Categorial Status of Null Operator Relatives and Finite Declarative Complements*

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In this paper I examine null operator relatives and finite declarative complements that are not introduced by the complementizer that. I argue that, contrary to standard assumptions, the clauses in question have no CP projection. They are bare IPs and not CPs introduced by a null complementizer. I provide a uniform account of the IP status of the clauses in question based on the Principle of Economy of Representation.

0. Introduction

The goal of this paper is to determine the categorial status of null operator relatives and finite declarative complements. It is a standard assumption that null operator relatives introduced by that (1a), as well as those that are not introduced by that (1b), have the categorial status of CP. The same holds for finite declarative complements. It is generally assumed that the clausal complement in both (1c) and (1d) is a CP.

(1) a. the man [ that Mary likes]
   b. the man [ Mary likes]
   c. Jane believes [ that Mary likes Peter]
   d. Jane believes [ Mary likes Peter]

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In this paper I argue that zero null operator relatives and zero finite declarative complements differ from null operator relatives and finite declarative complements introduced by *that* in their categorial status. In particular, I argue that the embedded clauses in (1b) and (1d) are IPs and not CPs projected by a null complementizer. I attribute the difference between *that*-less clauses and clauses introduced by *that* to a Principle of Economy of Representation, proposed by Law (1991). I discuss null operator relatives in section one. Finite declarative complements are discussed in section two.

1. Null Operator Relatives

Consider null operator relatives in (2).

(2) a. the man [Op, that John likes t.]
b. the man [Op, John likes t.]

As noted above, it is generally assumed that both null operator relatives introduced by *that* and zero null operator relatives have the categorial status of CP. Law (1991), however, proposes the principle in (3), which imposes an IP status on null operator relatives that are not introduced by *that*.

(3) The Minimal Structure Principle (MSP)

1 Similar principles have been proposed by Grimshaw (1993), Radford (1994), and Speas (1994). Grimshaw also independently argues on similar grounds as I do in section 2.1, that the MSP imposes IP status on finite complements such as the embedded clause in *John believes Peter kissed Mary*. It should be pointed out here that I have slightly modified and for ease of exposition named the original principle proposed by Law. The basic idea, however, remains the same (I thank Norbert Hornstein and Howard Lasnik for helpful discussion of the MSP). The satisfaction of lexical properties, not present in Law's original formulation, refers to the satisfaction of selectional properties and checking of any features that a particular item is taken with from the lexicon. This is necessary to prevent undergeneration of functional projections. Thus, without it, the MSP would prevent AgroP from being present in constructions such as *John likes Mary*, as a result of which the Case features of the object NP would not be checked, given the assumption that Accusative Case features are checked in SpecAgroP (see Chomsky 1992 and Chomsky and Lasnik 1993). 'Lexical structure' in (3) refers to the structure involving projections of heads bearing categorial features. Note that following Kitagawa (1986), Webelhuth (1992), and Bošković (1993b), I assume that the lexical complementizer *that* is nominal in nature and, therefore, has categorial features. As a result, its presence is unaffected by the MSP.
Provided that lexical requirements of relevant lexical elements are satisfied, if two representations have the same lexical structure and serve the same function, then the representation that has fewer categorial projections is to be chosen as the syntactic representation serving that function.

The relative clause in (2b) is potentially ambiguous in that it can be either a CP, as shown in (4b), or an IP, as shown in (4a). Notice, however, that having fewer categorial projections, the IP option, which has no CP projection, is more economical than the CP option. Given this, the MSP disambiguates (2b) in favor of the IP option. In other words, given the MSP, (4a), rather than (4b), is the structure of (2b).

(4) a. the man [\text{IP Op} [\text{IP John likes } t]]
   b. the man [\text{CP Op} [\text{C } [\text{IP John likes } t]]]

Having established the theoretical basis for the IP analysis of zero null operator relatives, I will turn now to empirical evidence for the IP status of the relatives in question. One piece of evidence for the IP analysis is provided by the ungrammaticality of zero subject relatives involving a null operator, a long-standing problem. Consider (5).

(5) a. *the man [\text{Op} [\text{t, likes Mary}]]
   b. cf. the man [\text{CP Op, that [t, likes Mary]}]

As shown in (6a), under the IP analysis, the IP adjoined position is the only possible landing site for the null operator in (5a). Given this, the ungrammaticality of short subject zero relatives reduces to the ungrammaticality of (6b), which must be disallowed or the Comp-trace effect will be voided, and short subject Topicalization (6c), which, as shown by Lasnik and Saito (1992), is not allowed. Both (6b) and (6c) have the

2 This was also noticed by Law (1991). Note that I assume that null operators must undergo A′-movement to establish an operator-variable relation.

3 See Baltin (1982), Iwakura (1978), Lasnik and Saito (1992), Rochemont (1989), and Saito (1985), among others, for arguments that Topicalization involves adjunction to IP. For evidence that short subject Topicalization is disallowed see Lasnik and Saito (1992). Lasnik and Saito note that if vacuous subject Topicalization were allowed we would expect wh-movement in (ia) and (ib) to have the same status, since (ia) and (ib) would have the same structure in all relevant respects.
same structure as (6a) in all relevant respects.

(6) a. *the man [IP Op, [IP t; likes Mary]]
    b. *Who, do you think [CP t; [C that [IP t, [IP t, likes Mary]]]]
    c. *I think that [IP John, [IP t; likes Mary]]

In all the constructions in (6) a phrase undergoes movement from SPECIP to the IP adjoined position. Saito and Murasugi (1993) argue that such movement should be disallowed. They attribute the impossibility of such movement to the following Economy condition, which they argue is deducible from the ban on superfluous steps.4

(7) a. A chain link must be at least of length 1.
    b. A chain link from A to B is of length n iff there are n “nodes” (X, X’, or XP, but not segments of these) that dominate A and exclude B.

Since movement from SpecIP to the IP adjoined position has the length 0, all the constructions in (6) are ruled out by (7). It is easy to verify that, in contrast to (6a), (8) raises no problems with respect to (7).

(8) a. the man [IP Op, [IP Mary [VP t; [VP likes ti]]]]
    b. the man [IP Op, [IP you [VP t; [VP claim [IP t; likes Mary]]]]]

Given the MSP, the distribution of the null operator in relative clauses is thus accounted for without making use of features such as +/−wh, which are simply a convenient way of restating the problem to be accounted for in more formal terms (see Lasnik and Saito 1992 for a feature account).

(i) a. ?*Who do you think that [friends of t] kissed Mary
    b. ??Who do you think that [friends of t] Mary kissed

Lasnik and Saito also note that if short subject Topicalization were possible, we would expect that, as in (iia), John and himself can be coindexed in (iib), which is not the case.

(ii) a. John, thinks that himself, Peter likes
    b. *John, thinks that himself, likes Peter

4 Saito and Murasugi note that (7) is also needed to prevent phrases in adjoined positions from being forced to keep adjoining to the same node by the Minimize Chain Links Principle (Chomsky and Lasnik 1993), which requires chain links to be as short as possible.
It should be pointed out, however, that constructions such as (5a) are grammatical in some languages. Pesetsky (1982) conjectures that such constructions can be grammatical only in languages that allow null subjects and do not require complementizers. Rizzi (1990a) gives 15th century Italian as an example.

(9) Chi'e faccenda \([\text{IP } Op, [\text{IP ex } [\text{VP tocca a noi t\text{.}}]]]\)

'This is a matter (that) does not concern us'

This is predicted under the IP analysis since in null subject languages such as 15th century Italian, the operator can be extracted from SpecVP, while SpecIP is filled by a null expletive. As a result, no problems arise with respect to (7).

Relatives containing resumptive pronouns provide more evidence for the IP analysis of zero null operator relatives. Saito (1985) shows that resumptive pronouns are not allowed with operations involving adjunction. In (10), I give examples of resumptive pronouns with Scrambling, embedded Topicalization, and Heavy NP Shift, all of which, according to Saito, involve adjunction.

(10) a. *John-o, Mary-ga kare-o mita (koto) (Japanese)

acc nom he acc saw (fact)

'John, Mary saw him'

b. Embedded Topic.: *That this solution, I proposed it last year is widely known

c. Heavy NP shift: *John met \([\text{NP a man that bought it} for his mother } [\text{NP that painting by Rembrandt}]\text{ in the park}

Given Saito's ban on resumptive pronouns with adjunction and the IP analysis of zero null operator relatives, we would expect zero null operator relatives to disallow resumptive pronouns. Null operator relatives introduced by

5 Short subject zero relatives also seem to be possible in Black English and some dialects in the Southwest of the United States. Pesetsky (1982) argues that the availability of such constructions in Black English should be accounted for on a par with its availability in null subject languages. Unfortunately, I do not have the relevant data that could determine whether the same holds for Southwestern dialects.
that, on the other hand, are expected to allow resumptive pronouns. The fol­
lowing constructions, taken from Kayne (1984), show that the expectation
is borne out.6

(11) a. *The book \[IP Op [IP I was wondering whether I would get it in
the mail]]
   b. The book \[CP Op [C that I was wondering whether I would get it
in the mail]]

The null operator in (11a) must be located in an adjoined position under
the IP analysis. As a result, it cannot be associated with a resumptive pro­
noun. In (11b), on the other hand, the operator is located in SpecCP, as a
result of which it can be freely associated with a resumptive pronoun. The
contrast in (11) thus provides evidence for the IP analysis of zero null op­
erator relatives. As argued above, the IP status is imposed on zero null op­
erator relatives by the MSP.7

Notice now that a resumptive pronoun is allowed in (12).

(12) the book [which I was wondering whether I would get it in the
mail]

It seems plausible that, in contrast to null operators, wh-relative elements
are specified with the \(+wh\) feature, which has to be checked under Spec­
Head Agreement with an appropriate functional head. Given this, if the rel­
ative clause in (12) were an IP, the \(+wh\) feature of which would remain
unchecked. Recall now that the MSP cannot block satisfaction of lexical
properties such as checking of features a particular item is taken with from
the lexicon. Given this, the MSP cannot force IP status on wh-relatives the
way it does on null operator relatives. In other words, the relative clause in
(12) must be a CP in spite of the MSP. Since the wh-phrase in (12) is lo­
cated in SpecCP it can be associated with a resumptive pronoun.

The following constructions raise a potential problem for the IP analysis

6 I thank Daiko Takahashi for bringing this data to my attention.
7 As noted by Andrew Radford (personal communication), the analysis pre­
sented here is crucially based on the distinction between specifiers and adjuncts.
As a result, to the extent that it is successful, it provides evidence that the distinc­
tion between specifiers and adjuncts is still needed, contrary to what is argued in
of null operator relatives.

(13)  a. *The person stood up [IP Op [IP John criticized t]]
   b. *The person stood up [IP Op [IP t criticized John]]
   c. The person stood up [CP who/that t criticized John]
   d. The person stood up [CP who/that John criticized t]

The question is why, in contrast to (13c-d), (13a-b) are ungrammatical. It is generally assumed that constructions such as (13a-b) are ruled out by the ECP due to the failure of proper government of the null complementizer, which under standard assumptions heads the extraposed relative clause. Suppose, however, that following Travis (1991), we extend Stowell's (1981) proposal that null complementizers must be properly governed to the requirement that all phonologically null heads have to be properly governed. Notice now that, given the Checking Theory, verbs are picked up from the lexicon with agreement/tense inflection. They do not acquire the inflection after raising to INFL. In fact, INFL is simply a set of features without lexical content. As such it is subject to the ECP. I assume that in constructions such as (4a), the head of the relative clause is properly governed either by the determiner (under the DP Hypothesis) or the noun head of the relative, possibly through the agreement relation holding

8 Howard Lasnik (personal communication) points out that assuming that secondary predicates are projections of INFL (see Hornstein and Lightfoot 1987), the distribution of secondary predicates can be accounted for by the ECP if INFL is subject to the ECP. Consider, e.g., object secondary predicates. Culicover and Wilkins (1984), Hornstein and Lightfoot (1987), and Roberts (1988), among others, argue that object secondary predicates must be either adjoined to V' or dominated by V', where they are governed by V. Constructions in (ia-c), in which the secondary predicates are excluded by V', are ungrammatical.

(i)  a. *[IP PRO INFL raw], he ate the meat
   b. *He loaded the wagon with hay [IP PRO INFL full]
   c. *[IP PRO INFL sad] to surprise John] is a shame
   d. cf. He [VP ate the meat [IP PRO INFL raw]]

Given that secondary predicates are projections of INFL, (ia-c) are ruled out by the ECP because the secondary predicate INFL is not properly governed. (It should be pointed out that I assume that adjunction of a lexical element to a null head does not suffice to satisfy the proper government requirement on null heads.)
between the noun head of the relative and the head of the relative clause (see Rizzi 1990a). (13a–b), on the other hand, are ruled out by the ECP because the head of the relative clause is not properly governed.\(^9\) Turning now to (13c–d) I suggest that whatever is responsible for licensing C in (14) with respect to the ECP is also responsible for the satisfaction of the ECP in (13c–d) when the complementizer is not phonologically overt.

(14) \([\text{cp What } C [\text{IP he likes}]]\) is apples

The grammaticality of (14) indicates that for some reason, null complementizers that are in a Spec–Head relation with an operator are exempted from the ECP. Returning now to (13a–b), notice that the ungrammaticality of the constructions in fact provides evidence that zero null operator relatives are not headed by a null complementizer that is in a Spec–Head relation with an operator. If this were the case, we would expect (13a–b) to be grammatical. The data under consideration are thus consistent with the IP analysis of the relatives under consideration. However, they are not consistent with the CP analysis.

To summarize, I have argued so far that, in contrast to zero wh-relatives, zero null operator relatives are IPs. I have shown that the distribution of the null operator in constructions under consideration can be readily accounted for under the IP analysis. The MSP has played a crucial role in the analysis. As a result, to give a real force to the analysis it has to be shown that the MSP is not relevant only to null operator relatives. In the next section I will argue that the effects of the MSP can also be detected in zero declarative finite complements such as the embedded clause in *I believe John likes Mary.*

2. Finite Declarative Complements

In this section I will argue that the MSP imposes IP status on declarative

\(^9\) The question is now how the head of root declarative clauses is properly governed. The question arises even if, as argued in Stowell (1982), all finite clauses are CPs and is thus independent of the IP analysis. Banfield's (1973) discourse based category Expression might serve as an appropriate licensor for root INFL. However, it is worth mentioning here that Rizzi (1990b) observes that the theory of licensing cannot require every element to be licensed by something else. We need an independently licensed position to start the chain of licensing. Rizzi proposes that root INFL is the inherently licensed position from which the chain of licensing starts.
finite complements that are not introduced by *that*, just as it does on zero null operator relatives. In other words, I provide evidence that, just as the relative clause in (15a) differs in its categorial status from the relative clause in (15b), the clausal complement in (15c) differs from the clausal complement in (15d) in that it has the categorial status of IP. As in the case of zero null operator relatives, being more economical than the CP option, the IP option is forced on the clausal complement in (15c) by the MSP (for evidence for the IP analysis the reader is also referred to Bowers (1987), Grimshaw (1993), Hegarty (1990, 1991), Law (1990), Li (1990), and Webelhuth (1992), among others, who also suggest that zero finite complements are IPs).

(15) a. the woman [\textit{IP} John likes]
   b. the woman [\textit{CP} that John likes]
   c. Jane believes [\textit{IP} Peter likes her]
   d. Jane believes [\textit{CP} that Peter likes]

Notice first that the very possibility of finite relative clauses being IPs provides evidence that the presence of Tense does not require a CP projection, as argued by Stowell (1982) and Pesetsky (1982), which clears the way for the IP analysis of finite declarative complements that are not introduced by *that*. Furthermore, under the IP analysis we do not have to stipulate that finite and nonfinite complements of verbs such as *believe* differ in their categorial status. Under the IP analysis, both the finite and nonfinite complement of *believe* can be an IP.\(^{10}\) Bowers (1987) and Bošković (1992) show that the IP analysis also provides a straightforward account of the lack of the Comp-trace effect in constructions such as *Who do you believe likes Mary*, which have proved to be a recurring problem for the CP analysis of zero finite declarative complements. In the next section I will provide another argument for the IP analysis based on the obligatory presence of *that* with embedded Topicalization, a phenomenon which has recently received a great deal of attention, but has not yet been accounted for satisfactorily.

\(^{10}\) In Bošković (1992, 1993a) I argue that, contrary to standard assumptions, lexical properties of *believe* do not rule out the possibility of the nonfinite complement of *believe* being a CP. The nonfinite complement of *believe* patterns with the finite complement of *believe* in this respect.
2.1. Topicalization

Authier (1992), Kayne (1993), Rochemont (1989), and Watanabe (1993) note that, in contrast to Topicalization in root clauses, the complementizer \textit{that} must be present with embedded Topicalization.\footnote{There are speakers who in some contexts accept embedded Topicalization without \textit{that}. Howard Lasnik (personal communication) suggests that in the relevant contexts, the speakers in question analyze the superficial embedded clause involving Topicalization as a root clause and the superficial root clause as an adsentential (see Bresnan 1969 for discussion of the phenomenon).}

\begin{equation}
(16) \quad \begin{aligned}
\text{a. } [\text{IP Mary [IP John likes t]}] \\
\text{b. Peter doesn't believe } [\text{CP that [IP Mary [IP John likes t]]}] \\
\text{c. *Peter doesn't believe [IP Mary [IP John likes t]]}
\end{aligned}
\end{equation}

The obligatoriness of \textit{that} in constructions involving embedded Topicalization, a long-standing problem, receives a straightforward account under the IP analysis of zero finite complements. Given the IP analysis, (16c) is ruled out because it involves adjunction to an argument, which, as is well-known (see Chomsky 1986a), is not allowed. Since the IPs hosting Topicalization in (16ab) are not arguments, the problem does not arise in these constructions. The facts in (16) are thus straightforwardly accounted for under the IP analysis of zero finite complements. On the other hand, under the CP analysis they remain a mystery.\footnote{Authier (1992) and Watanabe (1993) give CP accounts of the obligatoriness of \textit{that} with embedded Topicalization. Their analyses, however, cannot account for the full range of relevant facts. Adopting the CP Recursion analysis of Topicalization, both Authier and Watanabe assume that Topicalized phrases are located in the lower SpecCP of a CP Recursive structure. In order to account for the ungrammaticality of (16c) Authier stipulates that CPs involving Topicalization cannot be selected. Authier's stipulation, however, does not rule out the possibility of the higher C being null (Kayne notes that the same problem arises in his (1993) analysis of the obligatoriness of \textit{that} with embedded Topicalization).}

\begin{equation}
(i) \quad \text{*Peter doesn't believe } [\text{CP C [CP Mary, [C C [IP John likes t]]]}]
\end{equation}

Watanabe (1993) suggests that (i) is excluded because when the higher C is null, the CP Recursive structure cannot be recovered. The relevance of the Recoverability of Deletion for the phenomenon in question is not at all clear. Even if the problem is disregarded, as Watanabe himself notes, constructions involving root Topicalization (16a), which according to Watanabe also involve CP Recursion, are incorrectly ruled out on a par with (i) under Watanabe's analysis (see also Bošković 1992 for arguments that the CP recursion account of Topicalization is itself untenable).
Returning now to the CP/IP account of the obligatoriness of *that* with embedded Topicalization, notice that if, following Rochemont (1989), instead of restricting Topicalization to IP adjunction we simply assume that Topicalization involves clausal adjunction, i.e., adjunction to either CP or IP, a rather natural move, the analysis of the facts in (16) given above can be straightforwardly extended to account for (17).\(^{13}\)

(17) a. *"[cp This book, [cp to whom should Peter give]]
   b. *I wonder [cp this book [cp to whom Peter should give]]
   c. *I wonder [cp to whom [ip this book, [ip Peter should give]]]
   d. *John believes [cp this book, [cp that Peter should give to Mary]]

Like (16c), (17b) is ruled out because it involves adjunction to an argument, this time a CP. The same holds for (17d). The problem does not arise in (17a) and (17c) since the relevant CP in (17a) and IP in (17c) are not arguments. The fact that under the analysis presented here the data in (16) and (17) receive a uniform account, as well as the simplicity and elegance of the account, provide strong evidence for the proposals made here.

The analysis given here can also be extended to account for some otherwise puzzling facts concerning long wh-movement and Topicalization in American Sign Language (ASL), which have not been accounted for in the literature. The ASL facts in question also confirm that the presence or absence of the CP projection and not the distinction between lexical and null complementizers is responsible for the contrast between (16b) and (16c). Petronio (1992) shows that in ASL, some verbs do and some verbs do not allow wh-extraction from their clausal complement. Thus, as (18) shows, THINK but not with FEEL allows long wh-extraction.\(^ {14}\)

\(^{13}\) I assume that the marginality of (17a, c) is due to a Subjacency violation (see Baltin 1982 and Lasnik and Saito 1992). Similarly, I assume that the additional IP in (i) blocks I-to-C movement (see Lasnik and Saito 1992).

(i) *To whom, should, [ip the book, [ip John t, give t, t,]]

\(^{14}\) Capital letters are used to represent ASL signs. 'wh-q' and 't', indicate signs that are accompanied by nonmanual wh-question and Topicalization gestures respectively.
Lillo-Martin (1990) proposes that the unacceptability of (18a) is a result of a Subjacency violation. Building on the proposals made in Tiedeman (1987), she argues that because of a feature conflict with the null declarative complementizer, which is specified as [−wh], WHO cannot pass through the embedded SpecCP in (18a). As a result, wh-movement in (18a) violates Subjacency. The question is now why (18b) does not violate Subjacency. I propose that the embedded clause in (18b) is an IP. The IP status is imposed on the clause by the MSP. Given this, we can straightforwardly account for the fact that, in contrast to (18a), (18b) does not violate Subjacency. Notice also that the IP analysis predicts a correlation between embedded Topicalization and long wh-extraction. Given that, as proposed above, the clausal complement of FEEL is a CP and that of THINK an IP, we would expect FEEL to allow and THINK to disallow embedded Topicalization. As (19a–b) show, the expectation is borne out.

(19) a. BILL FEEL [CP [IP JOHN [IP MARY LIKE t]]] 
   t

   b. *BILL THINK [IP JOHN [IP MARY LIKE t]]

Under the proposals made here the contrast between (19a) and (19b) is accounted for in the same way as the data in (16) and (17). Like (16c) and (17b, d), (19b) is ruled out by the ban on adjunction to arguments. Since, as in (16a–b) and (17a, c), the clause hosting Topicalization is not an argument in (19a), no problems with respect to the ban on adjunction to argu-

15 Given the MSP, the presence of the null complementizer in (18a) must be required by the selectional properties of the higher verb. As argued below, the s-selectional properties of the higher predicate require that factive complements be CPs even when they are not introduced by an overt complementizer. It is possible that the presence of the complementizer in (18a) is also required by the s-selectional properties of the higher predicate. Alternatively, l-selection, i.e. selection for terminal elements (see Pesetsky 1992), might be responsible for the presence of the null complementizer in (18a). To investigate the issue we need a comprehensive classification of ASL verbs with respect to the possibility of long wh-extraction, which unfortunately cannot be found in the literature.
ments arise in (19a).

It is worth mentioning here that there is some variation with respect to the possibility of long wh-extraction in ASL. Thus, Boster (1991) observes that for some signers, long wh-extraction is allowed from the clausal complement of HOPE. Some signers, on the other hand, do not allow long wh-extraction with HOPE. It is interesting, however, that the correlation between long wh-extraction and embedded Topicalization, predicted by the proposals made above, still holds. As noted by Boster, the signers who accept (20a) disallow embedded Topicalization with HOPE. On the other hand, the signers who disallow (20a) accept (20b).

\begin{equation}
(20) \begin{align*}
\text{a.} & \quad \text{WHAT JOHN HOPE [ MARY BUY t]} \\
\text{b.} & \quad \text{JOHN HOPE [ BOOK MARY BUY t]}
\end{align*}
\end{equation}

It is also worth mentioning that, as expected, all signers allow Topicalization in root clauses, which are not arguments.

\begin{equation}
(21) \quad \text{MARY JOHN LIKE}
\end{equation}

The ASL facts under consideration thus provide more evidence that finite clauses can be IPs. The fact that the analysis of the English facts in (16) given above, which is crucially based on the IP Hypothesis, can be generalized so as to account for otherwise puzzling ASL data provides more evidence for the account of (16a–c) presented here.

Before concluding this section I will briefly demonstrate that the IP analysis can be straightforwardly extended to account for certain facts concerning Topicalization in Romanian subjunctives, which have not received a satisfactory account in the literature. As (22a) shows, SUBJUNCTIVE IPs in Romanian are headed by the subjunctive particle să, which must be present in all SUBJUNCTIVE clauses. The constructions in (22) demonstrate that, in contrast to the INFL element să, the complementizer ca is only optionally present in Romanian SUBJUNCTIVE complements.

\begin{equation}
(22) \quad \text{MARY buy [ BOOK MARY buy t]}
\end{equation}

\begin{equation}
(22) \quad \text{MARY ca [ BOOK MARY buy t]}
\end{equation}

\begin{equation}
(22) \quad \text{MARY ca [ BOOK MARY buy t]}
\end{equation}

16 See Terzi (1992) and references therein for arguments that să is an INFL element. The Romanian data considered in this section are taken from Terzi (1992).
Given the discussion above, we would expect (22a) and (22b) to differ in the categorial status. (22b), headed by an overt complementizer, is clearly a CP. On the other hand, under the proposals made here we would expect (22a) to have the categorial status of IP on a par with the embedded clause in John believes Peter left (for relevant discussion see also Mota­panyane 1991). The facts concerning Topicalization in SUBJUNCTIVE complements confirm that this is indeed the case.17 As (23b) shows, Topicalization is allowed in SUBJUNCTIVE complements when the complement is headed by the complementizer ca. However, Topicalization is not allowed when the subjunctive complement is headed by the INFL element sã (23a).

Assuming that Topicalization involves adjunction to IP this is exactly what is predicted under the IP analysis. Given that the embedded clause in (23a) is an IP, the construction is ruled because it involves adjunction to an argument. Since the relevant IP in (23b) is not an argument, no problems with respect to the ban on adjunction to arguments arise in (23b) and the construction is correctly predicted to be grammatical.18 The contrast between (23a) and (23b) is thus accounted for in the same way as the contrast between (16b) and (16c). The fact that the IP analysis of (16b-c) can be

17 I am grateful to Arhonto Terzi for bringing these facts to my attention.
18 Interestingly, although overt subject NPs are allowed in subjunctive complements (see 22), they are not allowed to precede sã in bare IP subjunctives. However, they can precede sã in subjunctive CPs.
readily extended to account for the Romanian and ASL facts examined in
this section, as well as the English data in (17), provides evidence that the
IP analysis of the contrast between (16b) and (16c) is on the right track.

2.2. Extraposition Islands

In this section I will argue that the following well-known paradigm in­
volving extraction out of extraposed clauses (see Cinque 1990, Li 1993,
Kayne 1984, and Stowell 1981, among others, for discussion of extraposi­
tion islands) provides more evidence for the IP analysis of finite declar­
rative complements not introduced by that.

(24) a. *How is it [AP [AP likely] [(that) John will read the book t]]
b. What is it [AP [AP likely] [(that) John will read t]]
c. *Who is it [AP [AP likely] [(that) t will read the book]]

As (24a, c) show, subject and adjunct extraction from extraposed clausal
subjects are ungrammatical. Object extraction, on the other hand, is fully
acceptable. In his discussion of extraposition islands, Cinque (1990) notes
that the extraposed clausal subject in (24) is theta-marked but not L­
marked, given that L-marking is defined as direct theta-marking by a lexi­
cal head, where α directly theta-marks β if α and β are sisters.

To account for wh-extraction from extraposition islands, Cinque proposes
that theta-marking is needed to void barrierhood for Subjacency but
stronger L-marking to void barrierhood for government. Given Cinque's
proposal, being theta-marked but not L-marked, the extraposed clauses in

Barbosa (1994) argues that preverbal lexical subjects in pro-drop languages with
rich agreement are actually adjuncts, the phonologically null pronominal pro being
the 'real' subject in relevant constructions. Given Barbosa's proposal, the lexical
subject in (i) is adjoined to IP. As a result, (ia) is ruled out on a par with (23a)
by the ban on adjunction to arguments. No problems with respect to the ban on
adjunction to arguments arise in (ib), where the SUBJUNCTIVE IP, to which the
subject is adjoined, is not an argument.

19 Cinque's proposal introduces a partial difference in the notion of barriers for
government and bounding (Subjacency). This, however, enables him to keep the
number of barriers involved in government and bounding violations the same,
which in turn makes it possible to altogether dispense with the notion of inherent
barrierhood. Under Cinque's proposal, crossing one barrier suffices to induce both
ECP and Subjacency violations. Furthermore, all barriers are inherent. Chomsky
(24a–c) count as barriers for government but not bounding. As a result, (24a–b) are readily accounted for. Thus, (24a) is ruled out by the ECP because, given that the extraposed clause is a barrier to government, the highest adjunct trace within the extraposed clause fails to be properly governed.\footnote{(24a) is ruled out by the ECP regardless of whether the embedded clause is a CP or an IP. Note that given recent theoretical developments such as Rizzi's (1990a) Relativized Minimality and Chomsky and Lasnik's (1993) Minimize Chain Links Principle (see also discussion of the ban on superfluous steps in section 1), there is no compelling reason to ban adjunction to IP, which was done in Chomsky (1986a). Given that adjunction to IP is allowed, there is no longer any reason to stipulate that IP is defective in that it cannot be an inherent barrier. I therefore assume that IP is a barrier unless it is theta-marked/L-marked. As with other XPs, the barrierhood of IP can be voided through adjunction if the IP is a non-argument. IP thus behaves like other maximal projections in all relevant respects.} Note that since the extraposed subject is an argument, its barrierhood cannot be voided through adjunction.

Consider now (24b). Given the standard assumption that in the case of A′ movement originating from an argument position, only the lack of proper government of the initial trace leads to an ECP violation, no problems with respect to the ECP arise in (24b). Regardless of whether the embedded clause is a CP or an IP, the initial trace in object position is antecedent governed by the trace adjoined to the embedded VP, which is deleted at LF. Furthermore, since the extraposed clause is theta-marked, the object can be extracted from the clause without violating Subjacency. (24a) and (24b) are thus straightforwardly accounted for under either the CP or IP analysis. The question is now how can we explain the ungrammaticality of (25)?

(25) *Who is it \([_{AP} \text{AP likely}] \text{t will read the book}]\)

Kayne (1984) and Stowell (1981) argue that (25) should be ruled out by the ECP. The ECP account of the ungrammaticality of (25) goes through
straightforwardly under the IP analysis.

(26) *Who is it [AP [AP likely] [IP t will read the book]]

The extraposed clause being a barrier for government, the initial trace in SpecIP fails to be properly governed. As a result, the construction is ruled out by the ECP. Consider also the following contrast from Kayne (1984).

(27) a. 'John, I'm not [AP sure [IP t has any friends]]

b. *John, it's not [AP [AP sure] [IP t has any friends at all]]

(27b) can be accounted for on a par with (26). Extraction from the SpecIP position of the extraposed subject results in an ECP violation, because the initial trace fails to be properly governed. Turning now to (27a), as Kayne himself notes, (27a) differs from (27b) in that the embedded clause in (27a) is a complement and not an extraposed subject. The embedded clause is thus L-marked. Being L-marked, it does not block proper government of the trace in subject position.

Turning now to the CP analysis, as far as I know, no adequate CP account of the data under consideration can be found in the literature (see footnote 21 for discussion of Kayne's 1984 and Stowell's 1981 account). Notice that (25) and (27b) cannot be accounted for by appealing to the ECP if the embedded clause is a CP. On the CP analysis, the ECP is satisfied in the constructions under consideration because the initial trace is properly governed by the intermediate trace in the embedded SpecCP, which is deleted at LF. 21

21 To make the ECP account of (25) and (27b) consistent with the assumption that all finite complements are CPs, essentially following Kayne (1984), Stowell (1981) stipulates that traces can count as proper governors only when they are Case-marked. Not being Case-marked, the trace in SpecCP then does not count as a proper governor for the trace in the subject position in (28). As a result, the constructions violate the ECP. Following Kayne, Stowell assumes that in constructions such as (i), the higher verb assigns Case to the trace in the embedded SpecCP, which turns the trace into a proper governor.

(i) Who does John think [CP t [CP t likes Mary]]

Stowell's analysis is, however, clearly problematic. The stipulation that only traces that are Case-marked can serve as proper governors raises obvious conceptual problems. (Notice that the stipulation must hold only for traces; otherwise, simple questions such as How did he leave would be ruled out by the ECP. The stipula-
(28) a. *Who is it \( \text{[\text{AP [\text{AP likely}]} [\text{CP t [\text{IP t will read the beer}]}]]} \)
   b. *John, it’s not \( \text{[\text{AP [\text{AP sure}]} [\text{CP t [\text{IP t has any friends at all}]}]]} \)

On the other hand, as shown above, the data under consideration are straightforwardly accounted for under the IP analysis. I conclude, therefore, that the facts concerning extraction from extraposed clausal subjects favor the IP analysis of zero declarative complements over the CP analysis.

Certain facts concerning clausal coordination provide more evidence for the IP analysis. Before I discuss the relevant facts I will make a short digression to discuss the categorial status of factive complements, which play an important role in the argument presented below.

2.3. Factive Verbs and Clausal Coordination

The alert reader might have noticed that so far I have discussed only clausal complements of propositional-attitude verbs. I have provided some evidence that propositional complements that are not introduced by \textit{that} have the categorial status of IP. It is well-known, however, that a number of English verbs, mainly factives, take only clausal complements introduced by \textit{that}, which suggests that, in contrast to propositional-attitude verbs, they cannot take IP clausal complements. 22

(29) a. Peter mentioned that John went there
   b. *Peter mentioned John went there

The question is now why the IP option is ruled out with factive verbs. In other words, why is \textit{that} obligatory with factives? I would like to suggest that the obligatoriness of \textit{that} with factive verbs is a result of the selectional properties of the verbs in question. Hegarty (1992) and Melvold...
(1992) argue that the complementizer in (29a) differs from the complementizer found with propositional verbs in that it has a semantic role. On Hegarty's account, the event position of a factive complement is discourse bound by the complementizer. Hegarty argues that since the discourse bound event position is referentially transparent, it can be exported from the context of the complement, giving the presupposition that the event described in the complement actually took place. On Melvold's account the event position of a propositional complement is existentially quantified out, whereas that of a factive complement is bound by an iota operator located in the SpecCP position of the complement. The insertion of the operator is induced by the complementizer. Since its event position is bound by an iota operator, the complement refers to the actual event involved.

The difference between the verbs taking factive complements and those taking propositional complements can be cast in terms of s-selection. Suppose that Proposition (P) and Event (E) are two distinct semantic types. Following Melvold I assume that Propositions describe actions or states of affairs. Events, on the other hand, are definite descriptions of particular actions or states of affairs. Suppose furthermore that propositional and factive verbs differ with respect to s-selection. Propositional verbs s-select P, whereas factives s-select E. Given the analysis of factive complementation proposed by Hegarty and Melvold, the fact that factive verbs always take CPs as their clausal complement is then a consequence of their s-selectional properties. Recall that on both Hegarty's and Melvold's account, the complement of factive verbs cannot be interpreted as E unless it contains a complementizer. The absence of a complementizer in the clausal complement of factive verbs thus ultimately leads to a violation of the s-selectional requirements of the verbs in question. It is well-known, however, that there are a few factive verbs that can marginally take a clausal complement without an overt complementizer, which is still interpreted as E.

(30) 'I forgot/noticed [cp C [ip John bought the house]]

On both Hegarty's and Melvold's analysis, a null complementizer must be present in such constructions or they cannot be interpreted as E. Notice

23 According to Hegarty, the event position of a propositional complement propagates up to the CP node, where it is discharged in semantic composition with the matrix verb.
that since the presence of the null complementizer is needed to satisfy lexical properties of the verb, the MSP does not force IP status on the factive complement in (30) the way it does on zero propositional complements.\(^{24}\)

Bearing in mind that factive complements are always CPs, let us return now to the examination of the categorial status of propositional complements. I will argue now that certain facts concerning clausal coordination suggest that the IP analysis of zero propositional complements is on the right track.

Consider (31).

(31) a. John said that Peter left and that Bill kissed Mary
   b. John said Peter left and Bill kissed Mary
   c. John reckoned that Peter left and that Bill kissed Mary
   d. John reckoned Peter left and Bill kissed Mary

(31a–d) show that both that and that-less complements can be conjoined with each other. This is expected on both the CP and IP analysis of constructions in question. However, that complements cannot be conjoined with

\(^{24}\) A note is in order concerning Topicalization in factive complements. Most speakers completely reject Topicalization in factive complements, regardless of whether the complementizer introducing the clause is overt or null (regret does not allow the null complementizer).

(i) a. *John regrets [\(\text{CP} \text{ that}\) [\(\text{IP}\) Peter's house, \(\text{IP}\) he did not buy \(t\)]]]
   b. *Peter forgot [\(\text{CP} \text{ (that)}\) [\(\text{IP}\) Mary, \(\text{IP}\) John likes \(t\)]]

However, in certain contexts some speakers marginally accept Topicalization in the complement of some factive verbs, e. g. forget, when the complement is introduced by that. They seem to find it degraded when the complement is introduced by the null complementizer (it should be pointed out that the possibility of embedded Topicalization with that is still heavily constrained even for these speakers). This can be accounted for, given Hegarty's analysis of factive complementation. Suppose that the null complementizer must be lexicalized to bind the event position of the embedded clause, which is necessary for the embedded clause to be interpreted as E on Hegarty's analysis (I assume that we are dealing here with an LF requirement). In constructions such as (iia), the complementizer can be lexicalized by the LF adjunction of the \(V + \text{INFL}\) complex to the complementizer. In (iib), on the other hand, the LF adjunction is blocked by the Topicalized phrase, which blocks INFL-to-C movement (see footnote 13).

(ii) a. Peter forgot [\(\text{CP} \text{ C} \left[\text{IP} \text{ John INFL [VP likes Mary]}\right]\)]
   b. *Peter forgot [\(\text{CP} \text{ C} \left[\text{IP} \text{ Mary, [IP John INFL [VP likes t]}\right]\)]
that-less complements.

(32) a. *John said Peter left and that Bill kissed Mary
    b. *John reckoned Peter left and that Bill kissed Mary

Assuming that only complements of the same category can be conjoined with each other, the ungrammaticality of (32) is accounted for if that-less propositional complements are IPs. (32a–b) are ruled out because they involve conjunction of an IP with a CP. Notice now that if there are no other interfering factors such as, e.g., parallelism constraints on conjuncts, we predict that it should be possible to conjoin that and that-less complements of factive verbs, whose clausal complements must be CPs. The prediction is difficult to test because constructions involving factive verbs taking that-less complements are generally somewhat marginal. This is not the case with that-less propositional complements. It is interesting, however, that in spite of this, as predicted, (32a–b) improve if say and reckon are replaced by a factive verb.

(33) a. ?John knew Peter left and that Bill kissed Mary
    b. ?John noticed Peter left and that Bill kissed Mary

The contrast between the propositional (32) and the factive (33) is straightforwardly accounted for if that-less embedded clauses are IPs in (32) and CPs in (33).²⁵

²⁵ There is some variability with respect to the occurrence of propositional verbs in the constructions under consideration. Thus, believe seems to be better than say and reckon. It is still, however, somewhat worse than the factive know and notice.

(i) ?"John believed Peter left and that Bill kissed Mary

Though the grammaticality difference between (33) and (i) may be significant, especially in light of the fact that for most speakers the simple John believed Peter left is better than John noticed Peter left and John knew Peter left, it should be pointed out that the clausal complement in (i) seems to have only the response stance interpretation (see Cattell 1978 and Hegarty 1992), which Hegarty (1992) argues should be treated on a par with factive complementation (notice also that like factive and response stance verbs and unlike most propositional verbs, believe can occur with the expletive it (He believed it that John robbed the bank)).
2.4. Wanna Contraction

Certain facts concerning wanna contraction provide more evidence for the IP analysis of zero finite propositional complements. It is well-known that wanna contraction is not always allowed. Thus, whereas contraction is allowed in (34a), it is disallowed in (34b-c).

(34) a. I wanna PRO buy a car
   b. *I wanna John buy a car
   c. *Who, do you wanna t, buy a car

It is a standard assumption by now that (34b-c) involve a null complementizer, which assigns Accusative Case to the lexical NP in (34b) and the wh-trace in (34c) (see Bresnan 1972, Chomsky 1981, Snyder and Rothstein 1992, and Bošković 1993a, among others).26

(35) a. I want [cp C [ip John to buy a car]]
   b. Who, do you want [cp C [ip t, to buy a car]]

The ungrammaticality of (34b) shows that wanna contraction is blocked by lexical NPs. However, (34a) and (34c) show that some empty categories block wanna contraction and some do not. To account for the facts under consideration, Jaeggli (1980) argues that Case-marked empty categories such as wh-t block contraction. NonCase-marked empty categories such as PRO do not block contraction. In other words, assuming that wanna contraction is a PF phenomenon, Jaeggli argues that the facts under consideration can be accounted for if we assume that Case-marked empty categories are visible at PF and those that are not Case-marked are invisible. This, however, seems to be a restatement of the problem rather than a solution. The question is, of course, why Case-marked and nonCase-marked empty categories should differ with respect to PF visibility. Even if we disregard the question, Chomsky and Lasnik’s (1993) proposal that PRO is Case-marked seems to raise a serious problem for Jaeggli’s account of wanna

26 See Lasnik and Saito (1991) for convincing evidence that the embedded clause subject is not Case-marked by the higher verb, as in the case of ECM constructions. Notice also that since the complementizer must be presented in (35) in order for the embedded clause subject to be Case-checked, its presence is unaffected by the MSP.
contraction. To account for the fact that, like other argument NPs, PRO can undergo NP movement from NonCase-positions (36a), but cannot undergo NP movement from Case-positions even to avoid being governed (36b), Chomsky and Lasnik (1993) argue that, like all other argument NPs, PRO is always Case-marked.

(36) a. John tried PRO, to be arrested t,
   b. *John tried PRO, to seem to t, that Peter will win

Given Chomsky and Lasnik's proposal that positions in which PRO can appear are Case-marked, (36b) is ruled out by the Last Resort Condition, which bans movement from Case-marked into Case-marked positions. On the other hand, since (36a) involves movement from a nonCase-marked position into a Case-marked position, the Last Resort Condition is satisfied in (36a). Chomsky and Lasnik argue that PRO is marked for Null Case, which is checked under Spec-Head Agreement with [-finite] INFL. Bošković (1992, 1993a) and Martin (1992) show that several previously unaccounted phenomena can be explained if PRO is Case-marked. Given that PRO is indeed Case-marked, the grammaticality of (34a) seems to raise a problem for Jaeggli's account. Martin (1992), however, argues that the N-feature of control INFL, which is checked under Spec-Head agreement with the NP located in SpecIP, is weak in sense of Chomsky (1992). Chomsky proposes that weak features do not have to be checked before LF. Given this, assuming that PRO is base-generated in SpecVP, it does not have to move, in fact, by the Principle Procrastinate, which requires every operation to take place as late as possible (Chomsky 1992), it is not allowed to move to SpecIP before LF. Martin argues that the ungrammaticality of (37) provides evidence that the N-feature of control INFL is indeed weak in English.

(37) *A man tried [ there to be arrested PRO]

Chomsky (1992) argues that in construction such as (38a), there is inserted at SS to satisfy the EPP, or, in other words, to check the strong N-feature of INFL. At LF, a man adjoins to there checking its Nominative Case.

(38) a. SS There is a man in the garden
   b. LF A man–there is t in the garden
Martin notes that if the N-feature of control infinitival's INFL were strong, we would expect (37) to be grammatical, just as (38a) is. *There* is inserted in the SS of (37) to check the strong N-feature of INFL. At LF, PRO can adjoin to *there* checking its Null Case. Since PRO is controlled by an indefinite NP we would not expect any definiteness effects in (37). On the other hand, as noted by Martin (1992), if the N-feature of control infinitivals in English is weak (37) is straightforwardly ruled out. Since on this assumption, in contrast to (38a), there is no reason to insert *there* in (37) the construction can be straightforwardly ruled out by the Last Resort Condition, which bans superfluous operations. Sportiche (1988) also argues that PRO does not undergo overt movement to SpecIP based on the facts concerning quantifier float in infinitival constructions. The facts examined by Martin (1992) and Sportiche (1988) thus suggest that the SpecIP position of control infinitivals is empty at SS. Under the Case-theoretic account of the distribution of PRO, PRO is located in SpecVP at SS and at LF moves to SpecIP to be Case-checked. It should be also pointed out that under the Case-theoretic account of the distribution of PRO, PRO can be governed. As a result, there is no reason to postulate a null complementizer in the embedded clause of (34a) to prevent PRO from being governed by the matrix verb at LF.

Notice now that given that PRO is located in SpecVP at SS, nothing intervenes between *to* and *want* in (34a). As a result, *wanna* contraction is free to take place. Returning now to (35a), it seems safe to assume that the presence of a lexical NP suffices to block PF contraction of *want* and *to*, since it is clear that lexical NPs are visible at PF.

Turning now to (35b), notice that there are in fact two elements intervening between *want* and *to*: the null complementizer and wh-trace. Either of them could be responsible for the impossibility of *wanna* contraction in constructions such as (35b). There is, however, evidence suggesting that wh-traces do not block PF contraction. Schachter (1984) notes that auxiliary contraction across a wh-trace is clearly possible.

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27 In Bošković (1992, 1993a), I provide independent empirical evidence that there is no null complementizer in the embedded clause in (34a).

28 Martin (1992) argues that the N-feature of the embedded INFL in (35a) is strong, which forces overt movement to the embedded SpecIP. The INFL with strong N-feature is l-selected by the null complementizer.
(39) a. What do you think’s happening there tomorrow
   b. cf. What do you think is happening there tomorrow

The presence of a wh-trace in the embedded SpecIP in (39a) is uncontroversial. Yet, contraction is not blocked in (39a). The grammaticality of (39a) thus provides evidence that wh-traces do not block PF contraction. In other words, they are not visible at PF. Given this, wanna contraction in (35b) must be blocked by the null complementizer. Notice now that the null complementizer differs from wh-t in that it is a base-generated empty category. If the analysis presented here is correct it is possible that the distinction between base-generated empty categories and traces rather than the distinction between Case-marked and nonCase-marked empty categories is relevant for PF contraction. In other words, base-generated empty categories but not traces are visible at PF. As shown above, this enables us to account for the facts under consideration without appealing to the Case Theory at PF, which is desirable, given that under current theoretical assumptions the Case Theory has no PF relevance. Under the Checking Theory, all NPs are taken from the lexicon with Case features. The features have to be checked under Spec-Head agreement before the level of LF is reached. NPs whose Case features remain unchecked are illegitimate LF objects and cause the derivation to crash. On the other hand, the presence of unchecked Case features does not make an NP an illegitimate PF object. Thus, the Case features of the object NP in (40) are checked only after the NP undergoes LF movement to SpecAgroP. Yet, the presence of an NP with unchecked Case features does not cause the derivation to crash at PF.

(40) SS: John [vp likes Mary]
   LF: John likes, [AgroP Mary, t, [vp t, t]]

Under current theoretical assumptions, the Case Filter is thus interpreted as an LF requirement, which is conceptually desirable. If Case is a condition on theta-marking, as argued by Chomsky (1981, 1986b), we would not expect an ultimately thematic requirement to have consequences for levels

29 Chomsky (1992) proposes that movements such as the one shown in (39) leave behind a copy of the moved element. On this view, copies are invisible at PF, a rather natural assumption.
other than LF.\(^{30}\)

Notice now that given the analysis of PF contraction presented in this section and the IP Hypothesis, we can straightforwardly account for the fact that, in contrast to (41b), contraction is not blocked in (41a).

\[(41)\]
a. What, do you think's \([_{IP} t, \text{ happening there tomorrow}]\)
b. *Who, do you wanna \([_{CP} C \_{IP} t, \text{ buy a car}]\]

As argued above, in (41b) contraction is blocked by the intervening null complementizer, a base-generated empty category. Since, under the IP Hypothesis, there is no null complementizer, in fact, no base-generated empty category between the auxiliary and the higher verb, PF contraction can freely take place in (41a).\(^{31}\)

Recall now that, in contrast to propositional complements, factive complements not introduced by *that* are headed by a null complementizer. Given this and the above discussion of *wanna* contraction, we would expect the presence of the null complementizer to affect auxiliary reduction with factive complements. The prediction is difficult to test because subject extraction from *that*-less factive complements is itself degraded. Though due to the interfering factor, the facts are not as clear as one would want them to be, the speakers I consulted do find (42b), involving contraction across a null complementizer, worse than (42a). Recall that we did not find such a contrast with propositional complements (see 39).

\[(42)\]
a. *What, did you forget C t, \text{ is happening there tomorrow} 
b. *What, did you forget's C t, \text{ happening there tomorrow} 

Given the data discussed above, I conclude that the facts concerning PF contraction favor the IP analysis of zero propositional complements.

To summarize, in this section I have provided a number of arguments

\(^{30}\) Some recent accounts of *wanna* contraction such as Snyder and Rothstein (1992) and Kitahara (1993) are problematic in that they still appeal to the Case Theory to rule out a PF representation.

\(^{31}\) Given the standard assumption that raising complements are IPs, since there is no C intervening between *supposed* and *to*, the possibility of contraction in (i) can be accounted for in the same way as in (41a).

\[(i)\]
a. John, is sposta t, \text{ leave on Monday} 
b. John, is supposed t, \text{ to leave on Monday}
that propositional complements not introduced by that are IPs. As in the case of zero null operator relatives, the IP status is forced on zero propositional complements by the MSP, a Principle of Economy of Representation.

3. Conclusion

In this paper I have examined the categorial status of English null operator relatives and finite propositional complements which are not introduced by that. I have given a number of arguments that, in contrast to null operators relatives and finite propositional complements introduced by that, zero null operator relatives and finite propositional complements are IPs. The IP status is imposed on the clauses in question by the MSP. The fact that the MSP provides a uniform account of the IP status of English zero finite propositional complements and null operator relatives, as well as finite complements of ASL verbs such as THINK and zero subjunctive complements in Romanian, also provides evidence for the principle in question.32

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32 In Bošković (1993a) I argue that the MSP also imposes IP status on control infinitival complements such as the embedded clause in Mary tried to kiss John. I also note that the MSP may be responsible for the IP status of subject initial V-2 clauses in German and Dutch (see Travis 1984, 1991 and Zwart 1991, 1993 for relevant evidence). The MSP may also be responsible for the IP status of gerunds (see Munn 1991 and references therein for evidence that gerunds are IPs). Andrew Radford (personal communication) notes that the MSP may force NP status and rule out the DP option for (seemingly) unquantified nominals (People buy soaps). I leave exploration of ramifications of the MSP for future research.
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