'governs' any link in the chain NP headed by N+Case and depends on which elements at MS govern the DP that is headed by the D that governs the N to which the case affix is attached.

Let us assume that 'government' can be recasted in terms of the notion of *complement domain* of a head which includes the complement of that head and whatever this complement dominates (see Chomsky 1995: 178). In other words, let us assume that what matters for Case realisation is in whose element's complement domain the NP (or any link of its chain) will appear at MS. Now after Spell-out and thus at MS the N+Case under investigation, i.e. the wh-phrase, appears in the complement domain of D° since it appears in the Spec, of the complement of D°. D° appears in the complement domain of the higher predicate which determines the case features associated with the position of the FR and thus with the wh-phrase. The specific case requirements in a configuration like (59b) force accusative case

affixation.²⁴ Similar configurations do not arise in dislocated contexts, i.e. the D° does not appear in the complement domain of any predicate, thus non-matching is possible. The wh-phrase, which must enter PF with Case specification, receives the Case associated with a link of its chain.

This proposal can also account for the data in (60). However, something more needs to be said here concerning the obligatory presence of a genitive clitic. As discussed in Alexiadou & Anagnostopoulou (1996b) for Restrictive Relative Clauses with genitive clitics, in MG the Goal argument can be introduced by an overt P. Alternatively, the Goal is introduced by a covert P which is licensed by a clitic:

- (61) a. edosa to vivlio sti Maria
gave-1S the-book-ACC to-the Mary-ACC
'I gave the book to Mary'
- b. tis edosa to vivlio tis Marias
cl-GEN gave-1S the-book the-Mary-GEN

Relativization of goal arguments is possible in languages where a dative agreement marker, in the form of a clitic, is present IP internally. (61c) illustrates a head-raising analysis of these constructions:

- c. o [_{CP} anthropos_i pu [_{IP} tu eftiaksa ena keik [_{PP} O_P [_{NP} t_i]]]]
the person that cl-GEN made a cake

In this case, the PP remains in situ and the clitic serves to identify the empty preposition which is stranded after the NP moves to Spec,CP. More specifically, the authors follow den Dikken's (1992) proposal, according to which empty prepositions in languages with rich morphological case can be licensed by the morphological case markings obeying the principle below:

- (62) An empty dative preposition is licensed iff (i) or (ii)
(i) [p0] is identified by dative case morphology
(ii) [p0] is incorporated at some level into a verb

As Alexiadou & Anagnostopoulou (1996b) point out, the genitive morphology in Greek is not sufficient to identify an empty P. Hence, to account for the Greek facts in (61c) they assume that the clitic is needed to identify the empty preposition after the NP has moved. In other words the clitic must be treated as the essential part of dative morphology in Greek. The genitive morpheme alone is not sufficient to identify an empty preposition. The same reasoning can account for the clitic in (60): it is needed to identify the empty preposition after wh-movement to Spec,CP.

5. Conclusion

In this paper we have discussed the semantic and syntactic properties of FRs in MG. We have shown that FRs in MG show quantificational variability regulated by their environment.

²⁴ The wh-phrase in focused matching FRs receives the case it would receive in its argument position being linked to it via a movement dependency.

Moreover, we have discussed the patterns of (non-)matching and provided an account for Case Matching exploiting theories of *Late Insertion* (cf. Marantz 1991) and the technical apparatus in Chomsky (1995).

6. Appendix: FRs are not CPs

FR clauses bear a close superficial resemblance to interrogative complements in a number of languages. Both are introduced by *wh*-words and both contain gaps:

- (1) a. Je me demande qui tu as vu (French)
 I me-DAT ask who you AUX seen
 'I wonder who you saw'
- b. J' ai vu qui tu as vu
 I AUX see who you AUX seen
 'I saw who you saw'
- (2) a. Ich frage mich, was Du willst (German)
 I ask myself what you want
 'I wonder what you want'
- b. mach was Du willst
 do what you want
 'Do what you want'

Hence, a number of researchers have attempted to assimilate FRs to indirect *Wh*-clauses (Jacobson 1988, 1995, Rooryck 1994, Afolli 1994). The main arguments used by the advocates of this approach are, first, the morphological identity of FRs and indirect *Wh*-questions, and second, their semantic similarity. Thus, Jacobson (1988, 1995), for example, suggests that FRs and *wh*-questions have a similar meaning which should be distinguished from that of a relative clause. In particular, according to Jacobson a relative clause 'which I ate' denotes a set of individuals which I ate. Therefore, relative *which* is an identity function on properties. On the other hand, the *wh*-phrase in 'what John ate' has as its predicative meaning the set of maximal plural entities that John ate.

Although FRs in some languages seem to have a close superficial resemblance to *wh*-complements, there is a large number of properties which distinguish the two:

(i) As we have already seen, in several languages, MG among them, FRs are introduced by morphologically distinct elements. The examples from MG are repeated below:

- (3) a. Potisa pjos/*opjos irthē (Question)
 asked-1Sg who / whoever came-3Sg
 'I asked who came'
- b. Opjos /*pjos theli erhete (FR)
 whoever-NOM / who want-3Sg come-3Sg
 'Whoever wants, may come'

(ii) Contra Jacobson (1988, 1995), Tredinnick (1995) points out that there are some interpretational differences between interrogatives and FRs. Crucially (4a) is equivalent to (4b) and not to (4c), whereas (5a) is equivalent to (5c) and not (5b). In other words, the interpretation of the gap in indirect questions is an answer to a question, whereas the content of the gap in FRs is the content of the FR as a whole:

- (4) a. John knows what Mary ate
 b. John knows the answer to the question what Mary ate
 c. *John knows x. Mary ate x.
- (5) a. Mary ate what John cooked
 b. *Mary ate the answer to the question what did John cook
 c. Mary ate x. John cooked x.

(iii) FRs and interrogatives behave differently with respect to matching effects. Wh-clauses do not seem to show matching effects:

- (5) Rotise *posus / posi ithelan na erthun
 asked-3Sg how many-ACC / -NOM wanted-3Pl to come

Further support comes from the fact that a kind of FR construction which has been uncontroversially analyzed as a bare CP, namely infinitival or subjunctive FRs (cf. Grosu 1989, 1994) do not exhibit matching effects, unlike the garden variety of FR constructions and similarly to interrogatives.

(iv) FRs differ from indirect wh-clauses with respect to island properties: in particular, extraction of arguments out of the wh-NP gives rise to strong ungrammaticality in the case of FRs as opposed to indirect wh-questions. If FRs were CPs then we would expect no difference in grammaticality between (6a) and (6b), since MG doesn't obey the wh-island constraint (cf. Horrocks & Stavrou 1987), and only a weak wh-island violation in English (7b), both contrary to fact:

- (6) a. Aftos ine o politikos-_i pu den ksero pjos-j dorodokise t-_i
 this is the politician that NEG know-1Sg who-NOM bribed-3Sg
 b. *Aftos ine o politikos-_i pu miso opjon-j dorodokise t-_i
 this is the politician that hate-1Sg whoever bribed-3Sg
- (7) a. ?These are the readers to whom I know what books
 the NYT recommends
 b. *These are the readers to whom I buy whatever books
 the NYT recommends

(v) Wh-questions in MG must be accompanied by the definite determiner when they appear in the subject position of the sentence. FRs cannot (cf. Philippaki & Stavrou 1986):

- (8) To ti psemata lei den perigrafete
 the what lies say-3sg not be described
 'It cannot be described what lies s/he says'
- (9) *To oti vivlia grafei pouliounte amesos
 the whatever books write-3sg are sold immediately
 'Whatever books s/he writes are sold immediately'

Further differences have been pointed out in Bresnan and Grimshaw (1978):

(vi) In English, *-ever* is always a bound form in FRs, whereas it can be unbound in interrogatives:

- (10) a. *I kissed who he ever kissed
 b. Who did he ever kiss?

(vii) Interrogatives are sentential constructions, whereas FRs appear in NP positions as complements of Vs and Ps:

- (11) a. *Sara ate which dish John cooked
 a'. Sara wondered which dish John cooked
 b. Sara ate what John cooked
 b'. Sara ate broccoli
 c. We will live in whatever town you want
 c'. We will live in Athens

(viii) Interrogatives may appear extraposed from it, FRs may not:

- (12) a. It is not obvious to me whether you are tall enough
 b. *It surprised John whoever came

Given this evidence, we conclude with other researchers that FRs are DPs (see Larson 1987, Hirschbuehler & Rivero 1981, Grosu 1994, among others).

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