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# Pro in Hebrew subject inversion

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# *Pro* in Hebrew Subject Inversion

In this article I examine the properties of the *pro* module of Universal Grammar that are responsible for licensing null expletives. On the basis of facts from Hebrew, I argue that the features needed in order to identify a null subject may be assigned not only by Infl but from any phonologically discrete element in *pro*'s CHAIN that bears Φ-features. This analysis thus lends support to Rizzi's (1986) dissociation of the *formal licensing* of *pro* and its *identification*.

## 1. Postverbal Subjects in Hebrew and the Theory of *Pro*

Consider the subject inversion construction. Although Hebrew is basically an SVO language, word order is a great deal freer in Hebrew than, say, English.[1] In this respect, Hebrew resembles the Romance null-subject languages. I have argued in Shlonsky (1987) that constructions with postverbal subjects in Hebrew fall into two descriptive categories: Free Inversion and Triggered Inversion.

(1) *Free Inversion*

    a.   *Unaccusative*

        Nolad     manhig xadaš.
        was born leader  new
        'A new leader has been born.'

    b.   *Passive*

        Hunxu       mispar haxlatot   ʔal šulxan ha-memšala.
        placed-PASS several resolutions on table   the-government
        'Several resolutions were placed on the government's table.'

(2) *Triggered Inversion*

    a.   Kol  yom ʔocer   ha-cava  yoter ve-yoter  mafginim.
        every day  detains the-army more and-more demonstrators
        'Every day the army detains more and more demonstrators.'

b.  ʔet ha-paʔil      ha-ze     ya-hargu ha-xayalim.
    acc the-activist the-this will-kill   the-soldiers
    'This activist, the soldiers will kill.'

c.  ʔet mi   ya-ʔacru   ha-xayalim ha-yom?
    acc who will-arrest the-soldiers to-day
    'Who will the soldiers arrest today?'

Free Inversion occurs with unaccusative and passive verbs (as well as with certain classes of unergative intransitives, not exemplified here). Triggered Inversion, on the other hand, is freer and occurs with all verb classes. Both types of inversion are entirely optional and both can occur in root as well as in embedded contexts. The conditions under which inversion can take place are rather complex and involve considerations of focus and presupposition that I will not discuss.[2] I also assume that Free Inversion with unaccusative and passive verbs involves a VP-internal subject, as diagrammed in (3a), whereas Triggered Inversion adjoins the subject to VP, as shown in (3b) (Burzio (1986), Kayne and Pollock (1978), Rizzi (1982)).[3] There is evidence for these structures that I will not review here (see Borer and Grodzinsky (1986), Shlonsky (1987)).

(3) a.                                      b.
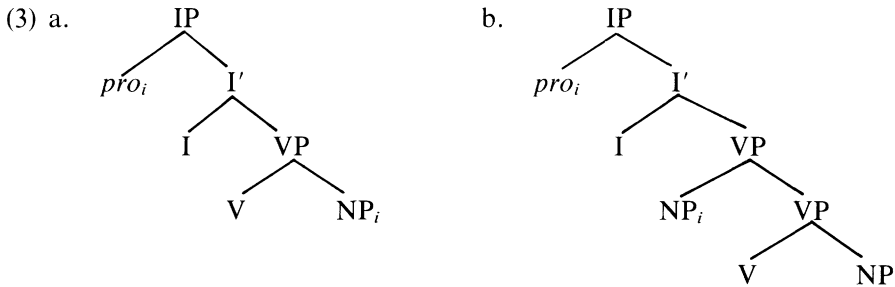


(3b) differs from the standard structure of VP-adjoined subjects in that the postposed subject appears adjoined to the left rather than to the right of VP. I assume that the direction of attachment of postverbal subjects is subject to parametric variation across languages.[4]

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[2] These are discussed more fully in Shlonsky (1987) and in references cited there.

[3] I assume, contrary to, say, Doron (1983), that inversion involves a rightward shift of the subject NP and not a fronting of the verb. This approach is defended in Shlonsky (1987) in the context of a more detailed discussion of Hebrew inversion.

[4] The main motivation for assuming (3b) is that it accounts for the derived word order of Triggered Inversion, which is [trigger Verb Subject Object] and not [trigger Verb Object Subject]. In Shlonsky (1987) I argue that although the postverbal subject is adjoined to VP on the left, the verb is raised and adjoined to Infl at S·Structure, as diagrammed in (i).

(i)
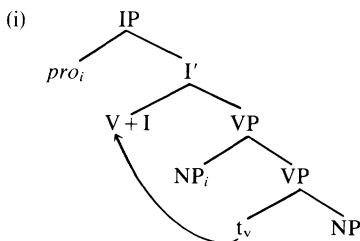
**Table 1**
Inflectional paradigm with root *šmr* 'guard'

| Number/ gender | Past | | Future | |
|---|---|---|---|---|
| | *Singular* | *Plural* | *Singular* | *Plural* |
| 1 | šamar-ti | šamar-n-u | ʔe-šmor | ni-šmor |
| 2m | šamar-ta | šamar-t-em | ti-šmor | ti-šmor-u |
| 2f | šamar-t | | ti-šmor-i | |
| 3m | *šamar-∅ | *šamar-∅-u | *yi-šmor | *yi-šmor-u |
| 3f | *šamar-∅-a | | *ti-šmor | |

| | *Present (participle)* | | | |
|---|---|---|---|---|
| | *Singular* | *Plural* | | |
| m | *šomer | *šomer-im | | |
| f | *šomer-et | *šomer-ot | | |

As the structures I have assigned to the inversion constructions indicate, I am also assuming that the preverbal subject position is occupied by a null expletive, a *pro*. Although this assumption is rather current among practitioners of Government-Binding Theory, it has not gone unchallenged. In section 4 I argue that this hypothesis is indirectly supported by my analysis; for now I merely assume it. The issues I would like to address concern the syntactic licensing conditions for *pro* in (1) and (2).

Inversion is possible with third person agreement in the present, past, and future tenses. Thus, in (1a) we find inversion with a third person singular and in (1b) with third person plural agreement. In (2a) the verb is in the present tense and in (2b) and (2c) the tense specifications are future.

This state of affairs contrasts with argumental *pro*-drop in Hebrew, which is available neither with third person past and future inflection nor with any of the forms of the present tense. Argumental *pro*-drop is restricted to the first and second person singular and plural in the past and future tenses (Bolozky (1984), Borer (1983; 1986), Doron (1983)).[5] Be the conditions under which argumental *pro* is licensed what they may, those conditions are clearly relaxed for a null expletive, since it appears in a wider range of environments.

This is precisely the conclusion drawn by Rizzi (1986), who suggests that an expletive *pro* need only be formally licensed, whereas an argumental *pro* must be assigned grammatical features (Φ-features) by association with the licensing head. Rizzi proposes a partial dissociation of formal licensing from content assignment, as in (4).[6]

[5] Table 1 provides the inflectional paradigm of Hebrew. The persons and tenses where argumental *pro*-drop is unacceptable are starred and the phonological alternations induced by affixation are suppressed.
[6] I follow Rizzi in remaining neutral on the question whether features are assigned to an otherwise featureless *pro* or recovered from a *pro* that is generated with features.

(4) *Pro Module* (Rizzi (1986))

    a.   *Formal Licensing*

        *Pro* is Case-marked by $X_y0$.

    b.   *Feature Assignment/Recoverability*

        Let X be the licensing head of an occurrence of *pro*. Then *pro* has the grammatical specification of the features on X coindexed with it.

In these terms, Hebrew can be described as a language where *pro* is formally licensed but where feature assignment is restricted to certain tenses and persons.

## 2. Restrictions on "Long" *Wh* Movement of Postverbal Subjects

Now consider the array of extraction facts illustrated in (5)–(6). The acceptability of the (a) sentences shows that direct objects may be long-extracted in Hebrew. The unacceptability of the (b) sentences, on the other hand, demonstrates that subjects of unaccusative or passive verbs may not be so extracted.[7]

(5)  a.   (ʔet) mi  lo  yada-ta    ʔim      ha-xayalim ʔacru?
           (acc) who neg knew-2ms whether the-soldiers detained
           'Who didn't you know whether the soldiers detained?'

      b.  *Mi  lo  yada-ta    ʔim     ne-ʔecar       ʔal-yedei ha-xayalim?
           who neg knew-2ms whether PASS-detain-3ms by       the-soldiers
           'Who didn't you know whether [he] was detained by the soldiers?'

(6)  a.   Eize  sfarim ein-ex  yoda-ʔat  lama ha-studentim gonvim
           which books neg-2fs  know-2fs why  the-students  steal-mpl
           me-ha-sifriya?
           from-the-library
           'Which books don't you know why the students steal from the library?'

      b.  *Eize   sfarim ein-ex  yoda-ʔat  lama ne-ʔelamim
           which books neg-2fs  know-fs  why  UNACC-disappear-mpl
           me-ha-sifriya?
           from-the-library
           'Which books don't you know why [they] disappear from the library?'

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[7] Two facts with respect to Hebrew long-distance *Wh* Movement should be borne in mind. The first is that Subjacency violations incurred by movement out of a *wh*-island are almost imperceptible in Hebrew, a fact discussed originally in Reinhart (1982). This explains the acceptability of the (a) sentences in (5)–(6). The second fact, analyzed in Shlonsky (1988a), is that there are no complementizer/trace effects in Hebrew with the [−wh] complementizer, *še-*. Thus, a long-extracted subject over *še-* will always have the option of leaving a trace in the position of [SPEC/IP], that is, the clausal subject position, since a variable in that position will not violate the ECP. Since we are interested in investigating the properties of extraction from the VP-adjoined position, we must neutralize this option. In order to control for that in the sentences in the text, the examples contain a variable embedded under a complementizer such as *ʔim* 'whether' or in a *wh*-island, forcing the variable to be in the postverbal position. Since *wh*-islands in Hebrew do not block extraction, we expect Subjacency effects with long-extracted postverbal subjects to be neutralized as well.

If the trace of the extracted subject was in the [SPEC/IP] position, the unacceptability of the (b) sentences in (5)–(6) could be straightforwardly explained as an Empty Category Principle (ECP) violation, since the trace of the extracted subject would not be properly governed. However, we have seen that subjects of unaccusative and passive verbs may appear in their D-Structure θ-position, which is the structural direct object position. The question is why a trace of an unaccusative subject is illicit in exactly the same structural position where a trace of an object is fine. Put succinctly, what rules out a representation such as (7b) while allowing (7a)?

(7) a.   $wh_i$ . . . [$_{CP}$ wh [$_{IP}$ the soldiers [$_{VP}$ detained $t_i$]]]
    b.   *$wh_i$ . . . [$_{CP}$ wh [$_{IP}$ $pro_i$ [$_{VP}$ was detained $t_i$]]]

Under the assumption that extraction of the subject may proceed from the postverbal θ-position, no appeal can be made to the ECP. This is so since the traces in both (7a) and (7b) are properly governed, being in the canonical direct object position.

In a discussion of related facts in French, Pollock (1986) construes the representation in (7b) as a Binding Condition C violation (see footnote 11). The variable is bound by *pro* within the domain of its operator in (7b), constituting a Strong Crossover violation, but it is free in (7a). Data such as those in (8) (Borer (1983), Shlonsky (1988b)) make a binding-theoretic account hard to sustain, at least for Hebrew. (8) shows that LF extraction of an inverted unaccusative subject may proceed freely and the subject-object asymmetry characteristic of S-Structure extraction is eliminated in LF. Thus, the subject *wh*-in-situ in (8a) shows no Superiority effects when it appears postverbally. In preverbal position it is ruled out, as shown in (8b), presumably by the ECP. Similarly, a negative quantifier in (9a) can be associated with a scope marker in a higher clause and hence bear wide scope, but it cannot when appearing in the preverbal subject position (9b). The examples in (10) show that direct objects pattern like the inverted subjects, as expected. Surely, if Binding Condition C is to be invoked, both S-Structure and LF extraction should be ruled out.[8]

(8) a.   Le-mi    nolad    mi?
         to-whom was born who
         'To whom was who born?'
    b.   *Le-mi    mi   nolad?
         to-whom who was born
(9) a.   Ein-eni xošev-et še-ni-rʔa        ʔiš      ba-rexov.
         neg-1sg think-sf that-PASS-see person in-the street
         'I don't think that anyone was seen in the street.'
    b.   *Ein-eni xošev-et še-ʔiš          nirʔa       ba-rexov.
         neg-1sg think-sf that-person PASS-see in-the street

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[8] More generally, if Binding Condition C is invoked to rule out (8b), it remains a puzzle why typical *there*-sentences in English like (i), where the expletive is coindexed with the postverbal subject, do not violate the binding theory, since an R-expression is coindexed and c-commanded (hence, bound) by an element in an A-position.

(i)   There$_i$ is [a cat]$_i$ on the mat.

(10) a.  Mi   harag ?et mi?
         who killed acc whom
         'Who killed whom?'
     b.  Ein-eni xošev-et še-hu   ra?a ?iš    ba-gina.
         neg-1sg think-sf  that-he saw  person in-the-garden
         'I don't think that he saw anyone in the garden.'

Before proceeding, let us note that the same range of facts can be reproduced with VP-adjoined subjects, which appear under Triggered Inversion. In (11a) an object is *wh*-moved and in (12a) it is relativized. Subject extraction is blocked in both cases, as shown in (11b) and (12b).

(11) a.  (?et) ma  lo  yada-ta   le-mi   natan Dani?
         (acc) what neg know-2ms to-who gave  Dan
         'What didn't you know to whom Dan gave?'
     b.  *Eize  pakid lo  yada-ta    matai ?oxel aruxat cohoraiym?
         which clerk neg knew-2ms when eats  meal   noon
         'Which clerk didn't you know when [he] eats lunch?'
(12) a.  Ze ha-iš    še-xana    lo  ša?ala mi  hekir.
         this the-man that-Hanna neg asked who knew
         'This is the man that Hannah didn't ask who knew.'
     b.  *Ze ha-iš    še-xana    lo  ša?ala ?et mi  hekir.
         this the-man that-Hanna neg asked acc who knew
         'This is the man that Hannah didn't ask who [he] knew.'

The same reasoning that ruled out an ECP account for the extraction facts with the VP-internal subjects can be carried over to these cases. The availability of LF extraction of postverbal subjects, as shown by the contrast in (13), can again be taken as evidence against a binding-theoretic explanation.

(13) a.  Mi  lo  yada matai ?oxel  mi  aruxat cohoraiym?
         who neg knew when eat-ms who meal   noon
         'Who didn't know when who eats lunch?'
     b.  *Mi  lo  yada matai mi  ?oxel  aruxat cohoraiym?
         who neg knew when who eat-ms meal   noon

More generally, the parallelism between VP-internal and VP-adjoined subjects strongly suggests that it is not the trace of *Wh* Movement that is offensive. Rather, it appears that the offensive element is the preverbal *pro*.

More evidence that the principle violated in (5b), (6b), (11b), and (12b) concerns the preverbal *pro* and not the postverbal trace itself comes from the cleft examples of (14). In (14a,b), with the verb inflected for first and second person, extraction of a subject over a *wh*-island is fine. Since extraction directly from the preverbal subject position would result in an ECP violation, we may assume that sentences (14a,b) are derived in the following way: extraction proceeds from the postverbal position, and the preverbal subject position is occupied by a null expletive, as illustrated in (15). However, as the

unacceptability of (16) shows, such an option is unavailable when the embedded verb is inflected for the third person.

(14) a.  Ze hayi-nu ʔani ve-at      še-ʔiš        lo  šaʔal lama ʔaxal-nu salat
          it  was-1pl I    and-you-f that-person neg asked why ate-1pl    salad
          xacilim.
          eggplants
          'As for you and me, nobody asked why [we] ate Baba Ganouj.'
     b.  Ze hayi-tem ʔata    ve-Xaym  še-ʔiš        lo  šaʔal lama
          it  was-2pl   you-m and-Xaym that-person neg asked why
          ʔaxal-tem salat  xacilim.
          ate-2pl      salad eggplants
          'As for you and Haym, nobody asked why [you] ate Baba Ganouj.'

(15)  It was X, [$_{CP}$ $op_i$ that [$_{IP}$ no one asked [$_{CP}$ why [$_{IP}$ $pro_i$ [$_{VP}$ ate Baba Ganouj [$_{VP}$ $t_i$]]]]]]

(16) *Ze hay-a      Xaym še-ʔiš        lo  šaʔal lama ʔaxal     salat xacilim.
       it   was-3ms Xaym that-person neg asked why ate-3ms salad eggplants
       'As for Haym, nobody asked why [he] ate Baba Ganouj.'

As shown by (17) (and see footnote 5), these facts correlate with the availability of argument null subjects in Hebrew.[9]

(17) a.  Axal-nu.
          *pro* ate-1pl
          'We ate.'
     b.  Axal-tem.
          *pro* ate-2pl
          'You ate.'
     c. *Axal.
          *pro* ate-3ms
          'He ate.'

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[9] Conceivably, no extraction takes place in (14); rather, a null resumptive pronoun is generated in the preverbal subject position. The latter strategy is probably the one operative in (i) and (ii), since the barriers imposed by a complex NP cannot be crossed without violating Subjacency (whereas *wh*-islands, in Hebrew, pose no barriers to extraction, as discussed in footnote 7). No resumptive strategy is available in (iii), however, since a null resumptive pronoun is a null argument and null argument *pro* cannot appear in the environment of third person inflection. Therefore, the only option for (iii) is extraction. If it proceeds from the preverbal position, the ECP will rule out a variable in that position. If it proceeds from the postverbal position, movement will violate Subjacency *and* the preverbal *pro* will be "stranded" as in the text examples.

(i)   Ze hayi-nu ʔat    ve-ʔani še-ʔiš        lo  ba     la-mesiba    še-ʔarax-nu.
       it  was-1pl you-f and-I   that-person neg come to-the-party that-held-1pl
       'As for you and me, nobody came to the party we held.'
(ii)  Ze hayi-tem ʔat    ve-Dan še-ʔiš        lo  ba     la-mesiba    še-ʔarax-tem.
       it  was-2pl   you-f and-Dan that-person neg come to-the-party that-held-2pl
       'As for you and Dan, nobody came to the party that you held.'
(iii) *Ze hay-a      Dan še-ʔiš        lo  ba     la-mesiba    še-ʔarax.
       it   was-3ms Dan that-person neg came to-the-party that-held-3ms.
       'As for Dan, nobody came to the party that he held.'

The descriptive conclusion that emerges is that Hebrew mimics the Italian paradigm in LF, permitting long-distance *Wh* Movement of a subject, while patterning like English at S-Structure, blocking a parallel type of movement. Moreover, responsibility for the ungrammaticality of long-extracted postverbal subjects seems to lie with the preverbal *pro* rather than with the postverbal variable.

### 3. "Long" Extraction and the Stranding of Null Expletives

To account for the extraction facts in (5)–(6), I propose a slight modification of (4b), that is, of the Feature Assignment Convention for *pro*. Suppose that the features needed to identify *pro* can be retrieved by coindexation not only with *pro*'s licensing head (namely, Infl) but also with the postverbal subject. Generalizing across both options, consider (18).[10]

(18)   *Feature Assignment/Recoverability Convention*

Coindex *pro* with an element in *pro*'s CHAIN bearing phonologically discrete grammatical features (number and person).

Where argument *pro*-drop is illicit in Hebrew, as in (17c), Infl is impoverished in the sense that it does not discretely represent person features. In order to be licensed, however, *pro* must be coindexed with some element bearing those features. There is no potential candidate, since the CHAIN here consists only of the null subject and Infl. *Pro* is left unidentified and the structure is ruled out.

In inversion constructions, the postverbal subject supplies the features needed to identify *pro*. When the postverbal subject is extracted, *pro* is "stranded," so to speak, and cannot be properly identified. Thus, sentences such as (5b) and (6b) are ruled out. In other words, (5b) and (6b) are ruled out for precisely the same reason that argument *pro*-drop is not permitted with third person inflection: the features needed to identify *pro* in both cases cannot be locally retrieved.

Richness of agreement should thus be interpreted as an S-Structure property of the phonological explicitness of the representation of grammatical features. In Italian, for example, Infl is rich in virtue of discretely representing Φ-features. The features of *pro* are thus fully recoverable from Infl alone. A postverbal subject is therefore freely extractable. In Hebrew, explicit features of person are represented only in the first and second person singular and plural conjugations in the past and future. Consequently, only with such agreement can postverbal subjects be extracted, since the identifying features can be retrieved only from Infl. Inversion (without extraction) is possible with third person agreement since the features of *pro* are fully recoverable from the postverbal subject.

Finally, the acceptability of LF extraction of postverbal subjects, illustrated in (8a) and (9a), follows from the fact that the conditions that *pro* must meet (formal licensing

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[10] Chomsky (1986b) construes CHAINS as consisting of both chains and expletive argument pairs. In Chomsky (1986a) Infl is considered to be a member of the subject's "extended" chain.

and identification) are stated on S-Structure representations. In cases of LF extraction, *pro* is fully identified at S-Structure, since the postverbal subject is present at that level. Since *pro* does not need to be identified at LF, nothing rules out (8a) and (9a).

Three points now demand clarification. First, it is not clear why the postverbal variable in (7b) cannot identify *pro*, or, in other words, why the features required to identify *pro* need to be overtly represented. Second, it is not clear why the fronted *wh*-word in (7b) is incapable of identifying *pro*. Third, and more generally, my explanation for the unavailability of extraction of postverbal subjects rests on the claim that expletive *pro* must be *identified* in addition to being formally licensed (which it must be, given the availability of inversion without extraction). This conflicts with Rizzi's argument to the effect that expletives must only be formally licensed.

I address the first two issues here and return to the third in section 5.

It is generally assumed that variables bear Φ-features. Thus, their inability to serve as a source of features for *pro* cannot be due to the unavailability of those features. Yet although variables bear Φ-features, those features are not phonologically discrete. Just as the relative poverty or richness of Infl—and its resultant capacity to support null subjects—is measured in terms of phonological explicitness, so the capability of other elements to identify *pro* must also be measured in this way. On these grounds, variables cannot serve as a source of Φ-features.

To resolve the second point, we must look at the nature of the formal relationship between the source(s) of Φ-features and the null subject. Insofar as the source of features is Infl, the relationship can be stated in terms of government (or Case marking) along the lines of Rizzi (1986).

To formally implement feature assignment to *pro* by the postverbal subject, I have argued above that *pro*'s features can be recovered from any element with which it forms a CHAIN. This idea makes intuitive sense if we view CHAINs (as well as chains) as abstract representations of NPs whose content and features (phonological representation, grammatical features, Case, θ-role, and so on) are divided among its various links. Like Case or a θ-role, then, Φ-features may be present on any element within the CHAIN. This implementation correctly rules out assignment of features to *pro* by a *wh*-moved postverbal subject that, although coindexed with *pro*, does not form a CHAIN with it.[11]

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[11] The combination of subject inversion on the one hand and the ban on long extraction of subjects on the other is not unique to the grammar of Hebrew. It is found in subjunctive clauses in French, discussed in Pollock (1986). Contrast the acceptable subject inversion configuration in (i) with the unacceptable extraction in (ii).

    (i)   Il     faudrait que viennent plus  de linguistes à  nos réunions.
           there should  that come    more of linguists  to our meetings
           'More linguists should come to our meetings.'
   (ii)  *Combien  de linguistes faudrait-il    que viennent à  nos réunions?
          how many of linguists  should-there that come    to our meetings
          'How many linguists should come to our meetings?'

French, then, like Hebrew, displays the pattern in (7). Unlike Hebrew, however, French has an overt expletive, *il*. When *pro* in (ii) is replaced by *il*, the postverbal subject is freely extractable, as shown in (iii).

## 4. An Argument in Favor of a Canonical Subject Position

A number of linguists (for example, Adams (1987), Borer (1986), Travis (1984)) have advanced the position that in inversion constructions, there is no subject position other than the one occupied by the postverbal subject itself. These linguists propose, essentially, that inversion constructions have an S-Structure representation such as (19). The Hebrew data discussed militate against such a view since it is not clear how the inextractability of postverbal subjects can be accounted for in theories of this kind without burdening them with further assumptions.

(19)       IP
            |
            I′
           /  \
          I    VP
              /  \
            VP    NP$_{(subject)}$
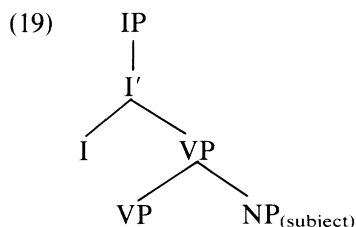
Indirectly, then, the facts discussed above support a strong version of Chomsky's Extended Projection Principle or the requirement that clauses have subjects in canonical positions, whether thematic, Case-bearing, or neither.

## 5. Postverbal Clausal Subjects

Finally, consider the case of expletives associated with S′ extraposition and raising constructions, as illustrated in (20).

(20) a.   Nidme    l-i     še-ha-šemeš šoka?at.
          seem-ms to-me that-the-sun sinking-sf
          'It seems to me that the sun is sinking.'

     b.   Barur    še-hi    balšanit tova.
          clear-ms that-she linguist good
          'It is clear that she is a good linguist.'

     c.   Haya     racuy        še-lo   te-?axer.
          was-3ms desirable-ms that-neg 2ms-be late
          'It would be desirable that you not be late.'

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(iii)   Combien  de linguistes faudrait-il    qu'il     vienne à  nos réunions?
        how many of  linguists   should-there that there come  to our meetings
        (same as (ii))

The contrast between (ii) and (iii) can be taken to support the analysis proposed in the text since the only difference between the ungrammatical (ii) and the grammatical (iii) is the presence of an overt expletive in (iii), which does not need to be identified, as opposed to *pro* in (ii), which must and apparently fails to be identified by discrete features.

   I agree with the remark of an *LI* reviewer to the effect that unlike the Hebrew examples discussed in the text, one cannot dismiss Pollock's binding-theoretic account of the facts in (i)–(iii). This is so since French, unlike Hebrew, does not felicitously allow nonecho multiple *wh*-questions and the contrast between, say, (9a) and (9b) cannot be tested for in this language.

In these examples a postverbal clausal subject bears no features of person and number, yet a null subject *pro* is acceptable. We cannot test for extractability in this case, because there is no unique *wh*-form for clauses in Hebrew. Yet since clauses do not bear Φ-features, the null expletive that presumably occupies [Spec/I′] in these examples does not have an identifier. Other things being equal, the sentences in (20) ought to be ruled out for the same reason as (5b) and (6b), namely, on the basis of (18).

In addition to null expletives construed with postverbal clausal subjects, Hebrew manifests null subjects with impersonal passives, weather predicates, and constructions with *pro*$_{arb}$, as in (21)–(23), all of which lack an appropriate identifier for *pro*.

(21) a.  Nixtav              ʔal-av      ba-ʔiton.
         PASS-wrote-3ms    about-him  in-the-paper
         'It was written about him in the paper.'

     b.  Bekarov yuxlat                  ʔal haxzarat ha-štaxim      ha-kvušim.
         soon     PASS-will decide-3ms  on  return     the-territories the-occupied
         'The return of the occupied territories will soon be decided upon.'

(22) a.  Kar.
         cold-ms
         'It is cold.'

     b.  Mešaʔamem.
         boring-ms
         'It is boring.'

     c.  Kore.
         happens-ms
         'It happens.'

(23) a.  Be-Tel Aviv holxim la-yam      kol ha-šana.
         in-Tel Aviv  go-mpl to-the-sea all  the-year
         'In Tel Aviv (people) go to the sea all year.'

     b.  Hifsiku       li-mkor sigariot    ba-kiosk.
         stopped-3pl to-sell  cigarettes in-the-kiosk
         '(They) stopped selling cigarettes at the kiosk.'

The problem posed by these data relates to an issue raised but left unresolved in section 3. Recall that Rizzi (1986) argues that null expletives do not need to be identified (that is, they are exempt from (4b) or (18)) and must only meet the condition on formal licensing, (4a). My analysis of the null subjects of inversion in section 3 shows that Rizzi's claim must be modified since the null expletives of inversion do in fact require identification via their CHAIN. Yet, as the data in (20)–(23) demonstrate, condition (18) does not apply to all null expletives equally. Rizzi's claim is thus partly vindicated.

The problem, then, is how to draw a distinction between *pro* in (24), which seems not to require identification by features via its CHAIN, and *pro* in (25), which does.

(24) a.  Expletive *pro* construed with clausal arguments
     b.  *Pro* in impersonal passives

       c.   *Pro* with weather and temporal predicates
       d.   *Pro* with arbitrary interpretation
(25) a.   Referential *pro*
       b.   Expletive *pro* construed with a postverbal (NP) subject

Clearly the difference cannot be stated in terms of referential quality, argumenthood, and so on, since (for example) *pro* is nonargumental in (24a,b) and (25b) yet argumental in (24d) and (25a).

     Instead, the relevant distinction seems to be the following. In (24) the feature composition of *pro* is designated, fixed by the properties of the construction. It is unmarked in (24a–c), whereas in (24d) it bears whatever features are fixed for arb in a given grammar (for instance, plural in Hebrew). In (25), on the other hand, the feature specification of *pro* is variable and depends on the referential properties of the pronominal subject or of the postverbal NP. It is precisely where the feature bundle of *pro* is not fixed that it must be identified via its CHAIN.

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