Subject, Tense, and Indefinite NPs

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1. We will discuss the following questions:[*] (i) How is "the subject of S" defined?, (ii) Does every S have a subject? (iii) How do Ss with referential subjects like (1) differ grammatically from Ss with non-referential subjects like (2)?

(1) John loves Mary.

(2) There is a man in the yard.

1.1. The Extended Projection Principle (EPP) of Chomsky (1982), requires an NP in (Spec, IP) position, or, if Kuroda (1986), Kitigawa (1986), Koopman and Sportiche (1985) and others are correct, in (SPEC,VP). Borer (1986) proposes, on the contrary, that there is no one subject position. Rather, IP must contain an "I-subject", an NP coindexed with Infl.

The two hypotheses are equivalent wrt (1), where the structural subject is the I-subject. In (2), Borer and Chomsky both assume that there in Spec IP position receives Nominative case from Infl and forms a chain with the post-verbal NP, to which it transmits case. If so, (2) is like (1) with respect to the EPP and I-subject hypotheses.

Borer claims, however, that in languages with Infl lowering (Rule R of Chomsky, 1981) NOM can be assigned to a structural

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object by V plus lowered Infl, as in Modern Hebrew (3) below, with no Spec IP position generated.

(3) a. Nishma cilcul pa'amon.

$$\overset{\longrightarrow \text{NOM}}{}$$

b. $(_{I'}\ t_i\ (_{VP}\ \text{nishma+infl}_i\quad (_{NP}\ \text{cilcul pa'amon})))$
(was heard   ringing bell)

Borer's proposal is based on the following argument: suppose that it is the NP bearing Nominative case which obligatorily determines the form of verbal inflection. In the Ss of (4), an expletive pronoun in SPEC IP has nominative case and agrees with the verb, while the NP in object position has accusative case and does not agree.

(4) a. il est venu <u>trois hommes.</u> (French)
(It came three men)

b. pro gli è venuto <u>delle ragazze</u> (Fiorentino)
(It is come some girls)

c. Hay camiones? Si, pro <u>los</u> hay. (Spanish, Torrego, 1983)
(Are there trucks. Yes, them there+are)

Such Ss suggest that an expletive pronoun, lexical or not, requires nominative case. If so, then when NOM is assigned directly to the structural object, as in (3) above or (5) below, there is nothing in SPEC IP, for nominative case is no longer available.

(5) a. Ne vengono tre. (of them come three)

$$\overset{\longrightarrow \text{NOM}}{}$$

b. $(_{I'}\ t_i\ (_{VP}\ \text{ne}_j\ \text{vengono+infl}_i\ (_{NP}\ \text{tre e}_j)))$

We adopt the essential tenets of Borer's proposal: an NP in Spec IP/VP is not obligatory; agreement is obligatory. Abstract agreement may pertain even in languages with morphologically invariable finite verbal inflection. Verbal inflection being pronominal, the existence of empty pronouns in such languages would suffice to trigger acquisition of empty inflection.

1.2. Other aspects of Borer's proposal are more problematic, however.

1.2.1. We propose that Nominative case assignment to a direct object is triggered by verb raising to Infl rather than by Infl lowering. In standard Arabic (6), for example, V raises to Infl and assigns nominative case to an NP in Spec VP position under government (Fassi Fehri, 1987). The assumption that morphosyntactic rules require contiguity between affected elements rules out affix lowering in such cases. We propose that Rule (7) determines Nominative case assignment under government.

$$\overset{\longrightarrow \text{NOM}}{}$$

(6) $(_{I'}\ \text{ja:?-ati}_i\ (_{VP}\ \text{l-bana:tu t}_i)$
came FEM.   the girls

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(7)   Tense may assign Nominative case to NP α from a   scopal position for tense - Infl or Comp - provided Tense is borne by a verbal chain a link of which canonically governs α.

(7) is exemplified by (3), (5), and (6) above as well as by Dutch (8a) and Icelandic (8b) below.[1]

(8) a. dat   mijn broer ($_{VP}$ jouw muziek niet t_i) T+ bevalt$_i$
            DAT   NOM

      (that to my brother your music not pleases)
   b. mér voru T+lánadir$_i$ ($_{VP}$ t_i þessir hattar)
      DAT   NOM
      (to me were lent these hats)

Rule (7) provides an alternative to the chain hypothesis for the assignment of NOM in (2) above.[2] We propose that in (2), as in (3), (5), or (6), NOM is assigned under government. More precisely, (2) is like (8a) and (8b): the direct object receives NOM case structurally while the NP in Spec, IP has inherent DATIVE case.

(7) accounts for the contrast in (9). Be, which raises to INfl, assigns case structurally in (9a). But seem, which does not raise to infl in English (cf. Emonds, 1978, Pollock, 1988), cannot assign case in (9b). The chain hypothesis cannot account for the contrast in (9), as Borer points out.

(9) a. There$_i$ seem (t_i to be people in the house).

    b. * There$_i$ seem (people to be in the house)

1.2.2.   If the subject of S is a syntactic argument, then the "I-subject" cannot always be the subject of S. For the I-subject may be a mere verbal affix. In (10a) and (10b) below, NOM is assigned to a passive affix; in (10c) NOM is assigned to a reflexive affix.

(10) a. Honum var oft hjálpad af foreldrum sínum.
        DAT   NOM
        (He was often helped+PASS by parents his)   (Icelandic)
     b. er werd gelachen (there was laughed+PASS) (Dutch)
        DAT   NOM
     c. Mne xoteloc' (PRO poiti v teatr) (Russian)
        DAT   NOM

        (to me desires+REFL to go to the theater)

The hypothesis that Nominative case is assigned to a verbal affix in (10) follows from the assumption that finite Tense assigns NOM obligatorily, as well as from the visibility principle, which requires a constituent with a theta-role to be case marked, and the Projection Principle, which requires theta-roles to be assigned. In the Ss of (10), the main verb assigns an

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external theta-role which, not being borne by the oblique NP, can only be assigned to the nominal affix of V. The Ss of (10) are thus parallel to those of (11) modulo Nominative rather than Accusative case assignment to the affix[3]

(11) a. John was se<u>en</u>.
b. Jean <u>se</u> voit.   (John self+sees)

It is the oblique NP in Spec IP, moreover, not the Nominative affix, which functions as a syntactic argument. In (10a), the DAT NP <u>honum</u> binds the reflexive possessive pronoun <u>sinum</u>. In (10c), the oblique NP <u>mne</u> controls the embedded PRO subject.[4] If A-binders occupy argument positions, then the oblique NP must be in SPEC IP, an argument position, rather than, say, topic position.

The non-referential NPs <u>er</u> in (10b), <u>there</u> in (2) are also subjects rather than topics. For topics must be referential. This is shown, for example, in (12), where the idiomatic construal of the object in (12a) is maintained under passivization in (12b) but not under topicalization in (12c).

(12) a. They finally broke the ice.

b. The ice was finally broken.
c. * The ice, they finally broke (it).

We conclude that the subject of S is an NP in Spec IP (or Spec VP) position but that this position is not obligatory.

1.3. Our discussion leaves the following questions pending:

(i) If Spec IP (or VP) is not obligatory, and if tensed BE can assign Nominative case to a direct object, why does <u>there</u> appear in Ss like (2) at all?

(ii) <u>Why</u> is agreement obligatory and subjects non-obligatory? Why isn't the subject position obligatory and agreement parameterized?

(iii) If subjects are not necessary, why are they so widespread?

(iv) Why is there a Definiteness Effect on the object in Ss like (2) and an "Anti-definiteness effect" on the subject in S's like (1), as illustrated in (13) and discussed for (13c) in Bennis (1986) and Reuland (1988).

(13) a. * What is <u>a boy</u> doing? <u>A boy</u> is walking.

b. * Que fait <u>un garçon</u>? <u>Un garçon</u> marche. (French)
c. * dat <u>een jongen</u> loopt... (Dutch)

2. <u>Agreement as agr-binding.</u>

If we take the Romance, Slavic, or Germanic languages as a model for UG, it seems that all productive lexical categories, N, A, and V, contain agr, a set of Ø Fs ranging over person, number and gender, in other words a pronominal. So all lexical categories properly include a pronominal, <u>agr, X</u>. We assume the Ø Fs of agr,

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X to be specified under binding. If X = N, then agr,X is Ø-bound <u>internal</u> to NP, by the lexical Ø Fs of N. If X = A or V, agr, X is Ø-bound by an antecedent <u>external</u> to XP. Agr-binding thus identifies syntactic predicates, as stated in (14) and illustrated in (15); and number, gender, and person agreement reduces to (agr)-binding.

 (14) XP is (part of) a predicate if agr,X is Ø-bound by an antecedent external to XP.²

  (15) a. La maison$_i$ est ($_{AP}$ <u>belle</u>)
     3,sg.fem.   agr$_i$
             3, sg.fem.
    (The house is beautiful)

    b. Les enfants$_i$ ($_{VP}$ <u>arrivent</u>)
     3, plur.   agr$_i$
             3, plur.
    (The children arrive)

Finite verbs differ from Adjectives and Participles in two ways: (i) finite V is governed by Tense; (ii) the agr of a finite V varies over all three persons, while all other agr,X are default 3rd person. Since independently referring pronouns range over three persons, and anaphors are characteristically default third person (cf. <u>se</u>, <u>zibun</u>, (him)<u>self</u>) we construe only the agr,V of a finite verb as a possible referring expression. We account for the distinctive properties of finite agr,V by means of the notion of a <u>tense domain</u> in (16).

 (16) a. If XP is governed by a tense operator, then XP is a VP which defines a <u>tense domain</u> and denotes an event/situation purported to hold at the discourse reference time.

  b. A tense domain contains agr,V, a pronominal whose person F is specified under binding by an antecedent which bears Nominative case and governs agr, V.

  c. A bound pronominal is an R-expression iff its binder is <u>external</u> to the tense domain containing it.

In (17) below, Tense in Infl governs XP, so XP is a VP which defines a tense domain and denotes an event/situation with respect to discourse time, by (16a). Agr,V is Ø - bound by <u>John</u>, which governs it, there being no barrier between the two nominals (cf. Chomsky, 1986a), so (16b) is satisfied. The binder of agr, V being <u>external</u> to the tense domain, agr, V is construed as an R-expression, by (16c).

  (17) a. John loves Mary.
    b. John$_i$ ($_I$· I+T ($_{XP}$ loves Mary)
     3,sg.masc   agr$_i$
             3,sg.masc.

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We propose that agr,V is assigned NOM case directly by tense via the link between the tense operator in Infl and the tense morpheme of V. Case-marked agr, V is visible and absorbs the external theta-role of V. John, the binder of agr,V, is an R-expression in an A-position, however, so it must have case and theta-role, by the theta-criterion. Agr$_i$ and its binder must then form a syntactic chain.

If we construe VP in (17) as an open expression and the referential pronoun agr,V as a predicate variable, (17) maps onto the lambda formula for predication in (18) by the Derived VP Rule of Williams (1977).

(18) John (λ x (x loves Mary))

We may now answer questions (ii) and (iii) of Section 1.3. Agreement, identified as (agr-) binding, is obligatory in order to distinguish finite VP from all other XP constituents. Specification of a person F for agr,X identifies the XP containing it as a tense domain, denoting an event/situation wrt discourse time.

Any constituent which has Nominative case and governs agr,V can bind it, a subject as in (1), an object as in (2), (3), (5), (6), and (8), or a verbal affix as in (10). An NP in Spec IP position is not obligatory. However, when agr, V is bound by an NP in Spec IP, the binder is external to the tense domain. Agr, V is then construed as an R-expression, by (16c), and functions semantically as a predicate variable. Subjects are thus widespread because predicative Ss are widespread.

(16c) motivates NP raising from Spec VP to Spec IP, where it exists. IP is not construed as a predication unless the head of the subject chain raises to a position external to VP, the tense domain. Only then is the agr,V it binds construed as an R-expression and as a predicate variable.

3. We turn now to questions (i) and (iv) of Section 1.3. concerning the function of there in (2) and the Definiteness Effect.
3.1. In (19) below (= (2)), Nominative case is assigned under government to the postverbal NP a man, which binds Agr, V.

(19) a. There is a man in the yard.

    b. There T ($_{VP}$ is a man$_i$ in the yard).
                  agr$_i$

Agr, V being bound by an NP inside the tense domain, it does not refer to an individual, by (16c) above. The question is, does it refer at all?

We propose that an indefinite NP with a "weak" determiner in the sense of Milsark (1977) and Barwise and Cooper (1981), has no intrinsic reference, but is construed in isolation as an open

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expression (cf. Higginbotham, 1985).

This hypothesis accounts for the ungrammaticality of Ss construed as predications in which an indefinite NP appears in ungoverned position. It accounts for the "anti-indefiniteness effect" in (13) above and for the ungrammaticality of (20) below if un homme in Topic position is not construed as generic.[6]

(20) a. Jean, il est gentil.
b. * Un homme, il est gentil.

3.2. An indefinite NP can get reference in governed position. We propose that an indefinite NP is construed as a predicate (cf. Higginbotham, 1987) when governed by an auxiliary verb, and as a bound variable (cf. Haik, 1984; Heim, 1982) when governed by a lexical verb.

3.2.1. We show first that an indefinite NP governed by an auxiliary has the grammatical properties of a verb rather than those of a referential NP.

(i) θ-role assignment. An NP with a weak determiner can assign a theta-role to an argument outside its maximal projection, as in (21), from Higginbotham (1987). The contrast in (22) shows that only an NP with a weak determiner has this property.

(21) John is a doctor.

(22) a. John and Mary are two good doctors.
b. * John and Mary are every good doctor.

An indefinite NP forms the same kind of complex verbal construction in conjunction with a governing auxiliary as the corresponding verb. The indefinite NP in (23a), like the infinitive in (23b), assigns an external theta-role, controlled by the indirect object of the matrix predicate.[7]

(23) a. I gave John (a/*the look at the manuscript).

b. J'ai fait (regarder le manuscrit) à Jean.

(ii) Non-referentiality. A "pro-predicate" like what (something, nothing) occupies an A-position but is construed as forming a complex predicate with the governing auxiliary. A pro-predicate cannot be replaced by a referential NP, as shown in (24b). Auxiliary plus predicate may be replaced by a semantically equivalent verb, as in (24c), or by another complex predicate, as in (24d).

(24) a. What$_i$ did you do t$_i$?
b * I did a song/a walk/a meal.

c. I sang/walked/ate.

d. I took a walk/had a meal.

(iii) scope of NP-internal modifiers. The modifier of a predicate object takes the entire VP as its scope, and can be replaced by a VP adverbial with no change in meaning, as in (25). When NP is construed referentially, the same modifier takes scope

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within NP and cannot be replaced by an adverbial without change of meaning, as shown in (26).

(25) a. John paid ($_{NP}$ a _brief_ visit to his mother).
b. John _briefly_ paid ($_{NP}$ a visit to his mother).

(26) a. I disliked ($_{NP}$ John's _brief_ visit to his mother).
b. I _briefly_ disliked ($_{NP}$ John's visit to his mother).

(iv) _Iterated case_. Whenever case functions to distinguish arguments in s-structure, an NP in A-position bearing the same case as a c-commanding argument is construed as (part of) the predicate. In Icelandic (27a) below, under the analysis proposed in (27b), the NP _kjark_ forms part of a complex verbal expression _brestur kjark_[8] and acquires ACC case from its agr-binder, the raised NP _mig_.[9]

(27) a. Mig brestur kjark.[9]   (Me lacks courage)
b. Mig$_i$ _brestur_ (t$_i$ _kjark_)
   ACC   agr,X$_i$
                    ACC

(v) _Lack of NP movement_. A predicate NP cannot raise by NP movement. If it did, the agr,X of the raised NP would c-command its binder, in violation of Principle C of the Binding theory. The inability of Ss like (27a) to passivize in Icelandic (Yip et al, 1987) thus supports the syntactic analysis proposed in (27b) on the basis of iterated case.

(vi) _Determiner construal_. The determiner or degree modifier of a referential NP denotes a quantity of items or substance. In a predicate NP, the same determiner or degree modifier denotes the degree to which the subject possesses a property.

(28) a. John has _more books/money_ than Bill has.
b. John is _the man_ I like.

b. Johh bought _every book_ I thought he would.

(29) a. John is _more of a man_ than Bill is.

b. John is not _the man_ his father was.
c. John is _everything_ I hoped he would be.[10]

(vii) _L-marking_. A predicate NP can L-mark the XP it governs, allowing extraction from XP, as in (30). But NP cannot L-mark when it is internally quantified, as in (31).

(30) a. I heard a/the claim that John likes Mary.

b. Who$_i$ did you hear a/the claim that John likes t$_i$.

(31) a. ?? I heard two claims/every claim that John likes Mary.

b. * Who$_i$ did you hear two claims/every claim that John likes t$_i$?

(viii) _The theta-criterion_. The theta-criterion requires every argument to have a theta-role. An auxiliary verb does not assign a theta-role (Guéron and Hoekstra, to appear).

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Consequently, an NP governed by an auxiliary cannot be an argument. Assuming that an XP is construed as either an argument or a predicate, an NP governed by an auxiliary must then be a predicate.

3.2.2. Establishing reference.

Yet a man cannot function as (part of) a predicate in (32) below, since Spec IP contains no referential subject. So it must be an argument, with referential status, after all.

(32) There is a man in the garden. (= (2))

This conclusion is supported by the fact that a pronoun in a subsequent S can refer back to a man. "Backwards pronominalization" is ruled out when a preceding NP does not refer, as shown in (33).

(33) a. There is a man in the room. He is tall.

b. Il a été mis fin au conflit. * Elle est venue à temps.

(It was put an end to the conflict. It came just in time)

c. That gun is a bitch to clean. * She takes us all day.

We consider as inherently referential only names, like John, and pronouns with lexically assigned person F, like him. All other NPs are open expressions associated with the s-structure (34).

(34) $(_{QP} Q_i (_{XP} X_i))$

In (34), XP is a lexical projection and contains an open position, which we identify with pronominal agr, X. XP is embedded in QP, a functional projection (cf. Abney, 1985). In LF Q functions as an operator binding the open position in X.

Every functional category is a Q, including auxiliary verbs, which are Q-VP. We propose that QP is syntactically non-distinct from the XP it governs, so Q is the syntactic head of XP.[11]

Q can be iterated, as shown in (35). However, a QP embedded within a QP is construed as a projection of the XP it governs in LF as well as in syntax, (cf. Fukui and Speas, 1986). Consequently, only the outermost Q functions as an operator in LF, "completing" QP in the sense of Guéron (1980a, 1980b).

(35) a. $(_{QP}$ those $(_{QP}$ three $(_{NP}$ boys$)))$

b. $(_{QP}$ has $(_{QP}$ been $(_{VP}$ seen$)))$

QP moves into argument positions. Q, if it is nominal and can bind a trace, moves into Q positions. Both types of movement are subject to the constraints on antecedent binding of Chomsky (1986a). Q functions as a minimality barrier for movement of the XP it governs, so that XP alone never moves. However, a Q can bind a pro XP, as we will see.

Dutch wat voor split in (36), from Den Besten (1985),

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illustrates Q-movement. The pronominal operator <u>wat</u> moves to CP (CP = QP-IP) and binds the Q position of the direct object, with the remainder construed as an NP.

(36) a. Wat heeft hij voor romans geschreven?

(What has he for novels written?)

b. $(_{CP}$ wat$_i$ $(_{C'}$ heeft$_j$ $(_{IP}$ hij $(_{I'}$ $(_{VP}$ $(_{QP}$ t$_i$ $(_{QP}$ voor $(_{NP}$ romans))) geschreven) ...

In (37) <u>le</u> is a pronominal operator in Infl (Infl = Q-VP) which binds the Q position of the object QP. The bound Q governs and identifies a pro NP.[12]

(37) a. Je l'ai vu.

b. Je $(_{I'}$ l$_i$'ai$_j$ $(_{VP}$ t$_j$ $(_{VP}$ vu $(_{QP}$ t$_i$ $(_{NP}$ pro)))))

(38) contains two pronominal Qs. <u>Combien</u> in CP binds the Q position of the NP object, while <u>en</u> in Infl binds the pro NP itself.

(38) a. Je sais combien il en a. (I know of-them how many he has)

b. $(_{CP}$ combien$_i$ $(_{IP}$ il $(_{I'}$ en$_j$ a$_k$ $(_{VP}$ t$_k$ $(_{QP}$ t$_i$ $(_{NP}$ pro$_j$))))))

(38) contains no barriers for antecedent binding. We assume <u>combien</u> to be coindexed with C under Spec Head agreement and C to be coindexed with IP and I. I is coindexed with VP after V raising to Infl. The object QP is not a barrier because V L-marks it. We assume, further, that <u>en</u> in Q-VP position is coindexed with V under a form of Spec-head agreement, so that the <u>combien</u> chain does not function as a minimality barrier for binding of the object pro by <u>en</u>.

A determiner (Q) is <u>strong</u> if its felicitous use implies an item by item scan of the set denoted by NP, deriving a partitive construal of QP, or if it produces a tautology in the statement "Q N are N" (Barwise and Cooper 1981). In (39a) below, the strong determiner <u>every</u> binds agr, N, deriving the logical structure (39b) and establishing reference internal to QP.[13]

(39) a. $(_{QP}$ every$_i$ $(_{NP}$ man$_i$))

b. $\forall$ x (man (x))

Cardinal determiners do not satisfy the partitive and tautology criteria and are <u>weak</u>. A cardinal determiner does not function as an operator on NP but is construed as part of its restriction, as suggested in Reuland (1988). Embedding a QP with a weak determiner, such as <u>a man</u>, in another QP with an empty operator, as in (40), will give the desired result: the inner QP is construed as a projection of the XP it governs both in LF and in syntax and only the outer QP functions as an operator in LF.

(40) $(_{QP}$ O$_i$ $(_{QP}$ a $(_{NP}$ man)))

(40) is ruled out in ungoverned position because it contains a free variable, agr,X, the operator being empty. Reference may be established in governed position, however, provided the empty operator is bound by a lexical operator under the conditions stated in (41).

(41) Q_i may bind Q_j iff Q_i is lexical, QP_j is in A-position and (i) Q_i minimally governs QP_j, or (ii) QP_j is coindexed with the head of Q_i.

Under operator binding, the interpretation of QP_j with empty Q_j depends on the construal of the Q_i which governs it. To illustrate, XP is interpreted as a predicate if Q-XP is tense, as in (42) (where Infl = Q-VP).

(42) a. John left.
    b. John ($_I$· Tense ($_{VP}$ left))

Although NP is never directly governed by tense, it may be governed by an auxiliary. The sole semantic content of an auxiliary being the tense morpheme it bears, an NP governed by an auxiliary is minimally governed by Tense. So in (43) below, Tense – Q_i and binds Q_j, determining the predicative construal of NP_j, just as it determines the predicative construal of VP in (42).

(43) a. John is a man.
    b. John (T+is$_i$ ($_{VP}$ t$_i$ ($_{QP}$ O$_i$ ($_{QP}$ a ($_{NP}$ man)))))

We turn now to the referential construal of indefinite NPs.[14] We propose that an indefinite NP obtains referential status when governed by a STATE operator.

A STATE operator is provided by any tensed verb which contains sufficient semantic content to situate its object in the discourse world. In the Ss of (44) below, the STATE operator binds the QP it governs and the empty head of QP. Bound Q in turn binds the agr,N of its complement, assigning referential status to NP. The binding relation between the STATE operator and the empty Q-NP is illustrated in (45), where the components of the STATE operator are underlined.

(44) a. Il est entré un homme.   (It entered a man)
    b. Il a été mangé des pommes.   (it was eaten some apples)
    c. ? Il chante beaucoup d'enfants dans ce choeur.[15]
       (It sings many children in this choir.

(45) Il T+est ($_{VP}$ entré$_i$ ($_{QP}$ O$_i$ ($_{QP}$ un ($_{NP}$ homme))))

A VP containing a STATE operator denotes a situation at the discourse reference time. This situation is implied, by the presence of tense, to be distinct from the situation at all

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previous discourse reference times. The VP introduces a new scene, either by adding or eliminating one of the participants or by changing the external location or internal state of a participant.

Perfective verbs like _entrer_ or _manger_ are felitious state operators because they lexically imply a change of place or state. Inherently imperfective verbs like _chanter_ are not felicitous STATE operators and can be used in impersonal Ss only if given a presentational construal of some kind.

Unaccusative verbs are best in impersonal structures because they are perfective. Rather, languages tend to grammaticalize as unaccusative, if they do at all, perfective verbs. If a monovalent verb contains a state operator, then, since an operator must bind a variable at LF, the verb appears in an unaccusative structure, which provides an object, rather than in an unergative structure, which does not. The DE follows from the existence of the STATE operator: only indefinite NPs are open expressions and can be construed as variables.

We propose that the function of the locative in the existential Ss of (46) below is to contribute the lexical content which allows a lexically empty auxiliary verb to function as a STATE operator.

(46) a. There is a man in the house.
     b. Il y a un homme dans la maison.
     c. Hay un hombre en la casa.

The three components of the STATE operator — T, V, and locative content — are underlined in (47). _There_ is a pronominal Q-VP which combines with Tense, also a Q-VP, to provide the spatiotemporal content the auxiliary lacks, permitting the latter to function as a STATE operator. The hypothesis that Tense, verb and locative function as a unit is supported, of course, by the existence over languages of verbs which fuse the three components into one, such as Spanish _hay_, Russian _ect_, or Hebrew _yesh_.

(47) $(_{IP}$ _There_ $(_{I'}$ _T+is_$_i$ $(_{VP}$ _t_$_i$ $(_{QP}$ O$_i$ $(_{QP}$ a $(_{QP}$ a man$)))$...

The indefinite NP of an existential S is construed as a variable bound by an existential quantifier. This is not because _there_ binds the object directly, however (cf. Milsark, 1977); the indefinite NP in the Ss of (44) have the same existential construal although no locative is present. Nor can the variable interpretation be attributed to Existential Closure provided by a discourse operator (Heim, 1982). If it could, no locative would be necessary in the Ss of (46). Rather, we propose, a VP containing a STATE operator establishes the existence at the reference time of a situation distinct from that at all previous reference times.

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Since the situation is distinct, and the entity denoted by the direct object has no reference outside the confines of the situation, it too must be distinct from entities existing at previous reference times. We thus take the Novelty Condition of Heim (1982) to apply directly to the VP denotation and to that of the object NP only by implication.[16]

The ungrammaticality of (48) and (49) is accounted for by whatever constraint blocks quantification into an already quantified domain, so that the STATE operator quantifies vacuously (cf. Guéron, 1980b, 1981; Obenauer, 1981; Rizzi, 1988).[17]

(48) a. * Il est venu les hommes.

b. Il $\underline{\text{est venu}}_i$ $(_{QP}$ les$_j$ $(_{NP}$ hommes$_j))$

(49) a. * There is every man in the house.

b. $\underline{\text{There + T+is}}_i$ $(_{QP}$ every$_j$ $(_{NP}$ man$_j))...$

3.2.3. In French, a locative element is necessary to form a STATE operator only when the verb lacks semantic content, as in (46b). In (50), the English equivalent of French (44), however, $\underline{\text{there}}$ is obligatory, even though $\underline{\text{entered}}$ in (50) is semantically as felicitous a STATE operator as $\underline{\text{est entré}}$ in (44a).

(50) a. There entered a man.

b. * Entered a man.

The ungrammaticality of (50b) is not due to the case filter. In Ss like (50), the postposed NP is adjoined to VP and receives case (and theta-role) from Infl by Rule (7) above, as shown in (51).[18]

(51) (There) I+T $(_{VP}$ $(_{VP}$ entered) $(_{QP}$ 0 $(_{QP}$ a $(_{NP}$ man))))

The difference between the French and English examples follows from the minimal government requirement in (41). In the Ss of (44), the verb containing the STATE operator minimally governs Q-NP. In (50), however, the verb does not minimally govern the postposed QP, which is not $\underline{\text{included}}$ in VP in the sense of Chomsky (1986a).

The presence of $\underline{\text{there}}$ in (51) syntactically extends the operator chain. $\underline{\text{There}}$ becomes the lexical head of the STATE operator, which then minimally governs and binds the empty Q-NP as required by (41).

Structural considerations likewise account for the contrast in Dutch (52). In (52a), $\underline{\text{een jongen}}$ in Spec IP binds agr, V, as shown in (53).

(52) a. * dat een jongen loopt.   (that a boy walks)

b. dat er een jongen loopt.   (that there a boy walks)

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(53) dat $(_{IP} (_{QP_i} O (_{QP}$ een $(_{NP}$ jongen))) $(_{I'} (_{VP} t_i) T+loopt_i))$
agr_i

Tense in Infl defines VP as a tense domain. Agr,V being bound by an NP external to the tense domain, it is construed as an R-expression. This construal is semantically incoherent, however, since the agr-binder is an indefinite NP and lacks reference.

In (52b), the presence of er in SPEC IP forces the subject to occupy the VP subject position, as shown in (54). Here, Agr, V is bound inside the Tense domain, so it is not construed as an R-expression and its binder need not be intrinsically referential.

(54) dat $(_{IP}$ er $(_{I'} (_{VP} (_{QP} O (_{QP}$ een $(_{NP}$ jongen$_j$))) $(_{VP} t_i))$ T+loopt$_i$)
agr_j

Een jongen receives a theta-role in (52b), so it must be referential. Reference is obtained under (41i). In (54), the STATE operator consisting of T+V in Infl minimally governs the QP in Spec, VP position, and binds its empty operator.

Our analysis of indefinite NPs is ultimately founded on semantic considerations: an indefinite NP is referential if construed as an integral part of a situation holding at the discourse reference time. But semantic considerations alone cannot identify the set of structures in which the appropriate construal obtains. These structures crucially require minimal government of NP by the verbal chain.

Nor do semantic considerations account for the presence of there in (50a) or of er in (52b). These Ss have the same semantic content as French (44a), which contains no locative. The difference between the English and Dutch Ss on one hand and the French S on the other is purely structural. A STATE operator must bind an empty NP operator. Binding theory requires a binder to be structurally superior to the bindee. In (50a) and (52b), the presence of the locative is necessary for the formation of a syntactic configuation in which the lexical head of the operator chain is structurally superior to the variable it binds.

3.2.4. There exist grammatical Ss with an indefinite NP in ungoverned position, such as (55) below.

(55) A man arrived.

In order to account for the existence of such Ss, we assume that in English, at least, IP may be construed as a Tense domain. If IP is so construed in (55), then agr,V is bound within the tense domain. Consequently, agr,V is not construed as an R-expression and its binder need not be inherently referential. Specifier-Head agreement permits the STATE operator in the verbal chain to bind Q-NP, by (41ii) above, as illustrated in (56).

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(56) $(_{IP} (_{QP_i} 0 (_{QP} a (_{NP} man))) (_{I'} I_i (_{VP} \underline{arrived})))$

Our analysis of (55) accounts for the fact that it shares the Presentational interpretation of the structurally distinct impersonal Ss (44) and (50a) and the Existential Ss of (46). In each structure, a verbal chain containing the STATE operator legitimately binds the empty Q position of an indefinite NP.

We may now answer question (iv) of Section 1.3. The DE identifies a verbal chain construed as a STATE operator. If no indefinite NP were present, the STATE operator would quantify vacuously. The antidefiniteness effect identifies a Predicational structure, in which VP denotes a property of an intrinsically referential subject.

3.2.5. The object of P does not exhibit a DE, as illustrated in (57), (cf. Safir, 1982). It must therefore be the case that P does not provide a STATE operator. This follows directly from our account: P lacks the crucial property of the state operator, tense.[19]

(57) a. * Il a été mangé <u>les pommes</u>.

(It was eaten the apples)

b. Il a été parlé de <u>toi</u>.

(It has been spoken of you)

c. il a été tiré sur <u>le bateau</u>.

(It has been shot at the boat)

<u>Notes.</u>

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1 On NOM case assignment into VP cf. den Besten (1985), Zaenen et al (1985), and Sigurðsson (1988).

2 The chain hypothesis is proposed in Safir (1982, 1985). The disadvantage of this hypothesis, in our view, is that by merging the subject and object of Ss like (2) within a single chain, it reduces them to Ss like (1), thus obliterating the syntactic basis for the interpretive distinction between Predicative Ss and Presentational Ss (cf. Guéron, 1980a).

3. cf. Roberts (1985) for (11a) and Kayne (1986) for (11b).

4. On binding by oblique subjects cf. Andrews (1982), Zaenen and Maling (1984), Timberlake (1976).

5 (14) cannot be strengthened to an if and only if condition because an internally Ø-bound NP can be construed as part of a predicate.

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6. Jean-Yves Pollock (p.c.) pointed out the significance of this contrast for our hypothesis concerning the non-referentiality of indefinite NPs.

7 On complex predicates, cf. J. Giry-Schneider (n.d.), R. Cattell (1984).

8 Under this view, double object structures with two ACC NPs as in Arabic or English, or two DAT NPs as in Icelandic, must have structurally distinguished object positions.

9. The verbal affix in Ss like (27) is NOM (Andrews 1962), as expected if finite Tense assigns NOM obligatorily.

10. (29c) is discussed in Williams (1983), Partee (1987).

11. cf. Abney (1985) and, for Q as the head of NP, Pesetsky (1982), Fassi Fehri (1987), and work in progress by Lea Nash-Haran.

12 Kayne (1987a) proposes that the clitic is the head of NP, A. Rouveret (lecture, U. Paris 8) that it is the determiner of NP. We have combined these two proposals. The clitic is Q-NP and Q is the head of QP.

13 On internal quantification of NP cf. Dobrovie-Sorin (1988).

14 For an overview of the semantic links between predicative, referential, and quantificational NPs, cf. Partee (1987).

15 On impersonal Ss of this type cf. Pollock (1981), Hulk (to appear).

16 The STATE operator is reminiscent of STAGE-LEVEL predicates discussed in Carlson (1977), Diesing (1988), and Kratzer (1988). We do not know whether this work can be extended to the impersonal and existential constructions we discuss here, which lack a subject-predicate structure.

17 (i) below is ruled out both by vacuous quantification and because agr,V fails to be $\emptyset$-bound.

(i) * There seems that John is late.

18 The absence in English of impersonal Ss like (i), analogous to French (ii), may be due to the defective $\emptyset$ structure of it. If we assume that all lexical agr,V have a complete set of $\emptyset$-F's, and that it lacks gender, then it cannot function as an agr-binder for lexical agr,V, although it can still bind auxiliary agr,V as in "It is a pity...". French il of course has a full set of $\emptyset$-Fs.

(i) * It came someone.

(ii) il est venu quelqu'un.

19 P can be connected to tense and optionally provide a STATE operator if governed by V and construed as extending the argument structure of V. We leave the discussion of this issue for future work.

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