



University of
Massachusetts
Amherst

Non-Indicative *Wh*-Complements of Possessive and Existential Predicates

Item Type	article;article
Authors	Izvorski, Roumyana
Download date	2024-10-12 18:38:54
Link to Item	https://hdl.handle.net/20.500.14394/36896

Non-Indicative *Wh*-Complements of Possessive and Existential Predicates *

Roumyana Izvorski

University of Pennsylvania and MIT

1. Introduction

This paper discusses a little-studied phenomenon of a non-indicative *wh*-clause being interpreted as an indefinite. The phenomenon is found in Greek, Yiddish, Hebrew, and the Romance and Slavic languages. It involves the embedding of an infinitival or subjunctive *wh*-constituent under a possessive/existential predicate. Consider (1):

- (1) a. Yeš [ma laʔasot]. (Hebrew)
be-3SG what do-INF
'There is something to do.'
- b. El Coronel no tiene [quien le escriba]. (Spanish)
the colonel not have-3SG who him write-3SG.SUBJ
'Noone writes to the colonel.' (lit. 'The colonel has noone to write to him.')

In (1a), an infinitival *wh*-clause is embedded under an existential verb; in (1b), a subjunctive *wh*-clause is the complement of a possessive.¹ The common meaning of the matrix predicates is the assertion of existence; this meaning is typically expressed by either *be* or *have*. Predicates that assert true possession, e.g. *owe*, are prohibited; similarly unavailable are the various other interpretations of *be* and *have*, e.g. causative, obligational, experiential.

*Many thanks to Sabine Iatridou, Rajesh Bhatt, Daniel Büring, Noam Chomsky, Irene Heim, James Higginbotham, Pauline Jacobson, Richard Kayne, Tony Kroch, Orin Percus, David Pesetsky, Yael Sharvit, and Arnim von Stechow for insightful discussions. For help with the data, as well as for comments, I am especially grateful to Arthur Stepanov and Sandra Stjepanović; thanks are also due to Artemis Alexiadou, Elena Anagnostopoulou, Željko Bošković, Wayles Browne, Caterina Donati, Alexis Dimitriadis, Olga Fernandez, Danny Fox, Martin Hackl, Michela Ippolito, Ellen Prince, and Philippe Schlenker.

¹The parameters infinitival vs. subjunctive and *have* vs. *be* are independent of each other, and allow for various combinations. In languages that in principle have a subjunctive and an infinitive, like Romanian, Spanish, Italian, both types of non-indicatives are found in this construction (the same is true for Serbo-Croatian, though the split between infinitive and subjunctive there is dialectal). In Russian, however, which also has both a subjunctive and an infinitive, only the latter is allowed. One might think that this has something to do with the fact that the existential/possessive verb in this language is *be* (in the above-mentioned languages it is *have*) and for some reason *be* cannot embed *wh*-subjunctives. Yet this is not so, as evidenced by the fact that in Old Spanish the construction had a matrix *be* and a subjunctive *wh*-clause.

The sentences in (1) share an interpretation with the related English examples in (2a), which have an indefinite in place of the *wh*-phrase.² The English sentences are ambiguous between a deontic necessity reading, (2b), and a non-deontic possibility one, (2c).

- (2) a. There is/I have something to do.
 b. There is something that has to be done/I need to do.
 c. There is something that can be done/I can do.

The sentences in (1) are unambiguous; they lack the deontic reading and only have the reading corresponding to (2c). Informally, the modality is one of availability; this is the type of modality in *I can (always) talk to John* – not in view of a permission or of an ability to talk (as deontic and dynamic possibility would have it), but because John is simply there. More formally, we are dealing with an existential modal restricted by a bouletic accessibility relation.

The phenomenon exemplified in (1) is of interest for two main reasons. For one, it has rather peculiar characteristics and is subject to some particular constraints, neither of which has an immediately obvious explanation. Here I will address the following issues: (i) the categorial status and syntactic position of the *wh*-pronoun; (ii) the fact that the *wh*-constituent has to be non-indicative; and (iii) the fact that the matrix predicate is limited to possessives and existentials.³ One would want to understand these peculiarities and reduce them to general properties of the grammar. That in itself is a worthwhile endeavor. But there is a second reason why the phenomenon is of interest, and that is the fact that it is a place where a number of theoretical questions, both syntactic and semantic, intersect. In particular, the phenomenon is of relevance for (i) the semantics of free relatives and questions; (ii) the role of indicativeness for the interpretation and syntactic distribution of *wh*-clauses; (iii) the *have-be* connection; (iv) the availability of abstract decomposition of predicates; and (v) the proper understanding and analysis of the Definiteness Restriction.

2. Constraints on the Phenomenon and Possible Analyses

I will now illustrate in greater detail the peculiarities of the phenomenon for which an explanation will be given in the analysis proposed here. First, the construction must contain a *wh*-pronoun. The nature and position of this pronoun are not at all clear. In principle, several syntactic analyses are conceivable and have actually been suggested in the literature. The phenomenon is assumed to involve a free relative in Pesetsky (1982) for Russian, Rivero (1986) for Spanish, Grosu (1994) for Romanian, and Grosu and Landman (1997).⁴ Analyzing the *wh*-constituent as a free relative is intuitively appealing from both a syntactic and a semantic viewpoint. Syntactically, free relatives behave like noun phrases, and semantically they are interpreted as individuals; both the syntactic category

²'In place' is meant strictly according to word order. Here I will not commit to a particular syntactic analysis for the English cases.

³Other important issues like the source of the modality, the restrictions on the range of modal meanings, i.e. the lack of the usual ambiguities associated with modals (present also with modally interpreted infinitivals, as shown in Portner 1993), the relation between the arguments of the two clauses, or the exact syntax of the construction, will not be discussed here.

⁴Only the latter two studies devote more attention to the phenomenon; Pesetsky and Rivero simply mention the construction as an example of a free relative.

and the semantic type are appropriate for the associate in the *there is* construction or for the complement of a possessive. However, as I will show, if the *wh*-constituent is indeed a free relative, then it must be attributed some rather unusual properties.

Another possibility has been pursued in the literature, regarding the nature of the *wh*-pronoun, namely, that it is an indefinite in disguise (cf. Rappaport 1986 for Russian and Rudin 1986 for Bulgarian⁵). For an indefinite pronoun to be spelled out with the same signal as a *wh*-pronoun is not inconceivable. It is known that in some languages, e.g. Chinese, Korean, *wh*-words and (at least some) indefinite pronouns are identical in form (cf. Lin 1996 a.o. for a recent discussion). It is also the case that even in languages where the *wh*-pronouns and the indefinite pronouns are phonologically distinct, in certain cases *wh*-words may be used instead of indefinites, cf. (3) from von Stechow (1989):⁶

- (3) Da hat wer/jemand angerufen. (German)
 there has who/someone called
 ‘Someone called.’

I believe that the two phenomena, the one investigated here and the *wh*-/indefinite ‘substitution’ in (3), are closely related, but to properly characterize the connection will not be trivial. For example, some of the languages that have the non-indicative *wh*-complement of *have/be*, do allow the *wh*-/indefinite substitution, e.g. Russian and Serbo-Croatian, whereas others, like Bulgarian, Greek, Spanish, Italian, Hebrew, do not. So, what is important for the present discussion is that (1) is not simply a subcase of the phenomenon in (3).

In sum, the *wh*-pronoun has been analyzed as a free relative or an indefinite pronoun. I will show that the free-relative account cannot be correct, at least not in a simple-minded version that states that the only thing distinguishing the *wh*-constituent from what we are accustomed to calling a free relative is its non-indicative nature. I will not address here in detail the other accounts. I will only mention that the *wh*-pronoun is case- and category-dependent on the infinitival/subjunctive verb and that clitic-climbing out of the non-indicative clause (in languages like Italian and Serbo-Croatian) shows that this clause is not a nominal modifier but a complement to the matrix predicate. Both these arguments show that the *wh*-pronoun is not an argument of the matrix verb. On the other hand, the strongest argument against treating the pronoun as a disguised indefinite is that it obeys all the constraints on *wh*-movement in the respective languages, including obligatory fronting, multiple *wh*-fronting and superiority. I will ultimately propose that the *wh*-constituent has the syntax of a question and I will discuss the implications of such an analysis for the syntax-semantics mapping involved in this particular phenomenon and for the semantics of questions and free relatives in general.

The second restriction discussed here is the requirement that the subordinate clause be infinitival or subjunctive, i.e. non-indicative. Indicative *wh*-clauses are prohibited as complements of possessives and existentials, cf. (4a, b) where an indicative clause is substituted for an infinitive and a subjunctive, respectively:

⁵For Rudin, the indefinite is an argument of the embedded clause and for Rappaport, it is an argument of the matrix predicate (with the non-indicative clause being a reduced relative/purpose clause).

⁶The exact distribution of this *wh*-/indefinite ‘substitution’ is unknown. It seems to be commonly found in environments that license NPI indefinites like *anyone* and prohibit specific, i.e. referential and partitive, indefinites, environments such as e.g. conditionals and yes-no questions. Of course, the problems with characterizing specificity are notorious (cf. Enç 1991, Diesing 1992, a.o.), and at any rate, it is not clear that (non)specificity is the relevant factor behind *wh*-/indefinite ‘substitution’, so I will leave the discussion at that. It appears that there are no interpretative differences between the two options, the *wh*-pronoun vs. the indefinite pronoun but, of course, upon closer investigation, this may turn out not to be the case.

- (4) a. *Est' [čto čitaju/pročitaju]. (Russian)
 be-3SG what read-1SG.PRES/FUT
 'There is something that I (will) read.'
- b. *Imam [kakvo četa/šte četa]. (Bulgarian)
 have-1SG what read-1SG.PRES will read-1SG
 'I have something that I (will) read.'

Finally, the matrix predicate is limited to existential and possessive *be/have* and a small class of other predicates like *find*, *look for*, *choose*. Examples of the phenomenon with the latter class of matrix predicates are given in (5):

- (5) a. On isčet/našel [s kem poexat']. (Russian)
 he look-for-3SG.PRES/find-3SG.PAST with whom go-INF
 'He is looking for/found someone to go with.'
- b. Tja izbra [koj da ja zamesti]. (Bulgarian)
 she choose-3SG.PAST who-NOM SUBJ her replace-3SG
 'She chose someone to replace her.'

Now that we have an understanding of what the constraints on the phenomenon are, I will turn to presenting arguments that the *wh*-clause may not straightforwardly be called a free relative. As mentioned earlier, the free relative account is a priori the most plausible one (and possibly for that reason was assumed in a number of previous accounts). Nevertheless, as I show in the next section, there are a number of reasons, semantic and syntactic, to not accept the free relative analysis, at least not before resolving a range of questions that arise when we compare the *wh*-constituent to 'ordinary' free relatives.

3. Is the Non-Indicative Clause a Free Relative?

3.1. The Interpretation

Free relatives are seemingly headless relative clauses, i.e. they do not modify a nominal but instead themselves appear in an argument or adjunct position in the sentence. It can be shown that the *wh*-clauses known as free relatives have the semantic behavior of strong NPs. They cannot appear in the *there is*-construction, the prototypical Definiteness Restriction environment (Milsark 1974), as shown in (6).⁷ They are acceptable as subjects of individual level predicates, a role precluded to weak NPs, as illustrated in (7). They are also not obligatorily interpreted in the scope of quantificational operators, as the availability of (8b) as a logical form of (8a) shows.^{8,9} Finally, free relatives, just like definite NPs, are necessarily interpreted outside of negation, cf. (9).¹⁰

- (6) *There is [what he cooked] on the table.

⁷Modulo the known factors that permit strong NPs in the *there is* construction, cf. Ward and Birner (1995).

⁸Free relatives can also distribute, as in *Everyone has [what John wants from him]*, where in order for the pronoun to be bound, the free relative has to be interpreted in the scope of the universal quantifier.

⁹In the case of interactions with propositional attitude verbs and modals free relatives can be interpreted at the matrix world index.

¹⁰Here free relatives differ from universal NPs in that the latter allow a reading below negation. This in fact is an argument in favor of giving free relatives with *ever* the semantics of definites rather than universals (an issue of some debate), as the same facts obtain in *John didn't read [whatever article she assigned]*.

- (7) [What she wrote] is brilliant.
- (8) a. Everyone has [what John wants]
 b. $\iota x[\text{thing}'(x) \wedge \text{want}'(j,x) \wedge \forall y[\text{person}'(y) \rightarrow \text{have}'(y,x)]]$
- (9) a. John doesn't have [what Bill wants].
 b. $\iota x[\text{thing}'(x) \wedge \text{want}'(b,x) \wedge \neg \text{have}'(j,x)]$

It has been proposed by Jacobson (1993) (cf. also Dayal 1996, Rullmann 1995 a.o.) that free relatives have the interpretation of definite NPs. This approach assumes Link's (1983) analysis of definites where the common noun determines whether the unique individual is an atom (e.g. *the book*) or a plurality (e.g. *the books*). Free relatives formed with the relativizer *what* are underspecified as to whether abstraction is over atomic individuals or over maximal plural entities (consider *what she read*); otherwise the common noun in the *wh*-phrase determines that (e.g. *what book she read* vs. *what books she read*). This is the analysis of the semantics of free relatives that I will assume here.

On the other hand, the *wh*-complement of *have/be* has the semantic behavior of a weak NP. Crucially, it is allowed as a complement of existential predicates.¹¹ Behavior with respect to stage- and individual-level predicates, to contrast with (7) above, cannot be tested, however. The *wh*-clause only appears as the complement of existence-asserting predicates, so it cannot be the subject of a matrix clause. The closest we can come to a predicational structure with the non-indicative *wh*-clause as the subject is (10). The contrast in (10) is expected, though it is not particularly telling because individual-level predicates in principle are prohibited from the existential construction.¹² The grammaticality of the stage-level predication confirms that the *wh*-clause has the semantics of a weak NP.

- (10) Edva-li ima [koj da ti pomogne] *umen/ \surd dežuren po tova vreme. (Bg)
 hardly have-3SG who SUBJ you help smart/ on-duty at this time
 'There is hardly anyone who can help you *smart/ \surd on duty at this time.'

Similarly, the *wh*-clause behaves as a weak NP as far as scope with respect to operators is concerned. It obligatorily scopes below quantifiers, as the logical form for the example below shows:^{13,14}

¹¹The *wh*-clause also appears as an object of possessives which, similarly to existentials, exhibit semantic restrictions with respect to strong NPs. (cf. Szabolcsi 1981, 1983 a.o.). It will take me too far afield, though, to illustrate here the Definiteness Restriction with respect to possessives.

¹²Of course, Milsark's original explanation for this fact relied exactly on the obligatorily weak interpretation of the subject NP.

¹³Throughout the paper I am using a simplified representation for the modality, since I am not concerned with it for the purposes of the present analysis.

¹⁴In interaction with propositional attitude verbs and modals, the *wh*-clause is interpreted at a world index different from that of the matrix. The interpretation of the following sentences is exactly the same as the non-deontic interpretation of the English translations:

- (i) a. Ana vjarva če Ivan ima [kakvo da čete]. (Bulgarian)
 Ana believe-3SG that Ivan have-3SG what SUBJ read-3SG
 'Ana believes that Ivan has something to read.'
- b. Marija može da ima [kakvo da čete]. (Bulgarian)
 Maria may SUBJ have-3SG.PRES what SUBJ read-3SG.PRES
 'Maria may have something to read.'

- (11) a. Vseki ima [kakvo da čete]. (Bulgarian)
 everyone have-3SG.PRES what SUBJ read-3SG.PRES
 ‘Everyone has something to read.’
 b. $\forall x[\text{person}'(x) \rightarrow \exists y[\text{thing}'(y) \wedge \diamond \text{read}'(x,y)]]$
 $\neq \exists x[\text{thing}'(x) \wedge \forall y[\text{person}'(y) \rightarrow \diamond \text{read}'(y,x)]]$

Finally, the non-indicative *wh*-clause is obligatorily interpreted below negation.

- (12) a. Jovan nema [čto čitati]. (Serbo-Croatian)
 Jovan not-have-3SG what read-INF
 ‘Jovan doesn’t have anything to read.’
 b. $\neg \exists x[\text{thing}'(x) \wedge \diamond \text{read}'(j,x)]$
 $\neq \exists x[\text{thing}'(x) \wedge \diamond \text{read}'(j,x) \wedge \neg \text{have}'(j,x)]$

It has been known at least since Milsark (see also Williams 1984, Heim 1987) that the position open to the Definiteness Restriction in the *there is* construction is a scopal island. Examples (11)-(12) above are in conformity with this generalization. Thus all evidence is consistent with the view that the non-indicative *wh*-clause is interpreted as an indefinite in the existential construction.

A final piece of evidence regarding the semantics of the *wh*-clause comes from the partitive restriction on the *wh*-phrase. The constraint is illustrated in the following sentences; the acceptability of *what (kind of) book* and *whose book* shows that the problem with *which book* is not due to the syntactic embedding of the *wh*-pronoun inside an NP.

- (13) Mne est' [(*katoruju)/ kakuju/ č'ju knigu čitat']. (Russian)
 me-DAT be-3SG which/ what/ whose book read-INF
 * ‘There is some of the books I can read.’
 ✓ ‘There is some kind of book/someone’s book I can read.’

The fact that *which*-phrases are prohibited from the construction is in conformity with the proposal that the *wh*-complement needs to be interpreted as a weak NP. Partitives (including hidden partitives), as known, have the semantic behavior of strong NPs (though it is not trivial to explain why, given that the presuppositional constituent is embedded and the outmost determiner is weak): they obey the Definiteness Restriction, appear as subjects of individual-level predicates, can have higher scope over various types of operators.¹⁵

In sum, examples (6) through (9) illustrate that free relatives have the semantics of strong NPs (or, as assumed here, the semantics of definites). In contrast, examples (1a), (10), (11), (12), and (13) reveal that the *wh*-constituent being investigated here is interpreted as a weak NP, that is, as an indefinite. Thus we establish that the two types of *wh*-clauses have quite different semantic properties.

Two directions can be taken at this point. One possibility is to define free relatives by the class of properties exhibited by strong NPs. Since constructions like the one at issue here have not generally been discussed in the literature, only *wh*-clauses like the ones in (6)-(9) have been considered free relatives; that is, free relatives have in fact been defined

¹⁵It has also been observed in Heim (1987) a.o. that in amount relatives partitives pattern with strong NPs.

as strong NPs. Under this approach, the non-indicative *wh*-complement of possessives and existentials cannot by definition be a free relative, because, as we saw, it has the semantics of a weak NP. The second possibility is to give a more general definition of free relatives, something along the lines of a headless *wh*-clause which is interpreted as, and has the syntactic distribution of, an NP, and allow for there to be two types of free relatives, those that are interpreted as definites and those that are interpreted as indefinites. This is the approach taken by Grosu and Landman (1997) who call the *wh*-clause we are discussing an IRREALIS free relative and constructions like those in (6)-(9) REALIS free relatives. The second approach seems preferable in its generality, after all if NPs can be definite or indefinite, why shouldn't free relatives be. However, for such an approach to be meaningful, it needs to go deeper than what has been said so far (e.g., for Grosu and Landman, several of the distinctions between the two types of *wh*-clauses only accidentally correlate with the weak/strong interpretation). What we need is more than just a classification and for that we first have to find out the full range of properties of *wh*-constructions, both syntactic and semantic, that go together with the strong/weak interpretation, and then offer an explanation for why certain properties always appear together. It is the goal of this paper to contribute to such an enterprise. For the purposes of the discussion, I will only refer to *wh*-constructions of the type in (6)-(9) as free relatives.

3.2. The Morphology and the Syntax

Let us first consider the morphological arguments against analyzing the non-indicative *wh*-clause as a free relative (and remember, by free relative now we mean the class of headless *wh*-constructions with a strong NP interpretation). Unlike the situation in the Romance languages, Yiddish, Hebrew, and most of Slavic, in Bulgarian and Greek free relative pronouns are different in form from the question words. The *wh*-pronoun used in the construction we are discussing is unambiguously the interrogative pronoun.¹⁶ The following illustrate this point:

- | | | | | |
|------|--------------|-------------------------------------|---------------|-------------------------------------|
| (14) | <i>kojto</i> | 'who _{FR} ' (Bulgarian) | <i>o-pjos</i> | 'who _{FR} ' (Greek) |
| | <i>koj</i> | 'who _Q ' | <i>pjos</i> | 'who _Q ' |
| | <i>koj</i> | 'who' in the \exists construction | <i>pjos</i> | 'who' in the \exists construction |

Another argument comes from considerations of matching effects. As originally discussed in Grimshaw (1977), the *wh*-pronoun in free relatives has to be of the appropriate category and case for the position in which the free relative itself appears, i.e. if the free relative is in an accusative case checking position, then the *wh*-phrase has to be accusative and an NP/DP, not dative or a PP. Free relatives in the relevant languages exhibit matching effects (I cannot illustrate this here for lack of space). The *wh*-constituent at hand, however, shows no matching effects (as noted also in Rappaport 1986, Rudin 1986, Grosu 1994, Grosu and Landman 1997). Example (15), from Serbo-Croatian, serves to illustrate the absence of matching effects in the *wh*-complement of possessives/existentials.

- (15) Nemam {se [_{PP} za koga brinuti] / [kome pisati]}. (S-C)
 not-have-1SG refl for who look-after-INF / who-DAT write-INF
 'I don't have anyone to look after/to write to.'

¹⁶The same is true for Old Church Slavonic.

As (15) shows, both a PP *wh*-phrase is possible, in violation of category matching, and a dative *wh*-phrase is allowed, in violation of case-matching. If these *wh*-constructions were indeed free relatives, then we would want to know why they are exempt of the Matching Requirement. Unfortunately, we do not have a clear understanding of the requirement itself. It is sometimes considered that matching (at least case matching)¹⁷ is a post-syntactic, PF phenomenon, because syncretic forms are able to pass the requirement (see Suñer 1984 a.o. for examples), yet this need not be the case, since adopting a view of morphological forms as underspecified for the relevant case features would still enable us to have these case features be active syntactically, i.e. have a syntactic account of (case) matching.

Even in the absence of a definitive analysis of the matching effects in free relatives, we can still use the phenomenon as a diagnostic. Obviously, matching involves some sort of identity of features CP externally and internally. There is no obvious reason why the weak/strong NP interpretation should be correlated with the absence/presence of such matching of features in the *wh*-constructions. Grosu (1994) and Grosu and Landman (1997) propose to account for the lack of matching effects in the non-indicative *wh*-clauses by positing that irrealis FRs are bare CPs whereas realis free relatives have a CP external *pro*-head. In fact, Grosu and Landman also have a proposal that links the presence of a *pro*-head to the strong interpretation; so, if indeed the *pro*-head could account for the matching effects, and it could also explain the necessary strong reading, we would have a principled account of the facts seen so far. However, both links in the above analysis are somewhat problematic. To begin with the reasons for the interpretation, Grosu and Landman's proposal is that any time (and only when) there is syntactic material outside a relative clause, which is somehow interpreted (or semantically determined from) inside the relative, a maximalization operation is triggered, which in effect gives the construction a definite-like meaning. Grosu and Landman do not attempt to explain *why* this should be the case, nor is it clear what semantic role *pro* has and thus in what sense, except trivially, it is interpreted (or semantically determined from) inside the free relative, since all the relevant information is already present CP-internally. Therefore the proposed link between the syntactic presence of a *pro*-head and the strong NP interpretation is not adequately explanatory.¹⁸ Furthermore, there are some conceptual and empirical problems with explaining the matching effects on the basis of the presence of a *pro*-head. The original proposal that *pro* is the head of free relatives is due to Suñer (1983), the main idea being that matching is the mechanism of licensing and identifying *pro*.¹⁹ The appeal of this analysis was in the predictions it made concerning free relatives in subject position: *pro*-drop languages were expected to lack matching effects in subject position as these languages have an independent mechanism of licensing and identifying a subject *pro*. Indeed, as originally shown by Hirschbüler and Rivero (1981), in Spanish and Catalan matching is not required in subject position, whereas in English, German, and French it is. However, in Izvorski (1995), in addition to presenting conceptual arguments against the *pro*-head analysis, I also show that it is not the case that *pro*-drop languages never require matching in subject position, e.g. focused subjects (associates of focus-sensitive adverbs and constituent negation, new-information in question-answer pairs) and post-verbal (but not right-dislocated) subjects always require

¹⁷Larson (1987) has argued that category matching is a semantic phenomenon.

¹⁸In addition, questions are a counterexample to this account as they are bare CPs but are acknowledged by Grosu and Landman to involve maximalization (e.g. Groenendijk and Stokhof's 1982 *exhaustivity*).

¹⁹A similar idea is found in Harbert (1983): the head of free relatives is PRO, unless the free relative is in a subject position in a *pro*-drop language, in which case the head is *pro*.

matching. The particulars of my subsequent analysis of the correlation between *pro*-drop and apparent optionality of matching need not concern us here; what is relevant is that there are reasons to doubt that a *pro*-head can be an explanation for the matching effects in free relatives.

Another difference between free relatives and the non-indicative *wh*-constituent in the existential construction is the (non)availability of *-ever*. It is known that free relatives allow *-ever* and questions in general disallow it²⁰; the *wh*-clause under discussion behaves like a question in this respect:

- (16) On ima [što(*god) skuhati]. (Serbo-Croatian)
 he have-3SG whatever cook-INF
 lit. 'He has what(*ever) to cook.'

It is not clear that the distribution of *ever* is in any obvious sense related to the strong/weak interpretation. Grosu and Landman's proposal is that *ever* is an NPI licensed by the maximalization operation in free relatives²¹ but then one would expect questions to also allow *ever*, given that they too show maximality effects.

To sum up the findings so far, the non-indicative *wh*-complement is unlike a free relative in that (in addition to having the semantics of a weak NP) it allows violations of matching, prohibits *ever*, and involves an interrogative *wh*-pronoun. All these properties, in fact, are shared with questions.

There are further syntactic properties that the *wh*-complement of existential predicates has in common with questions and that distinguish it from free relatives. I do not have space here to discuss them in detail or illustrate them with examples; I will only list them to show the full range of evidence available in support of the claim that the *wh*-constituent under discussion is not a free relative.^{22,23}

1. Extraction Possibilities: *Wh*-extraction out of free relatives is prohibited universally, whereas the construction at hand allows extraction in some languages; the extent to which such extraction is successful in a particular language (i.e. a violation of subjacency or full acceptability) matches the possibilities for *wh*-extraction out of questions (This argument is from Grosu 1994 and Grosu and Landman 1997)
2. Clitic climbing: Clitic climbing is prohibited out of free relatives universally, whereas the construction at hand allows clitic climbing. Clitic climbing out of infinitival questions

²⁰Questions in some dialects actually allow *-ever* though its distribution is restricted.

²¹Larson (1987) gives a similar account of the licensing of *ever*.

²²Grosu and Landman (1997) point out a further difference between free relatives and the *wh*-clause in the existential construction, namely that the latter allows multiple *wh*-phrases. It is true that free relatives in argument or adjunct position inside the clause do not allow multiple *wh*-phrases. If we consider, however, the case of correlatives, which involve a dislocated free relative clause, we can see that free relatives too allow multiple *wh*-phrases. Thus, the availability of multiple *wh*-phrases in the *wh*-clause in the existential construction tells us nothing about whether its *internal* syntax is that of a question or of a free relative. Of course, given that the position open to the Definiteness Effect in the existential construction is clause-internal, we have evidence that the *external* syntax of the *wh*-constituent is not that of a free relative.

²³The availability of sluicing in the *wh*-complement of existentials, at least in Bulgarian, Russian, and Spanish (though apparently not in Italian and Greek), may be another argument in favor of a question analysis. But since I do not know why the crosslinguistic facts should differ, I will not consider this a strong argument.

is at least possible (though very restricted), cf. Rizzi (1982), Kayne (1989), a.o.

3. Pied-Piping: Hebrew requires pied-piping in questions, but disallows it in free relatives. In the construction at hand pied-piping is obligatory, i.e., the construction behaves like a question and not like a free relative.

4. Resumptive Pronouns: Hebrew questions do not allow resumptive pronouns whereas free relatives do. The *wh*-constituent at hand does not allow resumptive pronouns, i.e., it behaves like a question and not like a free relative.

5. Subject-Verb Word Order: In Bulgarian questions, both matrix and embedded, subjects cannot intervene between the *wh*-word and the verb; in free relatives they can. In the construction at hand subject-verb ‘inversion’ is required.

Only the first two of the above facts can straightforwardly follow from a limited structural difference between free relatives and the *wh*-clauses in existential sentences such as the presence vs. absence of a *pro*-head. The rest of the facts suggest that it is the CP-internal syntax in the two types of clauses that is different. This is in conformity with what we already saw in the discussion of matching, the distribution of *ever*, as well as the form of the *wh*-phrase. So, in conclusion of this section, there are a number of arguments – semantic, morphological, and syntactic – in support of a position that the *wh*-clause in the existential construction is not a free relative.

4. If It’s Not a Free Relative, Then What Is It?

In the attempt to contribute to a theory which correlates all of the facts discussed above, I propose that the *wh*-clause in the existential construction has the syntax of a question. Recall that all the morphological and syntactic facts are consistent with a claim that what we have here is an interrogative clause. The challenge then is to explain how the interpretation is determined by the interrogative syntax.

4.1. Do We Really Have a Question Here?

There are several facts, however, that seem to suggest that the *wh*-constituent does not have the semantics of an embedded question. First, a compositional interpretation for an embedded question would predict the interpretation in (17b) as corresponding to the schematized LF in (17a). But this meaning is weaker than what (17a) actually asserts, which is (17c). It is clear that (17b) can be true in a situation where (17c) is false, namely when it is not possible for me to go anywhere.

- (17) a. *be/have* [*where* I go-SUBJ/INF]
 b. There exists an answer to the question where can I go.
 c. There exists a place where I can go.

The second apparent problem is the following. It is known that *wh*-questions permit negative answers, i.e. *I know who came to the party* entails *I know that noone came to the party* in a situation where indeed noone came to the party.²⁴ However, a sentence with the LF in (17a) is incompatible with a situation where what is available is that I go nowhere. Finally, if indeed the *wh*-clause were interpreted as a question, we would also expect *yes-no* questions to be possible in its place. *Yes-no* questions, though, are precluded as complements of *be/have*.

²⁴In various formalisms, the proposition containing a negative quantifier in place of the *wh*-word is included in the denotation of the question.

The above considerations, however, are not sufficient to justify a conclusion that the *wh*-clause does not have the semantics of a question. There are other predicates that embed *wh*-questions but not *yes-no* questions, namely predicates like *be surprising/ amazing/ unbelievable*. In Grimshaw (1977) these have been argued to embed exclamations, however Lahiri (1991) has arguments that they do indeed embed questions and not exclamations; in particular he shows that pair-list readings are possible, as in e.g. *It is amazing who gave what to whom*, which is not characteristic of exclamations. The *wh*-complements of such predicates differ from typical questions in one more respect, namely in that the negative answer is clearly unavailable for them. *It is amazing who came to the party* doesn't entail *It's amazing that noone came to the party* in a situation where noone came to the party.

So, it appears to be possible to claim that the *wh*-clause in the existential construction is indeed interpreted as a question, a view which is consistent with the syntactic and morphological facts discussed above. Let us then see what the appropriate semantics for questions is, that will also account for the interpretation of the construction at hand. And also, we would want to look into the composition of the various *wh*-clauses – questions and free relatives – and localize the distinctions among them. This will be the purpose of the next subsection.

4.2. What Makes a Wh-Clause a Question vs. a Free Relative?

According to the propositional approaches to the semantics of questions, some version of which is commonly assumed (e.g. Hamblin 1973, Karttunen 1977, Groenendijk and Stokhof 1982), questions denote propositions or sets of propositions. The interpretation of the *wh*-constituent in the existential construction, however, is that of an indefinite, again commonly assumed to be a predicate over individuals. One way to reconcile the two is to reject the assumption that the individual variable associated with the *wh*-phrase is existentially closed at the clausal level, i.e. to adopt an analysis in the spirit of Hintikka (1976) and Berman (1991), according to which questions have the LF of open sentences.²⁵ Thus I propose that the question word is not an existential quantifier (unlike Karttunen 1977) and that the binder for the variable is found in the higher clause (more will be said on this in the next section). Under this approach, the *wh*-clause is, in effect, a DRT-indefinite, contributing an individual variable. It now becomes clear why the interpretation for the embedded question in (17a) is (17c) and not (17b): the latter assumes that the interrogative variable is closed off at the clausal level whereas the former reflects the existential binding from the higher clause. The unavailability of the negative answer is also explained. As for the impossibility of *yes-no* questions, an explanation can be found in the type of variable needed by the matrix binder – an individual and not a propositional one.

²⁵The specifics of the Hintikka/Berman-semantics are somewhat problematic. The main concern is that it fails to capture the difference between relative clauses and questions: prior to the application of the various variable-binding mechanisms that according to Hintikka and Berman take place in questions, both types of *wh*-clauses have in effect the same LF, modulo the fact that the variable in the relative clause is abstracted over. Since the variable-binding mechanisms themselves are not specific to questions, i.e. they involve the more general default existential or generic operators and adverbs of quantification, the syntactic and semantic differences known to exist between questions and relative clauses would have to come from elsewhere, something which the uniform LFs posited by this type of approach do not allow for. Secondly, the Hintikka/Berman account is unconstrained: it introduces non-locality in that it allows extension of the variable-binding domain to include the matrix clause (in case binders are available there), regardless of the clause type of the *wh*-clause itself, and before a default operation can apply locally, at the level of the clause.

Let us now see in more detail how the composition of interrogative and free relative *wh*-clauses is different. There are two possible sources for variation in the make-up of a *wh*-clause: the value of C^0 and the denotation of the *wh*-word. Considering the former, we can distinguish a *wh*-feature, which syntactically is responsible for the overt movement of the *wh*-phrase to Spec, CP.²⁶ Semantically, the *wh*-feature in C^0 acts as a λ -abstractor over the variable corresponding to the *wh*-trace. This feature will be present in both interrogative and free relative clauses. We can furthermore recognize an interrogative operator associated with the C^0 position, as suggested by Heim (cf. von Stechow 1993) which is responsible for question-type meanings. This operator would be absent in free relative clauses. The second source of variation, the denotation of the *wh*-phrases I am assuming is given in (18):

- (18) a. interrogative *wh*-words: $\llbracket \text{what}_Q \rrbracket = \lambda P \lambda x [P(x)]$
 b. free relative *wh*-words: $\llbracket \text{what}_{FR} \rrbracket = \lambda P \lambda x [P(x) \wedge \forall y (P(y) \rightarrow y \leq x)]$

As I discussed earlier, I propose to treat interrogative *wh*-words not as existential quantifiers (unlike Karttunen 1977 and in the spirit of Hamblin 1973) but as functions from predicates to functions from individuals to truth values. Free relative *wh*-words, on the other hand, while also not being existential quantifiers, denote a maximal plural or unique atomic individual, a proposal modeled after Jacobson's (1993) treatment of free relatives. They undergo ι -type lowering (Partee 1987), defined as in (19a), resulting in a definite NP interpretation for the free relative, as in (19b):

- (19) a. $\text{IOTA}-(\lambda x [P(x)]) = \iota x [P(x)]$ only if $|\lambda x [P(x)]| = 1$
 b. $\llbracket \text{FR} \rrbracket = \iota x [P(x) \wedge \forall y (P(y) \rightarrow y \leq x)]$

It is possible to further decompose the free relative *wh*-word so that the commonality with interrogative *wh*-phrases is recognized. We can isolate an element responsible for the definite NP interpretation of the free relative clause from the *wh*-element which the free relative *wh*-pronoun shares with the question pronoun. Consider (20):

- (20) a. $\llbracket \text{what} \rrbracket = \lambda P \lambda x [P(x)]$
 b. $\llbracket \text{def} \rrbracket = \lambda P \iota x [P(x) \wedge \forall y (P(y) \rightarrow y \leq x)]$
 c. $\llbracket \text{FR} \rrbracket = \llbracket \text{def}(\lambda x [P(x)]) \rrbracket = \iota x [P(x) \wedge \forall y (P(y) \rightarrow y \leq x)]$

In fact, Bulgarian and Greek provide morphological evidence that $wh_{FR} = wh_Q + \text{def}$ (cf. (14) where *-to* and *o-* have the definite article as a source).

The proposal presented above builds the definite interpretation into the denotation of the free relative *wh*-pronoun, thus defining free relatives as definites. We can now step back and ask whether a *wh*-clause may be a relative and yet have a *wh*-pronoun without the incorporated definite element. The featural composition of such a clause would be $[_{CP} wh_Q C^0_{wh}]$, i.e. it would involve an 'interrogative' (i.e. definiteless) *wh*-pronoun and a complementizer that only has the *wh*-feature and not the interrogative feature. A good candidate for such a clause is the regular NP-modifying relative clause. Yet it turns out that in languages that have a morphologically distinct wh_Q , e.g. Bulgarian and Greek, this

²⁶Crosslinguistically there is variation, of course. In internally-headed relative clauses and questions without *wh*-movement presumably the *wh*-feature in C^0 is checked by movement of the *wh*-feature of the *wh*-phrase, or by the scope markers if such are present.

is not an option for the relative clause – both languages having an incorporated definite element into the relative *wh*-pronoun. So, it appears that the definiteless *wh*-pronoun is indeed interrogative and as such it can be expected to require the Q-feature in C^0 . If this is right, then indefinite free relatives are ruled out in principle.

5. Bringing the Components Together

The goal of the paper, as stated in the introduction, was to give an account of the following issues: (i) the nature of the *wh*-clause; (ii) the fact that the *wh*-constituent has to be non-indicative; and (iii) the fact that the matrix predicate is limited to possessives and existentials. It was already shown that the *wh*-clause is a question. The *wh*-syntax turns the embedded clause into a predicate; the interrogative *wh*-pronoun, not being an existential quantifier, leaves the position of the individual variable open. A free relative *wh*-pronoun is inappropriate as it would determine a definite NP interpretation for the clause.

This brings us to the question about the role of the matrix predicate. If we assume that the existential construction provides an \exists -quantifier, i.e. Milsark's explanation for the restriction against strong NPs in this environment, we will have a source for the existential closing off of the position left open by the interrogative syntax. A free relative would be inappropriate as a complement of the existential because it would provide no variable for the quantifier to bind, violating the prohibition against vacuous quantification. Alternatively, Barwise and Cooper's (1980) account of the Definiteness Restriction may be deemed preferable, and if so, some version of Partee's (1987) Existential Lift or Heim's (1982) Existential Closure could be adopted, resulting in the ultimate interpretation of the interrogative *wh*-clause as an existentially quantified NP. A free relative would be expectedly ruled out under this approach too, because of its strong NP interpretation. Thus it seems that both Milsark's and Barwise and Cooper's approach can be accommodated into an analysis of the distribution of the two types of *wh*-clauses in the existential construction. However, only the former approach predicts the limited distribution of the *wh*-question-turned-indefinite. According to this approach, the matrix is limited to the particular predicates – *have* and *be* – because only they come with an \exists -quantifier. Under Barwise and Cooper's approach, the limited distribution of the *wh*-interrogative clause being interpreted as an indefinite must be given an independent explanation. Thus it appears that if the account presented here is on the right track, it supports one treatment of the Definiteness Restriction over the other.

The proposal made here is also of relevance for the line of investigation into the *have-be* link (cf. Benveniste 1971, Freeze 1992, Kayne 1993), an approach that proposes a derivational relationship between the two predicates (in short *have* = *be* + X^0). While nothing specific has been said about the actual syntax of *be*- and *have*-rooted examples of the phenomenon, the proposal that they contribute an \exists -quantifier suggests that the two predicates are decomposable to a common element. Recall furthermore, that the class of matrix predicates exemplifying the phenomenon is actually larger, including verbs like *choose*, *find*, *look for*. A unified account is possible, assuming a recent proposal in Burton (1995) that predicates like these contain an abstract *have*.

Finally, the non-indicative morphology is responsible for domain extension (as it happens with other phenomena such as NPI licensing, *wh*-extraction, clitic-climbing).²⁷

²⁷A distinction will be necessary between restructuring and non-restructuring infinitives. As known, on a

Indicative clauses are precluded because binding dependences are expected to be resolved at the clausal level, respecting locality.

References

- Barwise J. and R. Cooper. (1981). "Generalized Quantifiers and Natural Language" *Linguistics and Philosophy* 4, 159-219.
- Benveniste, E. (1971). *Problems in General Linguistics*. Coral Gables, Florida: University of Miami Press.
- Berman, S. (1991). "On the Semantics and Logical Form of *WH*-Clauses". Ph.D. thesis, University of Massachusetts, Amherst.
- Burton, S. (1995). "Six Issues to Consider in Choosing a Husband" Ph.D. thesis, Rutgers University.
- Dayal, V. (1996). *Locality in Wh-Quantification : Questions and Relative Clauses in Hindi*. Dordrecht: Kluwer.
- Diesing, M. (1992). *Indefinites*. Cambridge, MA: MIT Press.
- Enç, M. (1991). "The Semantics of Specificity" *Linguistic Inquiry* 22, 1-25.
- Freeze, R. (1992). "Existentials and Other Locatives" *Language* 68, 553-595.
- Grimshaw, J. (1977). "English *Wh*-Constructions and the Theory of Grammar", Ph.D. thesis, University of Massachusetts, Amherst.
- Grosu, A. (1994). *Three Studies in Locality and Case*. Routledge. London.
- Grosu, A. and F. Landman. (1997). "Strange Relatives of the Third Kind", in *Natural Language Semantics*.
- Groenendijk J. and M. Stokhof. (1982). "Semantic Analysis of *Wh*-Complements" *Linguistics and Philosophy* 5, 175-233.
- Hamblin, C.L. (1973). "Questions in Montague English" *Foundations of Language* 10, 41-53.
- Harbert, W. (1983). "On the Nature of the Matching Parameter," *The Linguistic Review* 2, 237-284.
- Heim, I. (1982). "The Semantics of Definite and Indefinite Noun Phrases". Ph.D. thesis, University of Massachusetts, Amherst.
- Heim, I. (1987). "Where Does the Definiteness Restriction Apply? Evidence from the Definiteness of Variables" in E. Reuland and A. ter Meulen (eds.). *The Representation of (In)definiteness*. Cambridge: MIT Press.
- Hintikka, J. (1976). *The Semantics of Questions and the Questions of Semantics*. Acta Philosophica Fennica, Vol. 28, No. 4, North-Holland, Amsterdam.
- Izvorski, R. (1995). "(Non-)Matching Effects in Free Relatives and *pro*-Drop" in Marek Przewdziecki and Lindsay Whaley (eds.) *ESCOL'95*, Cornell University, 89-102.
- Jacobson, P. (1993). "On the Quantificational Force of English Free Relatives" in E. Bach, E. Jelinek, A. Kratzer, and B. Partee (eds.) *Quantification in Natural Language*. Kluwer.
- Karttunen, L. (1977). "Syntax and Semantics of Questions" *Linguistics and Philosophy* 1, 3-44.

variety of tests, the former pattern with subjunctives whereas the latter behave like indicative clauses.

- Kayne, R. (1993). "Towards a Modular Theory of Auxiliary Selection" *Studia Linguistica* 47, 3-31.
- Lahiri, U. (1991). "Embedded Interrogatives and Predicates that Embed Them" Ph.D. thesis, MIT.
- Larson, Richard. (1987). "'Missing Prepositions' and the Analysis of English Free Relative Clauses". *Linguistic Inquiry* 18, 239-266.
- Lin, J.-W. (1996). "Polarity Licensing and Wh-Phrase Quantification in Chinese". Ph.D. thesis, University of Massachusetts, Amherst.
- Link, (1983). "The Logical Analysis of Plurals and Mass Terms". In R. Bäuerle, C. Schwarze and A. von Stechow (eds.) *Meaning, Use, and Interpretation of Language*. Walter de Gruyter, Berlin.
- Milsark, G. (1974). "Existential Sentences in English". Ph.D. thesis, MIT.
- Partee, B. (1987). "Noun-Phrase Interpretation and Type-Shifting Principles" in J. Groenendijk, D. de Jongh, and M. Stokhof (eds.) *Studies in Discourse Representation Theory and the Theory of Generalized Quantifiers*, Foris, 115-143.
- Pesetsky, D. (1982). "Paths and Categories". Ph.D. thesis, MIT.
- Portner, P. (1993). "Situation Theory and the Semantics of Propositional Expressions" Ph.D. thesis, University of Massachusetts, Amherst.
- Rappaport, G. (1986). "On a Persistent Problem of Russian Syntax: Sentences of the Type *Mne Negde Spat*". *Russian Linguistics* 10, 1-31.
- Rivero, M.L. (1986). "Dialects and Diachronic Syntax: Free Relatives in Old Spanish". *Journal of Linguistics* 22, 443-454.
- Rudin, C. (1986). *Aspects of Bulgarian Syntax: Complementizers and Wh-Constructions*. Slavica Publishers.
- Rullmann, H. (1995). Ph.D. thesis, University of Massachusetts, Amherst.
- von Stechow, A. (1989). "Focusing and Background Operators" Arbeitspapier 6, Fachgruppe Sprachwissenschaft, Universität Konstanz.
- Suñer, M. (1983). "Free Relatives and the *pro* Head Hypothesis," in W. Harbert, ed. *Cornell Working Papers 4: Papers from the Cornell conference on Government and Binding Theory*, June 1982, 223-248.
- Suñer, M. (1984). "Free Relatives and the Matching Parameter," *The Linguistic Review* 3, 363-387.
- Szabolcsi, A. (1981). "The Possessive Construction in Hungarian: A Configurational Category in a Non-Configurational Language" *ALASH* 21, 261-289.
- Szabolcsi, A. (1983). "The Possessor That Ran Away from Home" *The Linguistic Review* 3, 89-102.
- Ward, G. and B. Birner. (1995). "Definiteness and the English Existential," in *Language* 71, 722-742.
- Williams, E. (1984). "There Insertion" *Linguistic Inquiry* 15, 131-153.

