AGR-BASED CASE THEORY AND ITS INTERACTION WITH THE A-BAR SYSTEM

by

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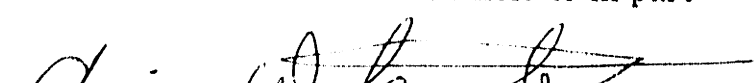
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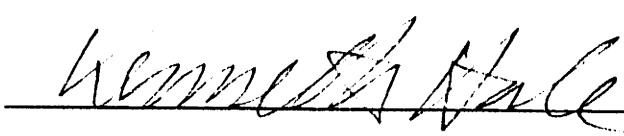
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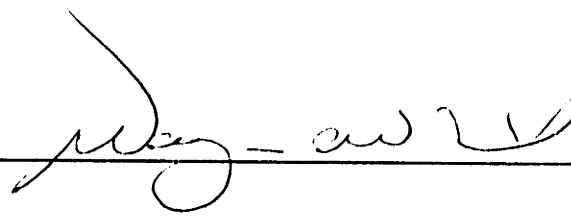
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ABSTRACT

This thesis proposes a modification of the Agr-based Case theory of Chomsky (1992) to deal with the phenomena of Case absorption. The proposed hypothesis claims that Agr must undergo further feature checking with an appropriate functional head after Case checking takes place in AgrP. For this reason, CP is needed immediately above Agr-sP for Nominative and Null Case checking; Accusative Case checking needs TP in simplex clauses and what will be called HP in participle constructions. When these projections are missing, Case checking becomes impossible, resulting in Case absorption. This explains the distribution of PRO and ECM/raising with respect to the Case checking process in Agr-sP. Accusative Case absorption in the participial passive and what will be called the reduced causative also fall under our account. This system is extended to the Case of pre/post-positions.

Given the pivotal role of Tns in the proposed system, a dependency is expected between the feature checking in Agr-sP and the feature checking in Agr-oP. Some such cases from Irish, Japanese, and Icelandic are discussed.

The proposed modification requires the V+Infl complex to be raised to C°, creating a configuration where the A-system including Case and inflection interacts with the A-bar movement which makes use of Spec of CP. Wh-agreement and the comp-trace phenomena are given a uniform treatment from this perspective. At the same time, the modified Case theory questions the blocking effect of negation for head movement. Instead, the influence of negation on the inflectional system is captured in terms of modality.

Thesis Supervisor: Kenneth L. Hale
Title: Ferrari P. Ward Professor

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Perhaps the starting point of my career as a linguist goes back to my first teacher Kinsuke Hasegawa, whose laissez-faire style of teaching I really like. Naoki Fukui and Mamoru Saito are responsible for putting into my head the idea of studying at MIT while I was still in Japan. These four years surely paid off. I want to extend thanks to Nobuko Hasegawa and Taisuke Nishigauchi as well.

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Chapter 1

Introduction

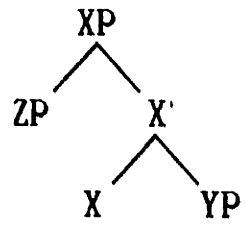
This dissertation explores the properties of Case theory and its interaction with A-bar processes in the Minimalist framework adumbrated in Chomsky (1992). The central aim is to provide an account of Case absorption under the Agr-based Case theory put forward by Chomsky (1992). We will see that a single modification of the Agr-based Case theory derives Case absorption from the categorial status of phrase structure alone. This modification also has a consequence which enables us to account for certain agreement-like phenomena arising from A-bar movement as due to interaction of Case theory and A-bar processes.

1.1. Framework

In the Minimalist program, the starting assumptions are reduced to virtual conceptual necessity. Given the way language is used, two linguistic levels are postulated as interface with the performance systems, namely, articulatory-perceptual (A-P) and conceptual-intentional (C-I) systems. Computational systems associated with A-P and C-I are called the PF component and LF component, respectively. The two interface levels are also called PF and LF accordingly. The part which is relevant to both A-P and C-I is overt syntax. The operation which we will call SPELL-OUT marks the point at which the PF component branches off.

Lexical items have to be represented in a way accessible to the computational system. That task is relegated to X-bar theory, which defines the basic significant relations, the Spec-head relation of ZP to X and the head-complement relation of X to YP, as in (1.1).

(1.1)



There is no role for a notion like government. Note also that binary branching is assumed.

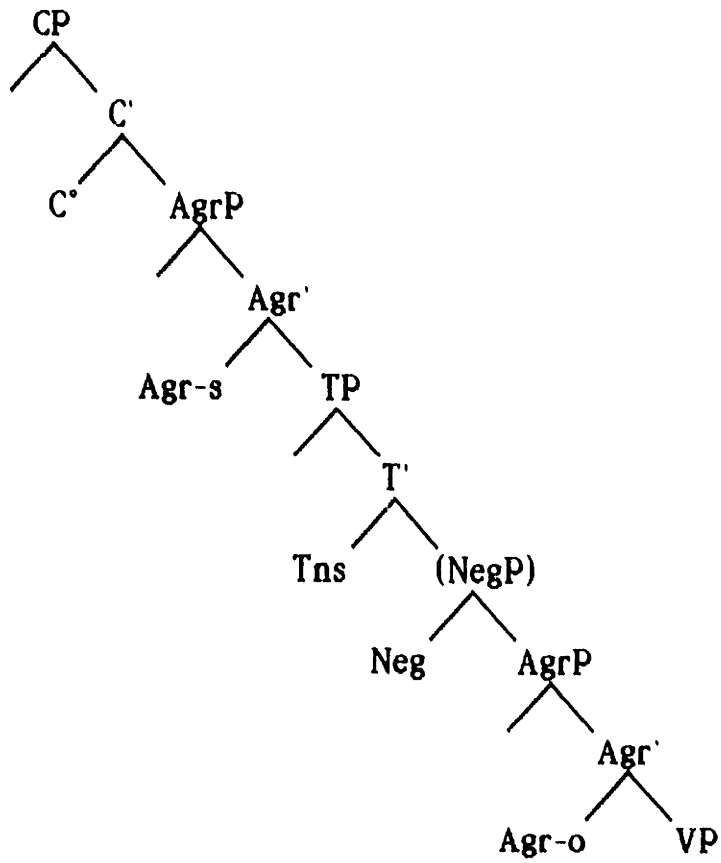
The computational system defines a specific set of derivations and structural descriptions (SDs) consisting of a pair (π, λ) drawn from the interface levels PF and LF, respectively. We say that a derivation converges if it yields an SD which contains only legitimate entities; a derivation crashes otherwise. Convergence is defined with respect to both PF and LF.

With this minimal background, we will next flesh out some more assumptions that at least in part follow from the Minimalist considerations.

1.1.1. Split INFL Hypothesis and Case

First, we assume the Split INFL Hypothesis proposed by Pollock (1989) and extended by Chomsky (1991). According to the extended version, a clause has the following hierarchical structure, with linear ordering parametrized.

(1.2)



Agr-s and Agr-o are both collections of ϕ-features, and thus function in the same way. We call them Agr-s and Agr-o just to indicate which Agr we are referring to. Note also that some clauses have less structure than (1.2), as we will see in subsequent chapters.

Closely related to this hypothesis is the status of the Case theory proposed by Chomsky (1991). The crucial tenet of this proposal is that structural Case is a manifestation of a Spec-Head relation in AgrP, which is uniformly realized at LF. To distinguish it from the LGB-type Case theory (Chomsky 1981),[1] we call it the Agr-based Case theory.

---

[1] J.-R. Vergnaud was the first to propose this type of Case theory.

The inventory of structural Case includes Nominative, Accusative, and Null Case.[2] The following lists the sources of structural Case features.

(1.3) a. A finite Tns is responsible for Nominative.

b. A verb is responsible for Accusative.

c. An infinitival Tns is responsible for Null Case.

Nominative and Accusative are basically the same as in the LGB theory. Null Case is the one which PRO bears. In the LGB theory, PRO is assumed to have no Case, since it is assumed to appear in an ungoverned position and Case is assigned under government. The distribution of PRO is solely determined by the requirement that PRO must be ungoverned (PRO theorem). This theory, however, fails to capture the parallel behavior of PRO and lexical DPs.

(1.4) a. *We want [John to seem to t that the problems are insoluble]

b. *We want [PRO to seem to t that the problems are insoluble]

The problem with (1.4a) is that NP movement takes place from a Case position. This movement should be ruled out by the last resort nature of NP movement (see Chomsky (1986a)), which will be given a precise status in our framework below. In (1.4a), there is no need to move John from a Case position, and hence the impossibility of movement. On this assumption

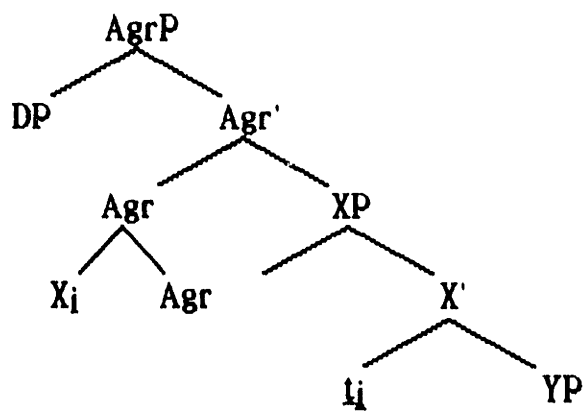
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[2] This thesis does not deal with the Ergative-Absolutive Case system. See Bobaljik (1992, 1993a) and Murasugi (1992) for discussions of Ergativity within the framework which makes use of the Spec-head relation. See also Bittner (forthcoming), Johns (1992), and some of the papers in Bobaljik and Phillips (1993).

about NP movement, however, (1.4b) should be well-formed if the only requirement on PRO is that it must be ungoverned: PRO has to move in (1.4b) to fail to be governed and thus should be able to move. The ill-formedness of (1.4b), on the other hand, can correctly be accounted for if PRO also has to check Case; there is no need to move PRO from a Case position, and hence the impossibility of movement.[3] In well-formed cases of passive as in John wants [PRO to be respected], on the other hand, PRO must move for Case reasons. See Chomsky and Lasnik (forthcoming) and Martin (1992) for detailed discussions of the problem of the LGB type theory of PRO. Cf. also Brody (1985). In the next subsection, we will see another motivation to accommodate PRO into the structural Case system. In Chapter 2, we will take up some more problems concerning the PRO theorem.

Let us go back to the general shape of Case theory which we will be assuming in this thesis. The Case feature of an X°-head is discharged in the following configuration:

(1.5)



A Case-bearing head X is raised and adjoined to Agr and the Case feature is matched with that of DP in Spec of AgrP. X is either Tns or a Verb. We will

[3] It does not matter even if the Case of P is not appropriate for PRO.

assume that Case checking must be accompanied by ϕ-feature checking between Agr and the DP in Spec of AgrP, although the question remains whether direct checking of Nominative within TP is possible. See Bobaljik and Jonas (1993), Jonas (1992), Jonas and Bobaljik (1993), and Thráinsson (1992, 1993) for Case checking in Spec of TP.

Notice that this form of the Case theory is motivated for the most part by the Minimalist program. With the abandonment of the notion of government, the Spec-Head relation is the only candidate for the means of expressing Case relations. Given that a transitive clause has two Case relations,[4] two Spec-Head relations have to exist in a clause. Hence Agr-s and Agr-o. Case checking at LF is also a mandate of the Minimalist approach, since other appropriate levels of representation simply do not exist.

Note also that the hierarchical order of inflectional elements can follow from this Case theory. Since a verb has to be directly adjoined to Agr in order to check its Case feature, Agr-oP must immediately dominate VP; if there were an intervening head X, direct movement of a verb to Agr would count as a violation of Head Movement Constraint (HMC). Successive adjunction of this verb to the intervening head and then the complex head to Agr would result in the structure $[_{Agr}\,[_{X}\ V+X]+Agr]$, making it impossible for the verb's Case feature to be discharged due to an extra head separating V and Agr. For the very same reason, Agr-sP must immediately dominate TP.

---

[4] Languages like Basque where finite verbs can display agreement with three arguments are problematic. The double object construction poses an analogous problem if it requires three structural Cases. See Collins (1993) for a biclausal analysis of the double object construction in Icelandic and Koizumi (1993) for a relevant discussion. The biclausal analysis may carry over to the Basque agreement problem.

The only possibility of combining these two layers of structure is to put TP on top of Agr-oP.[5]

The position of the Neg head is also determined by the same consideration. To avoid interrupting the combination of Agr and Tns/V, the Neg head can only appear between Agr-o and Tns or above Agr-s. If Tns/V skips the Neg head which lies between Tns/V and Agr, a HMC violation occurs. If Tns/V gets adjoined to the Neg head first and then the complex is raised to Agr, the Neg head blocks the Case checking process between Tns/V and the DP in Spec of AgrP. Thus, the Neg head can appear immediately above one of AgrPs. In Chomsky (1991), the Neg head is assumed to lie between Agr-o and Tns. We add that the position between C° and Agr-s is another possibility. Some of the instances that fall under Laka's (1990) negative complementizers may turn out to be Neg heads located between Agr-s and C°. Irish is a possible example. We will deal with other aspects of negative complementizers in the Appendix.

1.1.1.1. Null Case --- Balkan subjunctive

To treat PRO as having a species of structural Case has another desirable consequence, in addition to resolving the disjunction in the properties of A-chains. It has been noticed in the literature that the Balkan languages like Modern Greek, Romanian, and Albanian use subjunctive complements where Romance and Germanic languages have infinitival complements. Iatridou (1988) argues that a subset of subjunctive clauses which disallow past tense marking have PRO subjects. Terzi (1992) further reinforces this claim. Cf. also Varlokosta and Hornstein (1992). This fact in the Balkan languages

5 For a different hypothesis about the clausal structure, see Koizumi (1993).

poses a difficulty for the theory which restrict the distribution of PRO to the 'ungoverned' subject position of infinitival clauses, since Greek subjunctive clauses display the same verbal morphology (with person/number agreement) as indicative clauses, as illustrated in (1.6).[6]

(1.6) a. O Yiannis kseri oti doulevo mazi sou.
John knows that work-1sg with you

b. O Yiannis theli na doulevo mazi sou.
John wants Subj-Prt work-1sg with you

Terzi (1992, 81-82)

(1.6a) is a case of an indicative clause, which is introduced by a complementizer oti. The subjunctive mood, on the other hand, is indicated by the presence of a special particle na, as in (1.6b). For arguments that oti is a complementizer while na is not, see Terzi (1992).

One of Terzi's arguments for the possibility of PRO as subjunctive subject concerns apparent lack of weak crossover. As first noted by Higginbotham (1980), PRO escapes the weak crossover violation.

(1.7) a. Who$_i$ did PRO$_i$ washing his$_i$ car upset t_i?

b. *Who$_i$ did his$_i$ washing his$_i$ car upset t_i?

(1.7a) is well-formed despite the fact that the trace does not c-command PRO. Terzi observes that the same contrast holds in Greek with sentential subjects. Consider (1.8).

---

6 But see Iatridou (1988) for an interesting discussion which distinguishes the role of Tense and that of Agreement.

(1.8) a. Pion$_i$ nevriazi to e$_i$ na pleni to aftokinito tou$_i$ t$_i$?
whom upsets the Subj-Prt washes the car his
'Who$_i$ does washing his$_i$ car upset?'

b. *Pion$_i$ nevriazi to oti pro$_i$ pleni to aftokinito tou$_i$ t$_i$?
whom upsets the that washes the car his
'Who$_i$ does that he$_i$ washes his$_i$ car upset?

Terzi (1992, 55)

(1.8a) has a subjunctive sentential subject, where coindexation between the empty subject of the subjunctive clause and the trace is allowed. In (1.8b), the sentential subject is indicative with a pro subject,[7] which disallows the indicated conindexation. If PRO is allowed as subject of subjunctive clauses, the well-formedness of (1.8a) can be assimilated to that of (1.7a). (1.8b), on the other hand, shows that the PRO subject option is not allowed for indicative clauses.

Terzi (1992) further presents an argument based on exclusion of PRO expletives discussed by Safir (1985) and an argument from lack of obviation usually found with Romance subjunctive clauses. We will omit these here.

The matter is made worse for the LGB type theory, since subjunctive clauses allow lexical DP as well as pro.[8]

---

7 Modern Greek is a null subject language, with rich inflection.

8 Terzi (1992) and Varlokosta and Hornstein (1992) argue that V-to-Infl-Comp movement applies here, deriving the postverbal position of the lexical subject. Iatridou (1988, note 3) finds the Nominative subject in these complements marginal.

(1.9) I Maria theli na fai o Yiannis.
Mary wants Subj-Prt eats John
'Mary wants John to eat.' Terzi (1992, 72)

The small pro option is already exemplified in (1.6b).

Note that under the LGB-type theory, the inability of the Balkan subjunctive to govern has to be stipulated to deal with this array of facts. The LGB-type theory already has a stipulation that the infinitival INFL does not count as governor,[9] and the addition of the Balkan subjunctive to this stipulative list only makes things worse. Government, recall, is a structural notion. Exemption of certain items from that notion indicates that it lacks generality. The Balkan subjunctive ceases to be much of an embarrassment, however, once PRO is admitted into the structural Case system, which is based on the Spec-head relation in AgrP. PRO is allowed as subjunctive subject because the Spec-head relation holds in subjunctive AgrP, too. The possibility of postverbal Nominative subjects becomes less embarrassing, too, since both PRO and Nominative subjects need Spec-head relation in Agr-sP. We will return to the question of postverbal Nominative subjects in the Balkan subjunctive in Chapter 2. Although this is an empirical matter, PRO in subjunctive clauses may be a marked option of UG, since the finite inflection usually disallows PRO subjects in well-studied languages. It is not

9 Note incidentally that the LGB-type theory must use m-command in defining government in order to subsume the Spec-head relation under government, as pointed out by N. Chomsky (personal communication). If the sole purpose of using m-command in defining government, then it reveals an artificial nature of the notion government. That is, it suggests that the Spec-head relation must be picked out as an independent notion.

something which goes beyond the ordinary working of UG, however.[10] The marked nature of the Balkan subjunctive is in fact indicated by the presence of the subjunctive marker, and we do not have to introduce exceptions to a structural notion such as government. Thus, the Balkan subjunctive lends some support to the hypothesis that PRO also participates in the structural Case system. We will see further properties of the Balkan subjunctive in Chapter 2.[11]

1.1.2. The VP-internal Subject Hypothesis and LF Case Checking

We adopt the VP-internal Subject Hypothesis advocated by Fukui (1986), Fukui and Speas (1986), Kitagawa (1986), Koopman and Sportiche (1991), Kuroda (1988), and Sportiche (1988), among others. Specifically, we will assume that external theta-roles are assigned to Spec of VP.

Given certain word order effects in natural language, it is necessary to postulate functional categories, in addition to lexical categories, to host the subject of a clause in one of the Spec positions.

To take one revealing example, Sportiche (1988) argues that floating quantifiers indicate both the original subject position and the slots which the subject has moved through. In a simple case (1.10) from French, the underlined floating quantifier indicates the underlying subject position.

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[10] Terzi crucially relies on the presence of a subjunctive marker, which heads a Modal Phrase on top of AgrP, to make subjunctive clauses look like infinitival clauses in Kayne's (1991) framework. In Chapter 3, we will see that a modal does not project a phrase, thus indirectly rejecting Terzi's proposal.

[11] See also Watanabe (1993b) for a more systematic discussion of finiteness in the LGB-type Case theory and the Agr-based Case theory.

(1.10) Les enfants verront tous ce film.
the children see-Fut all this movie
'All the children will see this movie.'

Since the finite verb in French undergoes head movement to Agr-s as we will see below, the subject in (1.10) must be in Spec of Agr-sP. Theta-relations, however, must come from lexical heads (and compositionally from lexical heads and their complements in the case of external arguments). Thus, we are led to suppose that the subject of a clause originates in Spec of VP[12] and then is raised to Spec of Agr-sP by LF. In fact, Jonas and Bobaljik (1993) discuss the Icelandic data (which is attributed to C. Collins) that shows that the original position of the subject is within VP. Consider (1.11).

(1.11) I gær máluðu **strákarnir** húsið [**allir** rautt]
yesterday painted the-boys the-house all red
'Yesterday, all the boys painted the house red.'

Jonas & Bobaljik (1993, 92)

Here, the floating quantifier associated with the subject appears following the object but preceding a secondary predicate which marks the right edge of VP. Icelandic has only the A-movement type of Scrambling, as noted by Holmberg (1986). Assuming that A-Scrambling is movement into Spec of Agr-oP (Déprez 1989, Mahajan 1990, and Wyngaerd 1989), the position of the floating quantifier in (1.11) is lower than Agr-o, that is, within VP. If the

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[12] Unless predication mediates the relation between an external argument and a predicate, as proposed in Hale and Keyser (1991a,b).

quantifier indicates the original position of the subject, it must be within VP. Thus, we have evidence that the subject originates in VP.

See Koopman and Sportiche (1991) for various cases where the VP-internal Subject Hypothesis can account for word order variations. The VP-internal Subject Hypothesis will also play an important role in the discussion of the causative and passive in Chapter 4.

Given the VP-internal Subject Hypothesis, there is potential evidence that Case checking of subjects has to wait until LF in certain cases, even without the assumption that Agr-o exists. An obvious case should come from VSO languages, though we have to be cautious to make sure that the verb has not reached the Comp position.[13] Let us be more specific.

Suppose that the verb is located in Tns, as in (1.12).

(1.12) $[_{\text{Agr-sP}}$ Agr-s $[_{\text{Tns}}$ V+Agr-o+T] DP_{Subject} $XP^{*}]$

Assuming that other XPs are not extraposed,[14] the only possible analysis of (1.12) is the one in which the subject is located in Spec of VP. Then, the subject has to undergo LF movement to reach the position where Case checking takes place.

---

[13] Cf. Bobaljik and Carnie (1992) for some relevant discussion with respect to Irish. McCloskey (1992) argues, on the basis of positioning of clausal adjuncts, that the finite verb in Irish has not reached Comp in overt syntax.

For various approaches to the VSO order especially in Celtic languages in earlier frameworks, see Chung and McCloskey (1987), Koopman and Sportiche (1991), Sproat (1985), Stowell (1989), among others, and the references cited there.

[14] If they are extraposed, there is a possibility that the subject is sitting in Spec of TP or Agr-sP which appears on the right-hand side of the head.

Suppose that the verb is located in Agr-s as in (1.13a), however. In this configuration, the position of the subject must be either Spec of TP or Spec of VP before SPELL-OUT, on the assumption that the other XPs are not right-adjoined to Agr-sP. Thus, (1.13a) has to be associated with either (1.13b) or (1.13c).

(1.13) a. $[_{Agr\text{-}sP}\ [_{Agr\text{-}s}\ V+Agr\text{-}o+T+Agr\text{-}s]\ DP_{Subject}\ XP^*\ ]$

b. $[_{Agr\text{-}sP}\ V+Agr\text{-}o+T+Agr\text{-}s\ [_{TP}\ DP_{Subject}\ t_{Tns}\ [_{AgroP}\ t_{Agr\text{-}o}\ [_{VP}\ XP^*\ \ldots$

c. $[_{Agr\text{-}sP}\ V+Agr\text{-}o+T+Agr\text{-}s\ [_{TP}\ t_{Tns}\ [_{AgroP}\ t_{Agr\text{-}o}\ [_{VP}\ DP_{Subject}\ XP^*\ \ldots$

The result of Bobaljik and Jonas (1993) and Jonas and Bobaljik (1993) concerning Icelandic suggests that (1.13b) is the only possibility,[16] though the question remains why (1.13c) is not allowed. We will come back to these issues in connection with the Welsh phenomenon discussed by Awbery (1990) and Rouveret (1991), at the end of Chapter 2, where we will discuss the explanation by Jonas and Bobaljik (1993) and an alternative.

It is an empirical matter to decide where the finite verb is located before SPELL-OUT. If it turns out that the verb is already at Agr-s before SPELL-OUT in every VSO language, the empirical argument for LF Case checking from the positioning of the subject will be considerably weakened, given the possibility of Case checking in Spec of TP. The need for LF Case checking

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[15] If all the other XPs are adjoined to Agr-sP, there is a possibility that Spec is on the right-hand side of Agr-s, with the subject sitting in Spec of Agr-sP.

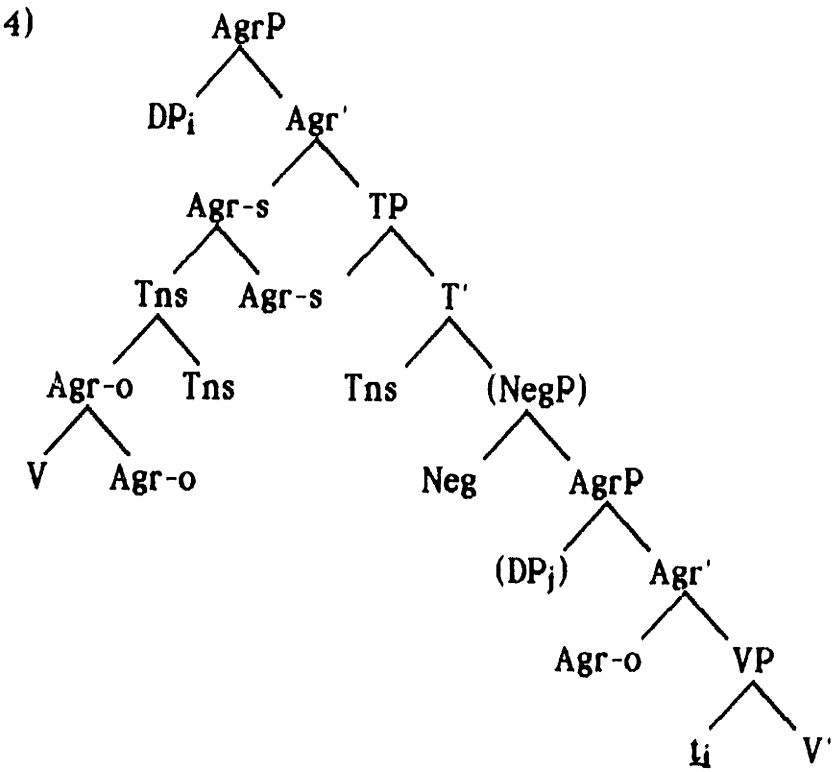
[16] Bobaljik and Jonas (1993), Jonas (1992), and Jonas and Bobaljik (1993) point out that the subject must have moved out of VP in overt syntax in transitive expletive constructions in Icelandic. They argue that Spec of TP is the location of the subject in these cases. This result has obvious consequences for the analysis of the two subject positions mentioned above. We will turn to these issues in Chapter 2.

remains, however, as long as objects remain in situ before SPELL-OUT. And given the assumption that LF and PF are the only significant levels of representation, we have no option but to assume that Case checking is allowed at LF.

1.1.3. Parametric Variations in Word Order

Given the Case theory outlined above, the LF representation of a full clause must be like (1.14).

(1.14)



If there is a direct object, it (or its trace) will end up in Spec of Agr-oP to check Accusative Case. The subject will be in Spec of Agr-sP. We will see in section 1.1.6 why it can't be the other way round, namely, the subject in Spec of Agr-oP and the object in Spec of Agr-sP.

Movement of a verb and a verb-inflection complex is motivated by the need to check off a feature that they have. Note that all these features originally belong to the verb. Without going into a full complexity of the mapping to PF,[17] this is expressed in Chomsky (1992) as a matter of technical execution by saying that the verb V is a sequence V = (α, $INFL_1$, . . . , $INFL_n$), where α is the morphological complex consisting of a root and the inflectional features which correspond to $INFL_i$. Thus, a verb is inserted into structure fully inflected. Only α is visible to the PF rules through which syntactic features in α are assigned phonetic realization. A verb does not pick up morphological features in the course of a derivation. Instead, verbal features are matched with those of functional categories and checked off. The Agr-o feature on the verb, for example, is checked with the Agr-o node by raising the verb, forming $[_{Agr}$V-Agr]. Technically, this results in removal of $INFL_i$ which corresponds to Agr-o. The Tense feature on the verb-Agr complex is checked with the Tns node. And the remaining Agr-s feature is checked off by the Agr-s node. All these features are basically morphological in nature, and have to be properly matched in order for the derivation to be convergent; if any $INFL_i$ remains at LF, the derivation crashes at LF. Thus, each instance of movement is motivated by the need for each head to become a legitimate object at LF. Here we say that every operation in the computational system is understood to be a Form-Chain operation, governed by the principle of Greed. Thus, the principle of Greed only allows chain formation operations which are driven by chain-internal considerations, forming part of the Economy system, to which we will turn

[17] This question is discussed in detail in Halle and Marantz (1992).

below. Note that movement of DP is also driven by the same principle, since its purpose is to check a Case feature on DP.

This picture, however, is not sufficient to trigger overt movement. In the system set up so far, every chain-formation must take place by LF, but it says nothing about exactly when it does. Since presence or absence of overt movement accounts for word order variations among languages together with directionality of X-bar theory, it is important to elucidate the nature of the cause of overt movement. We know from Pollock's (1989) work, for example, that verbs are located at Agr-s in overt syntax in French finite clauses, whereas they are in VP in English.[18] This difference is illustrated in (1.15) and (1.16).

(1.15) a. *John lost completely his mind.

b. John completely lost his mind.

c. *John likes not Mary.

(1.16) a. Jean perdit complètement la tête.

b. *Jean complètement perdit la tête.

c. Jean (n') aime pas Marie.

We therefore need another system to capture this kind of parametric variation. For this purpose, we assume that the features on inflectional heads to be matched with the raised elements require overt raising of X°

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[18] Strictly speaking, this statement is not true, since Pollock only has two layers of functional heads above VP. See Watanabe (1989) for an argument that verbs actually sit at Agr-s in French.

Note also that auxiliary verbs in English are already moved out in overt syntax. We will come back to the exact location of French verbs and English auxiliaries in section 3.2.2.

elements. Adopting Chomsky's (1992) system, we say that Agr and Tns have V-features, which are either weak or strong. These are the inflectional features to be matched with those on the finite verb. If strong, they will be visible at PF unless eliminated by checking in overt syntax. Since these are not legitimate PF entities, failure to check them off in overt syntax results in crash of the derivation. Thus, a strong V-feature forces overt movement. English and French are then differentiated in the following way:[19]

(1.17)

	Agr	Tns
French	strong	weak
English[20]	weak	weak

---

[19] Note that this is a specification for tensed clauses. French infinitives pose a problem for this system. Translating Pollock's result into the extended Split INFL hypothesis, French infinitival verbs move optionally to Agr-o, as illustrated in (i).

(i) a. ne pas sembler heureux...
'not to seem happy...'
b. *ne sembler pas heureux...
c. complètement perdre la tête pour les belles étudiantes...
to completely lose one's head for pretty students...'
d. perdre complètement la tête pour les belles étudiantes...

Since neither Agr nor Tns can be strong, they have to be weak. The optionality of short verb movement might be accommodated by saying that French V is optionally invisible at LF, due to morphological reasons. We will return to this point in Chapter 3.

According to Belletti (1990), infinitival verbs are located in the same position as finite verbs in Italian, that is, at Agr-s in our framework. Thus, positioning of infinitival verbs is also a matter of parametrization. A lot of careful work remains to be done in this area.

[20] For an alternative analysis of verb raising in English which incorporates the ideas of Pesetsky (1989) and Johnson (1991), see Branigan and Collins (1993).

Now crucially, a strong V-feature can only be satisfied by a verb-infl complex. This requirement prevents the following overt syntax structure for French.

(1.18) $[_{Agr\text{-}sP}$ DP $[_{Agr\text{-}s'}$ Tns+Agr $[_{TP}$ $[_{T}$ t $[_{Agr\text{-}oP}$ $[_{Agr\text{-}o'}$ V+Agr $[_{VP}$ t ...

The other possibility, (1.19), is prevented by the system of Case checking.

(1.19) $[_{Agr\text{-}sP}$ DP $[_{Agr\text{-}s'}$ V+Agr+Agr $[_{TP}$ $[_{T}$ Tns $[_{Agr\text{-}oP}$ $[_{Agr\text{-}o'}$ t $[_{VP}$ t ...

Recall that Tns must be directly adjoined to Agr-s to check Nominative Case.[21] It follows that (1.14) is guaranteed to be the only output for French.

Note incidentally that movement of Agr-o over Tns in (1.19) is not the source of the problem, since we assume that the trace of Agr disappears at the end of LF, adopting the proposal in Chomsky (1991). This assumption is necessary in ensuring that the finite verb can move over the negative head in French without causing Relativized Minimality violation, as in (1.16c), where the verb aime moves over the head of Neg Phrase pas. We will look at the derivation of negative sentences in detail in Chapter 3. We will turn to Relativized Minimality below.

Note here that overt movement of a head is consistent with the principle of Greed to the extent that inflectional features of verbs have to be checked ultimately to form a legitimate LF entity.

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[21] Our modification of Case theory to be presented below has a consequence that Agr-o must be adjoined to Tns. Perhaps this is the real reason why (1.19) is impossible.

In this system, absence of a strong V-feature must lead to absence of overt movement. To ensure this result, the principle of Procrastinate is adopted, which says that LF operations are less costly than overt operations. Thus, as long as a convergent derivation can be obtained, LF operations are preferred to overt ones. If the relevant V-feature is weak, verb raising must take place at LF, since LF movement results in convergence and is less costly than overt movement.

Note also that lowering is not necessary in this system, and hence is prohibited due to an Economy consideration. See Collins (forthcoming) for a general discussion.

We are assuming that the V-feature of Tns is weak in French, although the strong value does not seem to change the picture. If this is true, it is possible that there is an implicational relation to make the V-feature of Tns weak in this case, since the strong V-feature of Tns is superfluous in the face of the strong Agr. Another possibility is to eliminate the V-feature of Tns. In the latter case, it is predicted that there is no language which has a finite verb at the Tns node in overt syntax. This possibility is more desirable without the evidence to the contrary, because it is more restrictive with respect to the parametric choices. There is, however, an indication which suggests that the strength of the V-feature of Tns has to be retained as a parametric option. The evidence comes from Icelandic and Middle English. Here we will look at Icelandic infinitives. Middle English will be discussed in Chapter 3.

Holmberg (1986), Hornstein (1990a), Sigurðsson (1989), and Thráinsson (1986) observe that verb raising takes place in control complements whereas it does not in ECM and raising complements. The contrast is illustrated below.

(1.20) a. María vonaðist til [að hafa ekki lesið bókina].[22]

Mary hoped for have not read the book

b. *María vonaðist til [að ekki hafa lesið bókina].

(1.21) a. *Ég taldi [Maríu lesa ekki bókina].[23]

I believed Mary read not the book

b. Ég taldi [Maríu ekki lesa bókina].

(1.20-21) from Sigurðsson (1989, 50)

(1.22) Skúli lofaði [að lesa aldrei bókina].

Skúli promised read never the book

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[22] We will turn to the status of að in Chapter 2.

[23] H. Thráinsson (class lecture, 1993 spring) notes that (1.22b) has a reading in which negation takes the matrix clause. This, however, is perhaps to due to the neg-raising phenomenon (cf. Horn 1989), where (i) is synonymous with (ii).

(i) John doesn't think that it is interesting.
(ii) John thinks that it is not interesting.

That is, the matrix scope reading itself is the same as the embedded scope reading.

The versions with an auxiliary in the matrix should exclude the analysis of (1.22) in which negation lies in the matrix and the embedded subject is shifted to precede the matrix negation, since the construction with an auxiliary blocks Object Shift, as noted by Holmberg (1986). The judgment is fuzzy, unfortunately.

(iii) Ég hef talið Maríu (?ekki) vera gáfaða.
I have believed Mary not be intelligent

This again may be related to neg-raising, which blocks cases like ?John wants not to go.

(1.23) *Skúli virðist [lesa aldrei bókina]

Skúli seems read never the book

(1.22-23) from Thráinsson (1986, 257)

Although the exact position of the infinitival verb is not clear, let us take the data above to indicate that in control complements of (1.20) and (1.21), verb raising has to take place, skipping over negation, while in ECM clauses of (1.22) and raising clauses of (1.23), verb raising cannot take place. A reasonable way of accounting for the contrast is to suppose that $Tns_{Control}$ has a strong V-feature while $Tns_{ECM/raising}$ has a weak V-feature, since Agr-s does not seem to be different between the two classes: they both lack overt manifestation. The temporal properties of ECM/raising clauses, on the other hand, are different from those of control clauses, as Stowell (1982) observes for English. We will discuss this point in some detail in Chapter 2 in connection with the Case properties of control complements and ECM/raising complements.

This commits us to the position that the infinitival verb is placed in Tns after raising. One piece of evidence that the verb is at least higher than Agr-o Phrase comes from Object Shift. Consider the following examples from Holmberg (1986, 218).

(1.24) a. Jón lofadi að lesa ekki bókina.

promised read not the book

b. Jón lofadi að lesa bókina ekki.[24]

promised read the book not

[24] Note incidentally that (ib) suggests that the negation in Icelandic does not occupy the head position (for the Neg head is above Agr-oP) but is adverbial.

(1.24b) results from applying leftward shift to the direct object in (1.24a). If Object Shift is movement into Spec of Agr-oP (see Déprez (1989), Mahajan (1990), and Wyngaerd (1989)), (1.24b) has either the structure (1.25a) or (1.25b).

(1.25) a. Jón lofaði [$_{CP}$ að [$_{Agr\text{-}sP}$ [$_{TP}$ lesa [$_{Agr\text{-}oP}$ bókina$_i$ ekki t_i]]]]

b. Jón lofaði [$_{CP}$ að [$_{Agr\text{-}sP}$ lesa [$_{TP}$ [$_{Agr\text{-}oP}$ bókina$_i$ ekki t_i]]]]

If (1.25a) turns out to be the correct structure, we can safely attribute verb raising to the V-feature of Tns. If (1.25b) is correct, we have to say something more, but in the absence of evidence to the contrary, let us assume that (1.25a) is the correct structure. (We will come back to this point in Chapter 2. See also Thráinsson (1993).) Then, we have a reason to believe that the V-feature of Tns is also responsible for the word order variations.

To accommodate the behavior of English auxiliaries, the system has to be augmented further. Unlike ordinary verbs, they undergo overt movement.

(1.26) a. John is not happy.

b. *John does not be happy.

c. John has not understood.

d. *John does not have understood.

One possibility, suggested by N. Chomsky (class lectures, 1991 fall; 1992), is to say that aux-infl complexes are invisible to LF operations and that they have to undergo overt movement for the derivation to converge. Chomsky

(1992) cites semantic factors as responsible for LF invisibility, but if our suggestion about French infinitives in note 19 is on the right track, it is rather morphological factors that are related to LF invisibility.[25] Either possibility is compatible with American English, since it is equally plausible to assume that auxiliaries in English are bound morphemes, given the suppletive paradigm for be and the conspicuous person agreement of have.[26] A decisive case comes from British English, where have of possession undergoes overt movement as in (1.27), in contrast to American English.[27]

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[25] We are essentially adopting Kayne's (1991, note 24) suggestion here. A suggestion by H. Lasnik cited in Chomsky (1991, 423) is along this line, saying that "light" elements such as auxiliaries can always raise, irrespectively of the property of Agr. See Chapter 3.

[26] Ordinary verbs have -s for 3rd person singular present and a zero ending for the other person/number in the present tense. Have, on the other hand, has -s for 3rd person singular present and -ve for the other person/number in the present tense.

[27] N. Chomsky (personal communication) notes that the same point can be made by looking at the behavior of have got, if got is an expletive element. The first element have undergoes inversion, as in (i).

(i) Has John got enough money?

Since the range of meanings associated with have got is the same as that of have in its stative use (that is, possessive, obligation, and existential senses), the contrast between (i) and (ii) has to be unrelated to semantics.

(ii) Does John have enough money?

The point is perhaps stronger here, because this contrast arises within American English.

The fact that have got undergoes raising whereas the simple main verb have does not can also be attributed to the defective morphology of the former, which can only appear in the present tense in American English.

See Chomsky (1975, 429), LeSourd (1976), and Fodor and Smith (1978) for some discussions of the treatment of have got.

(1.27) a. John hasn't enough money.

b. Has John enough money?

As noted by Baker (1991), it is hardly convincing to attribute this kind of low-level variation to a semantic difference between American and British English. If it is a matter of morphology, however, we expect such a variation.[28] We will return to the properties of LF invisibility in Chapter 3 in connection with further data from English and Mainland Scandinavian languages.

To summarize so far, we have seen that strength of V-features of inflectional elements and LF invisibility take care of variations of head movement.

Overt movement of subjects and objects also contribute to the word order variations. Above we mentioned the existence of two subject positions within a language. The cross-linguistic variations in this domain are assumed to be due to NP-features that inflectional elements have. This domain is more problematic than the head movement variations and remains basically untouched in this thesis.

1.1.4. Larsonian Shell

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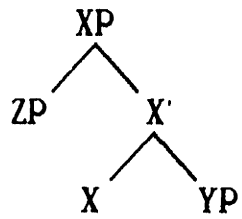
[28] We have to assume that there are at least two lexical entries for the main verb have in British English. Thanks to S. Epstein (personal communication) for helping me clarify this point.

As pointed out by N. Chomsky (personal communication), it is possible that the have of possession has a different syntactic structure: having a small clause complement in the manner suggested by Pollock (1989). See also Freeze (1992) and Tremblay (1991) for recent discussion.

Let us turn to some more detailed mechanism of derivation. Given the binary-branching X-bar theory, it becomes imperative to adopt the analysis along the lines of Larson (1988) for ditransitive verbs. In this section, we will see some motivations for a particular version of the analysis and the consequences of adopting it.

Recall that we have adopted the X-bar theory of the following form:

(1.28)



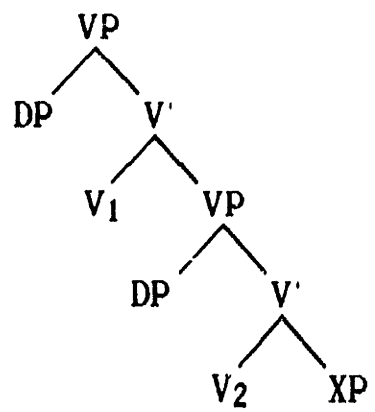
Assuming this restrictive form, a simple VP will not be able to host all of the arguments of the verbs of the following kind:

(1.29) a. John gave a book to Mary.

b. John put the book on the desk.

To accommodate the three arguments, we need to have VP of the following complexity:

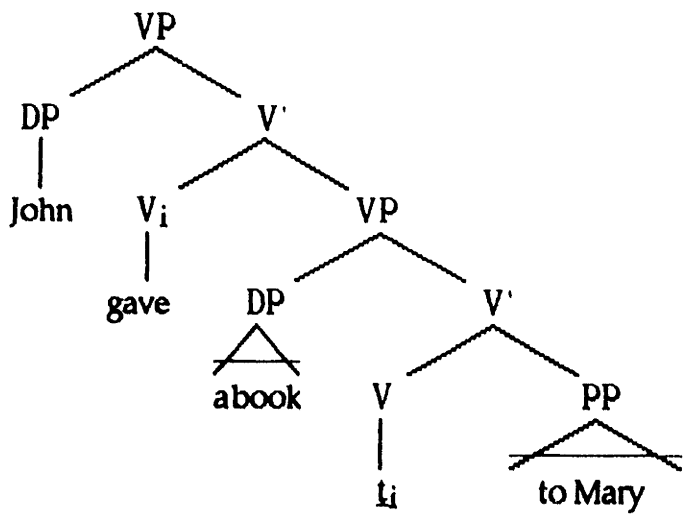
(1.30)



where two V heads must ultimately correspond to a single lexical V like give, put, and return. (The subscript on V are given only for expository purposes.)

There are two ways to solve this problem proposed in the literature.[29] Larson (1988) proposes that verbs like give are in fact inserted in the position of V_2 and then undergo substitution into V_1. (See also Larson (1990a, 1991))[30]. Thus, the structure underlying (1.29a) is the following after movement of the verb.

(1.31)



Notice that this proposal somewhat undermines the status of D-structure in the LGB theory as a pure projection of lexical properties. At the point at which the verb is inserted, the higher verb position, namely, V_1 of (1.30), is empty. Since the LGB theory has D-structure as the starting point of derivation, every structure must be present at that level and movement operations take place in a structure-preserving manner. D-structure for

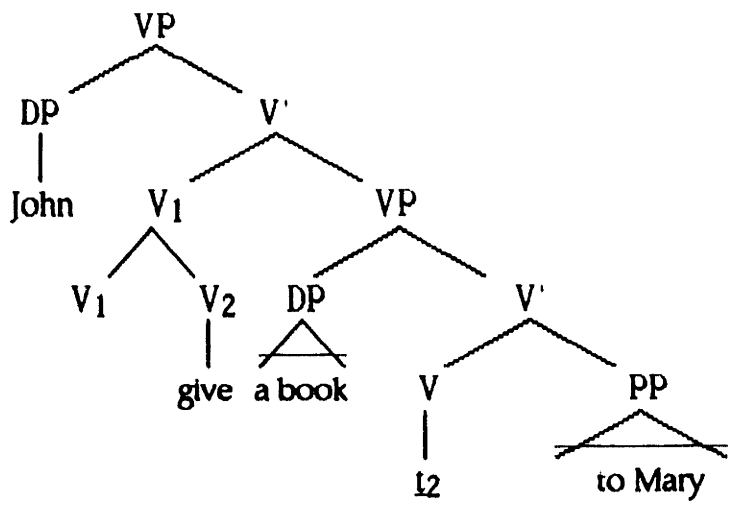
[29] It should be noted that the original motivations of each proposal are different from our concern.

[30] See Jackendoff (1990) for some critical discussions of Larson's proposal.

(1.29a) then cannot help contain the empty V_1 position. Although one might say that a verb can project a pair of positions (e, v), that is a complication of the theory and should not be allowed at least under the simplistic conception of D-structure as pure representation of θ-relations. Thus, Larson's analysis paves the way to eliminate D-structure as a level of representation.[31]

To avoid this consequence, one can maintain instead that V_1 is not in fact empty, but is filled with an invisible verb. This is the position obtained by modifying Hale and Keyser's (1991a,b) proposal.[32] Then, the structure underlying (1.29a) will not be (1.31) but (1.32).

(1.32)



That is, verb movement is an adjunction operation, not substitution.

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[31] There are other, perhaps stronger, empirical reasons to do away with D-structure, deriving from the problems of easy-to-please type of complex adjectival constructions. See Brody (1993) and Chomsky (1992) for detailed discussions.

[32] Hale and Keyser (1991a,b) propose that movement can also take place in the lexicon. This is another departure from the LGB theory, but we will abstract away from this issue in the text.

Cf. also Pesetsky (1991) for a null causative verb.

Now the question is which proposal to adopt. Our focus is on the status of V_1. Note first that we have to systematically posit the invisible verb under Hale and Keyer's proposal for the entire class of ditransitive verbs, while there is no such need under Larson's. Although there are languages in which (causative) ditransitive verbs are formed by affixation to (unaccusative) intransitive verbs with a PP argument such as Japanese (cf. Jacobsen (1992) for transitivity alternation in Japanese), the fact that English does not use such productive morphology casts doubts on the existence of the invisible verb. And more tellingly, we seem to be led to the situation where the posited invisible verb sometimes is totally devoid of semantic content. Such cases arise with unaccusative verbs. Consider the following.

(1.33) a. John returned the child to its mother.

b. The child returned to its mother.

(1.34) a. John brought Mary to the party.

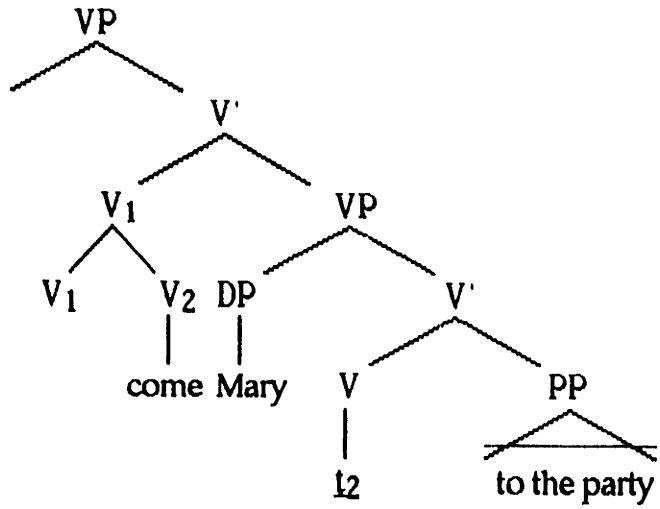
b. Mary came to the party.

As shown by Burzio (1986) for Italian counterparts, the (b) examples have the subject originated from the direct object position. Cf. also Perlmutter (1978). If so, (1.34b), for example, must have the following underlying structure under the hypothesis that posits a null causative verb, as long as we stick to the VP-internal Subject Hypothesis which has an external argument in Spec of VP:[33]

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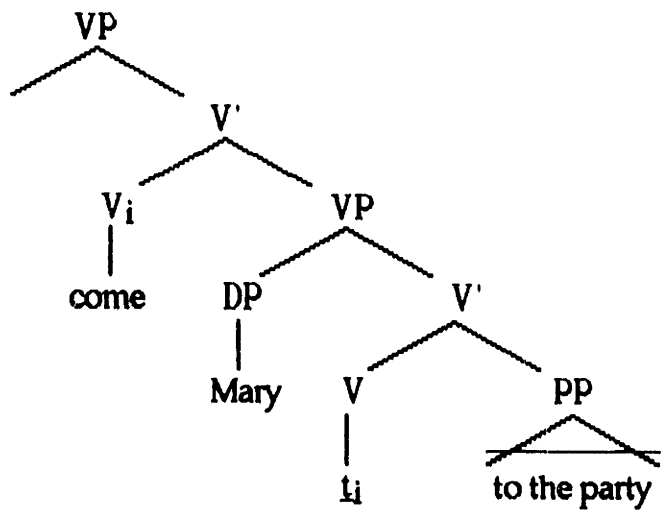
[33] Hale and Keyser's (1991a,b) original proposal does not have the upper VP headed by V_1, but then the structural parallel with the transitive version becomes less obvious.

(1.35)



Note that V_1 has a rather curious status under this proposal: it does not assign any θ-role to Spec of VP, nor does it seem that there is any semantic relation holding between V_1 and the lower VP. In other words, V_1 is semantically empty. Thus, it turns out that D-structure as a pure thematic representation will be called into question even under the hypothesis that posits a null causative verb. Given this conclusion, it is more reasonable to pursue the line of approach that adopts Larson's (1988) proposal, since by doing so we can avoid positing the dubious semantically empty verb for unaccusative verbs. The underlying structure for (1.34b) then is:

(1.36)



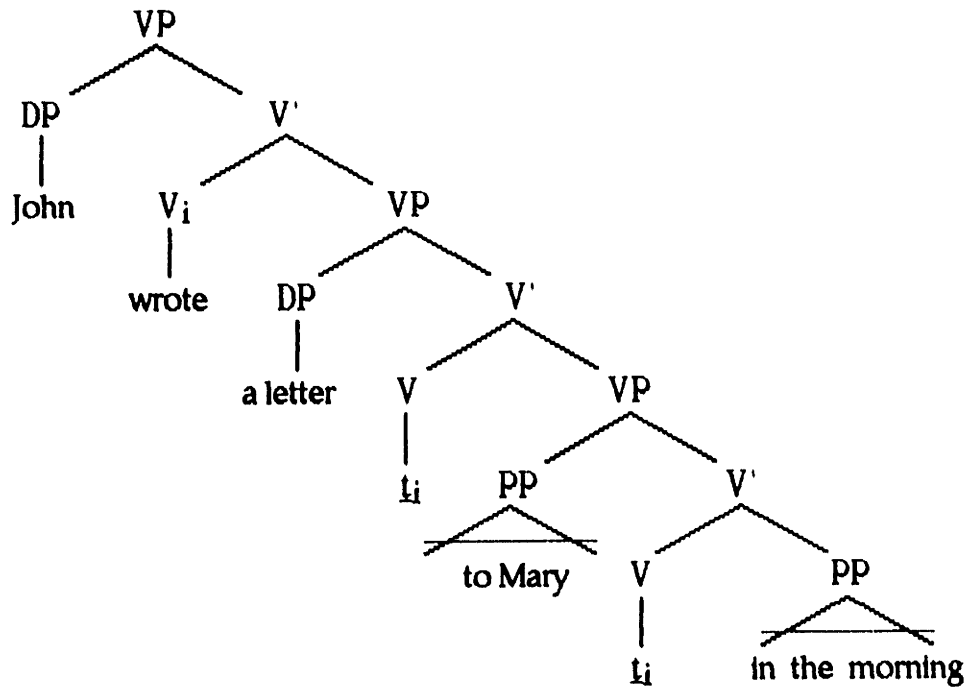
The fundamental question remains why (at least some) unaccusative verbs also require two VP structures. I can only suggest that without the apparently empty higher VP, the DP argument would be interpreted as agent and the verb would lose its unaccusative character,[34] given the tight semantic correlation between unaccusativity and nonagentivity noted by Perlmutter (1978). Cf. Rosen (1984) for apparent difficulties for this hypothesis.

Another reason to adopt Larson's (1988) proposal might come from the treatment of adverbials. Larson (1988) suggests that adverbs should be incorporated into the shell structure. Under this suggestion, (1.37) would be assigned the structure depicted in (1.38).

(1.37) John wrote a letter to Mary in the morning.

[34] If a semantically empty verb is posited for unaccusatives, it becomes even less clear why the thematic interpretation of the lower VP must be dependent on the higher structure. Lexical properties of this sort must be autonomous.

(1.38)



If this is the correct structure for adverbs,[35] the hypothesis which posits a null verb has to posit as many more verbs as there are adverbs. One might question this move. Larson's proposal, on the other hand, does not have to posit any additional verb. We will come back to the question of adverbs in Chapter 6.

To sum up, we have seen some reasons to adopt Larson's proposal in which a verb undergoes substitution movement to create another VP. And with its adoption goes the level of D-structure. We will see in the Appendix that CP recursion is created by substitution movement of a head in the same way as the Larsonian VP shell.

1.1.5. Generalized Transformation

[35] Under Hale and Keyser's (1991a,b) proposal, this cannot be the correct structure.

Given the conclusion that D-structure no longer exists, we have to have a new conception of derivation in the computational system, to which we now turn.

The computational system laid out in Chomsky (1992) picks up an item X from the lexicon and projects it to one of the forms in (1.39) in comformity with the X-bar theory.

(1.39) a. X

b. $[_{X'}\ X]$

c. $[_{X''}\ [_{X'}\ X]]$

In overt syntax, pieces of structure of the forms in (1.39) are put together by the operation called generalized transformation (GT). GT has two varieties, namely, a binary operation and a singularly one. The binary GT takes two phrase-markers K and K' and inserts K' into an empty position Δ in K to form a new phrase-marker K*. The singularly GT is what used to be called the Move-α operation, which takes a phrase-marker K and a phrase α within K and substitutes α for Δ in K to form K*. SPELL-OUT sends a single phrase-marker to the PF component.

After SPELL-OUT, the computational system can no longer pick up items from the lexicon. Thus, the LF component basically allows only the singularly GT.

Note that the substitution movement of an X° head which is required by Larson's (1988) analysis of ditransitive predicates becomes unproblematic under this way of handling derivations. We can form $[_{V'}$ give$_i$ $[_{VP}$ a book $[_{V'}$ t_i to Mary]]] from $[_{VP}$ a book $[_{V'}$ give to Mary]] without postulating a dummy

verb. The entity Δ for a head position is created and disappears during the course of a GT operation.

The substitution operation is subject to a further restriction, which requires that Δ be external to the phrase-marker K. That is, the position Δ is in fact added by projecting K in one of the forms in (1.39) so that K* contains K as a proper subpart. We will call this requirement Strict Cycle. Note that the Strict Cycle has a consequence that X-bar structures are binary, as far as overt syntax is concerned. The projection part of the GT operation ensures that only one position is added to the original phrase-marker K when X-bar structures are projected. Thus, only the forms in (1.40) are created during the course of GT.

(1.40) a. $[_{X'}\ \Delta\ X'']$ (from X'')

b. $[_{X'}\ X\ \Delta\ ]$ (from X)

c. $[_{X''}\ \Delta\ [_{X'}\ X]]$ (from X')

Complications arise, however, when the LF operations are taken into account. Recall that the LF operations do not have access to the lexicon. It is therefore impossible to extend the phrase-marker at LF except in the trivial case of the Move-α operation projecting X' to X''. We have to wait for future research to see if binary branching of X-bar theory is fully derivable from the nature of GT.

GT should allow adjunction as well as substitution. Specifically, the structures in (1.41) must also be allowed.

(1.41) a. $[_{X}\ X\ Y]$

b. $[_{XP}\ XP\ YP]$

We will assume that adjunction is not subject to the Strict Cycle. This is particularly true of head movement cases.[36]

1.1.6. Domains Defined by X-bar Theory

Let us now turn to an important word order problem associated with the Agr-based Case theory that we are assuming. Given the clause structure (1.42), we have to make sure that the subject ends up in Spec of the higher AgrP whereas the object moves to Spec of the lower AgrP.

(1.42) $[_{AgrP}$ Spec Agr $[_{TP}$ Spec Tns $[_{AgrP}$ Spec Agr $[_{VP}$ Subject V° Object ...

The problem has two aspects: allowing the correct derivation and disallowing the wrong one.

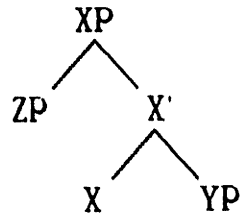
In the correct derivation, the object crosses (the trace of) the VP-internal subject. If nothing else happens, this movement will violate the Relativized Minimality of Rizzi (1990a). To avoid this problem, Chomsky (1992) proposes the following set of assumptions.

First, recall that the Minimalist program takes X-bar theoretic notions to be fundamental. In (1.1), repeated here as (1.43), X-bar theory defines the Spec-head relation of ZP to X and the head-complement relation of X to YP.

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[36] See Kitahara (1993) for an attempt to explain the exemption of adjunction from the Strict Cycle requirement.

(1.43)



Now, we define the following notions:

(1.44) The category α dominates β if every segment of α dominates β.

(1.45) The category α dominates β if some segment of α dominates β.

(1.46) MAX (α), where α is a head, is the least full-category maximal projection dominating α. Chomsky (1992, 15)

In (1.43), MAX (X) = XP. The domain of a head α is the set of nodes contained in MAX (α) that are distinct from and do not contain α. The minimal domain is defined as follows:

(1.47) MIN (S), S a set of categories, is the smallest subset K of S such that for any $\gamma \in S$, some $\beta \in K$ reflexively dominates γ.

Chomsky (1992, 16)

If S (α) is the domain of α, MIN (S (α)) is the minimal domain of α. In (1.43), the minimal domain of X is {YP, ZP).

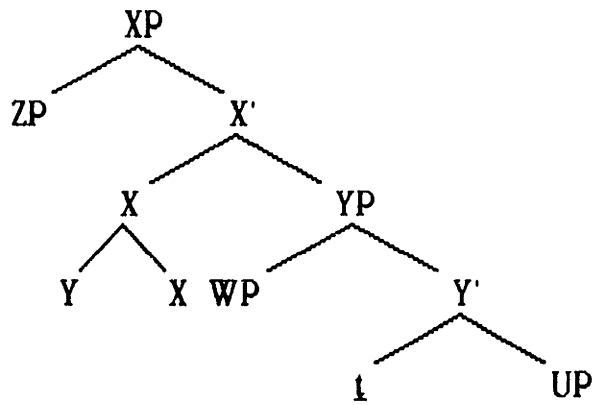
Next, we define the domain of a head chain as in (1.48).

(1.48) The domain of a head chain CH = ($\alpha_1, \ldots, \alpha_n$) is the set of nodes contained in MAX (α_1) and not containing any α_i.

Chomsky (1992, 19)

Thus, in the structure (1.49), the minimal domain of the head chain (Y, t) is (ZP, WP, UP).[37]

(1.49)



Notice that two specifier positions ZP and WP are in the minimal domain of the same head chain (Y, t) in (1.49). Capitalizing on this, Chomsky (1992, 24) proposes the following characterization of shortest movement:

(1.50) If α and β are in the same minimal domain, they are equidistant from γ.

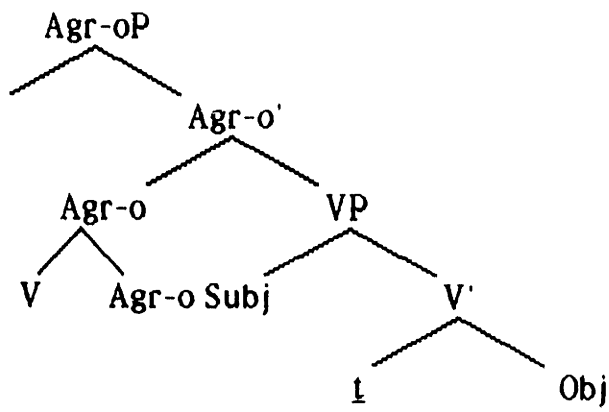
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[37] A Case-bearing head thus can directly Case-check DP in Spec of AgrP once it is adjoined to Agr, according to this system.

Note also that further movement of [X X+Y] to a higher head does not extend the domain of the chain (Y, t), since this operation does not move Y but the complex head [X X+Y]. This is the reason why a Case bearing head must directly adjoin to Agr to carry out case checking.

Given (1.50), movement of the object over (the trace of) the VP-internal subject ceases to be problematic once V gets adjoined to Agr-o.[38] Consider the structure (1.51).

(1.51)



In this structure, Spec of Agr-oP and Spec of VP are equidistant, and therefore movement of the object can cross Spec of VP. Similarly, the subject can move over the object in Spec of Agr-oP once adjunction of Agr-o to Tns makes Spec of TP and Spec of Agr-oP equidistant.[39]

We also have to rule the derivation in which the subject ends up in Spec of Agr-oP and the object in Spec of Agr-sP. In this derivation, the object must move through Spec of Agr-oP on its way to Spec of Agr-sP.[40] The subject, on the other hand, must move to Spec of Agr-oP. Thus, either Spec of Agr-oP is already occupied by the subject or the subject has to wipe out

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[38] The observation that Object Shift is dependent on overt verb raising is originally due to Holmberg (1986). Cf. also Déprez (1989) and Vikner (1990). (1.50) captures this idea.

[39] See Branigan (1992), Bobaljik and Jonas (1993), Bures (1993), and Jonas and Bobaljik (1993) for detailed discussions on this point.

[40] This may be blocked by the last resort nature of NP movement. Once the object lands in Spec of Agr-oP, it cannot move further because it can satisfy its Case feature.

the trace of the object in Spec of Agr-oP.[41] In either case, the derivation is blocked.

1.1.7. Economy

In the previous section, we mentioned the role of Relativized Minimality in the sense of Rizzi (1990a) in getting the right hierarchical order of the subject and the object. Its intuitive content is expressed in the following way:

(1.52) Minimize chain links. Chomsky & Lasnik (forthcoming)

In addition to this, we have mentioned two Economy principles, Greed and Procrastinate. In the next chapter, we will introduce the Node Traversing Economy of Collins (forthcoming). These Economy principles play significant roles in blocking some convergent derivations, though exploration of a truly unified system of the Economy principles is beyond the scope of this thesis.

This sums up the basic framework in which we will be working in this thesis.

1.2. Proposal

In this section, we will put forth minimal modifications to the above system. The crucial one concerns Case theory, which is motivated by various phenomena, as we will see in the subsequent chapters.

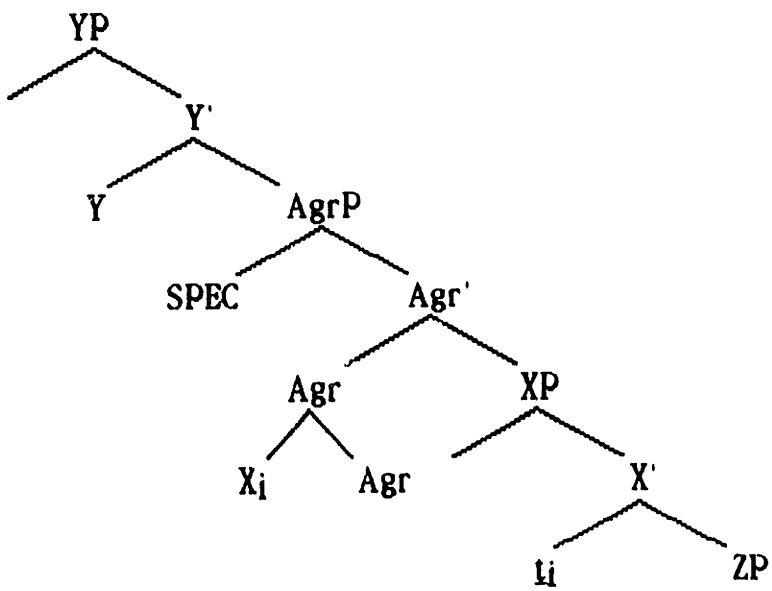
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[41] We will consider overlapping chains in Chapter 5, in connection with Nominative objects in Icelandic.

1 2.1. Three-Layered Case Theory

The modification to Case theory that I propose is that there is an additional process related to Case-checking. During the process of Case-checking, a new feature [F] is created on Agr and Agr has to undergo further movement to a higher functional head to check off this [F] feature.[42] If [F] is not discharged, Agr node cannot disappear, resulting in the LF representation that contains an illegitimate entity, namely, Agr with an [F] feature. Thus, the configuration in (1.53) is needed to prevent a derivation from crashing, where X is a Case-feature bearing element and Y an appropriate checker of an [F] feature.

(1.53)



[42] Alternatively, the Case feature of DP is copied onto Agr to undergo checking both with a Case-bearing head and with a higher functional head, as suggested by N. Chomsky (personal communication).

We will call this modification the Three-Layered Case Theory. This thesis motivates this proposal and explores some consequences.

Though the postulation of the feature [F] appears at first sight to be an artificial mechanism, there is a piece of evidence that this may be right. Brandi and Cordin (1989), Rizzi (1986a), and Suñer (1992) discuss subject clitic doubling in northern Italian dialects, Fiorentino and Trentino. Here are some examples from Trentino.

(1.54) a. El Mario el parla.
the Scl speaks
'Mario speaks.'
b. La Maria la parla.
the Scl speaks
'Maria speaks.' Brandi & Cordin (1989, 113)

Rizzi (1986a) has shown that this construction is not dislocation by pointing to the cases where the subject clitic cooccurs with a quantified subject, as in (1.55).

(1.55) Nisun l'ha dit niente.
nobody Scl has said anything
'Nobody said anything.' Brandi & Cordin (1989, 118)

Based on this evidence, Brandi and Cordin (1989) and Rizzi (1986a) argue that the subject clitic is located in INFL.

Given the feature checking theory outlined in Chomsky (1992), it is not immediately clear whether locating the subject clitic in INFL is on the right

track. If these dialects raise the finite verb in overt syntax as in the standard dialect, the features of INFL, in particular, Agr-s, must have already been checked off by the time of SPELL-OUT. But then, there is nothing in syntax to be realized as a subject clitic at PF. Our feature [F] comes to rescue here, since this feature will not be checked off until Agr-s together with the finite verb raises to C°. Thus, the subject clitic in these doubling languages is most likely to be the phonetic realization of the feature [F].[43]

The phenomena that we will explore in this thesis to support the modification of the Case theory can be called Generalized Case Absorption, because the empirical domain of Case absorption turns out to be wider than hitherto considered. In general, Case checking is blocked when there is no appropriate functional head over AgrP. Under our modified Case theory, Case checking itself is entirely optional. If an appropriate element corresponding to Y in (1.53) exists, the head Y itself must undergo feature checking with Agr which carries an [F] feature, thereby requiring that Case checking take place in the first place. If no such Y exists in the structure, Case checking cannot take place because the derivation crashes otherwise. That is, convergence of a derivation dictates whether Case checking takes place or not. When Case checking fails to take place, we propose that a Case feature will be transferred to Agr so that a Case-bearing head can discharge its Case feature. Agr can disappear at LF in this case. Presumably, Case features are the only features that can disappear in this manner without checking. This proposal plays a role in the discussion of causative constructions in Chapter 4.

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[43] This assumes that the features created during the course of a derivation as well as the ones inserted into structure can be phonetically realized.

1.2.2. Economy of Representation

We will propose an Economy condition on lexical insertion. In principle, lexical insertion must be free, since there is no limit on what we can say. The question arises when one considers expletive elements. We tentatively put it in the following way:

(1.56) Economy of Representation

Expletive elements can be inserted into structure only if insertion leads directly to satisfaction of some feature discharge.

Given the interface nature of LF, which is connected to the conceptual-intentional system, expletive elements must be got rid of during the course of a derivation. The structure will receive a wrong interpretation otherwise. Insertion of expletive elements is constrained in this sense, even though the computational system does not restrict it directly. That is, even if the derivation itself converges, the presence of expletive elements leads to interpretive problems. Now, (1.56) puts a further restriction on expletive insertion. We will see in Chapter 3 that there is reason to believe that we need something like (1.56).

1.3. Organization of the Thesis

The rest of the thesis has six chapters. Chapter 2 looks at the consequences of our modified Case theory in connection with the system involving Tns, Agr-s and C°. One of the primary goals of this chapter is to

provide an account of the distribution of PRO. Recall that the Minimalist program does away with the notion of government. If the PRO theorem in Chomsky (1981) which says that PRO must be ungoverned is on the right track, some alternative must be provided. We will see that the modified Case theory can achieve this goal with minimal assumptions.

Chapter 3 tries to remove an obstacle to the three-layered Case theory. Specifically, it attempts to provide an alternative account of do-support in English. In Chomsky (1991), it is argued that the dummy do is inserted when the Neg head blocks the (LF) movement of the verb. This cannot be right under our modification of the Case theory, because the system requires Agr-o to raise past the Neg head to Tns. On the strength of crosslinguistic evidence, it is proposed that do-support is related to the modality of clauses. At the same time, the that-trace effect is given a novel account, again, based on crosslinguistic evidence.

Chapter 4 deals with Accusative Case absorption. The causative and passive constructions are discussed. We will see that categorial specification of structures automatically accounts for the Case absorption phenomena.

Chapter 5 looks at certain dependencies between the Agr-sP process and the Agr-oP process, while Chapter 6 incorporates the Case of P into the structural Case system. Chapter 7 concludes the discussion.

Chapter 2

Tns -› Agr -› Comp

In this chapter, we will look at the motivations for our theory of three-layered Case checking in the Tns-Comp system. Our claim is that movement of Agr-s to C° must ultimately take place to check off the [F] feature created by Case checking in Agr-sP.

2.1. The Distribution of PRO

2.1.1. Our Proposal

A first motivation for our modification of Case theory comes from an attempt to derive the PRO theorem, which accounts for the contrast between (2.1a) and (2.2a).

(2.1) a. John tried [PRO to win the race]

cf. b. *John tried [Mary to win the race]

(2.2) a. *John believed [PRO to have won the race]

cf. b. John believed [Mary to have won the race]

Under the traditional theory stemming from Chomsky (1981), the distribution of PRO is determined by (2.3).[1]

[1] See Lasnik (1992) and Martin (1992) for inadequacies of other approaches to the distribution of PRO.

(2.3) the PRO theorem

PRO must be ungoverned.

Translating into recent X-bar theoretic notions (cf. Chomsky 1986b), the structures for (2.1) and (2.2) are the following:

(2.4) a. John tried [$_{CP}$ e [$_{IP}$ PRO to win the race]]

b. *John tried [$_{CP}$ e [$_{IP}$ Mary to win the race]]

(2.5) a. *John believed [$_{IP}$ PRO to have won the race]

b. John believed [$_{IP}$ Mary to have won the race]

In (2.4), the matrix verb cannot govern into the IP containing in its complement CP, leaving PRO ungoverned and Mary non-Case-marked, whereas in (2.5), the matrix verb governs the subject of the embedded clause, ruling out the option of PRO.

To account for the distribution of PRO under the present framework, we might reintroduce something like (2.3) since this account was straightforward in the framework of LGB. But there are two problems with reintroduction of this account into the present framework, even if we assume that PRO requires Null Case. First, once the headedness of CP is brought into the theory, the difference between (2.4a) and (2.5a) becomes non-trivial, for the question arises why the head of CP does not govern the specifier of IP just as the matrix verb governs the specifier of IP in (2.5). It is stipulative to say that the empty head of CP does not count as a governor. Besides, it works only for English. Note that French and Italian use lexical

complementizers for the control structure, according to Kayne (1981b).[2,3] Consider the following examples, where Comp is boldfaced.

(2.6) a. Je lui ai dit [**de** PRO partir] (Fr)

b. Gli ho detto [**di** PRO partire] (It)

'I told him to leave.'

(2.7) a. Jean a essayé/oublié/décidé [**de** PRO partir] (Fr)

b. Gianni ha tentato/dimenticato/deciso [**di** PRO partire] (It)

'John tried/forgot/decided to leave.'

(2.6) and (2.7) are object and subject control structures, respectively. Thus, we would have to admit that the lexical complementizer does not count as a governor. Crucially, raising predicates are systematically incompatible with the complementizer de/di, as in (2.8).

(2.8) Jean semble/paraît (*d') être parti. (Fr)

Gianni sembra/pare (*di) essere partito. (It)

'John seems/appears to have left.'

Under the present framework, it will not do, either, to stipulate that PRO cannot be governed by a lexical category. Recall that the Accusative-marked

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2 Even in the LGB type theory, the presence of a lexical complementizer in control complements was a problem. Thus, Kayne (1981b) stipulates that complementizers are not governors in French and in Italian.

3 Addressing the problem why there is no PRO theorem violation in cases like (2.6) and (2.7), Kayne (1991) claims that French de/ Italian di are not C° but occupy Spec of CP. Given the theory of clause typing that we discuss in the Appendix, which says that non-wh clauses cannot host anything in their Spec, Kayne's (1991) claim cannot be maintained.

object ends up in the Spec of AgrP at LF, governed by Tns and PRO cannot appear in that position.[4] Thus, there is no obvious way of retaining (2.3) under the present set of assumptions.

A second major problem for reintroducing (2.3) is that in the Minimalist approach assumed here, the role of head-government is questioned. It will be desirable if we can eliminate it. But then the PRO theorem itself will become unstatable. Thus, in this respect, too, we have to search for a new way of accounting for the distribution of PRO.

An alternative might be that transitive verbs like believe have to check their Accusative Case. Accusative Case checking then is prevented if PRO appears, because the embedded subject checks Null Case in the embedded clause. This alternative, however, does not work for raising predicates like seem, which do not have Accusative Case but still do not allow PRO, or for the passive version of believe.

(2.9) a. *It is believed [PRO to be intelligent]

b. *It seems (to John) [PRO to be intelligent]

Control relation itself is not a problem, since it is allowed in Italian.

(2.10) Mi sembra [$_{CP}$ di PRO aver capito]

'It seems to me that I have understood.'

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[4] It is noted in the literature that in some languages such as Italian (Belletti 1990) and Icelandic (Hornstein 1990a and Sigurðsson 1989, 1991), verb raising takes place in infinitival clauses. It is not obvious, however, that the verb-infl complex can occupy Agr-s. Even if it does, it is not clear whether the verb, buried in the complex, can govern PRO.

Note here the presence of di in (2.10). What is wrong with (2.9) is the fact that the English verbs like seem do not take an infinitival CP.

My alternative account of the distribution of PRO appeals to the theory of Case. Suppose that PRO also requires Case, as proposed by Chomsky and Lasnik (forthcoming). Suppose further that the entire process of checking Null Case involves an appropriate C°, in addition to infinitival Tns and Agr. After adjunction to Agr-s, Tns can check the Case on the DP that moves into Spec of Agr-sP. Consider what happens after Null Case checking. The feature [F] is created through Case checking and the complex head $[_{Agr\text{-}s}$ V+Agr-o+Tns+Agr-s] is adjoined to C° in order to check off [F]. If there is no appropriate C°, the derivation crashes, since Agr containing [F] cannot disappear.[5] This is why (2.2a) is ill-formed. If there is an appropriate C°, then Agr disappears after it discharges [F]. Thus, (2.1a) is well-formed.

Note also that the lexical complementizers in Italian and French pose no problem under this approach. These are simply the appropriate C° heads which check off the [F] feature that arises from checking Null Case. The fact that they have phonetic content in Italian and in French, but not in English has no syntactic significance.

Now consider what happens if Case checking is not carried out. No [F] is created and therefore nothing further has to happen except that Agr disappears, which it does since it does not contain [F]. It does not matter whether there is a C° head around. This leads us to the problem of ECM, which is dealt with shortly.

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5 It is also possible to adopt the Kayne (1981c) style degenerate C° for ECM and raising complements, as pointed out by N. Chomsky (personal communication). This C° will not check off an [F] feature, thereby blocking Case checking in Agr-sP.

2.1.2. Martin (1992)

Martin (1992) proposes an alternative account of the distribution of PRO. Drawing on Stowell (1982), he claims that the Tense property of a clause determines whether its subject can be PRO or not. Stowell (1982) observes that ECM/raising complements and control complements receive different tense interpretations. Thus, in (2.11a), the event of the embedded clause is unrealized with respect to the matrix verb, while the embedded clause of (2.11b) is interpreted as simultaneous with the matrix verb.

(2.11) a. John convinced his friends [PRO to leave]

b. Bill considers [himself to be the smartest]

c. John appears [t to like poker]

Stowell (1982) argues that this difference in temporal interpretation is derived from lack of tense in the cases of ECM and raising in contrast to control complements, and he further links it to the absence of Comp in the cases of ECM and raising by locating tense in Comp. In other words, when there is a Comp node, the embedded clause has an internally specified unrealized tense; whereas when C° is absent, the tense of the complement clause is directly determined by the matrix verb.

Martin, capitalizing on this analysis, proposes that the Tense node in ECM and raising clauses and that in control clauses have different Case properties: $Tns_{Control}$ has the Null Case feature whereas $Tns_{ECM/raising}$ does not. Here, $Tns_{ECM/raising}$ and $Tns_{Control}$ are meant to represent the Tns which does not have an independent (future) interpretation and the Tns which has one,

respectively. Thus, the impossibility of PRO in ECM and raising complements is directly related to lack of Null Case in his account.

Martin's proposal, however, has to be modified somewhat if it is to be extended to cover other languages, especially, Romance. As noted by Kayne (1981b), Romance languages like Italian and French do not have ECM constructions. Consider the following Italian examples from Kayne (1981b).

(2.12) a. *Sostengo Gianni essere intelligente.
'I assert John to be intelligent.'

b. Gianni sostiene di essere intelligente.
'John asserts (that he) be (is) intelligent.'

As shown by (2.12a), ECM is impossible although control is possible. Now it is hard to believe that the temporal interpretation of the Italian counterparts of English ECM verbs is different. In fact, Kempchinsky (1986) already addresses this problem, using Spanish. She observes that there are two classes of verbs whose control complements receive the simultaneous reading: factive/emotive verbs and verbs of assertion. The first class is illustrated in (2.13a), and the second in (2.13b).

(2.13) a. Lamento no tener mucho tiempo libre.
'I regret not to have much free time.'

b. Ana dice tener mucho dinero.
'Ana says (that she) have (has) a lot of money.'

Kempchinsky (1986, 131)

She argues that the possibility of control and the tense interpretation do not correlate as nicely as Stowell (1982) claims.[6] Notice that once the biuniqueness between Comp and the tense interpretation breaks down, Martin's (1992) account loses generality, even though it can be partially right. According to his original account, Tns in (2.13) should lack the Null Case feature and hence disallow PRO.

To save Martin's proposal in the face of Romance facts, suppose that the ability of infinitival Tns to check Null Case is parametrized in the following way:

(2.14) a. $Tns_{ECM/raising}$ has an option of possessing the Null Case feature in some languages (ex. Spanish) but not in others (ex. English).

b. $Tns_{Control}$ always possesses the Null Case feature.

Under this modification, the difference between English on one hand and Spanish (and other Romance languages like French and Italian) on the other lies in the parameter concerning (2.14a): English chooses the option of not providing the Null Case feature to $Tns_{ECM/raising}$, disallowing the PRO subject in the complement to the verbs like believe, whereas Spanish chooses the option of doing so.

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[6] Hornstein (1990b) also discusses some problems for Stowell's (1982) account.

N. Chomsky (personal communication) notes that the pair like (i) casts doubts on the correctness of Stowell's account.

(i) a. John expects [PRO to be elected]

b. John expects [himself to be elected] or b'. John is expected [t to win]

If there is no difference in the temporal interpretation, it goes against Stowell's characterization.

Thus, under this modification, Martin's (1992) proposal seems to be a straightforward account of the distribution of PRO. And although Martin does not stress this point, his proposal can do away with the CP/IP distinction and stick to the analysis of both ECM/raising and control complements as CP. Recall that it is the Case property of Tns that determines whether a particular infinitival clause is a control complement or an ECM/raising one in Martin's system; there is no need to refer to C°. At this point, the question arises whether our account in terms of the CP/IP distinction is redundant and eliminable. We will see in the next section that the CP/IP distinction is still necessary, thereby motivating our modification of Case theory.

2.1.3. Icelandic Infinitive

Now, in order to see whether the CP/IP distinction is needed to account for the distribution of PRO, we will turn to Icelandic.

First of all, there is some indication in Icelandic that the feature content of $Tns_{ECM/raising}$ can be different from that of $Tns_{Control}$, suggesting that Martin's (1992) proposal may be on the right track. The evidence comes from the facts about verb raising in infinitival clauses discussed by Holmberg (1986), Hornstein (1990a), Sigurðsson (1989), and Thráinsson (1986). Cf. also Thráinsson (1993). As we have reviewed in Chapter 1, in Icelandic, overt verb raising takes place in control complements whereas it does not in ECM and raising complements.

(2.15) a. María lofaði [að lesa ekki bókina].[7]

Mary promised read not the book

b. *María lofaði [að ekki lesa bókina].

(2.16) a. María vonaðist til [að hafa ekki lesið bókina].

Mary hoped for have not read the book

b. *María vonaðist til [að ekki hafa lesið bókina].

(2.17) a. *Ég taldi [Maríu lesa ekki bókina].

I believed Mary read not the book

b. Ég taldi [Maríu ekki lesa bókina].

(2.18) a. *María virtist [lesa ekki bókina].

Mary seemed read not the book

b. María virtist [ekki lesa bókina].

(2.15-18) from Sigurðsson (1989, 50)

We have taken the data above to indicate that in control complements of (2.15) and (2.16), verb raising to Tns has to take place,[8] skipping over negation, while in ECM clauses of (2.17) and raising clauses of (2.18), verb raising cannot take place. A reasonable way of accounting for the contrast in connection with Martin's (1992) proposal is to suppose that $\text{Tns}_{\text{Control}}$ has a strong V-feature while $\text{Tns}_{\text{ECM/raising}}$ has a weak V-feature. Now if the feature content of Tns varies in this way, then it would not be surprising if UG has the parameter in (2.14). Moreover, it is significant that $\text{Tns}_{\text{ECM/raising}}$ has a weak V-feature whereas $\text{Tns}_{\text{Control}}$ has a strong V-

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[7] We will turn to the status of að shortly.

[8] See Thráinsson (1993) for an argument that the verb must be raised as high as to Tns, based on the possibility of Object Shift in control complements.

feature, but not the other way around. This ties in well with the distribution of the Null Case feature in (2.14). In other words, $Tns_{Control}$ has more feature content than $Tns_{ECM/raising}$. Apparently, then, Martin's proposal gets some support here.

There is, however, reason to think that the CP/IP distinction cannot be dispensed with in the account of the distribution of PRO. Notice that the element að introducing the infinitival clause in (2.15) and (2.16) is missing in (2.17) and (2.18). This is reminiscent of the Romance lexical complementizer discussed above. Remember that the element de (French)/di (Italian), which is analyzed as C° by Kayne (1981c), never appears in subject-to-subject raising complements. In fact, Platzack (1986), following Kayne (1981c), analyzed the Icelandic infinitival marker að as a complementizer, on the basis of comparison with the other Scandinavian languages.[9] Consider the following data from Norwegian and Swedish.

(2.19) a. Han hade föresatt sig **att** aldrig slå hunden. (Swedish)
he had decided himself never beat the dog
'He had decided himself never to beat the dog.'

b. Han hadde foresatt seg aldri **å** slå hunden. (Norwegian)
he had decided himself never beat the dog
'He had decided himself never to beat the dog.'

Platzack (1986, 215)

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[9] Cf. also Sigurðsson (1989). See Thráinsson (1986), however, for the analysis which places að at Agr-s.

Notice the different order with respect the adverb of negation and the boldfaced infinitival marker. Swedish patterns with Icelandic, modulo verb raising. cf. (2.20) for Icelandic.

(2.20) Hann hafði sett sér **að** berja aldrei hundinn.
he had decided himself beat never the dog

The position of Norwegian å after an adverb in (2.19b) suggests that it is not a complementizer, but rather an item which perhaps corresponds to the English infinitival marker to. Interestingly, ECM complements lack the infinitival marker in Swedish, but not in Norwegian, as can be seen from the following pair.

(2.21) a. Jag anser mig (***att***) ha rätt. (Swedish)
I think me have right
'I believe myself to be right.'

b. Jag anser meg *(**å**) ha rett. (Norwegian)
I think me have right
'I believe myself to be right.' Platzack (1986, 218)

This contrast is predicted if Swedish att is a complementizer while Norwegian å is not. See also Beukema and Dikken (1989) for the analysis of infinitival markers in Germanic.

To sum up so far, if our analysis is on the right track, Romance and Scandinavian languages suggest that control complements are CP's whereas ECM and raising complements are Agr-sP's.

Now, how does this bear on the choice between our proposal and Martin's (1992)? The persistent categorial difference between control complements on the one hand and ECM and raising complements on the other shows that our modified Case theory can say something about the distribution of PRO. That is, there must be a follow-up process involving a functional category subsequent to Case checking; an appropriate C° is needed to take care of the [F] feature that arises from checking of Null Case. Control complements with PRO subject, therefore, must be CPs, while ECM/raising complements which do not allow PRO are IPs. This is not saying, however, that Martin's proposal is wrong, but that it misses an important point. Even if Martin is right in saying that the ability of infinitival Tns to check Null Case comes from the semantic content of the infinitival tense (at least in some languages), that ability has to be accompanied by the presence of the appropriate Comp. Recall that his proposal is silent about the presence vs. absence of CP in infinitival clauses. This point could in fact be counted as a virtue of his proposal if there were no need to mention the CP/IP distinction. But the relevance of the CP/IP distinction shows that Martin's account at least has to be complemented by our modification of Case theory.

Is it then possible to eliminate Martin's (1992) proposal altogether? It depends on what selectional information matrix verbs have. If verbs only specify whether their complements lack independent tense interpretation, something like (2.14) is needed to derive the categorial status (CP or IP) of the complements. On the assumption that complementizers always have some features to match with an [F] feature,[10] absence of the Null Case feature leads to selection of IP; if CP is selected in that situation, the

[10] If Kayne's (1981c) degenerate complementizer is allowed for ECM/raising, the account below should be adjusted accordingly.

derivation will crash, since the complementizer fails to check off its feature.[11] Presence of the Null Case feature, on the other hand, requires CP. (2.14), then, can define the distribution of CP vs. IP complements. If verbs select the category of their complements, however, (2.14) is not necessary. We can let the infinitival Tns check Null Case freely. Whether Case checking is actually possible will be determined by the categorial status of a particular complement. We will leave the matter open at his point.

To summarize this discussion, our modification of the Case theory is supported by its success in correctly capturing the fact that PRO occurs as the subject of an infinitival CP, whether Martin's (1992) hypothesis, modified as in (2.14), is needed to account for the distribution of CP and IP complements, in terms of tense semantics of complements.

2.2. No Pass through Case Position

In the previous section, we have seen that PRO is limited to the subject of CP complements and how this distribution follows from our modified Case theory. In this section, we will consider why ECM and raising complements have to be restricted to IPs. This in turn supports our modified Case theory.

2.2.1. Basic Situations --- English

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[11] This predicts that there is no ECM/raising into CP. As K. Hale (personal communication) reminds me, the cases of ECM into Spec of CP discussed by Massam (1985) must be treated differently. What our Case theory excludes are cases of ECM into Spec of Agr-sP in the presence of a complementizer. How to account for the phenomenon which Massam deals with constitutes a topic for future research.

It is observed that NP movement out of a tensed clause is disallowed in English.

(2.22) *John seems [$_{CP}$ (that) [$_{IP}$ t is happy]]

There are two ways of ruling (2.22) out in the theory of UG assumed in the mid 80's. One problem with (2.22) was that the A-chain contains two Case positions. This ran counter to the last resort character of NP movement discussed by Chomsky (1986a). Another problem was that NP movement in (2.22) crossed a barrier CP, causing an ECP violation in the system of Chomsky (1986b). Thus, there was a redundancy in the account. This fact alone does not render the account untenable, but it surely makes it suspicious.

One obvious way of resolving redundancy is to discard one of the options. Under the Minimalist approach, it is the barriers system which has an unclear status. Thus, we will discard it and keep the Case theoretic consideration, trying to derive the result that A-movement cannot pass through Case positions. To anticipate our solution, let us call the restriction in question the Theorem of Economical A-Movement.

(2.23) Theorem of Economical A-Movement

A-movement cannot move through a Case position.

Before undertaking the task of deriving (2.23), let us note that the well-formed ECM cases conform to (2.23), too. Remember from the previous section that the distribution of PRO is dependent on the presence of an

appropriate Comp. It is allowed in (2.1a), but not in (2.2a), because there is a CP in (2.1a) but not in (2.2a).

(2.1) a. John tried [PRO to win the race].

b. *John tried [Mary to win the race].

(2.2) a. *John believed [PRO to have won the race].

b. John believed [Mary to have won the race].

Case checking of Null Case results in a convergent derivation if the [F] feature is checked off properly by Comp. This is impossible in (2.2a). Then, we can define Case positions as follows:

(2.24) α is a Case position iff the maximal projection HP of which α is Spec is a sister to an appropriate [F] feature checker, where the head of HP has a Case-bearing head adjoined to it.

Recall that Case checking always takes the form of Spec-head relation in our framework. By (2.24), Spec of IP in (2.2) is not a Case position, with the result that A-movement can pass through it.

Let us now consider what (2.23) follows from. Note that (2.23) smacks of an Economy phenomenon. Let us then pursue this line. Collins (forthcoming) adds another dimension to the Economy Principle of Chomsky (1992) concerning the length of derivation. It says:

(2.25) Derivation D_1 is more costly than derivation D_2 if:

a. D_1 involves more operations (e.g., Form Chain) than D_2 or

b. D_1 traverses more nodes than D_2.

The clause (b) is the one added by Collins (forthcoming). This clause blocks the derivation of (2.26) in which the wh-phrase is moved through Spec of the embedded CP.

(2.26) Who did you tell t [that he hit John]?

The English example does not show any signal that the derivation in question has to be blocked, but any language that displays the wh-agreement which morphologically distinguishes extraction and non-extraction can show that the route of movement does not pass through Spec of the embedded CP. Collins (forthcoming) illustrates this point with Ewe. Similar examples will be discussed and given a theoretical account in Chapter 3.

In Ewe, the morphological shape of the third person singular subject pronoun changes from é to wo if it lies between the head of an A-bar chain and the variable. (2.27) illustrates local A-bar movement.

(2.27) a. é/*wo ʃo Kɔsi
he hit Kosi

b. Kofi gblɔ be é/*wo ʃo Kɔsi
Kofi said that he hit Kosi

c. Kofi biɛ be lamata *é/wo ʃo Kɔsi
Kofi asked that why he hit Kosi

The change takes place only in (2.27c), since wh-movement is involved only in this example. The change is optional except at the head of an A-bar chain, as shown by (2.28).

(2.28) Kofi ɛ me gblɔ be é /wo *fo*

Kofi Foc I said that he hit

'It was Kofi that I said that he hit t.'

The change does not take place when the pronoun is lower than the variable, as in (2.29).

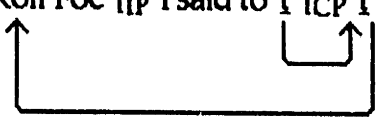
(2.29) Kofi ɛ me gblɔ na be é/*wo *fo* Kɔsi

Kofi Foc I said to that he hit Kosi

'It was Kofi that I told t that he hit Kosi.'

Now, the derivation D_1 of (2.29) which is to be blocked leaves a trace in Spec of the embedded CP. If chain formation is unconstrained, this kind of wild movement is possible in principle. D_2 is the derivation which we would like to maintain, where movement goes straight from the extraction site to the landing site.

(2.30) a. D_1 [$_{CP}$ Kofi Foc [$_{IP}$ I said to t [$_{CP}$ t that [he hit Kosi]]]



b. D_2 [$_{CP}$ Kofi Foc [$_{IP}$ I said to t [$_{CP}$ that [he hit Kosi]]]



Notice that D_1 traverses more nodes than D_2. For D_1, the nodes traversed are (CP, CP, VP, I', IP, C'), while for D_2, they are (VP, I', IP, C'). The Economy Principle therefore chooses D_2.[12]

Going back to (2.23), the same Economy principle derives the desirable result. For (2.22), repeated below, there is a 'shorter' derivation which results in (2.31).

(2.22) *John seems [$_{CP}$ (that) [$_{IP}$ t is happy]]

(2.31) It seems [$_{CP}$ (that) [$_{IP}$ John is happy]]

Thus, movement through a Case position is correctly blocked.

At this point, a significant question arises: is it legitimate to compare the derivation of (2.22) and that of (2.31)? Independently of the present concern, (2.31) raises the question what happens at LF to the expletive it linked to a clausal complement? Given the hypothesis that the LF representation contains only meaningful elements, the expletive it must be absent at the end of the LF component, which in turn suggests that it has to be replaced by its clausal associate. In order for this to be possible, however, movement of CP has to be Case-feature driven, given the principle of Greed. This is a non-trivial question, since it is not obvious whether CP needs to check Case. But suppose that there is a derivation of (2.31) in which the expletive it is replaced by its associate CP. It surely is not obvious

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[12] This account does not force movement through Spec of intermediate CPs in cases like (i).

(i) Who do you think [$_{CP}$ that Mary said [$_{CP}$ that John fired t]]

That aspect of chain formation must follow from considerations of locality.

how to compare the cost of this derivation with the derivation of (2.22).

Now suppose, however, that there is a convergent derivation of (2.31) in which the expletive it is not replaced by the CP complement. After all, what goes wrong in case the expletive it remains at the end of LF is its interpretation. There should be nothing that prevents a convergent derivation of (2.31) even if the CP complement is left in-situ, for there are cases in which a clausal complement is left in-situ. In (2.32) below, the CP complement of an adjective is most likely to satisfy its morphological requirements in-situ.

(2.32) I am sure that he will come.

Thus, there should be a convergent derivation of (2.31) that does not involve the replacement of the expletive it by the clausal complement.[13] But then, this derivation is more economical than the one for (2.22), blocking (2.22).

The ECM and raising cases are correctly ruled in. Since Case checking must be accompanied by a follow-up process, no Case checking can take place in the embedded Agr-sP in (2.2b), repeated here as (2.33), due to the lack of CP.

(2.33) John believed [$_{Agr\text{-}sP}$ Mary to have won the race]

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[13] In which case, we have to make sure that this derivation does not block what appears to be a less economical one in which the expletive replacement takes place, if we need expletive replacement for cases like (2.31) at all.

The embedded subject can move to Spec of the matrix Agr-oP in order to check Accusative Case, since this movement does not go through a Case position. The same account carries over to the raising cases such as (2.34).

(2.34) Mary seems [$_{Agr\text{-}sP}$ t to have won the race]

Note that if Case checking can take place in Spec of Agr-sP in (2.33) and (2.34), NP movement of the embedded subject in (2.33) and (2.34) should have the same status as NP movement of the prepositional object in (2.22), contrary to fact.

(2.22) *John seems [$_{CP}$ (that) [$_{IP}$ t is happy]]

Case mismatch should not matter, since (2.35) is still ill-formed.

(2.35) *I believe him to seem [$_{CP}$ (that) [$_{IP}$ t is happy]]

Our modified Case theory correctly predicts that NP movement in (2.33) and (2.34) is possible, by rendering Spec of Agr-sP in (2.33) and (2.34) a non-Case position.

Some evidence that the ECM subject is raised into the matrix clause at LF is presented by Lasnik and Saito (1991). They show, picking up an argument by Postal (1974), that the embedded subject of an ECM complement can "command" the material in the matrix clause.[14] This is

[14] Postal's original argument is somewhat flawed, for reasons explained in Lasnik and Saito (1991). In the LGB framework where an ECM complement was treated as non-maximal projection, the Binding Condition C argument

expected if in fact the embedded subject is raised into Spec of the matrix Agr-oP. See also Branigan (1992) for a more detailed discussion of Lasnik and Saito's (1991) evidence.

To sum up, we have seen that given our modified Case theory, the Economy considerations and the requirements of feature checking will block ECM and raising from CPs.

2.2.2. Romanian

In English, presence of CP is obligatory for tensed clauses. In Romanian, however, this does not seem to be true. As we will see, Romanian provides a good piece of evidence that there is a follow-up process to Case checking and that the possibility of raising/ECM hinges on lack of sufficient clause structure, not on non-finiteness.

As pointed out by Grosu and Horvath (1984), Romanian allows raising out of tensed subjunctive clauses. In Romanian, the verbal inflection in subjunctive is only minimally different from that in indicative, showing person/number agreement in the present tense. See Farkas (1984), Mallinson (1986, 284-286), and Terzi (1992, 63). The difference lies only in the 3rd person, where a distinct form is used for both singular and plural. The past tense in subjunctive uses an auxiliary verb. Aside from inflections, subjunctive clauses in Romanian are marked by the presence of the subjunctive particle să which precedes the inflected verb, as in (2.36).

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involving ECM complements was used by Aoun and Sportiche (1983) to show that c-command should be defined in terms of maximal projections, the by now familiar notion of m-command.

(2.36) Vreau să plec.
want-1s Subj-prt leave-1s
'I want to leave.'

Indicative clauses must be headed by the complementizer că as in (2.37), while the complementizer ca for subjunctive clauses can be missing in certain cases, as in (2.36) above and (2.38b) below.

(2.37) a. Maria nu crede [*(că) toţi băieţii sunt acolo]
not think Comp all boys-the are there
b. Maria nu crede [*(că) sunt acolo toţi băieţii]
not think Comp are there all boys-the

(2.38) a. Maria nu crede [*(ca) toţi băieţii sa fie acolo]
not think Comp all boys-the Subj-Prt be-3[15] there
b. Maria nu crede [(#ca)[16] sa fie acolo toţi băieţii]
not think Comp Subj-Prt be-3 there all boys-the
(2.37-38) from Grosu and Horvath (1984, 350)

Note first that there is a correlation between the mood and the shape of the complementizer that heads the clause. This correlation can be captured if the finite verb is ultimately raised to C° at LF. We will see more of this kind of correlation in other languages later in this chapter. Second, the environment where the subjunctive complementizer can be missing is the one in which the subject appears postverbally. We will return to the relation

[15] As noted above, there is no number distinction in the 3rd person.
[16] # indicates that there is a variation among speakers about whether the presence of the complementizer is prohibited or not.

between the presence of the subjunctive complementizer and the postverbal subject in section 2.5.3.

At first sight, the Romanian subjunctive clauses seem to allow optional raising of the embedded subject.

(2.39) a. S-a nimerit [ca toţi băieţii să fie bolnavi]
Refl-have-3sg happened that all boys-the Subj-Prt be-3 sick
'It happened that all the boys were sick.'

b. Toţi băieţii s-au nimerit [să fie bolnavi]
All boys-the Refl-have-3pl happened Subj-Prt be-3 sick
'All the boys happened to be sick.' Rivero (1989, 290)

(2.40) a. Trebuia [ca studenţii să plece]
must-3sg that students-the Subj-Prt leave-3
'It must have been that the students left.'

b. Studenţii trebuiau [să plece]
students-the must-3pl Subj-Prt leave-3
'The students must have left.' Rivero (1989, 290)

Notice, however, the consistent absence of the subjunctive complementizer ca in the (b) examples. Raising is blocked in the presence of the complementizer, as first pointed out by Grosu and Horvath (1984).[17]

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[17] Rivero (1989) claims that there are speakers who accept cases like (2.41b), citing (i).

(i) Băieţii s-au nimerit [ca toţi trei să plece la mare în acelaşi zi]
boys-the Refl-have-3pl that all three Subj-Prt leave at see in same day
'The boys happened to leave all three for the seaside on the same day.'

(2.41) a. Toţi doctorii s-au nimerit [să fie de acord]

all doctors-the Refl-have-3pl happened Subj-Prt be-3 of agreement

'All the doctors happened to agree with each other.'

b. *Toţi doctorii s-au nimerit [ca să fie de acord]

all doctors-the Refl-have-3pl happened that Subj-Prt be-3 of agreement

c. S-a nimerit [ca doctorii să fie toţi de acord]

Refl-have-3sg happened that doctors-the Subj-Prt be-3 all of agreement

Motapanyane (1991, 58)

Grosu and Horvath (1984) proposed an ECP account of the contrast between (2.41a) and (2.41b) within the LGB framework. According to their account, (2.41b) is ruled out because there is a complementizer, which blocks proper government of the subject trace. First of all, however, (2.41a) remains problematic for the LGB type Case theory. Since the complement clause is finite, the subject position of the embedded clause must be assigned Case under the standard assumptions of the LGB type Case theory. In fact, a

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This type of construction must have a different structure (iii) with pro as the embedded subject, analogous to (ii).

(ii) John$_i$ seems as if he$_i$ is happy.

(iii) Băieţii$_i$ s-au nimerit [ca toţi trei pro$_i$ să plece la mare în acelaşi zi]

What is crucial in the present context is the fact that there are speakers who distinguish (2.41a) and (2.41b). This in turn suggests that (i) is an instance of a different construction which is available only to a limited number of speakers. Even Rivero (1989, 300) notes that out of the ten speakers she asked, only two find (i) completely acceptable.

lexical subject is allowed even in the absence of an overt complementizer, as in (2.42).[18]

(2.42) S-a nimerit [să fie toţi doctorii de acord]
Refl-have-3sg happened Subj-Prt be-3 all doctors-the of agreement

If that is the case, then NP movement from the embedded subject to the matrix subject position would result in an A-chain containing two Case-marked positions, which should be impossible under the theory where NP movement is triggered as a last resort to get Case, as in Chomsky (1986a). In fact, this is the redundancy in the account of the impossibility of (2.22) that we mentioned above.

(2.22) *John seems [$_{CP}$(that) [$_{IP}$ t is happy]]

One might be tempted to conclude from this that what should be discarded is the last resort character of NP movement which has to do with Case theory. That move, however, is not the one that we can jump at, given the unclear status of the barriers/ECP system under our framework.

For this reason, (2.41a) continues to pose a problem for the AGR-based Case theory of Chomsky (1992) as well. NP movement out of a finite clause is still problematic, given the impossibility of (2.22) in English. Under this theory, Spec of the embedded Agr-sP is a Case position, and therefore, movement to a higher Case position should be prohibited.

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[18] We will return to the postverbal subject position in section 2.5.3.

In our modified Case theory, there is a straightforward solution. Recall that under our theory, a position P is a Case position iff the maximal projection of which P is Spec is a sister to an appropriate [F] feature checker. In the case of Nominative Case checking, there has to be an appropriate C° immediately dominating Agr-sP. Note that the relevance of C° to Nominative Case checking is something which the Case theory of Chomsky (1992) does not take into account. If we take the lack of an overt C° to indicate the absence of an appropriate [F] checker, on the other hand, we can account for the fact that NP movement in Romanian is well-formed in these cases. Suppose that in (2.37b), (2.40b), and (2.41a), there is no C° to check the [F] feature, rendering Spec of the embedded IP a non-Case position. NP movement from that position is thus possible (and is necessary).

Then, apparent lack of the complementizer in (2.42) has to be only apparent. Terzi (1992) in fact claims that the postverbal position of the embedded Nominative subject is due to V-to-I-to-C raising.[19] If this analysis is on the right track, the embedded clause in (2.42) is headed by a complementizer. Nominative Case checking is possible in that case.

Note that the finiteness of the clause itself plays no role in this account. It is absence vs. presence of CP which is responsible for the possibility of subject raising. This is a welcome result, since our framework accommodates Null Case of PRO in the structural Case system. In Chapter 1, we have seen that the Balkan subjunctive allows PRO subjects, despite its finiteness. Our framework is capable of capturing this fact because PRO participates in the structural Case system. Finiteness itself is not an absolute consideration in licensing of PRO, though the PRO subject in a finite clause is a marked

[19] We will come back to this point in section 2.5.3.

phenomenon under the current understanding.[20] Introduction of the follow-up process to Case checking in the system makes it possible to say the same thing about raising, too. This result makes sense, since subjunctive clauses are used in the Balkan languages where other languages use infinitival clauses, namely, control and raising.

There is a remaining question, however. Why is the IP finite complement not allowed in English or Romance languages other than Romanian? An answer seems to lie in the notion of "impoverished clauses." Note that infinitival clauses typically lack overt agreement markers. Let us take lack of overt agreement markers as indicative of structural impoverishment.[21] Suppose further that IP complements are allowed only as impoverished clauses. Then, it follows that finite IP complements are impossible in English and French, for example. This position commits us to the position that subjunctive clauses in the Balkan languages are also impoverished in some way. In fact, Iatridou (1988) and Terzi (1992) note that certain kinds of subjunctive clauses, complements to volitional predicates, in particular, are subject to restrictions on the permissible tense in the Balkan languages as well as in Romance, where the anaphoric nature of subjunctive tense has been discussed in the literature in connection with the disjoint reference effect observed with (a subset of) subjunctive clauses. Cf. Kempchinsky (1986) for an overview of various approaches. Then, it makes sense to speak of the Balkan subjunctive clauses as impoverished. Now, it seems that UG allows two kinds of grammars, depending on where to draw a line

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[20] Note that it could turn out that the PRO subject in infinitival clauses is a marked phenomenon, depending on how acquisition proceeds.

[21] See Iatridou (1988) for some relevant discussion.

between impoverished clauses and non-impoverished ones.[22] English and French do not include subjunctive in the class of impoverished clauses, while the Balkan languages do. English does not even have subjunctive clauses according to Roberts (1985, 1993), who claims that what is called a subjunctive clause in English instead has a null modal. This is, however, only speculative. Further specification of details in this area is beyond the scope of this study and must wait for future research.

2.3. ECM from Comp and Comp-Tense Correlation

There are other motivations to posit V-to-INFL-to-Comp. As is well-known, the shape of Comp is dependent on the finiteness of the clause that Comp governs. (2.43) summarizes the pattern in English [-WH] clauses.

(2.43) Comp -> { that / ø in finite clauses
for / ø in infinitive clauses

Given the Split INFL hypothesis, it is no longer possible to express this correlation in terms of selection, since Agr intervenes between Comp and Tns nodes. One possibility is the V-to-INFL-to-Comp movement that we are proposing based on the modification of the Case theory. Movement to Comp alone, however, is not sufficient to guarantee the desired result, since Agr still intervenes in the adjunction structure, as in (2.44).

(2.44) [COMP [Agr Tns+Agr]+Comp]

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[22] Romanian also possesses infinitival clauses as raising complements.

The necessary mechanism is the checking of [F] features created through Case checking processes. Notice that the finiteness is directly responsible for the kind of Case that is checked at Spec of AgrP. Depending on which Case is checked, different [F] features are created, and accordingly, different Comp nodes have to exist to check off these [F] features. This accounts for the correlation in (2.43).

The above argument is admittedly weak, since the presence of a complementizer <u>for</u> is linked with the Case requirement of subjects in infinitival clauses in the LGB type theory. But this point brings us to another problem in the Case theory of Chomsky (1992), namely, ECM from Comp, as in (2.45).

(2.45) a. [$_{CP}$ For [$_{Agr\text{-}sP}$ him to solve the problem]] is not impossible.

b. *[$_{Agr\text{-}sP}$ Him to solve the problem] is not impossible.

What makes (2.45a) well-formed must be the presence of the complementizer <u>for</u>, since (2.45b), which lacks it, is ill-formed. In Chomsky's (1992) theory, there is no way to distinguish (2.45a) from (2.45b) in terms of Case. According to that theory, the entire Case checking process ends at the level of Agr-sP in (2.45a) and Comp should play no role in that process. And given the role of Comp in the A-bar system, it does not seem appropriate to assume Case checking in Spec of CP nor to posit an Agr phrase on top of CP so as to enable Case checking in the higher AgrP analogous to ECM cases induced by verbs like <u>believe</u>. In other words, there is no obvious way of accounting for the role that <u>for</u> plays under this theory.[23]

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[23] N. Chomsky (personal communication) suggests that one might posit a different Tns node (in the spirit of Martin's (1992) proposal concerning Null

Under our proposal, on the other hand, Comp is vital in checking off the [F] feature deriving from the Case checking itself. The complementizer for is the one which has to be present when Accusative Case is checked on infinitival subjects. In other words, the complementizer for, but not the null complementizer, is able to check off the [F] feature arising from Accusative Case checking in infinitival Agr-sP. This proposal has to assume that the infinitival Tns has the ability to check Accusative Case. This property of the infinitival Tns may have to be countenanced by UG, if we take into account the fact that the subject of infinitival clauses in Irish can be marked Accusative. See McCloskey (1980a,b, 1985) and McCloskey and Sells (1988). We will take a closer look at Irish infinitival clauses in Chapter 5.

To sum up, our proposal that Comp is implicated in the process subsequent to the Case checking in Agr-sP can account for the phenomenon of ECM from Comp without much ado.

Case) which is responsible for Accusative Case on subjects, namely, for-to, in contrast to the ordinary to. For then will undergo overt movement to C°.

Raising of for from INFL to C° in fact receives some support from a for-to dialect of English discussed by Henry (1992), where for appears next to to except in the context corresponding to the "ECM from Comp" in the standard dialect. Here are some examples.

(i) a. I believe them for to have done it.
b. *I believe for them to have done it.
(ii) For to pay the mortgage is difficult.
(iii) John seems for to be better.
(iv) a. For him to pay the mortgage would be just as expensive.
b. *Him for to pay the mortgage would be just as expensive.

Although Henry (1992) proposes lowering of for from Comp, we can recast it in terms of raising to Comp.

Under this proposal, however, our point still holds. That is, there is an intrinsic connection between Comp and Case checking.

2.4. Relation of C° and I°

So far, we have looked at motivations for movement to Comp coming from the Case property of subjects in infinitives. Now in the rest of this chapter, we will turn to some indications that the verb-Infl complex actually ends up in Comp at the end of derivation. In this section, we will consider the phenomenon in which elements in Comp show agreement with the subject of the clause.

2.4.1. Agreement in Comp in Germanic

In some dialects of German and Dutch, a subject agreement morpheme appears in the Comp position as well as on the verb itself. Thus, Bayer (1984) argues that what appears on Comp in second person in Bavarian is not a subject clitic but an agreement marker. One of the motivations for this is the fact that it is identical to the verbal agreement. Consider the following paradigm for 'if X come'.

(2.46)

	sg.		pl.	
1 person	wenn-e	kumm	wenn-ma	kumm-a(n)
2 person	wenn-st	kumm-st	wenn-ts	kumm-ts
3 person	wenn-a	kumm-t	wenn-s	kumm-a(nt)
	if	come	if	come

As can be seen from the paradigm, the verbal ending for second person is the same as that of the complementizer-like element. Interestingly, this

ending behaves differently from the others when the subject is moved into Spec of CP. This is illustrated in (2.47).

(2.47) a. [$_{CP}$ I$_i$ bis daß [$_{IP}$ t$_i$ kumm]] is d'Suppn schō koid.
I until that come is the soup already cold
'Until I arrive the soup will already be cold.'

b. [$_{CP}$ du$_i$ bis daß-st [$_{IP}$ t$_i$ kummst]] is d'Suppn schō koid.
you (sg)

c. [$_{CP}$ der$_i$ bis daß [$_{IP}$ t$_i$ kummt]] is d'Suppn schō koid.
he

d. [$_{CP}$ mia$_i$ bis daß [$_{IP}$ t$_i$ kumma]] is d'Suppn schō koid.
we

e. [$_{CP}$ ihr/es$_i$ bis daß-ts [$_{IP}$ t$_i$ kummts]] is d'Suppn schō koid.
you (pl)

f. [$_{CP}$ de$_i$ bis daß [$_{IP}$ t$_i$ kumma]] is d'Suppn schō koid.
they Bayer (1984, 231)[24]

The second person endings must remain on Comp, whereas the other Comp endings must disappear. On the basis of (2.47), Bayer (1984) argues that the second person endings are genuine manifestations of agreement on Comp.[25]

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[24] The subject pronouns in (d) and (f) seem to contain typos. According to the list on p. 230 of Bayer (1984), the correct forms should be mir and die, respectively.

[25] Bayer does not say much about the other endings except that they are subject clitics. The parallel phenomenon in West Flemish is discussed in greater detail by Bennis and Haegeman (1984) and Haegeman (1990, 1992).

A similar paradigm can be found in West Flemish, too, as discussed in detail by Bennis and Haegeman (1984) and Haegeman (1990, 1992). Consider the following:

(2.48) a.	1sg		dan-k	ik werken	
b.	2sg		da-j	gie werkt	
c.	3sg	masc	dat-j	ij werkt	
		fem	da-se	zie werkt	
		neut	da-t	tet werkt	
d.	1pl		da-me	wunder werken	
e.	2pl		da-j	gunder werkt	
f.	3pl		dan-ze	zunder werken	Haegeman (1990, 334-335)

The elements after the hyphen are subject clitics, not agreement markers, according to the analysis of Haegeman.[26] Thus, this paradigm includes clitic doubling, which is restricted to pronominal subjects. Subtracting subject clitics, note that the paradigm of the complementizer still displays subject agreement. Compare third person singular and third person plural.

A most straightforward way of accommodating the phenomenon of complementizer agreement is to assume, adapting the idea of Law (1991),[27] that LF movement places the V-Agr complex onto Comp for the purpose of

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[26] Haegeman (1990, 335) notes, however, that the presence of the subject clitic is obligatory in second person. This peculiarity of second person is reminiscent of the Bavarian facts that we just reviewed.

[27] Law (1991) in fact proposes a replacement account. We have to assume instead that the Agr-s complex which also contains the finite verb is adjoined to C°, given our Case theory.

[F] feature checking.[28,29] Then, agreement on Comp can be taken as a manifestation of an abstract complementizer feature which checks off the [F]

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[28] Zwart (1993) proposes that complementizer agreement is due to Agr-to-Comp movement in overt syntax. Overt Agr-to-Comp movement is driven by the need of strong N-feature checking of Agr-s, which requires lexicalization of Agr-s. The lexicalization requirement is suspicious, however, since an agreement marker appears on a wh-phrase in the absence of a lexical complementizer, as in a Bavarian example (i).

(i) wia oit-ts ihr set-ts is mir wurscht
how old-2pl you are-2pl is for-me unimportant Bayer (1984, 235)

Besides N-feature checking is basically Case checking and the Case feature for Agr-s comes from Tns, not from Comp.

[29] The subject clitic doubling in West Flemish discussed by Haegeman (1990, 1992) might also fall into the realm of complementizer agreement at an appropriate level of abstraction, or subject clitic doubling in northern Italian dialects mnetioned in Chapter 1. This topic, however, is beyond the scope of present discussion. For example, the final analysis would have to account for the fact that a subject clitic cannot appear with a lexical DP subject, as shown in (i).

(i) a. da(*-se) Marie komt
that comes
b. da-se zie komt
that she comes

In this connection, it should be noted that French complex inversion exemplified by (i) could be treated as a subspecies of complementizer agreement, this time, the subject clitic manifesting a [F] feature on the verb-Infl complex.

(i) Pierre a-t-il téléphoné?
has he telephoned

The French complex inversion is thus analogous to the subject clitic doubling in northern Italian dialects discussed in Chapter 1. The analysis along this line would assign the structure (ii) to (i), with the subject clitic il being an additional [F] feature arising from Case checking.

(ii) [$_{Agr\text{-}sP}$ Pierre [$_{Agr\text{-}s'}$ a-t-il téléphoné]]

feature that arises from Nominative Case checking. This process is completely general, the only parametrization having to do with morpho-phonological manifestations.

It should be noted that this way of treating complementizer agreement is a natural extension of the idea proposed by Besten (1983). He suggests that verb movement to Comp is triggered by morphosyntactic features on Comp and the verb, and presents complementizer agreement as support for the hypothesis that Comp has a Tense feature: combination of this Tense feature and person/number agreement at Comp results in the identical feature composition as the verb. Given the hypothesis that choice of overt movement vs. LF movement covers parametric variations in syntax, this idea translates into LF movement of the verb-Infl complex to Comp. We will turn to the main concern of Besten (1983), namely, V2, in section 2.5 below.

2.4.2. Irish Complementizers

In this section, we will look at pieces of evidence from Irish that the finite verb of a clause ends up at Comp at LF.

Irish is a verb-initial language. When a finite clause is embedded as a complement, a complementizer precedes the finite verb as in (2.49) from McCloskey (1979).

Then, it would become possible to streamline the complicated analysis by Rizzi and Roberts (1989). The fact that French complex inversion appears only in matrix questions is related to the fact that this phenomenon is a wh-agreement. We will turn to wh-agreement in the next chapter.

(2.49) a. Deir sé goN dtuigeann sé an scéal.
says he Comp understands he the story
'He says that he understands the story.'

b. Deir sé gurL thuig sé an scéal.
says he Comp understood he the story
'He says that he understood the story.'

As can be seen, the shape of the complementizer changes according to the tense. Here is a list from Chung and McCloskey (1987, 218).

(2.50)

	Nonpast		Past	
subordinating	go	/gə/	gur	/gər/
'direct' relative	a	/ə/	a	/ə/
'indirect' relative	a	/ə/	ar	/ɛrʸ/
interrogative	an	/ən/	ar	/ɛrʸ/
matrix negative	ní	/nʸiː/	níor	/nʸiːr/
embedded negative	nach	/nax/	nár	/naːr/

Note first Irish is an VSO language. Thus, the finite verb must at least move out of VP. In fact, Bobaljik and Carnie (1992) argue that the subject is also outside of VP in overt syntax, sitting in Spec of TP. The finite verb then must at least reach Agr-s. If they are right, the verb, Tns, and Agr-s are already merged together in overt syntax, resulting in the structure [$_{Agr}$ [$_{Tns}$ [$_{Agr}$ V-Agr]-Tns]-Agr].[30] The tense information on Comp thus cannot come from simple PF merger of Tns and Comp (cf. McCloskey (1992a) and the note

[30] The linear ordering of the adjunction structure is not obvious.

31 below), since Tns has already checked off its feature. Besides, it is buried inside the complex head of Agr-s. It follows that the tense marking on Comp is an inherent property of Comp. This is another piece of evidence that Tns and Comp are merged together at LF. The evidence here is stronger than the previous section, since here we are dealing with the past/non-past distinction in finite clauses. Since Case properties of the embedded subject are irrelevant, the difference must come from the difference in the features of the Tns node, but to ensure that, Tns must get in contact with Comp, which suggests that the Agr-Tns complex ends up adjoined to Comp at LF.[31] More generally, apparent selection by functional categories are reduced to head movement, either in overt syntax or at LF.[32]

Irish provides another piece of evidence that Agr and Comp are merged together eventually. The copular verb in Irish behaves differently from ordinary verbs. In predicative sentences, it is typically used to express inherent properties, and perhaps relatedly it typically takes a predicate nominal.[33] It is also used in clefts and identificational sentences. We refer the reader to Doherty (1992) for a recent theoretical discussion of various

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31 Based on the position of adjuncts like temporal adverbs, McCloskey (1992a) claims that C° is lowered on I° in Irish (at PF). Our point holds under this hypotheses, too, since the specification related to C° is manifested on the C°-I°-V° complex, which is a phonological word.

Guilfoyle (1990) argues against the analysis in which the V-Infl complex reaches C° in overt syntax, on the ground that a complementizer and the V-Infl complex cooccur. This argument loses its force once V-to-I-to-C movement is assumed to be successive adjunction.

32 We do not go so far as to reduce all selectional relations to LF head movement, as proposed by Svenonius (1993). We are claiming that if a functional head appears to select its complement, some feature checking relation is involved.

33 Transient (stage-level) properties are expressed by another be-like verb, which behaves like other ordinary verbs. Doherty (1992) also observes that only individual-level properties are expressible by the copular sentences.

special properties of this construction. What concerns us here is the fact that in embedded contexts, the copula is merged with a complementizer. The following is a (partial) paradigm from Stenson (1981).[34]

(2.51) a. Is lia é.
Cop surgeon he
'He is a surgeon.'

b. Ba lia é.
'He was a surgeon.'

(2.52) a. Deireann Máire gur lia é.
Says Mary Comp-Cop surgeon he
'Mary says that he is a surgeon.'

b. Deireann Máire gur lia é.
'Mary says that he was a surgeon.'

Although masked in (2.52), the Comp-copula complex is gur (gurb before vowels) in the present affirmative and gur(bh) in the past affirmative, according to Stenson (p. 93). The Tense distinction is clear in the following:

(2.53) a. Fiafróidh Máire an lia é.
ask-Fut Q-Cop surgeon he
'Mary will ask if he is a surgeon.'

b. D'fhiafraigh Máire ar lia é.
'Mary asked if he was a surgeon.'

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[34] The dialect that McCloskey (1979) describes is chiefly that of Ulster, whereas Stenson (1981) deals with the dialect of Connaught. Thus, there are certain non-essential differences in the examples given.

And it takes other forms in negative and relative clauses. We omit these forms. See McCloskey (1979) and Stenson (1981) for detailed discussions. What concerns us now is the fact that the copula and a complementizer merge. This fact is expected if every verb ends up at Comp at LF. It is well known that copular verbs in the languages of the world show some peculiarities. And it is not surprising to find that one such peculiarity is to morphologically mark the features to be checked by a complementizer on the verb. On the other hand, if finite verbs do not end up at Comp, it is not clear what is going on in the case of the Irish copula. To be sure, some peculiarity can be expected of it, but not this one. There would be no special reason for the copula to be merged with a complementizer, if other ordinary verbs did not. Thus, this behavior of the Irish copula supports our general claim that finite verbs must move up to the position of Comp at LF to check off [F] features.[35]

In sum, we have seen two pieces of evidence from Irish that finite verbs are eventually adjoined to Comp.

2.5. V2

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[35] Doherty (1992) has also reached the conclusion that the copula and the complementizer are merged through head movement, though the claim is stronger than ours: INFL moves up to Comp at S-structure. The argument is based on an ellipsis phenomenon. We do not take a stand on whether movement takes place at S-structure or LF in Irish. For some discussion of Irish word order, see Bobaljik and Carnie (1992).

Chomsky (personal communication) notes that if the copula reaches Comp but the ordinary verb does not in overt syntax, the situation is somewhat analogous to the behavior of English auxiliaries.

In this section, we will look at the parametric nature of V-to-INFL-to-Comp movement by comparing embedded Topicalization in English and Mainland Scandinavian languages and show that Topicalization and verb raising to Comp must be treated as independent processes.

According to our view, movement to Comp takes place overtly or at LF, depending on the strength of the V-feature of Comp. Thus, it is predicted that overt movement to C° is triggered by an arbitrary feature specification on C°, say, an obligatory [+Topic] feature. We also assume that obligatory Topicalization found in Germanic and other languages is caused by an arbitrary feature specification of Comp. Then, in combination with whether obligatory Topicalization takes place or not, there are four possible parameter configurations. We will see that all the four cases are attested.

2.5.1. Besten (1983)

Germanic languages including Dutch, German, and Swedish display a curious word order restriction in main clauses: the finite verb must appear in the second position from the beginning of the sentence. Thus, consider the following Swedish examples from Platzack (1985).

(2.54) a. Han kramade henne innan han reste.
he hugged her before he went

b. Innan han reste kramade han henne.

c. Henne kramade han innan han reste.

d. *Henne han kramade innan han reste.

e. *Han henne kramade innan han reste.

f. *Innan han reste han kramade henne.

Only a single constituent can appear in front of the finite verb, which is underlined in the above examples. The examples in (2.54d,e,f) are ill-formed since more than one constituent appears before the finite verb. Due to the positioning of the finite verb, this phenomenon is called Verb Second (V2).

Since Besten (1983), many attempts have been made to explain this V2 restriction. One can find them in Diesing (1990a), the papers in Haider and Prinzhorn (1985), Koopman (1984), Platzack (1985), Rizzi (1990b), Travis (1984, 1991), Vikner (1990), and Weerman (1988), among others. Without going into detailed comparison of various alternatives, we claim in this section that the basic insights of Besten (1983) are correct.

Translating into the CP system of Chomsky (1986b), Besten (1983) argues that the finite verb moves into C°. Topicalization places an XP in Spec of CP. The finite verb at C° then follows it, accounting for the second position of the finite verb. V2 appears basically only in main clauses. To take Swedish examples again, we find the following contrast.

(2.55) a. Han köpte aldrig huset.
he bought never the-house

b. Det var konstigt att han aldrig köpte huset.
it was strange that he never bought the-house

(2.55a) is assigned the following structure under Besten's proposal.

(2.55') a. [$_{CP}$ Han [$_{C'}$ köpte [$_{IP}$ aldrig huset]]]

The element responsible for the movement of the finite verb to C° is the Tense that appears in Comp. The embedded C° in (2.55b) is filled with att, on the other hand, blocking movement of the finite verb.[36]

Travis (1984, 1991) and Zwart (1991, 1993) claim that subject-initial sentences should be analyzed as IPs, not CPs with the finite verb in C°, based on the asymmetry in weak pronoun placement. We will maintain the CP analysis, however, on the strength of the arguments presented by Vikner and Schwartz (1991). We will come back to the distribution of weak pronouns in the next chapter.

As a corroboration of the hypothesis that Tense resides in C°, Besten mentions the agreeing complementizers that we have discussed in the previous section. Thus, we have been following the picture that Besten envisioned and attempting to integrate it into a more general framework of Case.

2.5.2. English Topicalization vs. Mainland Scandinavian V2

Ingenious though Besten's proposal is, he has not answered all the questions that arise concerning V2. It is still not clear, in particular, why we do not find extensive V2 phenomena in English. Our approach to this question is to say that it is an arbitrary feature of C° which is responsible for movement of the finite verb to Comp, just as verb raising in French is due to

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[36] Given adjunction, it is not clear why Topicalization itself is blocked by the presence of an overt complementizer in embedded clauses. Impossibility of adjoining the V-Infl complex to an overt complementizer must be due to a PF filter. For more on the complementarity of embedded V2 and an overt complementizer, see the Appendix.

an arbitrary (strong) specification of the V-feature of Agr. To show this, we will first dissociate Topicalization from movement of the finite verb to C°.

Remember that the V2 restriction consists of two parts: movement of the finite verb to C° and movement of XP into Spec of CP. Thus, (2.54c) has the following structure:

(2.56) $[_{CP}$ Henne$_i$ kramade$_v$ $[_{IP}$ han t_v t_i innan han reste]]

The direct object henne is preposed into Spec of CP, counting as the first element. Given the pervasive role of Spec-Head relation in syntax, it is tempting to relate the movement of the finite verb to the presence of a Topic in Spec of CP: the Topic in Spec of CP requires an appropriate head to agree with. This is an extension of Rizzi's (1990b, 1991) account of Subject-Aux Inversion (SAI) in English in terms of the Wh-Criterion, where movement of I° to C° is triggered by the requirement that a wh-phrase agree with an appropriate X°. Given that Topicalization in V2 languages is obligatory in main clauses for an independent reason, it follows that the finite verb must move to C° to agree with the Topic.[37] In English, on the other hand, Topicalization is not obligatory, and the agreement requirement between C° and its Spec is not operative.

This relation of obligatory Topicalization and obligatory finite verb movement is untenable, however. Note first that there is an optional preposing process in English which does require finite verb raising. Consider the following:

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[37] This agreement should not be in terms of ϕ-features, but rather in terms of an abstract [+Topic] feature.

(2.57) a. I would do that in no case.

b. In no case would I do that.

c. *In no case I would do that. Rizzi (1991)

Preposing of affective elements is in no way obligatory, but once it applies, it must be accompanied by verb raising. Thus, we cannot say that obligatory verb raising is triggered by obligatory XP fronting. It is triggered by an optional process in some cases.[38]

Turning to Topicalization itself, observe first that English Topicalization does not trigger SAI.

(2.58) a. This book, John read.

b. *This book did John read.

Assuming that English Topicalization is movement into Spec of CP (see Appendix for justification), one might counter, the contrast in (2.58) is not still damaging to the hypothesis mentioned above according to which movement of the finite verb to C° is triggered by movement of XP into Spec of CP. Suppose that the obligatory nature of Topicalization in V2 languages is the key factor in deciding whether a particular language has finite verb movement into C° in overt syntax. Topicalization is not obligatory in English. Hence no overt movement to C°.

But if we turn to embedded Topicalization, we can clearly see that obligatoriness of Topicalization does not trigger movement of the finite verb

[38] I owe this argument to N. Chomsky (personal communication). The observation itself goes back to Klima (1964).

to C°. First, consider embedded V2 in Mainland Scandinavian languages, using Danish examples from Vikner (1990).

(2.59) a. Vi ved at [denne bog$_i$ har$_j$ han ikke t$_j$ læst t$_i$]
we know that this book has he not read
b. Vi ved at [han ikke har læst denne bog]

In (2.59b), no embedded Topicalization takes place. In (2.59a), on the other hand, the direct object of the embedded clause is preposed, triggering V2. Assuming that V2 always involves CP structure, (2.59a) has the structure (2.60).

(2.60) Vi ved [$_{CP}$ at [$_{CP}$ denne bog$_i$ har$_j$ [$_{Agr\text{-}sP}$ han ikke t$_j$ læst t$_i$]]]

It has to have CP recursion, since the complementizer precedes the Topic. Notice that this structure is not obligatory. In this respect, Mainland Scandinavian languages are the same as English, where embedded Topicalization is not required at all. Thus, English apparently has both options, corresponding to (2.59).

(2.61) a. We know that this book, he has not read.
b. We know that he has not read this book.

There is an additional, significant similarity between embedded Topicalization in English and embedded V2 in Mainland Scandinavian. As noted by Vikner (1991), embedded V2 in Mainland Scandinavian languages

is basically limited to bridge verbs.[39] Here are (partial) lists taken from Vikner (1990) of the Danish verbs that allow embedded V2 and those which do not.

(2.62) Danish verbs which allow embedded V2

påstå 'claim', berette 'report', sige 'say', tro 'think', formode 'assume', føle 'feel', vide 'know', erfare 'learn', etc.

(2.63) Danish verbs which do not allow embedded V2

beklage 'be sorry', bekræfte 'confirm', fortryde 'regret', tvivle på 'doubt', bevise 'prove', forklare 'explain', tilgive 'forgive', etc.

English embedded Topicalization is restricted to almost the same environments, judging from Authier (1991), Hooper (1974), and Hooper and Thompson (1973). Here are (partial) lists from Hooper and Thompson (1973).

(2.64) English verbs which allow embedded Topicalization

say, report, claim, believe, think, expect, realized, learn, know, etc.

(2.65) English verbs which do not allow embedded Topicalization

doubt, deny, resent, regret, be sorry, be surprised, etc.

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[39] Vikner (1991) notes further that German embedded V2 seems to obey the same restriction. See Haider (1985), Iatridou and Kroch (1992a, b), Penner and Bader (1991), Reinholtz (1990), Rögnvaldsson and Thráinsson (1990), and the references cited there for discussion of various Germanic languages.

Icelandic and Yiddish do not obey this restriction, allowing embedded V2 in wider environments. See Cardinaletti and Roberts (to appear) and Iatridou and Kroch (1992a, b) in this connection.

Thus, if both Embedded Topicalization and embedded V2 in Mainland Scandinavian involve movement into Spec of CP with CP recursion, the restriction will be reduced to the one on CP recursion, pointing to the underlying unity of the two phenomena.[40] The sole difference is that Mainland Scandinavian involves an additional V-to-I-to-C raising in overt syntax.

If the above story is on the right track, V2 is operative in Mainland Scandinavian languages even in environments where Topicalization is not obligatory. Then it becomes difficult to maintain that V2 is due to obligatory presence of Topicalization. Although it seems to me that movement of the finite verb in Mainland Scandinavian languages is still somehow related to obligatory Topicalization in matrix clauses, it seems reasonable at this point to locate the presence or absence of finite verb movement to C° in the V-feature of C°, as a more or less arbitrary value of the parameter. This conclusion is reinforced by preposing of affective elements discussed above, which indicates that the trigger of obligatory verb raising is not restricted to obligatory XP movement into Spec of CP.

2.5.3. Balkan Subjunctive Again

Given the independence of V-to-I-to-C from Topicalization, we also expect to find cases where verb raising to Comp takes place in the absence of Topicalization.

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[40] See Appendix for an argument for the CP recursion analysis of English embedded Topicalization, together with a more a detailed discussion of the restrictions on CP recursion.

According to Terzi (1992), the Balkan subjunctives present such cases. Subjunctive clauses force postverbal subjects in the absence of an overt complementizer. Terzi (1992) argues that these cases involve overt V-to-I-to-C movement.[41] Here are some examples from Modern Greek.

(2.66) a. *?I Maria theli o Yiannis na fai. (MG)
Mary wants John Subj-Prt eats
b. I Maria theli na fai o Yiannis.
Mary wants Subj-Prt eats John
'Mary wants John to eat.' Terzi (1992, 72)

In the absence of an overt complementizer, the subject must follow the subjunctive particle and the verb. This is also true when the embedded verb is transitive.

(2.67) I Maria theli na fai o Yiannis to rizogalo.
Mary wants Subj-Prt eats John the rice pudding
'Mary wants John to eat the rice pudding.'

The same contrast holds in Romanian as well.

(2.68) a. *?Ion vrea Maria sa mănînce. (R)
John wants Mary Subj-Prt eat-3
b. Ion vrea sa mănînce Maria.
John wants Subj-Prt eat-3 Mary

[41] Varlokosta and Hornstein (1992) also propose the same analysis of postverbal subjects.

'John wants Mary to eat.' Terzi (1992, 101)

We see the same word order with a raising predicate as well.

(2.69) a. *S-a nimerit [doctorii sa fie toţi de acord]
Refl-have-3sg happened doctors-the Subj-Prt be-3 all of agreement

b. S-a nimerit [sa fie toţi doctorii de acord]
Refl-have-3sg happened Subj-Prt be-3 all doctors-the of agreement
'It happened that the doctors all agreed with each other.'

Motapanyane (1991)

The verb raising to C° accounts for why the absence of the subjunctive complementizer forces the postverbal subject position when there is an overt subject at all. If the finite verb is located at C° and the subject in Spec of Agr-sP, the subject appears postverbally.

The V-to-I-to-C analysis is also supported by the fact noted by Farkas (1984) that nothing in the clause can be placed in front of <u>să</u> unless it is stressed or contrastive.

(2.70) a. Vreau ca mîine să nu vină nimeni în vizită.
want-1s Comp tomorrow Subj-Prt not come-3 nobody in visit
'I want nobody to come to visit tomorrow.'

b. *Vreau mîine să meargă la Cluj.
want-1s tomorrow Subj-Prt go-3 at Cluj
'I want him/her to go to Cluj tomorrow.'

c. *Vreau MÎINe să meargă (şi nu poimîine).
want-1s tomorrow Subj-Prt go-3 and not the day after

'I want him/her to go TOMORROW (and not the day after).'

If the elements of the embedded clause are either within Agr-sP or adjoined to Agr-sP, nothing can precede the C° position. The only elements that can appear in Spec of CP are operators, of which focused elements are good candidates. Thus, the word order restriction in (2.70) can easily be explained if the verb is placed in C°; only focused elements can appear before the finite verb. Note that the subject can appear in front of să once focused, as in (2.71).

(2.71) Vreau ANA să vină cu noi şi nu Ion.
want-1s Subj-Prt come-3 with us and not
'I want ANA to come with us and not Ion.'

If Terzi's (1992) analysis is correct, this constitutes a case where overt V-to-I-to-C movement takes place without wh-movement.[42] Then, we now have four logical possibilities which are expected under the hypothesis that XP movement to Spec of CP and X° movement to C° are dissociated. This in turn indicates that movement to C° has to have an inherent motivation. Our modified Case theory provides such a motivation, with parametrized V-feature value of C°.

2.5.4. Welsh

[42] Aux-to-C° in Italian infinitives discussed by Rizzi (1982) is another instance, though movement is restricted to auxiliary verbs in this case.

Last of all, we will look at a case which potentially involves V-to-I-to-C movement in overt syntax not accompanied by Topicalization. This argument needs a background discussion.

2.5.4.1. Spec of TP

Jonas and Bobaljik(1993) argue that Spec of TP is universally unavailable at LF,[43] based on Icelandic data. A very significant consequence of this hypothesis is that the subject of a transitive predicate has to reach at least Spec of TP before the SPELL-OUT point. The force that drives this movement is the Economy principle having to do with Relativized Minimality. Consider the following derivation of a transitive sentence, where the subject remains in the original position in VP:

(2.72) a. $[_{Agr\text{-}sP}(DP_{expl})$ V+Agr+Tns+Agr $[_{TP}$ Spec t $[_{Agr\text{-}oP}$ Spec t $[_{VP}$ DP_{Subj} t DP_{Obj}

b. $[_{Agr\text{-}sP}(DP_{expl})$ V+Agr+Tns+Agr $[_{TP}$ Spec t $[_{Agr\text{-}oP}$ DP_{Obj} t $[_{VP}$ DP_{Subj} t t

(II) (I)

c. $[_{Agr\text{-}sP}(DP_{expl}+)DP_{Subj}$ V+Agr+Tns+Agr $[_{TP}$ Spec t $[_{Agr\text{-}oP}$ DP_{Obj} t $[_{VP}$ t t t

c'. $[_{Agr\text{-}sP}(DP_{expl}+)DP_{Subj}$ V+Agr+Tns+Agr $[_{TP}$ Spec t $[_{Agr\text{-}oP}$ DP_{Obj} t $[_{VP}$ t t t

(2.72a) is the representation before SPELL-OUT. Let us assume that the finite verb is already raised to Agr-s, since this is the case in Icelandic. The step in (2.72b) is an LF operation which raises the object over the subject

[43] Their discussion is a development of Bures' (1993) proposal that availability of Spec of TP in overt syntax is parametrized.

into Spec of Agr-oP. This causes no problem, since the verb is already raised, making Spec of VP and Spec of Agr-oP equidistant. The next steps, in (2.72c/c'), are problematic. In (2.72c), the subject is moved to Spec of Agr-sP through Spec of TP. By hypothesis, however, Spec of TP is not available at LF, and hence the impossibility of the derivation (2.72c). The one step movement in (2.72c') is also problematic, for a different reason. This movement crosses over the object in Spec of Agr-oP. Since Spec of Agr-sP and Spec of Agr-oP are not equidistant even after verb raising, this movement yields a Relativized Minimality violation. Thus there is no way of getting a well-formed sentence when the subject stays in VP in overt syntax.[44] See Bures (1993) and Jonas and Bobaljik (1993) for detailed discussions.

According to Jonas and Bobaljik (1993), the reason why Spec of TP is unavailable at LF is that the NP-feature of T° is discharged in overt syntax, making Spec of TP unlicensed at LF. Since they do not spend much discussion on the role of position licensing in connection with chain formation,[45] we will leave their proposal at that, and present an alternative view, which seems to be more principled.

The whole point of moving through Spec of TP is to avoid Relativized Minimality violation when Spec of Agr-oP is filled with DP. Then, another way of making it impossible to move over the object in Spec of Agr-oP at LF

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[44] Déprez and Pierce's (1993) results concerning acquisition of negation become problematic in this respect. They claim that there is a developmental stage where children leave the subject within VP. If Jonas and Bobaljik are right, Déprez and Pierce's material requires reconsideration.
[45] They need something like Bure's (1993) hypothesis that intermediate positions of chain formation must also carry out some feature checking.

is to make the equidistance mechanism inapplicable at LF. Recall that equidistance is guaranteed by the following:

(2.73) If α, β are in the same minimal domain, they are equidistant from γ. Chomsky (1992, 24)

Note that if Spec of TP and Spec of Agr-oP are in the same minimal domain, it is because there is a chain (Agr-o, t), the head of which is adjoined to T°. Thus, if this chain does not exist, Spec of TP and Spec of Agr-oP are never equidistant. Now, we have been assuming all along that Agr chains disappear at LF because they are just bundles of φ-features plus an [F] feature when Case checking takes place. As such, they do not contribute to interpretation, and therefore in fact they have to disappear. Suppose that Agr chains disappear as soon as their syntactic function is over, namely, after being adjoined to a higher functional category to check off the [F] feature.[46] In the case of Agr-o, this means that there is no point at LF where Spec of TP and Spec of Agr-oP are equidistant, since as soon as Agr-o is raised to T°, it will accomplish its role and disappear. Thus, we can get the same result as Jonas and Bobaljik (1993) without saying that Spec of TP is not available at LF.[47] It is available, but useless in voiding the Relativized Minimality violation, under our alternative view.

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[46] We have to assume that Agr chains only disappear at LF, a not unreasonable assumption, given that overt syntax is not strictly regulated by interpretive considerations, but is related to PF as well.

N. Chomsky and H. Lasnik (personal communication) point out that this move amounts to regarding the disappearance of Agr as an independent process, in which case the LF disappearance is a result of Procrastinate.

[47] For an application of the LF disappearance of Agr chains, see Collins (1993a).

Next, we will turn to our main concern. For this discussion, the choice between Jonas and Bobaljik's account and ours does not matter. The significant point is that LF movement of the subject over the object in Spec of Agr-oP is impossible, and hence the result that the subject has to be placed at least as high as in Spec of TP.

2.5.4.2. Two subject positions in Pembrokeshire Welsh

Now, we are in a position to see that Pembrokeshire dialect of Welsh provides a case where overt V-to-I-to-C raising takes place independently of Topicalization. Here we will draw on Awbery's (1990) account of this dialect rather freely.

Welsh is a VSO language, like Irish. In this dialect of Welsh, negation is indicated by a postverbal particle, as in (2.74), instead of a preverbal particle found in the standard literary dialect of Welsh.

(2.74) Siaradodd hi **ddim** lyweth.
spoke-3sg she not again
'She didn't speak again. Awbery (1990, 3)

This negative particle marks two subject positions. The subject appears in front of the negative marker ddim when it is a pronoun. When the subject is indefinite, however, it appears immediately after the negative particle, as in (2.75).

(2.75) Nethe **ddim** dŵr pishtyll y tro.
would-do-3sg not water spring the turn
'Water from the spring wouldn't do the trick. Awbery (1990, 5)

The definite subject can appear in either position.

(2.76) a. Ate 'y nhad **ddim** i mâs i ddrychid.
went-3sg my father not to outside to look
'My father didn't go out to look.'

b. Fywodd **ddim** 'r 'en grwban bach.
lived-3sg not the old tortoise little
'The little old tortoise didn't survive.' Awbery (1990, 5)

The embedded subject, too, can appear before the negative marker ddim, as in (2.77).

(2.77) Ma 'r bachgen hwnnw 'n gweud 'tho i na wedodd e **ddim** gair
is-3sg the boy that in saying to-1sg me not said-3sg he not word
wrth i llall.
to the other
'That boy says to me that he didn't say a word to the other.'
Awbery (1990, 8)

In this case, there is an additional negative marker na, clause-initially.

If Jonas and Bobaljik's (1993) results about Icelandic reviewed above are in fact universal as they claim that they are, the two subject positions in Pembrokeshire dialect have to be Spec of Agr-sP and Spec of TP, contrary to Rouveret (1991), who claims that the lower subject position is VP-internal. The higher subject position is Spec of Agr-sP, and it follows that the verb raising which Sproat (1985) proposes to derive the verb-initial order of

Welsh has to be movement to Comp. (2.74) has the following structure under this analysis:

(2.78) [CP Siaradodd [Agr-sP hi t[Agr-s] **ddim** [TP t[Tns] [Agr-oP t[Agr-o] [VP t[V] lywet]]]]

Thus this dialect[48] of Welsh provides another piece of evidence that verb raising to Comp is independent of Topicalization, and hence that the finite verb always ends up adjoined to Comp at LF.

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[48] It is plausible to think that the standard dialect has the same syntax, except that it does not have a postverbal particle which detects the two subject positions.

Incidentally, there is a question about the position of the negative marker ddim. It seems to be adjoined to TP in this case. In Icelandic, on the other hand, the negative marker ekki seems to be adjoined to VP. The question is about the possible adjunction positions for negative markers. In Chapter 1, the possible positions for a negative head are discussed, but the considerations there do not carry over to adjoined elements.

Appendix to Chapter 2

Topicalization and Larsonian CP Recursion

This appendix will look at the evidence that Topicalization in English is a movement into Spec of CP. We will focus on the interaction of CP recursion with factive predicates and Topicalization, and argues for a Larsonian analysis of CP recursion. Specifically, it will be proposed that CP recursion is created by substitution movement of C° and that factive verbs require CP recursion to host a factive operator in Spec of the lower CP, as in [CP that$_i$ [CP Op [C' t_i. The point of the proposal is to tie together various properties of factive complements that are noted in the literature but are left unrelated.[1] To the extent that our proposal is on the right track, it supports the substitution analysis of Topicalization over other approaches.

This appendix is organized in the following way. In section 1, we will look at the origin of the issue of CP recursion, namely, embedded Topicalization. Section 2 will consider the behavior of factive complements in connection with embedded Topicalization and link that with another property of factive complements. Here, Larsonian CP recursion is motivated. Section 3 suggests another area where the idea of Larsonian CP recursion is useful, in connection with Topicalization. Section 4 considers theoretical consequences of our proposal.

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[1] But see Iatridou and Kroch (1992a, b).

A.1. Embedded Topicalization and CP Recursion

In this section, we will focus on the problem of embedded Topicalization in English and see that the CP substitution analysis is in fact needed and desirable.

A.1.1. Origin of the Issue

Since Higgins (1973) analyzed Topicalization as movement to Comp, there has been much debate as to the landing site of Topicalization in view of cases like (A.1).

(A.1) John said that this book, Mary should have read.

Chomsky (1977) proposes a variant of Comp substitution analysis by making use of phrase structure rules like (A.2).

(A.2) a. S'' --> Top S'
b. S' --> Comp $\left\{ \begin{matrix} S'' \\ S \end{matrix} \right\}$

Under this proposal, what undergoes movement is an empty operator, with a Topic base-generated under S''. This proposal tries to capture the parallelism between Left Dislocation and Topicalization. But Lasnik and Saito (1992) show that the two processes are not entirely parallel. We therefore disregard this version of Comp substitution analysis.

With S' translated as CP to conform to the current X-bar theory, the Comp substitution analysis of Topicalization requires CP recursion, as in (A.3).

(A.3) John said [$_{CP}$ that [$_{CP}$ this book, [$_{Agr\text{-}sP}$ Mary should have read]]]

Thus, we will use the name of CP substitution analysis to label the analysis that stems from Higgins (1973).

Now, the CP substitution analysis faces certain serious problems. First, we have to make sure that a Topic appears to the right, never to the left, of the complementizer that, as in (A.3). Cases like (A.4) are not allowed.

(A.4) a. *John said [$_{CP}$ this book [$_{CP}$ that [$_{Agr\text{-}sP}$ Mary should have read]]]

b. *John said [$_{CP}$ this book [$_{C'}$ that [$_{Agr\text{-}sP}$ Mary should have read]]]

Note also that a wh-phrase appears to the left of a Topic.

(A.5) a. He's a man to whom liberty we could never grant. Baltin (1982)

b. *I don't know this book who has read.

Second, we have to block multiple Topicalization, which is illustrated in (A.6).

(A.6) *?On the desk, this book, John put.

To give a solution to the first problem, Baltin (1982) proposes to analyze Topicalization as adjunction to S (= Agr-sP in the current system). The position of a Topic in embedded clauses as in (A.1) and (A.5) follows. Lasnik

and Saito (1992) propose to account for the impossibility of (A.6) through Subjacency.

The Agr-sP adjunction approach nevertheless faces still another problem. Consider the following.

(A.7) a. ?And this book, to whom should Bill give?

b. *To whom this book should Bill give?

c. *To whom should this book Bill give?

On the assumption that wh-phrases are always moved to Spec of CP and that Subject Aux Inversion (SAI) is movement to C°, the Agr-sP adjunction analysis predicts that (A.7c) is the only possible order. The expectation is not fulfilled, however. Note that embedded questions exhibit the opposite order, as expected from the Agr-sP adjunction analysis.

(A.8) a. *I wonder this book to whom we should give.

b. ?I wonder to whom this book, we should give. Pesetsky (1989)

It should also be noted that it is not obvious under the CP substitution analysis how to account for the order restriction in (A.7). The situation is a little better, however, since placing a further restriction could potentially solve the problem, whereas the Agr-sP adjunction has to make a drastic change, as we will see.

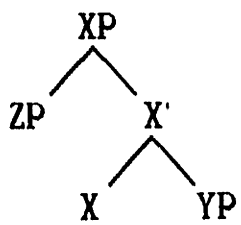
The root/non-root asymmetry problem led Watanabe (1988) and Pesetsky (1989) to a modification of the Agr-sP adjunction analysis. The claim is that matrix questions offer a different landing site for wh-phrases,

namely, Spec of Agr-sP.[2] Then, it follows that (A.7a) is the only possibility, with the following structure.

(A.9) And [$_{Agr\text{-}sP}$ this book, [$_{Agr\text{-}sP}$ to whom [$_{Agr\text{-}s'}$ should Bill give]]?

These constitute an initial descriptive challenge to the analysis of Topicalization, and the Agr-sP adjunction analysis offers some ways of handling most of them. At the theoretical level, however, the mechanics that are devised for the Agr-sP adjunction analysis are problematic. First of all, under the minimalist approach of Chomsky (1992), which we are assuming in this thesis, every movement has to be triggered by the ultimate LF requirements. S-structure movement is only an overt manifestation of these requirements. Now, crucially under this approach, XP movement is always triggered by the need to check off some feature by matching with some X° element, in the general configuration (A.10).

(A.10)



Here, a checking relation holds between ZP and X. It is not clear what checking relation holds between Agr-s and a Topic, since (tensed) Agr-s

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[2] Pesetsky (1989) and Watanabe (1988) use the IP system and do not adopt the split INFL hypothesis.

Diesing (1990a) analyzes embedded Topicalization in Yiddish as movement to Spec of IP. See Rögnvaldsson and Thráinsson (1990) for the same analysis of Icelandic. See Vikner (1990) for various approaches to the phenomenon of embedded V2.

already has a function of checking Nominative Case.[3] Spec of Agr-sP is a place for A-movement. Secondly, the modification proposed in Watanabe (1988) and Pesetsky (1989) is also problematic under this framework. Heads and maximal projections independently possess certain features, and the derivation is successful only when these independently generated features are matched. There is, however, no way in which Agr-s can check off its feature when a wh-phrase is placed in Spec of Agr-sP. Thus, the empirical advantages which the (modified) Agr-sP adjunction analysis of Topicalization can claim are offset by the dubious theoretical status of its machinery. Cf. Fukui (to appear).

The CP substitution analysis, on the other hand, faces no such theoretical problem. Topicalization arises if and only if there is an additional CP whose head has a feature that has to be matched with a Topic. Positing a [+Topic] feature is innocuous for C°, for CP participates in the A-bar system. For this reason, the CP substitution analysis is the only viable option under the current framework. The task is to restrict the range of CP recursion so that we can achieve some degree of descriptive adequacy. That is the goal of this appendix. In the next section, we will look at some restrictions on embedded Topicalization, that is to say, on CP recursion.

A.1.2. Embedded Topicalization and Factive Complements

Authier (1992) argues for the CP substitution analysis of Topicalization by observing that Topicalization is restricted to the same embedded

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[3] The point becomes more acute if we rule out the possibility of a checking relation between a head and an element adjoined to its maximal projection. Chomsky (1992) leaves open this possibility.

environments as Negative Inversion. On the assumption that V2 configuration always arises at the CP level (cf. Besten 1983), the existence of Negative Inversion itself argues for the necessity of CP recursion. Now if Topicalization obeys the same restriction, then we can assume that embedded Topicalization also involves CP recursion, which in turn lends support to the CP substitution analysis.

Authier, drawing on Hooper and Thompson (1973), observes that only the embedded clauses that allow deletion of the that complementizer also allow Negative Inversion and Topicalization.[4,5] Thus, factive complements[6] (Kiparsky and Kiparsky (1970)) do not allow either of them, in contrast to cases like (A.11).

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[4] Vikner (1990) also observes that only a restricted class of verbs allow embedded V2 in the Mainland Scandinavian Languages and German. See the text of Chapter 2. The Mainland Scandinavian languages are especially significant here, since the embedded Topic appears to the right of a complementizer, as in a Danish example (i).

(i) Vi ved [at [denne bog har han ikke læst]]
we know that this book has he not read

It is also significant that the class of verbs that do not allow embedded V2 in these languages seems almost the same as the class of verbs that do not allow embedded Topicalization in English.

[5] It should be noted that the strength of judgments varies from speaker to speaker, depending on predicates. It should also be noted that Negative Inversion seems to be less sensitive to the restriction, as pointed out by D. Pesetsky (personal communication) and a reviewer of Authier (1992, note 5). We will ignore these subtleties.

[6] Hooper and Thompson (1973) and Hooper (1974) note that the class of verbs that is dubbed as semifactives by Karttunen (1971) do allow embedded Topicalization. These are verbs like know, learn, realize, find out, discover. The class of factive verbs which allow adjunct extraction out of their complements according to Hegarty (1992) seems to coincide with the class of semifactives, a correlation which will become significant later.

(A.11) a. John said that Sue, Bill doesn't like.

b. Mary kept saying that never in her life had she seen such a thing.

(A.12) a. *John regretted that Gone with the Wind, we went to see.

b. *John regretted that never had he seen Gone with the Wind.

(A.13) a. *The fact that Bill, Mary likes makes John very jealous.

b. *The fact that never has he had to borrow money makes him very proud.

In fact, it is not only factive complements that disallow embedded Topicalization. According to Hooper and Thompson (1973), predicates like possible and likely also block embedded Topicalization.

(A.14) a. *It's likely that Sue, Mary likes.

b. *It's likely that seldom did he drive that car.

These predicates, however, allow deletion of that.

(A.15) It's likely Mary likes Sue.

Investigation of exactly what types of complement clauses block embedded Topicalization is beyond the scope of this appendix. See Hooper and Thompson (1973) and Hooper (1974) for some lists. We will rather concentrate on the properties of factive complements, hoping that future research will extend empirical coverage.

To sum up, we have seen that CP recursion is apparently blocked in factive complements. The question is why this is so. We will turn to this question in section 2. Before doing so, however, we will clear up the problems of word order in Topicalization, again drawing on Authier (1992).

A.1.3. Clause Typing

As we noted in section 1.1, embedded Topics appear to the right of the complementizer that and wh-phrases. The examples are repeated below.

(A.16) a. John said that this book, Mary should have read.

b. *John said this book that Mary should have read.

(A.17) a. ?I wonder to whom this book, we should give.

b. *(?)I wonder this book to whom we should give.

According to the CP substitution analysis, the well-formed Topicalization has the following structures:

(A.18) a. ... [CP [C' that [CP Topic [C' ø [Agr-sP

b. ... [CP wh-phrase [C' ø [CP Topic [C' ø [Agr-sP

A first challenge to the CP substitution analysis is to account for this ordering.

Here we already have the answer. In the case of declarative clauses, Authier (1992) argues, attributing the idea to a reviewer, that Topics appear in the lower CP, since the higher CP, selected as a non-wh clause, cannot host anything in its Spec. A similar account is carried over to the cases of indirect questions, too. In (A.18b), the Topic phrase appears in the lower CP, since the higher CP, selected as a wh-clause, must host a wh-phrase in its Spec. Adopting this idea, let us say the following:

(A.19) Clause Types

There are only two types of clauses to be selected by a verb, namely, wh-clauses and non-wh clauses. The former are characterized by the presence of a wh-phrase in Spec of the topmost CP. The latter are characterized by empty Spec of the topmost CP.

This belongs to the theory of clause typing in the sense of Cheng (1991), who proposes that wh-clauses have to be marked either by C° or elements in Spec of CP. As we will see, we seem to need such a theory, independently of semantic selection.

Let us now turn to the question why embedded Topicalization is impossible in factive complements.

A.2. Factive Complements and Larsonian CP Recursion

In order to understand the restriction which factive complements impose on CP recursion, we will look at various properties of factive predicates in this section and the next. We claim that the key to understanding the problem lies in the recognition that CP recursion is more wide-spread than hitherto considered.

A.2.1. Factive Operator

A significant property of factive complements which is widely discussed in the recent literature is the fact that adjunct extraction out of factive

complements is blocked.[7] Thus (A.20) cannot be interpreted such that why modifies the lower clause.

(A.20) *Why does John regret [that Bill issued the order t]?

Recently, Cinque (1990), Hegarty (1991, 1992), and Melvold (1991), among others, have proposed various solutions, but here we will pick out Melvold's and modify it. If we are on the right track, other proposals must be off the track.

Melvold argues that factive complements have an operator in Spec of CP, as in (A.21).

(A.21) John regrets [$_{CP}$ Op that [$_{Agr\text{-}sP}$ he fired Mary]]

She intends, by positing the operator, to represent the definiteness of factive complements since their truth is presupposed.[8,9] She argues that the

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[7] It should be mentioned that there are a class of nonfactive complements that block adjunct extraction, as Cattell (1978) points out. See Hegarty (1991, 1992) for a recent discussion. Hegarty (1992) observes that adjunct extraction blockers are definite in some sense, for which he invents the term "familiar complements". Then, our account of factive complements can be extended to these cases. Crucially, Hegarty (1992) observes that they also disallow CP recursion phenomena.

[8] She generalizes the account to definite DPs, which even block extraction of arguments, as shown by the following contrast.

(i) a. ??Who did John find the picture of?

b. Who did John find a picture of?

[9] Cinque (1991) points to German for the evidence that factive complements are higher than V'. In German, definite DPs undergo scrambling. If a factive complement as definite phrase is no exception, then it should undergo scrambling, accounting for its height. At the same time,

presence of an operator in Spec of CP blocks adjunct extraction, just as wh-islands block adjunct extraction in (A.22).[10]

(A.22) *Why did Bill wonder [who fired Mary t]?

Melvold's proposal does not extend to the impossibility of embedded Topicalization within factive complements in its original form,[11] but there is a way of modifying it. Recall that in section 1.3, we adopted a theory of clause types, which is repeated below.

(A.19) Clause Types

There are only two types of clauses to be selected by a verb, namely, wh-clauses and non-wh clauses. The former are characterized by the presence of a wh-phrase in Spec of the topmost CP. The latter are characterized by empty Spec of the topmost CP.

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we are led to suppose that factive complements in English occupy the same position that ordinary complement clauses do, contrary to Cinque's claim.

[10] The data on argument extraction is not clear cut. Cinque (1990) assumes that argument extraction from factive complements is possible, while Melvold notes individual variation. It is possible that the subtlety here is comparable to what we find with wh-islands. Cf. Rooryck (to appear) for subject/object asymmetry.

[11] Iatridou (1991) and Iatridou and Kroch (1992a, b) also note the correlation of adjunct extractability and embedded Topicalization, claiming that ungoverned clauses prevent licensing of the lower CP. This stipulation becomes unnecessary under our proposal.

Their analysis predicts that CP recursion is impossible in matrix clauses, but the cases like (i) indicate that CP recursion is needed for matrix clauses as well, though space limitation prevents us from going into discussion of the word order difference from (7).

(i) ?This book, to whom should Bill give?

Note that the clause structure illustrated in (A.21) is not compatible with (A.19). A factive complement is a non-wh one but an iota operator occupies Spec of the single CP. This problem can be avoided by placing the iota operator in Spec of the lower CP, that is, by resorting to CP recursion. The structure of a factive complement should then be as follows:

(A.23) John regrets [$_{CP}$ that [$_{CP}$ Op [$_{Agr\text{-}sP}$ he fired Mary]]]

Then, the topmost CP has nothing in its Spec, conforming to (A.19).

Now, our proposal that places the iota operator in the lower CP enables us to explain the impossibility of Topicalization in factive complements, which Melvold's proposal cannot explain. Suppose that CP recursion is allowed only once. Then, if we try to Topicalize within a factive complement, there will be no slot for a Topic, as can be seen from (A.23). A Topic cannot be placed in Spec of the higher CP as in (A.24), since factive clauses are non-wh.

(A.24) *John regrets [$_{CP}$ Mary that [$_{CP}$ Op [$_{Agr\text{-}sP}$ he fired t]]]

A Topic cannot be placed in Spec of the lower CP either, since that position is already taken up by a factive operator.

To sum up, our proposal that factive complements require CP recursion to host a factive operator in Spec of the lower CP accounts for the impossibility of adjunct extraction out of factive complements and the impossibility of Topicalization within factive complements at the same time.[12]

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[12] Our account cannot explain the fact noted by Vikner (1990) that embedded Topicalization is allowed even in factive complements in Icelandic

Now we have a clearer picture of CP recursion that appears in factive complements. It arises from two competing selectional properties of factive complements. On the one hand, factive clauses are non-wh, and therefore Spec of CP has to be empty according to the theory of clause typing. On the other hand, factive clauses are selected as definite, requiring a factive operator to appear in Spec of CP. CP recursion is the only way to satisfy these two requirements at the same time. The position of the factive operator is also determined by the nature of these two selectional properties. Definiteness does not say anything about the position of the operator, as long as it is located in Spec of CP. Clause typing concerns the shape of the entire clause, indicating the modal force of the clause at its edge. Thus, the requirement of clause typing applies to the higher CP, putting the factive operator in the lower CP.

A.2.2. Larsonian CP Recursion

Now, how can we express the selectional nature of the definiteness of factive complements? As it stands, the structure of CP recursion prevents a direct selectional relation from holding between the higher verb and CP_2 in (A.25).

(A.25) ... regret $[_{CP1}$ that $[_{CP2}$ Op $[_{C'}$ $[_{Agr\text{-}sP}$ ...

To solve this problem, I propose that CP recursion is created by movement of a complementizer with the resultant structure (A.26).

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and Yiddish. See Diesing (1990a) for Yiddish, and Rögnvaldsson and Thráinsson (1990) for Icelandic.

(A.26) $[_{CP}\ that_i\ [_{CP}\ Op\ [_{C'}\ t_i\ [_{Agr\text{-}sP}$

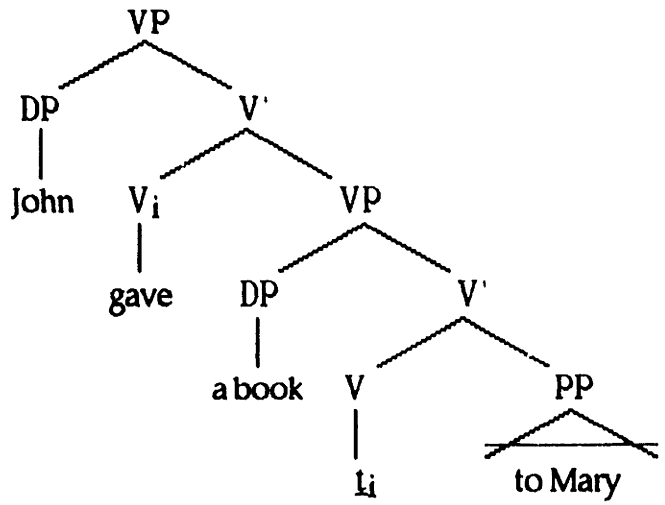
Recall that we have conflicting demands from the theory of clause typing and selection of definiteness. Selection of definiteness requires the structure in (A.27).

(A.27) $[_{CP}\ Op\ [_{C'}\ that\ [_{Agr\text{-}sP}\ldots$

This, however, violates another selectional requirement coming from the theory of clause typing. To resolve this violation, the complementizer undergoes movement, creating (A.26) above. Here there is a sense in which CP_2 is also selected by the higher verb, since it is also a projection of the complementizer $\underline{that_i}$, which holds a direct selectional relation with the verb.

Note that the way that recursive CP structure arises is similar to Larson's (1988) analysis of three-place predicates like give. Larson proposes that the binary-branching nature of X-bar theory and the demand of argument realization which forces every argument of a verb to be projected within the VP headed by that verb (the VP-internal subject hypothesis) assign the following underlying structure to examples like John gave a book to Mary.

(A.28)



The Larsonian analysis of CP recursion brings to light another parallel between the two instances of recursion. In the account of the impossibility of embedded Topicalization in factive complements proposed in section 2.1, we have crucially assumed that CP recursion takes place only once. Without this assumption, (A.12a), repeated below, would erroneously be allowed with the structure like (A.29).

(A.12) a. *John regretted that Gone with the Wind, we went to see.

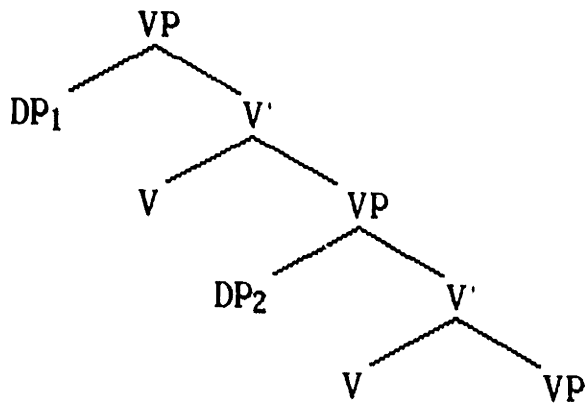
(A.29) John regretted [$_{CP}$ that$_i$ [$_{CP}$ Op [$_{C'}$ t_i [$_{CP}$ Gone with the Wind, [$_{C'}$ t_i [$_{Agr\text{-}sP}$ we went to see]]]]]]

Now, an analogous problem occurs in the case of VP recursion as well.[13] Hale and Keyser (1991) claim that VP recursion is allowed only once, in order to restrict the argument structure of a single verb. Thus they observe that no verb corresponds to the structure like (A.30).

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[13] Larson's original proposal allows an infinite number of VP recursion and is intended to accommodate adverbs as well in VP structure. Given Hale and Keyser's (1991) claim, this aspect of Larson's analysis has to be abandoned.

(A.30)



Their explanation is that VP never functions as a predicate and therefore the inner subject, namely, DP_2, is not licensed. By the same reasoning, the external argument DP_1 is not licensed either. In fact, Hale and Keyser propose instead that the external θ-role is constructionally assigned in Spec of IP, leaving the status of the VP-internal subject hypothesis unclear.

Their position is in a conflict with Larson's (1988) principle of argument realization, which requires every argument of a predicate to appear within a projection of that predicate, including the external argument. Remember that it is this principle in combination with X-bar theory which forces VP recursion. Notice that the VP-internal subject hypothesis also follows from this principle. Recall furthermore from Chapter 1 that there is a piece of evidence that the original trace of the subject lies within VP. For this reason, we will not adopt Hale and Keyser's explanation[14] but simply state the following as a general property of recursion to be explained.

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[14] Hale and Keyser also try to account for the impossibility of causativization of unergative verbs by saying that VP is not a predicate. This aspect will not be covered by (31) below.

(A.31) Category recursion by substitution operation is allowed only once with a single lexical item.

Although it is not clear why (A.31) holds, (A.31) restricts CP recursion as well, giving us the right result. In the next section, we will offer speculative remarks about (A.31).

A.2.3. Comp-Trace Effect with Embedded Topicalization

The Larsonian analysis explains the "that-trace effect" observed with embedded Topicalization. Lasnik and Saito (1992) claim that local Topicalization of subjects is impossible, on the basis of the contrast in (A.32).

(A.32) a. ?Which athletes do you wonder which pictures of Mary bought?

b. ??Which athletes do you think that pictures of, Mary bought?

c. ?Which athletes do you wonder which pictures of are on sale?

d. ?*Which athletes do you think that pictures of, are on sale?

They argue that (A.32d) cannot have the structure (A.33), since extraction out of a phrase in an A'-position is marginally allowed as in (A.32a-c) but (A.32d) is significantly worse than them.[15]

(A.33) Which athletes$_i$ do you think that [pictures of t_i]$_j$ t_j are on sale

15 According to N. Chomsky and C. Collins (personal communication), this contrast is very weak, even if real at all. Thus, there is some doubt about the factual basis. The Comp-trace effect shows up again, however, in French negative concord elements. See below.

Lasnik and Saito have an account of the impossibility of (A.33), based on the Agr-sP adjunction analysis of Topicalization. Specifically, they claim first that an antecedent governor must be a head, and second, that the Agr-sP adjunction analysis of Topicalization has a consequence that a preposed Topic is not coindexed with a head which can act as the antecedent governor of the subject trace. This fact thus poses a significant challenge to the CP recursion analysis of Topicalization.

The Larsonian analysis of CP recursion provides a straightforward account of why (A.33) is impossible, assimilating it to the ordinary that-trace effect. For the present purposes,[16] we will adopt Rizzi's (1990) analysis of the that-trace effect, which states that the complementizer that, which is inert for government, cannot head-govern the subject trace, ruling out cases like (A.34).

(A.34) *who do you think [that t left]?

Suppose that the trace of the complementizer that inherits the property of that, including inertness for government. Then, the structure (A.35), which is assigned to (A.32d) under the Larsonian analysis, is ruled out due to the fact that the subject trace t_j is not head-governed.[17]

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16 See Chapter 3 for a more general approach.

17 This explanation is a little tricky, since the complementizer that cannot appear even when a non-subject head of an interrogative chain occupies the Spec, as in (i).

(i) I wonder who (*that) John loves.

(A.35) Which athletes do you think [CP that$_i$ [CP [pictures of$_j$ t$_i$ [Agr-sP t$_j$ are on sale]]]

Notice that the CP recursion analysis of Topicalization which does not assume movement of C° cannot explain the ill-formedness of (A.35) in a non ad-hoc way.[18] Thus the Larsonian CP recursion receives strong support.

Perhaps the familiar that-trace effect appears when either C° or the element in Spec is a non-head of a chain.

[18] The same criticism applies to the Polarity Phrase analysis of Culicover (1991).

Our analysis here at first sight appears to be incompatible with Browning's (1993) account of the adverb effect in the that-trace phenomenon. It has been known at least since Bresnan (1977) that an intervening adverb rescues the that-trace violation to some extent, as in (i).

(i) This is the tree that I said that just yesterday t had resisted my shovel.
Culicover (1991, 51)

See Culicover (1991, 1992) for recent discussions. Browning (1993), adopting the Larsonian analysis of CP recursion, attempts to account for the adverb effect by saying that in the configuration (ii), the complementizer that acquires the ability to head-govern through the Larsonian movement.

(ii) [CP t$_i$ that$_i$ [CP Adv t$_i$ [Agr-sP t$_i$

In (ii), the trace in Spec of the top CP agrees with the complementizer that, which in turn is coindexed with its trace, namely, the head of the lower CP, which head-governs the subject trace in Spec of Agr-sP. This is in direct conflict of the text account, which assumes that the that complementizer cannot head-govern even when it creates a recursion structure.

There is a crucial difference between (A.35) and (ii), though. In (ii), there is an intermediate trace in Spec of the higher CP, whereas there is no such element in (A.35). Perhaps this trace is playing a crucial role, but the full account is beyond the scope of this thesis. In addition to this problem, it is not clear how to reconcile Browning's (1993) account with the account of the that-trace effect to be proposed in Chapter 3. This again is another topic for future research.

A.2.4. Speculation about the Limitation on Category Recursion

It is well known that factive complements do not allow deletion of the complementizer, as the following example from Authier (1992) shows.

(A.36) John regretted *(that) we went to see Gone with the Wind.

Relatively overlooked is the fact that that deletion is not allowed when embedded Topicalization takes place, as illustrated in (A.37).[19]

(A.37) a. John said *(that) this book, Mary should have read.

b. John said (that) Mary should have read this book.

Recall that factive complements and embedded Topicalization both involve CP recursion. The generalization here is the following:

(A.38) CP recursion disallows deletion of the complementizer of the higher CP.

Above, we have reached the conclusion that category recursion is allowed only once. Now, the fact about that deletion seems to be pointing to the relevance of head identification in this connection. An intuitive feeling about

[19] Reinholtz (1990) notes the same contrast in Comp deletability in Mainland Scandinavian languages. Rochemont (1989) notes the English fact. Thanks to M. Authier (personal communication) for bringing the latter reference to my attention.

deletability of that in cases where no CP recursion is involved is that a CP structure is somehow phonologically recoverable from the context. That is, the presence of a higher verb which selects a CP complement is sufficient to identify a CP structure even when there is no visible complementizer. A recursive CP structure, on the other hand, is unrecoverable if there is no visible complementizer. This is nothing more than a speculative remark, but the same line of thought can explain lack of repeated CP recursion, as in (A.39).

(A.39) *$[_{XP1}$ X°_{i} $[_{XP2}$ t_i $[_{XP3}$ t_i $[_{YP}$ . . .

Assuming that traces are on a par with null complementizers in the relevant phonological respects, (A.39) is basically the same as the schematic structure (A.40) for the impossible cases of that deletion.

(A.40) *$[_{CP1}$ $\emptyset_i$ $[_{CP2}$ t_i $[_{Agr\text{-}sP}$ . . .

Both in (A.39) and in (A.40), there are two coindexed null heads. In this configuration (XP_2 and XP_3 in (A.39); CP_1 and CP_2 in (A.40)), the lower null head fails to be identified because the immediately dominating, coindexed head is null, causing the trouble.[20]

It should be noted that the configuration in (A.39) must be distinguished from that in (A.41).

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[20] This claim raises questions about CP recursion in the root clause. We assume that CP recursion is possible in the root context, but no overt complementizer shows up. The prohibition against (A.40) must somehow be linked to its embedded context. Unfortunately, we have no suggestion at this point.

(A.41) $[_{ZP}\ Z^{\circ}+X^{\circ}_{i}\ [_{XP1}\ t_{i}\ [_{XP2}\ t_{i}\ [_{YP}\ \ldots$

This configuration arises when a ditransitive verb which creates a Larsonian shell like (A.28) raises to Agr-o. This structure must be allowed, in contrast to (A.39). The identification requirement can distinguish (A.41) from (A.39). Notice that the adjunction structure $Z^{\circ}+X^{\circ}$ contains two heads. In this sense, it makes sense to say that the head trace in XP_1 is not empty. That is, there are two heads corresponding to two maximal projections ZP and XP_1 in (A.41), whereas there is only one head for two maximal projections XP_1 and XP_2 in (A.39).

Although it is beyond the scope of this appendix to explore the formal status of this identification requirement, the parallel between (A.39) and (A.40) is worth noting here.

A.2.5. Complementarity of Embedded V2 and an Overt C° in German

The Larsonian analysis of CP recursion may shed a light on an interesting parametric difference between German and Mainland Scandinavian with respect to embedded V2.

As we have seen in Chapter 2, the embedded Topic in Mainland Scandinavian follows the complementizer. The complementizer in that construction cannot be omitted, as noted by Reinholtz (1990). Here are Danish examples.

(A.42) a. Karen siger *(at) [den bog$_{i}$ har$_{j}$ Peter ikke t$_{j}$ læst t$_{i}$]
Karen said that that book has Peter not read

b. Karen siger (at) [Peter ikke har læst den bog]

Karen said that Peter not has read that book

Reinholtz (1990, 461)

(A.42b) is a version which does not involve embedded V2, allowing omission of the complementizer. In (A.42a), omission is impossible, since embedded V2 takes place.

In German, on the other hand, it is well-known that embedded V2 disallows the appearance of the complementizer.[21]

(A.43) Hans sagt (*dass) [diesen Film$_i$ hat$_j$ Maria nie t_i gesehen t_j]

Reinholtz (1990, 460)

This complementary distribution of embedded V2 and the complementizer in German is supposed to support Besten's (1983) claim that the verb movement involved in V2 is a movement to C°.

Given this difference, an obvious question is what accounts for this contrast between Mainland Scandinavian and German. Reinholtz (1990), assuming Belletti's (1990) version of the split INFL hypothesis where AgrP dominates TP, which in turn dominates VP, claims that embedded V2 in Mainland Scandinavian involves movement of the Topic to Spec of AgrP, in a way analogous to Diesing's (1990a) analysis of Yiddish. This kind of analysis,

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[21] Ordinary embedded clauses cannot omit the complementizer.

(i) Hans sagt *(dass) [Maria nie diesen Film gesehen hat]

This must be an idiosyncratic property of the German complementizer.

cannot be accepted, on the ground that Spec of AgrP is a position for arguments, not for operators like Topics.

It should also be emphasized that the restriction on embedded V2 in German is the same as in Mainland Scandinavian. Recall from Chapter 2 that basically only bridge verbs allow embedded Topicalization in Mainland Scandinavian and in English. The lists for Mainland Scandinavian are repeated below.

(2.62) Danish verbs which allow embedded V2

påstå 'claim', berette 'report', sige 'say', tro 'think', formode 'assume', føle 'feel', vide 'know', erfare 'learn', etc.

(2.63) Danish verbs which do not allow embedded V2

beklage 'be sorry', bekræfte 'confirm', fortryde 'regret', tvivle på 'doubt', bevise 'prove', forklare 'explain', tilgive 'forgive', etc.

It is interesting to note that German has roughly the same class of predicates which allow embedded V2. Here are the lists from Vikner (1990).

(A.44) German verbs which allow embedded V2

behaupten 'claim', berichten 'report', sagen 'say', glauben 'think', vermuten 'assume', spüren 'feel', wissen 'know', erfahren 'learn', etc.

(A.45) German verbs which do not allow embedded V2

bedauern 'be sorry', bestätigen 'confirm', bereuen 'regret,' bezweifien 'doubt', beweisen 'prove', erklären 'explain', vergeben 'forgive', etc.

See also Haider (1985, 53) for similar lists of German verbs. Thus, if German embedded V2 also involves CP recursion, Mainland Scandinavian and

German will receive a common explanation. The challenge then is to account for the contrast in the presence of the complementizer noted above.

Our Larsonian analysis of CP recursion can provide a straightforward account of this contrast. Suppose that Mainland Scandinavian must satisfy the clause-typing requirement (A.19), repeated below, in overt syntax, at least for non-wh clauses.

(A.19) Clause Types

> There are only two types of clauses to be selected by a verb, namely, wh-clauses and non-wh clauses. The former are characterized by the presence of a wh-phrase in Spec of the topmost CP. The latter are characterized by empty Spec of the topmost CP.

The complementizer must undergo a substitution operation to create a recursive CP structure in overt syntax. In German, on the other hand, this requirement can be met at LF. Given the principle of Procrastinate, the complementizer creates CP recursion only at LF. Thus, the German example (A.43) has the following structure in overt syntax.

(A.46) Hans sagt $[_{CP}$ diesen Film$_i$ $[_{C'}$ø+hat$_j$ $]$ $[_{Agr\text{-}sP}$ Maria nie t_i gesehen t_j $]]$

This will be converted into the structure in (A.47) at LF.[22]

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[22] We assume that only the complementizer head undergoes raising. Given the position of the finite verb, the same assumption has to be made for Mainland Scandinavian and negative inversion in English as well. We will come back to this point later.

(A.47) Hans sagt [$_{CP}$ $\emptyset_k$ [$_{CP}$ diesen Film$_i$ [$_{C^\circ}$ t_k+hat$_j$] [$_{Agr\text{-}sP}$ Maria nie t_i gesehe t_j]]

Assuming that the identification requirement discussed in the previous section only applies at PF, we can see that (A.46) presents no problem. The identification requirement rules out a recursive CP structure headed by a null complementizer, but in German, the recursive structure simply does not exist at the point where the identification requirement is checked. The LF representation (A.47) is not subject to this requirement.[23]

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[23] There is an alternative account which makes use of the word order difference. N. Chomsky (personal communication) suggests that the impossibility of that-deletion in (i) is due to a parsing difficulty, pointing to better cases like (ii).

(i) John said *(that) this book, Mary should have read.
(ii) I'm sure the lecture by Kayne, he wouldn't want to miss.

(ii) is OK because there is no possibility of interpreting the Topic as an object of the higher predicate.

It seems at first sight that a similar account can be provided for German and Mainland Scandinavian. Mainland Scandinavian prohibits the complementizer deletion for the same reason as English. It is an SVO language. German, however, is an SOV language, and thus omission of the complementizer does not lead to a parsing difficulty; an object precedes, but does not follow the verb.

A closer look shows that this account is untenable, however. Consider the German example (A.43) again.

(A.43) Hans sagt (*dass) [diesen Film$_i$ hat$_j$ Maria nie t_i gesehen t_j]

In the matrix clause, where V is raised to C°, an object follows the verb. Thus, the same parsing difficulty should hold, but the complementizer is omitted in German.

Besides, this parsing account still leaves unexplained why the complementizer cannot appear in German embedded V2, while it is obligatory when V2 is not involved. Our account explains this by the absence of CP recursion in German non-wh clauses in overt syntax.

This discussion highlights another point about the identification, namely, that it only applies to recursive structures. Recall that (A.39) is ruled out while (A.41) is not.

(A.39) *[$_{XP1}$ X°$_i$ [$_{XP2}$ t_i [$_{XP3}$ t_i [$_{YP}$ . . .

(A.41) [$_{ZP}$ Z°+X°$_i$ [$_{XP1}$ t_i [$_{XP2}$ t_i [$_{YP}$ . . .

The reasoning was that the trace in XP_1 of (A.41) counts as if it were filled by lexical material, because Z°+X° contain two heads. In other words, X° in (A.41) behaves as if it were in the head position of XP_1. Suppose that this is also true in the structure like (A.47) above. Notice that embedded V2 in Mainland Scandinavian involves the structure in (A.48a) in overt syntax, while (A.48b) is ruled out.

(A.48) a. [$_{CP}$ at$_i$ [$_{CP}$ Topic [$_{C°}$ t_i+V] [$_{Agr\text{-}sP}$ . . .

b. *[$_{CP}$ ø$_i$ [$_{CP}$ Topic [$_{C°}$ t_i+V] [$_{Agr\text{-}sP}$ . . .

Note that the finite verb (in fact, the Agr-s complex which contains the finite verb) adjoined to the lower C° does not help identify the trace. It acts as if it were in the Agr-s position. Thus, the identification fails in (A.48b).

Finally, our analysis of the contrast between German and Mainland Scandinavian crucially relies on the idea that the clause typing is a syntactic requirement. Cf. Browning (1993) for a relevant discussion. Given the principle of Greed, the complementizer must undergo substitution movement to satisfy its own requirements. Suppose that complementizers have a feature to check with respect to the Spec-head relation that they have. In wh-clauses, this is a feature that attracts a wh-phrase. In non-wh clauses,

this feature is only satisfied when Spec is empty. Thus, C° in (A.46) must undergo head movement to create the structure in (A.47). Given this characterization of the properties of complementizers, we can say that this feature can be either strong or weak, in a way analogous to V-features and NP-features of inflectional heads. In German, the feature for non-wh clauses is weak, whereas it is strong in Mainland Scandinavian and also in English.[24]

Note also that this analysis predicts there is a language where an embedded Topic appears to the left of an overt complementizer, as in (A.49).

(A.49) $[_{CP}$ Topic C° $[_{Agr\text{-}sP}$ . . .

This happens when verb movement to C° does not take place. It remains to see whether this kind of language really exists.

To sum up, we have seen that the Larsonian analysis of CP recursion can provide a natural account of the contrast between German and Mainland Scandinavian.

A.3. Negative Complementizer

Next, we will turn to another application of CP recursion.

A.3.1. Laka (1990) and Progovac (1988)

The CP substitution analysis can be extended to the negative complementizer proposed by Progovaç (1988) and Laka (1990). Progovaç

[24] If Watanabe (1991, (1992) is right, the feature for wh-clauses is universally strong.

and Laka argue that licensing of negative polarity items in the complement to the verbs like doubt and deny must be dependent on a special property of Comp, by pointing to the contrast between (A.50) and (A.51).

(A.50) a. The witnesses denied that anybody left the room before dinner.

b. The professor doubts that anybody understood her explanation.

(A.51) a. *The witnesses denied anything.

b. *The professor doubts any explanation.

Since (A.42) shows that we cannot treat the verbs themselves as licensor, the hypothesis of positing a special complementizer for these verbs receives support.

The details of the special comp hypothesis are different, however. First, Progovaç proposes that an operator occupies Spec of this special complementizer, while Laka proposes that the complementizer itself is a licensor. Note the similarity of Progovaç's proposal to the factive operator hypothesis discussed above. Second, Laka, but not Progovaç, proposes that long-distance licensing of negative polarity items as in (A.52) also involve the negative complementizer. In other words, negative polarity licensing requires locality (cf. Linebarger (1987)).

(A.52) The witnesses didn't say that anybody left the room before dinner.

Progovaç assimilates cases like (A.52) to long-distance binding in her binding theoretic account of negative polarity licensing.

Here, we will adopt Progovaç's proposal about the negative operator[25] and Laka's treatment of long-distance licensing, with the modification that the negative operator induces CP recursion, due to the requirement of the Clause-typing theory. In the next subsection, we will see justification of our claim.

A.3.2. Interactions with Factive Complements and Topicalization

Since Kiparsky and Kiparsky (1971) and Ross (1967), it has been noted by many people that factive complements do not allow long-distance licensing of negative polarity items.

(A.53) a. ?*Bill didn't confirm that Roger had eaten anything.[26] (Ross 1967)

cf. b. Bill didn't allege that Roger had eaten anything.

c. *I don't regret that the media have ever before played such a major role. (Horn 1978)

cf. d. I don't claim that the media have ever before played . . .

This fact receives an obvious explanation here, as we can easily see. Remember that the complement clauses in (A.53) must host a factive operator in Spec of the lower CP. Our claim about the negative complementizer, on the other hand, is that it has the following structure.

---

25 At the end of this section, however, we will turn to cases which indicate the role of the negative complementizer, more or less in line with Laka's proposal.

26 Cattell (1978) in fact classifies confirm as nonfactive. But our point holds since he also classifies it as an adjunct extraction blocker.

(A.54) $[_{CP}\ Comp_{[neg]_i}\ [_{CP}\ Op\ [_{C'}\ t_i\ [_{IP}\ \ldots$

Since CP recursion is allowed only once and Spec of the higher CP must be empty because of clause typing, there is only one slot for an operator. But the factive operator must exist. We have to conclude then that the negative operator is omissible when not selected by the higher verb and that in the cases like (A.53), the omission leads to failure of negative polarity licensing.

There is another fact which has not received much attention: incompatibility of embedded Topicalization and long-distance negative polarity licensing. This is illustrated in (A.55).

(A.55) a. John didn't think that Tom introduced Mary to anybody.

b. *John didn't think that Mary, Tom introduced to anybody.

Here, the same explanation applies: Topicalization takes up the only slot available for an operator.[27]

---

[27] M. Authier and Y. Takano (personal communications) independently suggested to me that this account might be extended to the following contrast pointed out by Williams (1986) and Lasnik and Uriagereka (1988) and given an Economy account by Epstein (1992a).

(i) a. I don't think that Mary solved any problems.

b. *I don't think that any problems, Mary solved.

Given the licensing of negative concord elements in Romance to be discussed in the next section, however, it is not obvious how to rule (ib) out, since the negative concord elements occupy the same position as the negative polarity item in (ib).

N. Chomsky (personal communication) notes that a similar contrast holds in cases which seem to have nothing to do with negative polarity licensing. He observes that the neg-raising reading is possible in (iia), but not in (iib).

To sum up, we have claimed that the negative complementizer phenomenon discussed by Progovaç (1988) and Laka (1990) also involves CP recursion, hosting the negative operator of Progovaç in the lower CP. It shows a remarkable strength of our proposal that it is able to provide a principled account of the facts concerning, extraction, factivity, embedded Topicalization, and negative polarity licensing.

A.3.3. doubt and deny

Lastly, let us consider the verbs like doubt and deny in light of our proposal. It should be noted that verbs like doubt and deny are classified as disallowing embedded Topicalization by Hooper and Thompson (1973) and Hooper (1974). It should also be noted that these verbs are classified as adjunct extraction blocker by Cattell (1978) and Hegarty (1991). These two properties of the complement to the verbs like doubt and deny are straightforward consequences of the presence of the negative operator.

A.3.4. French Connection

(i) a. I don't think that Bill saw pictures of many countries.
(= I think that Bill saw pictures of not-many countries)
b. I don't think that pictures of many countries, Bill saw.
(not = I think that Bill saw pictures of not-many countries)

It is an open question whether the ultimate analysis of neg-raising obviates the operator analysis of the text.

Laka's (1990) hypothesis that there is a special type of complementizer which takes part in licensing of negative polarity items finds some support from Romance negative concord items.

Kayne (1981a) notes an interesting subject/nonsubject asymmetry exhibited by putative LF movement. Consider the following contrast.

(A.56) a. ?Je n'ai exigé qu'ils arrêtent personne.
'I neg required that they arrest nobody.'

b. *Je n'ai exigé que personne soit arrêté.
'I neg required that nobody be arrested.'

Kayne (1981a) argues that the negative concord element personne undergoes LF movement and is adjoined to the clause that contains ne, the negative scope indicator, as in (A.57).

(A.57) a. [$_{IP}$ personne [$_{IP}$ Je n'ai exigé [$_{CP}$ qu'ils arrêtent t]]]

b. [$_{IP}$ personne [$_{IP}$ Je n'ai exigé [$_{CP}$ que t soit arrêté]]]

The contrast in (A.56) then is a familiar Comp-trace effect.

Ladusaw (1991) casts doubts on the LF representations like (A.57). Specifically, he argues that the representation (A.57a) gives a wrong semantic interpretation. (A.57a) would translate into a logical formula like (A.58).

(A.58) $\neg(\exists y)$ [require (i, $\hat{}(\exists x)$[arrest (x, y)])]

This formula, however, does not account for the semantic anomaly of the continuation of (A.56a) in the following fashion.

(A.59) #Je n'ai exigé qu'ils arrêtent personne, mais j'ai exigé qu'ils arrêtent quelqu'un.

If, on the other hand, (A.56a) translates into (A.60), (A.59) comes out as a contradiction, since the latter clause of (A.59) translates as (A.61).

(A.60) $\neg$ require (i, $\hat{}(\exists y)(\exists x)$[arrest (x, y)])

(A.61) require (i, $\hat{}(\exists y)(\exists x)$[arrest (x, y)])

It seems impossible, however, to get (A.60) from the LF representation (A.57a) in a straightforward fashion.

Now, this problem disappears if it is assumed that personne moves to Spec of the embedded clause. Note that this is an instance of the negative complementizer hosting a negative element in its Spec.[28] Thus, the LF representation for (A.56a) under our account is (A.62).

(A.62) Je n'ai exigé $[_{CP}$ qu' $[_{CP}$ personne $[_{IP}$ ils arrêtent t]]]

Since the negative concord item is still within the embedded clause in (A.62), it is a straightforward matter to get (A.60) from (A.62).

---

[28] It should be noted that the embedded clause of (56) is in the subjunctive mood, which Laka (1990) argues is an indication of the negative complementizer.

Notice then that we can assimilate the ill-formedness of (A.56b) to the impossibility of local Topicalization of embedded subjects. (A.56b) will be assigned the following LF structure:

(A.63) *Je n'ai exigé [CP que [CP personne [IP t soit arrêté]]]

In terms of Rizzi's (1990) account, the subject trace in (A.63) fails to be head-governed.[29]

To conclude, we have see that CP recursion is much more widely used in syntax than is considered so far. Our results also indicate that CP recursion holds the key to the typology of complement clauses. At the same time, the entire discussion of CP recursion assumes that Topicalization is substitution into Spec of CP. Thus, this analysis of Topicalization receives support, to the extent that the proposals about CP recursion are successful.

A.4. Theoretical Consequences of Lar[illegible]nian CP Recursion

In this section, we will consider some theoretical consequences and remaining problems of our analysis.

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29 It does not help to resort to the que -> qui rule, though, in contrast to overt movement.

(i) *Je n'ai exigé qui personne soit arrêté.

(ii) a. la fille que je crois qui t est arrivée la première
the girl that I think has arrived first
b. *la fille que je crois que t est arrivée la première
the girl that I think has arrived first

A.4.1. Excorporation

We have not accounted for the root/non-root asymmetry exemplified by the contrast in (A.7) and (A.8), repeated below.

(A.7) a.?And this book, to whom should Bill give?[30]

b. *To whom this book should Bill give?

c. *To whom should this book Bill give?

(A.8) a. *I wonder this book to whom we should give.

b. ?I wonder to whom this book, we should give.

We have seen that the order of a wh-phrase and a Topic in (A.8) follows from the theory of clause typing stated in (A.19), but (A.7) is left unexplained. If Topicalization involves movement into Spec of CP and CP recursion is created in a Larsonian way, the examples in (A.7) are assigned the following structures:

(A.64) a. ?And [CP this book C°i [CP to whom [C° ti + shouldj] [IP Bill tj give]]]?

b. *[CP To whom C°i [CP this book [C° ti + shouldj] [IP Bill tj give]]]?

c. *[CP To whom [C° C°+ shouldj]i [CP this book ti [IP Bill tj give]]]?

---

[30] The following contrast from Baltin (1982) points to the same fact.

(i) a. *Will, after John comes home, Sally take a shower?
b. After John comes home, will Sally take a shower?

The only well-formed case is the one in which the auxiliary is apparently adjoined to the trace of C°, where raising of the auxiliary is triggered by the wh-phrase. Note here that raising of C° in overt syntax is necessary in (A.64a) in order to create the position into which a Topic can be moved. It should, therefore, be possible in other ill-formed cases, too.

Note first that the structure of (A.64a) is an instance of excorporation in the sense of Roberts (1991). Roberts discusses cases of clitic climbing and Germanic (infinitival) verb raising. Here, we will make use of the Italian causative cases discovered by Guasti (1991,1992) for illustration, since we have an analysis of the Italian causative in Chapter 4. Guasti observes that the embedded verb of the causative construction is raised into the matrix clause domain. Consider (A.65).

(A.65) I professori$_i$ non fanno più commentare (tutti$_i$) lo stesso libro a Lia.
the professors Neg make not comment all the same book to
'The professors do not all make Lia comment on the same book.'
Guasti (1991, 214)

Notice that the floating quantifier tutti which is associated with the matrix subject intervenes between the embedded verb and its complement. Assuming that the floating quantifier is modifying the VP-internal trace of the matrix subject (cf. Sportiche (1988), which is reviewed in Chapter 1), the embedded verb must be outside the embedded VP. But intervention of the matrix negation indicates that the matrix verb and the embedded verb are not fused into one unit. Let us assume that the embedded clause of the

Causative verb in Italian is Agr-oP.[31] Guasti argues that the embedded verb is placed even higher than the matrix VP in (A.65), but given her hypothesis that Spec of VP is on the right, (A.65) can be given the following structure, with the embedded AgrP extraposed.

(A.66) $[_{IP}$ I professori$_i$ non fanno$_j$ più $[_{VP}$ t_j +[Agr-o+ commentare$_k$] t_i (tutti$_i$) t_i] $[_{Agr\text{-}oP}$ t_k lo stesso libro a Lia$_i$]]

On this basis, suppose further that the embedded verb in causative constructions can be only stranded in the matrix V position. The Italian causative then will always have the structure (A.66) in overt syntax.

It will not do to analyze (A.65) without movement of the embedded verb to the matrix, supposing that the arguments of the embedded clause are shifted out of that clause, as in (A.67), where we tentatively assume that the shifted phrases are adjoined to the matrix VP.

(A.67) $[_{IP}$ I professori$_i$ non fanno$_j$ più $[_{VP}$ t_j $[_{Agr\text{-}oP}$ $[_{VP}$ commentare t_k t_i]] (tutti $_i$) t_i lo stesso libro$_k$ a Lia$_i$]]

This hypothesis predicts that the floating quantifier can appear between the embedded object and the embedded subject when the embedded subject alone is extraposed. This prediction is not born out.

---

[31] We will discuss causative constructions including the Italian causative in great detail in Chapter 4. Guasti (1991, 1992) assumes that the embedded clause is VP. This point is immaterial to the present concern, though not in Chapter 4.

(A.68) *I professori$_i$ facevano commentare il libro tutti$_i$ a Lia.
the professors make comment the book all to
'The professors do not all make Lia comment on the same book.'
Guasti (1992, 43)

The impossibility of shifting out embedded arguments is perhaps due to rightward boundedness originally discussed by Ross (1967), but we will not go into that matter. The point is that in (A.65), we have to assume a structure like (A.66), with raising of the embedded verb to the matrix V position, not (A.67).[32] We will come back to the question why the embedded verb has to be raised, in Chapter 4.

Now comparing the Italian causative and (A.64a) repeated below, we notice that there is something common to them.

(A.64) a. ?And [$_{CP}$ this book C°$_i$ [$_{CP}$ to whom [$_{C°}$ t$_i$ + should$_j$] [$_{IP}$ Bill t$_j$ give]]]?

In both cases, the verb+Infl complex is dropped at the point from which further movement is not necessary, resulting in the following structure:

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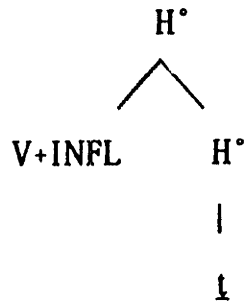
[32] There is a possibility that the embedded verb is only raised to the embedded Agr, with the embedded VP extraposed. In this case, the embedded verb has not reached the matrix verb position.

To bar this possibility, we have to exclude extraposition of VP out of the containing AgrP. It is reasonable to assume that only the material immediately dominated by VP can undergo shifting. Note that prepositional objects cannot be shifted in English.

(i) *John talked about t$_i$ angrily [the man who stole a car from him]$_i$

In spite of this consideration, assuming the raising only to the embedded Agr avoids the difficulty of motivating the raising to the matrix causative verb. See Chapter 4.

(A.69)



That is, the resultant structure is the same as the configuration where some head is adjoined to the trace of another head, even though it is not created by adjunction to a trace. Note further that we must assume that overt movement of the hosting head, the causative verb in the Italian causative case and C° in the Topicalization case, takes place. The strong V-feature of the inflectional system in the matrix clause triggers the overt movement of the causative verb, while the need to create a position to host a Topic necessitates the Larsonian movement of C°.

Let us turn to the question where excorporation takes place. In the case of the Italian causative (A.66), the domain of functional categories in the matrix clause is used for checking the inflectional features of the main verb, but not the embedded verb. In the case of the English matrix question (A.64a), the finite verb has finished its checking process by the time it reaches the lower C° node. This clearly has an Economy flavor: unnecessary moves in the derivation are prohibited. Let us suppose that this is so, and consider the full paradigm in (A.64) again.

(A.64) a. ?And [$_{CP}$ this book $C°_i$ [$_{CP}$ to whom [$_{C°}$ t_i + should$_j$] [$_{IP}$ Bill t_j give]]]?

b. *[$_{CP}$ To whom $C°_i$ [$_{CP}$ this book [$_{C°}$ t_i + should$_j$] [$_{IP}$ Bill t_j give]]]?

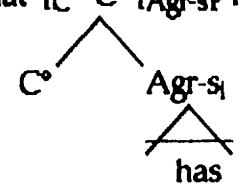
c. *[$_{CP}$ To whom [$_{C°}$ C°+ should$_j$]$_i$ [$_{CP}$ this book t_i [$_{IP}$ Bill t_j give]]]?

Note first that the Economy consideration just mentioned rules out (A.64c), where the finite verb is dragged along with C°. Then, how can we exclude (A.64b) while allowing (A.64a)? The difference should be related to the fact that matrix wh-movement in English requires Subject-Aux inversion while Topicalization does not. Let us suppose, therefore, that the Comp head has to be in a checking relation with the wh-phrase and with Agr-s at the same time. In a simple case like (A.70) below, this is straightforward, given the definition of checking domains given in Chapter 1.

(A.70) What has he read?

(A.70) has the following structure, where irrelevant details are omitted:

(A.71) $[_{CP}$ What $[_{C'}$ C° $[_{Agr\text{-}sP}$ he t_i read $]]]$

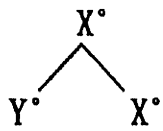


In this configuration, the wh-phrase in Spec of CP is in the checking domain of Agr-s, satisfying the requirement in question.

Now consider (A.64b). We claimed above that Agr-s cannot be carried along by C°, since it is unnecessary. But can the derivation converge if Agr-s stays within the lower CP? The problem is that the wh-phrase in Spec of the higher CP is not within the checking domain of Agr-s, violating the requirement, making the derivation crash. This is the reason why (A.64b) is ill-formed. This account raises a question about (A.64c), however. We

cannot simply say that the reason why (A.64c) is ruled out is because dragging along of Agr-s is unnecessary. Dragging along is necessary for a convergent derivation. To rule out (A.64c), we have to sharpen up the criteria for the Economy considerations. Consider the structure (A.72).

(A.72)



This is the structure created by adjoining Y° to X°. Now suppose that the category X° must undergo movement for the purpose of feature checking. There are two options. One is to move the entire category, and the other excorporation. Suppose that the former choice is more costly, because it carries more material, namely, the additional adjoined element. Let us formulate this principle as follows:

(A.73) Economy of Weight

Movement of heavier material is more costly.

Now, this Economy principle has a consequence that (A.64a) blocks (A.64c). Notice that the cost of the movement of C° is different. It is more costly in (A.64c) because it involves movement of heavier material. In general, excorporation is less costly, and therefore is preferred unless the requirement of derivation forces the other choice.[33]

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[33] The analysis of a pure wh-operator in Watanabe (1991) has the same flavor, too. When there is a choice between moving the entire wh-phrase and moving just a part of it, the latter is chosen because it is more economical.

To sum up so far, we have seen the need for a theory of excorporation and proposed the Economy of Weight as a regulating principle.

A.4.1.1. Other instances of excorporation

Excorporation seems to be observed in contexts other than in the area of causative and restructuring verbs. Here we will look at one case in which excorporation provides a way out of a difficult problem.

Bobaljik and Carnie (1992) argue that in Irish, a VSO language, the subject does not remain in VP in overt syntax but is already raised out of VP, by looking at the word order in infinitival clauses carefully. In contrast to finite clauses, infinitival clauses in the northern dialects of Irish show the SOV order, as schematized in (A.74). See McCloskey and Sells (1988) for a succinct summary of the properties of Irish infinitival clauses.

(A.74) Subj Obj V XP*

Crucially, other complements and adjuncts all follow the infinitival verb while the direct object precedes it. To get this order, Bobaljik and Carnie (1992) claim that the direct object undergoes overt movement, ending up in Spec of Agr-oP. This movement is straightforward, once it is assumed that the infinitival verb is raised to Agr-o. On the basis of this data, they claim that the VSO order in the finite clause is derived by putting the subject in Spec of TP and moving the finite verb at least to Agr-s.

A serious problem arises when we try to locate the subject, as noted by Bobaljik and Carnie (1992) themselves.

(A.75) $[_{Agr\text{-}sP}$ Spec Agr-s $[_{TP}$ Spec Tns $[_{Agr\text{-}oP}$ Obj V+Agr-o $[_{VP}$ Subj t_V XP*]]]]

To get the SOV order, the subject must move out of VP to reach the clause initial position. In other words, the subject must move over the object. In order for the subject to move over the direct object in Spec of Agr-oP, furthermore, Agr-o must be raised to Tns to make Spec of TP and Spec of Agr-oP equidistant. There is no obvious way, however, to locate the verb+Agr-o cluster at Tns or Agr-s. Thus, they are stuck without any adequate solution to this problem.

Now notice that the idea of excorporation saves this account. Suppose that Agr-o alone moves up to Tns, leaving behind the infinitival verb.[34] It then yields the structure (A.76).

(A.76) $[_{Agr\text{-}sP}$ Agr-s $[_{TP}$ Agr-o_i+Tns $[_{Agr\text{-}oP}$ Obj V+t_i $[_{VP}$ Subj t_V XP*]]]

The chain of Agr-o then makes Spec of TP and Spec of Agr-oP equidistant. The subject, therefore, can now move up to Spec of TP over the direct object in Spec of Agr-oP, without violating Relativized Minimality.[35]

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[34] An alternative derivation in which Agr-o moves first to Tns and then the verb gets adjoined to the trace of Agr-o does not work. Note that the raising of the object to Spec of Agr-o must follow the raising of the verb to Agr-o, since otherwise Relativized Minimality violation will be induced. But then, it turns out that object raising follows the raising of Agr-o to Tns, the latter only possible if the T' structure is already created. Thus, object raising will violate Strict Cycle under this derivation.

Thanks for H. Lasnik (personal communication) for bringing my attention to the question of this alternative derivation.

[35] Bobaljik (1993b) and Koizumi (1993) reach different conclusions from ours. Detailed discussion of different predictions is beyond the scope of this study. But see Chapter 7.

At this point, we should ask why excorporation is possible here. The standard assumption is that V will be dragged along with Agr-o when Agr-o is raised to Tns and higher. This is what is happening in French finite clauses, for example. The challenge here is to distinguish the Irish infinitives from these standard cases. The clue seems to lie in the form of infinitival verbs in Irish. As is well-known, an infinitival verb in Irish takes the form of a so-called verbal noun. cf. McCloskey (1983), Stenson (1981). Verbal nouns decline like nouns and are used as nouns as well. Thus morphology of verbal nouns are in fact the same as ordinary nouns. It should also be noted that formation of verbal nouns is idiosyncratic, so that each form must be learned individually (Stenson (1981, 29)). It is meaningless to say, however, that infinitival nouns are actually nouns. Rather, their nominal-like properties should be sought in the feature make-up of the head itself. Now what does it mean to say that a verb is nominal-like? Let us suppose that Irish verbal nouns do not have Tense features.[36,37] Then, there is no reason for an infinitival verb to be raised to Tns. Furthermore, there is no subject agreement in infinitives. We can say that an infinitival verb does not need feature checking by Tns and Agr-s.[38] It then follows that the Economy consideration prohibits an infinitival verb from being carried along with Agr-o to Tns or higher. Hence excorporation.

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36 It should also be noted that the perfective and progressive constructions in Irish both use verbal nouns. Based on the same fact in Scottish Gaelic, Ramchand (1992) suggests that verbal nouns do not specify aspectual properties, unlike English verbs. Generalizing somewhat, we can say that they only specify event skeletons, lacking aspectual-temporal information.

37 We also have to assume that Irish verbal nouns lack the Agr-s feature, too.

38 For this proposal to go through, it has to be assumed that the infinitival Tns in Irish has a different feature make-up so as to ensure a convergent derivation without feature checking with the infinitival verb.

We will look at the status of excorporation again in the final concluding chapter.

A.4.2. Inapplicability of Equidistance

There was an important implicit assumption when we claimed that the presence of a factive operator blocks adjunct extraction in cases like (A.77).

(A.77) *Why$_j$ does John regret [$_{CP}$ that$_i$ [$_{CP}$ Op t_i [$_{Agr\text{-}sP}$ Bill issued the order t_j]]]

This is a violation of Relativized Minimality. We have claimed at the same time that the recursive CP structure in (A.77) is created by substitution movement of the complementizer that. This movement should make Spec of the lower CP and Spec of the higher CP equidistant. But then this equidistance should void the potential Minimality violation if the adjunct wh-phrase move through Spec of the higher CP, contrary to fact. To prevent this unwelcome result, we have to assume that equidistance does not hold when the Larsonian recursive CP structure is created. Is there any reason to believe that this is the right move to make?

To answer this question, let us reconsider the role that equidistance plays. The most significant one so far is to ensure that the subject ends up in Spec of Agr-sP and the object in Spec of Agr-oP. We have also seen in Chapter 2 that Jonas and Bobaljik's (1993) result concerning the position of subjects in Icelandic is based on the application of equidistance in the case of a subject moving over an object in Spec of Agr-oP. See also Bures (1993) in this connection. Notice that all these cases have to do with A-movement. The absence of cases dealing with A-bar movement is a natural consequence

of the fact that the clausal architecture does not involve two A-bar specifier positions, except in the case of CP recursion under discussion. Thus, first of all, there is an empirical question whether we need the machinery of equidistance in the case of A-bar movement. Second, if it turns out that A-bar movement does not make use of the equidistance machinery, is there any conceptual reason why this must be so?

If our analysis of CP recursion is on the right track, the answer to the first question is that the equidistance machinery does not apply in the case of A-bar movement. Moving on to the second question, we can at least argue that the nature of A-bar chain formation is fundamentally different from A-chain formation. Notice that A-bar chain formation is closely tied to scope marking. Wh-phrases move to a position where they take scope. Thus, each A-bar position has its own scopal significance. Let us say that Spec of CP marks an absolute scope position. We therefore cannot make two specifier positions equidistant. A-movement, on the other hand, is simply motivated by morphological requirements of DPs. We can talk about two equidistant A-specifier positions.

We thus conclude that equidistance does not hold for A-bar specifier positions because of their scope nature.[39]

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[39] See Tada (1993) for a relevant discussion about the A/A-bar distinction.

Chapter 3

Negation and Wh-Agreement

In this chapter, we will try to remove an obstacle to our three-layered theory of Case checking posed by the analysis of do-support. At the same time, we will see that raising the finite verb to C° by the end of LF, as dictated by our modified Case theory, creates the possibility that the A-bar process affects the A-system through the Spec-head relation in CP. By aiming at these two goals, we plan to provide better crosslinguistic perspectives on (i) negation-induced inflectional phenomena (ii) subject/non-subject asymmetries that arise in wh-extraction, (iii) inversion triggered by wh-movement, and (iv) the relation between wh-extraction and negation exemplified by do-support in English.

3.1. Problems of Do-Support

In developing the account of head movement of inflectional elements in English, one of the biggest challenges is how to deal with do-support, which is found in negative sentences and matrix questions, as in (3.1).

(3.1) a. John did not read the book.
b. What did John read?

The versions without do-support are ill-formed, as in (3.2)

(3.2) a. *John not read the book.

b. *John read not the book.

c. *What John read?

d. *What read John?

The challenge is to derive the distribution of the dummy do from principles of UG, depending on as few language-specific stipulations as possible.[1]

Let us first consider negation. Pollock (1989), drawing on the previous work by Emonds (1978), argues that French raises the finite verb overtly past negation and adverbs while English does not, pointing to the following examples.

(3.3) a. *John likes not Mary.

b. Jean (n') aime pas Marie.

(3.4) a. *John lost completely his mind.

b. Jean perdit complètement la tête.

c. John completely lost his mind.

d. *Jean complètement perdit la tête.

Chomsky (1991), following this insight, locates the difference between French and English in where movement takes place: in overt syntax in the case of French and in the LF component in the case of English. And then he attributes the source of do-support to the impossibility of raising the verb past negation at LF: the verb cannot move over the negative head since it constitutes a Head Movement Constraint violation, hence an ECP violation. Do

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[1] For a resurrection of Chomsky's (1957) idea, see Bobaljik (1993b).

is inserted to support the inflectional elements as a last resort just in case the verb itself cannot do so. In French, on the other hand, verb raising takes place in overt syntax, and in this case, an ECP violation is voided somehow even when a negative head is present. Specifically, the potentially offending trace of Agr-o disappears at LF. LF raising in English is movement of V, leaving the trace(s) of V. Thus, there is no way of avoiding an ECP violation in English when the Neg head intervenes. This difference in categorial status then is derived from the way adjunction takes place: adjunction to inflectional heads in the case of French; adjunction of an inflectional head to the verb in English. Cases like (3.5) are excluded by the Economy of Derivation, since do-support is a costly language-particular operation.

(3.5) *John does like Mary.

If we try to accommodate the spirit of this account into our framework, four problems arise. First, exclusion of (3.5) by the Economy of Derivation poses a technical problem, since lexical insertion is generally cost-free under the current assumption, as H. Tada pointed out (personal communication). But since the point of making lexical insertion cost-free is to prevent sentences which have more lexical items from being blocked by sentences which have less, a true expletive like do may not fall under this consideration. I will argue that the Economy of Representation is an appropriate means to solve this problem.

A second problem is directly relevant to the modification of Case theory which we are arguing for, and therefore is the most serious in the present context. If we turn to checking of Accusative Case, our three-layered Case checking theory comes into a direct conflict with the analysis of do-support

in English, where LF raising of a verb is blocked by the presence of a negative head and the dummy verb do is inserted to check off the Tns feature instead. The problem is that under our new proposal for Case checking, the verb+Agr-o complex always has to raise to Tns in a simple clause when Accusative Case is checked. Therefore, an alternative analysis of do-support is needed which claims that the verb(-Agr complex) always raises to Tns, even in the presence of a negative head. This is one of the major goals of this chapter.

Third, recall that Chomsky's (1991) account crucially needs to make sure that LF movement of the verb-infl complex past negation induces a violation, whereas overt movement does not. It is an interesting technical challenge to try to build this distinction into the system in a principled way,[2] but things will be much simpler if no such distinction exists between overt and LF movement. We will pursue the simpler option.

Lastly, notice that in Chomsky's (1991) account, do remains at the end of LF. Given the idea that the output of LF contains only the elements which contribute to interpretation, the presence of an item that does not have semantic content like the dummy do is problematic. One way of solving this problem is to replace the dummy do by the verb(-Agr complex) at LF. We will develop our account along this line.

Now, consider the behavior of do in Subject-Aux Inversion (SAI), which also presents a serious descriptive problem in the framework that we are

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[2] Chomsky (1991, class lectures) suggests that the disappearance of Agr after feature checking at LF makes sure that movement over negation at LF is blocked. Epstein (1992b) develops a similar account, claiming that LF operations cannot move Agr due to its semantic vacuity.

assuming. To see this, let us review how SAI works. Again, we will review the account in Chomsky (1991) as a point of departure.

The matrix [+wh] Comp has the affixal property that it has to be attached to some element, according to Chomsky's (1991) account. Since English does not allow overt verb raising, the only way to satisfy the affixal property of [+wh] Comp is to insert do to bear the affix. This is how (3.1) is derived. The relevant paradigm is repeated below.

(3.6) a. What did John read?

b. *What john bought?

c. *What bought John?

Now there are two problems about the generality of this account. First, it is not clear how to account for the subject/nonsubject asymmetry. Consider (3.7).

(3.7) a. Who read the book?

b. *Who did read the book?

If the matrix [+wh] Comp is uniform, then its affixal property has to be satisfied in (3.7) as well. But there is no evidence that the finite verb in (3.7a) is raised into Comp. The available evidence points to the opposite direction. Thus, the examples in (3.8) are not well-formed.

(3.8) a. *Who read not the book?

b. *Who read often the book?

The ill-formedness of (3.8a) might be related to do-support in negative contexts, but no such alternative explanation is possible for (3.8b). If the finite verb is in the original position in (3.7a), however, we are forced to say that there is a null dummy verb raised into Comp in (3.7a). This in turn raises the question why the null dummy verb option is not available to nonsubject extraction cases, as indicated by (3.6b). Apparently we are missing something.[3]

Secondly, the account for English does not generalize to the Mainland Scandinavian languages, which Holmberg (1986, 1988) argues have the finite verb in the original position in the embedded context but raise it to Comp in the matrix, a V2 context. Consider the following Swedish examples.

(3.9) a. ... att Johan faktiskt köpte boken.
that J. actually bought the book
b. *... att Johan köpte faktiskt boken. Holmberg (1988, 123)

(3.10) a. ... om Johan inte köpte boken.
if J. not bought the book
b. *... om Johan köpte inte boken. Holmberg (1986, 90)

(3.11) a. Vilken bok köpte han?
which book bought he
'Which book did he buy?'
b. Han känner inte Ingrid.
he knows not
c. Ingrid känner han inte.
knows he not

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3 H. Lasnik (personal communication) points out the possibility of the Vacuous Movement Hypothesis (George (1980) and Chomsky (1986)) here.

'He does not know Ingrid.' (=b, c) Holmberg (1986, 83-84)

(3.9) and (3.10) show that the verb stays in the original position in the embedded contexts.[4] (3.11) represents V2 contexts. Given that Swedish behaves in the same way as English with respect to verb placement in the embedded contexts, it is not clear why the counterpart of do-support does not apply in Swedish V2, on the assumption that V2 is basically the same phenomenon as SAI.

In the discussion that follows, we will first propose an alternative account of do-support in negative sentences and justify it. And then we will see that do-support in matrix questions falls under a more general phenomenon, which receives a natural account under our proposal about Case checking.

3.2. Negation and Modality

We start with the task of accounting for do-support in negative sentences. We will first look at Palauan, where we can find a clue to the problem of do-support. And then we will move on to English.

3.2.1. Palauan Negation: Irrealis on the Verb

Palauan is a Western Austronesian language, with VOS order. Georgopoulos (1985, 1991a, 1991b) discusses an interesting phenomenon

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[4] Note also that there is no counterpart of do-support required either in inversion cases or in negative sentences. We will turn to the lack of the counterpart of do-support in the Mainland Scandinavian languages in section 3.5.1.

which arises in wh-movement, which we will discuss in detail in section 3.3. Here, we will consider negative sentences, whch in fact have some important connection to the wh-related phenomenon, too.

Here are some examples of Palauan negative sentences.

(3.12) ng diak longuiu er a hong a Toki.
Neg IR3-IM-read P book
'Toki isn't reading the book.' Josephs (1975, 374)

(3.13) ng dimlak ku- riid a klas er ngak.
Neg-Past IR-1s lost glasses P me
'I didn't lose my glasses.' Georgopoulos (1985, 77)

In Palauan, the negative morpheme precedes the main verb, and it also merges with Tns. Apparently, the verb has not moved up to the position of Tns here. As for the status of the Tns-Neg complex, we might speculate that Palauan's negative head is affixed to Tns, which in turn is required to be phonologically realized.

Notice also the irrealis morphology on the verb. An important connection to the wh-related phenomenon is the fact that the irrealis morphology also characterizes the change of the verbal form when wh-extraction takes place. Palauan has both the wh-in-situ strategy and the movement strategy for question formation. When movement takes place, the verb has to take irrealis.

(3.14) a. ke-momerek el melu'es er a babilengem er a oingerang
R-2s-finish Comp R-write P paper-2s P when

b. ng-oingerang a 'o-bomerek el melu'es er a babilengem er ngii
cl-when IR2-finish Comp R-write P paper-2s P then[5]
'When will you finish writing your paper?' (=a,b)
Georgopoulos (1991b, 85)

(3.14a) has a wh-in-situ, with the verb in realis. In (3.14b), which involves a fronted wh-phrase, the verb changes to irrealis. The same change occurs in the case of Topicalization, too.

(3.15) a. a Naomi$_i$ [a rirell - ii a kliou e_i el mo er ngak]
R-PF-make-3s dessert L go P me
b. a kliou$_i$ [a l-lirell - ii e_i a Naomi el mo er ngak]
dessert IR3-PF-make-3s L go P me
'Maomi made a dessert for me.' (=a,b) Georgopoulos (1985, 78)

As we will see more in detail, subject extraction causes disappearance of the subject agreement, while nonsubject extraction triggers the irrealis morphology. Thus, there is no subject agreement in (3.15a),[6] whereas the verb takes the irrealis form in (3.15b).

It is important to note that the Palauan irrealis morphology shows up where English uses the dummy do: wh-extraction and negation.[7] It does not seem to be a coincidence that both nonsubject extraction and negation

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5 The change in the verbal form happens even in the presence of a resumptive pronoun.
6 Third person singular agreement here encodes object agreement, which shows up in the perfective.
7 Conditionals and some adverbial clauses use irrealis, in addition to these two environments.

employ the same device in two different languages: irrealis in Palauan and do-support in English. Given the modal character of irealis (see note 5), we can regard the English do-support as insertion of a dummy modal. We will pursue this idea.

3.2.2. Negation in English

Now let us turn to English negative sentences which induce do-support. I claim that do-insertion in negative sentences is a manifestation of a dummy modal which is also observed in Palauan. It makes sense to classify the dummy do as a modal, since it shares with the other modal elements like can and must the inability to occur in infinitival clauses.[8]

(3.16) a. *John tried to can sing this song.

a'. *John tried can to sing this song.

b. *John tried not to do make mistakes.

b'. *John tried do not to make mistakes.

Thus let us assume that UG provides certain contexts where a dummy modal is employed. One is wh-extraction and another is negation. It is not surprising to find languages which do not use irrealis for negation or for wh-extraction, since it is possible for some languages to lack the syntactic modal altogether, as we will see later when Mainland Scandinavian languages are examined. It is reasonable, at the same time, to assume that UG circumscribes the options allowed for the manifestation of a dummy modal.

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[8] One difference between do and the other modals is that do displays overt agreement features while the other modals do not.

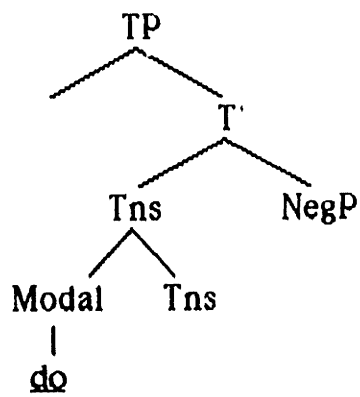
Which language uses a dummy modal for which contexts is a matter of parametrization, which children can easily figure out. In Palauan and in English, both wh-extraction and negation use a dummy modal.

Let us be more specific about the machinery involved in the do-support in English negation. Suppose that Tns has to have a strong V feature to be able to host NegP in its clause. Assume further that this strong V feature can only be satisfied by adjoining a modal to Tns.

(3.17) Tns has to have a strong V-feature which can only be satisfied by a modal, in order to be able to host NegP in its clause.

Then, we get (3.18).

(3.18)



This structure is obtained by directly inserting do through the adjunction mode of Generalized Transformation. Similar proposals about the location of do are made by Akmajian, Steele, and Wasow (1979), Emonds (1976), and Lasnik (1981), all of whom agree in placing do and modals right next to Tns. More recently, Roberts (1993a) also proposes to insert modals directly onto Tns.

Nothing further has to happen to (3.18) overtly. Thus, we get examples like (3.19) with the structure as in (3.20).

(3.19) John did not read the book.

(3.20) $[_{AgrP}$ John Agr $[_{TP}$ did $[_{NegP}$ not $[_{AgrP}$ Agr $[_{VP}$ read the book]]]]]

At LF, the dummy modal will be replaced by the V-Agr complex, which will then move on to Agr-s and C° for the purposes of feature checking, resulting in (3.21).[9]

(3.21) $[_{CP}$ $[_{C'}$ read-Agr-Tns-Agr-C° $[_{Agr\text{-}sP}$ John t_{Agr} $[_{TP}$ t_{Tns} $[_{Neg\,P}$ not $[_{Agr\text{-}oP}$ the book t_{Agr} $[_{VP}$ t_V]]]]]]

Movement of the V-Agr complex over the Neg head does not cause any violation since Agr chains disappear at the end of LF. In this respect, LF raising of the V-Agr complex behaves in the same way as overt raising of it in languages like French. The presence of do before SPELL-OUT is required by the strong V feature on Tns which specifically needs a modal, not by the inability of the V-Agr complex to move over the Neg head at LF. That is, the only difference between affirmative sentences and negative sentences is that the Tns node in the latter requires insertion of a modal. Thus, the [F] feature created by Accusative Case checking is properly checked off by Tns. In other words, this account of do-support is consistent with our three-layered Case theory.

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9 NP traces are omitted.

There are cases where the dummy modal is replaced in overt syntax. Consider (3.22).

(3.22) a. John has$_i$ not t_i looked at the book.

b. John was$_i$ not t_i looking at the book.

Here the auxiliaries have and be are overtly raised over negation. The overt movement here is required for a reason to which we will turn below. Still, do-insertion must take place, given the condition (3.17). Simple raising of have or be cannot satisfy this condition. So the dummy modal must be inserted first during the course of the derivation.

Before clarifying the status of (3.17), let us note some of its properties. First, (3.17) does not apply in the contexts where a modal cannot appear. Thus, in infinitival clauses, both the presence of a modal and the presence of the dummy do are prohibited.

(3.23) a. *John tried can to speak Japanese.

b. *John tried to can speak Japanese.

c. *John tried do not to speak Japanese.

d. *John tried not to do speak Japanese.

e. John tried not to speak Japanese.

(3.17) should be voided in cases where there is no way of satisfying it, since negation in such contexts would become impossible otherwise. The same point can be made when we discuss the Mainland Scandinavian languages in section 3.5.1.

Note also that (3.17) specifically mentions the presence of NegP. This accounts for lack of do-support in cases like (3.24).

(3.24) a. John never left the room.

b. *John did never leave the room.

c. *John never did leave the room.

Adverbs like never do not head NegP nor are they associated with NegP. Therefore, there is no need of do-insertion.

Now, what kind of a condition is (3.17)? Its intuitive content is that negative sentences have something in common with conditionals, as indicated by the use of irrealis in Palauan. See note 6. A salient semantic property of conditionals is that they lack truth values. That is, they talk about possible situations. Given this characterization of conditionals, let us specifically suppose that a modal is used when the actual situation is not directly expressed. Thus, the use of a modal is linked with interpretive requirements. Negation falls under this characterization since it reverses truth values. In other words, (3.17) is motivated by an interpretive condition which looks at LF representations. At the same time, it is a grammaticalized condition, since it specifically mentions the presence of NegP and it is voided when there is no means to satisfy it in the first place.

We have also claimed that the dummy do is replaced at LF. How can this be reconciled with the idea that (3.17) is related to an LF condition? The derivation of (3.19) without do-support will converge, resulting in the same structure as (3.21). So we must make sure that something else will go wrong if (3.17) is not met. Another serious question arises as well: why must the dummy do be replaced, if the presence of a modal is motivated by

interpretive considerations? Recall that one of the problems for Chomsky's (1991) account of do-support is incompatibility with the idea of Full Interpretation, namely, the hypothesis that LF representations contain only meaningful entities. This problem disappears if the dummy do has some reason to stay at LF. But we claimed above that the dummy do is replaced at LF.

The first question is a technical one. Let us assume that a modal has a categorial feature [+modal]. Suppose that this feature is transferred to the verb when replacement of the dummy do takes place. The modal feature remains at the end of a derivation. If (3.17) is not met, there will be no modal feature in the LF representation. (3.17) is now reduced to (3.25), on the assumption that a modal can only be inserted onto Tns.

(3.25) Clauses which host NegP must contain the feature [+modal] in their LF representation.[10]

Even if the derivation converges without do-support, the interpretive condition (3.25) will be violated.

The second question is an empirical one. The dummy do does not seem to be entirely devoid of meaning, since it carries the feature [+modal]. The question is whether it actually is a legitimate LF entity. The answer to this question must be determined by empirical considerations. If it turns out that the dummy do has to be replaced, we conclude that it is in fact devoid of meaning, despite the fact that it carries the modal feature. In that case,

[10] We must assume that (3.25) is inapplicable when the clause itself is incompatible with the feature [+modal], such as in infinitives. This is another respect in which (3.25) is a grammaticalized condition.

there are two convergent derivations one of which replaces do at LF and the other does not. The one which does not eliminate do will cause interpretive problems.[11] Crucially, this result will directly show that the Agr-V complex can raise over NegP in English. If it turns out that do is not replaced at LF, on the other hand, we say that the presence of the modal feature suffices to keep do at LF. This result will not reinforce our claim that the Agr-V complex can move over the Neg head. We will see later that there is an empirical consideration which demonstrates that the dummy do is replaced at LF.

Postponing this demonstration, however, let us consider how we can make the derivation which replaces the dummy do converge. First, consider (3.22) again.

(3.22) a. John has$_i$ not t_i looked at the book.

b. John was$_i$ not t_i looking at the book.

(3.22) would result from the structure like (3.26).

(3.26) a. (John) [$_{TP}$ does [$_{NegP}$ not [$_{Agr\text{-}oP}$ [$_{VP}$ have looked at the book]]]][12]

b. (John) [$_{TP}$ did [$_{NegP}$ not [$_{Agr\text{-}oP}$ [$_{VP}$ be looking at the book]]]

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[11] We must make an additional assumption that neither of these derivations blocks the other for Economy reasons.

[12] Strictly speaking, Spec of Agr-s would not have been created at this point of derivation.

Note that once (3.17) is adopted, cases like (3.22) suggest that there is a convergent derivation in which the dummy do is replaced. If overt raising does not take place, (3.27) will result.

(3.27) a. *John does not have read the book.

b. *John did not be reading the book.

It is not clear how to rule out (3.27) unless we assume that there is a convergent derivation which replaces do. The most likely explanation for (3.27) under that assumption is that failure to raise have and be in overt syntax leads to a crash. Let us pursue this line of thought.

Now, comparison of (3.22) with cases like (3.28) suggests at first sight that the tense-agreement features are initially represented on the dummy do, and then transferred to have and be after the expletive do is replaced.

(3.28) a. John did not look at the book.

b. John does not live in Boston.

Suppose that the verbs in (3.28) have (abstract) morphological features including Tense and subject agreement which are to be merged with the features of do. These features have to be checked eventually by corresponding functional heads, even though the verb which appears in the do-support context as in (3.28) lacks overt manifestation of these features. What is wrong with (3.27), then, is that have and be cannot check off their (abstract) morphological features, since have and be are invisible to LF

operations.[13] Then, the derivation of (3.27) will crash.[14] In cases like (3.28), on the other hand, the main verb raises at LF to check off its morphological features.

Notice that our account is still neutral about whether LF do-replacement takes place or not, though cases like (3.22) suggest that it is what is happening. That there is a convergent derivation in which the dummy do is replaced does not mean that there is no other convergent derivation. The other possible derivation is the one in which the Agr-V complex can adjoin to Tns to check off verbal features without replacing the dummy do. This derivation also converges.

Note at the same time that without deciding the question of do-replacement, this account allows us to circumvent the central problem posed by do-support in connection with our Case theory, namely, to ensure that the Agr-V complex will be adjoined to Tns even in the presence of NegP so as to be able to check off the [F] feature which arises from Accusative Case checking. In fact, the raising to Tns is always obligatory for the derivation to converge.

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[13] We will turn to this issue shortly.

[14] H. Lasnik (personal communication) asks what happens to imperative sentences like (i).

(i) a. Don't be foolish.
b. *Be not foolish.

Here, we must say that do is a real modal, so that (ia) is analogous to (ii).

(ii) He may not be foolish.

In (ii), be is not invisible to LF operations. The crucial difference is that the main verb, lacking the (abstract) finite tense feature, does not replace the modal in (ii). We will turn to the treatment of modals below.

To sum up so far, we have developed the account of do-support in negative sentences on the strength of the parallelism with the use of a dummy modal found in Palauan and English wh-extraction, in an effort to maintain our modification of the Case theory. Our proposal is to attribute do-support in negative sentences to an independent condition (3.17), allowing the verb to move over negation at LF. The next task is to see whether replacement really takes place.

3.2.2.1. LF Invisibility: a preliminary

Pollock (1989) notes an additional difference between English and French in the positioning of verbs which cannot be captured by his theory of verb movement. Cf. also Baker (1991) and Kayne (1989b). Consider the following examples. Cf. Belletti (1990).[15]

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[15] Belletti (1990, 53) cites (i) as evidence against placing sentential adverbs between functional categories.

(i) *Jean partira probablement.

Given examples like (3.30c), however, we are led to conclude that (i) is unacceptable for some independent reason.

Italian (Belletti 1990) and Spanish (Pollock 1989) allow sentential adverbs between the subject and the finite verb, as in the following Italian example.

(ii) Gianni probabilmente telefonerà alle 5.
probably will-call at 5 Belletti (1990, 42)

Belletti (1990) argues that this order is due to Left Dislocation of the definite subject. Thus, even if the finite verb is located at Agr-s in Italian, the adverb itself can appear after the subject under this proposal. See Barbosa (1993) for an argument from European Portuguese that null subject languages always place definite subjects in adjoined positions. If Barbosa's observation is right, however, preverbal adverbs in English cannot be explained by Left Dislocation, since English is not a null subject language.

(3.29) a. John probably has made several mistakes.

b. *Jean probablement a fait plusieurs erreurs.

c. Jean a probablement fait plusieurs erreurs.

(3.30) a. John probably likes linguistics.

b. *Jean probablement aime la linguitique.

c. Jean aime probablement la linguitique.

If the position of English auxiliaries and French verbs in general is the same, the contrast in (3.29) and (3.30) remains puzzling. The difference is not restricted to sentential adverbs. The same kind of contrast is found with floating quantifiers.

(3.31) a. The children all will leave.

b. *Mes amis tous aiment Marie.

'My friends all love Mary.'

In Watanabe (1989), it is pointed out that these contrasts can be accommodated in the framework which has two Agr phrases, such as Chomsky (1991): auxiliaries in English raise to Tns while all verbs in French

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The behavior of floating quantifiers confirms our analysis. Note that Italian and French verbs behave in the same way, in contrast to English auxiliaries.

(iii) *Gli invitati **tutti** parlarono con Maria.
'The guests all talked with Maria.' Belletti (1990, 68)

If floating quantifiers are associated with the subject trace in Spec of TP, this contrast follows from the different landing sites for verb raising. Cf. Pollock (1992) for a critique of Belletti's (1990) analysis.

raise to Agr-s. Cf. Kayne (1989b) for the need of two functional heads above negation and Watanabe (1993a) for consequences of differentiating movement to Tns from movement to Agr-s from the perspectives of language acquisition and historical change. This is based on the assumption that sentential adverbs like probably are located between Agr-s and Tns. Thus, the examples in (3.29) have the following structures:

(3.32) a. $[_{Agr\text{-}sP}$ John probably $[_{TP}$ has made several mistakes]]

b. *$[_{Agr\text{-}sP}$ Jean probablement $[_{TP}$ a fait plusieurs erreurs]]

c. $[_{Agr\text{-}sP}$ Jean a_i probablement $[_{TP}$ t_i fait plusieurs erreurs]]

The same account applies to (3.30b). As expected, the reverse order of an adverb and a finite verb as in (3.33) gives a well-formed sentence.

(3.33) Jean aime probablement la linguitique.

There is a wrinkle to this account, however. As noted by Jackendoff (1972), sentential adverbs can appear either before or after the first auxiliary, as in (3.34)-(3.35).[16,17]

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[16] Baker (1971, 1991) and Fillmore (1967) note that the adverb cannot follow a stressed auxiliary, as in (i).

(i) a. We often HAVE heard those allegations.
b. *We HAVE often heard those allegations.

The effect of stress is relatively weak, however, at least with respect to epistemic sentential adverbs like probably, even though Baker (1971) claims that the stress effect holds of these adverbs as well.

(3.34) a. George probably has read the book.

b. George has probably read the book.

(3.35) a. George probably is finishing his carrots.

b. George is probably finishing his carrots.

If only a single position for sentential adverbs is posited, we have to assume that movement of the Aux-Agr-Tns complex to Agr-s is optional, while movement of Aux to Agr-o and movement of the Aux-Agr complex to Tns are both obligatory. Let us say that LF visibility of the Aux-Agr-Tns complex is optional.[18] That is, these verbs come into structure, sometimes with their Aux-Agr-Tns complex being invisible to LF operations, and sometimes with their Aux-Agr-Tns complex being visible to LF operations. When the Aux-Agr-Tns complex is invisible to LF operations, overt movement to Agr-s has to take place in order to ensure a convergent derivation, overriding the principle of Procrastinate. This gives the pre-SPELL-OUT order (3.34b) and (3.35b). If they come into structure with their Aux-Agr-Tns complex being visible to LF operations, however, the principle of Procrastinate applies to block overt movement of the Aux-Agr-Tns complex to Agr-s. Then, (3.34a) and (3.35a) result. These two types of derivations cannot be compared, since they differ in LF visibility of the complex containing have and be. In other words, the items with different LF visibility count as different entities in terms of syntactic computation.

K. Hale (personal communication) informs me, however, that there are speakers who prefer (3.34b) and (3.35b). For them, the (a) version requires stress on the auxiliary.

[17] We will turn to the behavior of modals later.

[18] This formulation is due to P. Branigan (personal communication).

Notice that this optionality has a familiar ring to it. In Chapter 1, we have noted Pollock's (1989) observation that French infinitives display optional overt movement to Agr-o. The phenomenon in question is:

(3.36) a. ne pas sembler heureux . . .
'not to seem happy . . . '

b. *ne sembler pas heureux . . .

c. complètement perdre la tête pour les belles étudiantes . . .
to completely lose one's head for pretty students. . .'

d. perdre complètement la tête pour les belles étudiantes . . .

The relative freedom of an adverbial position with respect to the infinitival verb in (3.36c,d) will be accounted for if overt movement to Agr-o is optional. It is suggested in Chapter 1 that this optional movement is due to optional LF invisibility of French verbs; when the verb is invisible to LF operations, overt raising must take place, accounting for the order in (3.36d); when it is not, overt raising is prohibited due to Procrastination, resulting in (3.36c). This optional LF invisibility is motivated by their morphological properties. The consideration there was that French verbs are basically bound morphemes and therefore need some affixation. Technically, this will be accomplished by requiring that some $INFL_i$ (which corresponds to Agr-o, in this case) ot a verb's inflectional features optionally be removed in overt syntax for LF checking to be applicable to the other inflectional features. Now we might tentatively state (3.37).

(3.37) LF invisibility is

a. motivated for morphological reasons, and

b. typically characterized by its optionality.

Optionality does not always hold, however. Consider (3.27) again.

(3.27) a. *John does not have read the book.

b. *John did not be reading the book.

Since Aux itself and the Aux-Agr complex are obligatorily invisible at LF in this paradigm, forcing movement to Tns in overt syntax. Otherwise, do-support would erroneously be allowed for auxiliaries. Note also that there is another parallel between French verbs and English auxiliaries; the latter are more like bound morphemes among English verbs in their morphological paradigm with a lot of morphophonological changes.

Relevance of morphology to overt raising of auxiliary verbs in English receives support from the contrast between English and the Mainland Scandinavian languages, as suggested by Kayne (1989b; 1991, note 24). Kayne notes that verb-subject agreement on auxiliary verbs in English, which is lacking in Mainland Scandinavian languages, is presumably related to raising of auxiliary verbs in English. cf. also Platzack and Holmberg (1989). In the Mainland Scandinavian languages, even auxiliary verbs fail to undergo overt raising, as illustrated by Swedish examples in (3.38).[19]

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[19] But see note 64 in section 3.5.1.

(3.38) a. *att pojkarna har troligen redan varit här
that the-boys have probably already been here
b. att pojkarna troligen redan har varit här Holmberg (1986, 90)
c. Det verkar som om han inte var sjuk.
it looks as if he not was ill Platzack (1986, 199)

One remaining problem is to figure out why French infinitival verbs, for example, optionally raise to Agr-o, but not to Tns, or why English auxiliary verbs raise obligatorily to Tns at least, without stopping at Agr-o. We have to wait for future research to answer these questions. This presumably requires a closer look at verbal morphology.[20]

Another significant problem remains, however. Chomsky (1992) attempts to derive the effect of the Extended Projection Principle (EPP) by saying that Tns raises to Agr-s in overt syntax, requiring Nominative Case checking. This account is not tenable any more, given our account of (3.34)-(3.35), where the auxiliary verbs can remain at Tns in overt syntax. This is incompatible with overt raising of Tns to Agr-s.[21] It is impossible to raise Tns leaving Aux behind. Thus, an alternative account of the EPP is needed.

3.2.2.2. Chain-based Economy account

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[20] Corver and Delfitto (1993) account for overt movement of clitic pronouns in terms of LF invisibility. Specifically, they claim that pronouns which are underspecified with respect to [± human] undergo movement in overt syntax. See also Cardinaletti and Starke (1993) on clitic pronouns.

[21] Resorting to excorporation will not do, either, since the auxiliary verb on the Tns node has to raise to Agr-s ultimately.

Now returning to our immediate concern, what is interesting is the behavior of sentential adverbs in negative sentences. Consider the following paradigm.[22]

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[22] The contrast like (3.39) is noted by Baker (1991) as a problem for his analysis. The contrast among (b) examples is noted by Kayne (1989). Kayne claims that the dummy do must be licensed by negation through adjacency, which is almost a restatement of the fact.

Pesetsky (1989) presents the whole paradigm and claims that language particular processes like do-support apply after movement operations, and hence the inability of the dummy do to undergo movement. This account crucially hinges on his analysis of do-support in the case of wh-movement, which says that the dummy do is not located in C° but in I°, with the wh-phrase in Spec of IP. (See Watanabe (1988) for the same analysis.) Adverb placement shows, however, that the dummy do undergoes movement to C°, as pointed out by Branigan and Collins (1993). Consider (i).

(i) a. Which of his jobs did John fortunately quit?
b. *Which of his jobs fortunately did John quit?
c. John fortunately did not stay on his job.

The contrast in (i) shows that the dummy do occupies a different position in wh-questions than in non-interrogative sentences. Ordinary modals show the same behavior.

(ii) a. What will John probably say?
b. *What probably will John say?
c. John probably will (not) say what is on his mind.

We can conclude that matrix questions in English require something to occupy the C° position in overt syntax. Then, Pesetsky's (1989) (and also Watanabe's (1988)) analysis of matrix questions becomes untenable, and with it collapses his treatment of do-support.

The original root/non-root asymmetry that motivated the IP analysis of matrix questions can be given an alternative account that preserves the CP status of matrix questions, as we have seen in the appendix to the previous chapter.

(3.39) a. Nora probably did not open the letter.

b. *Nora did probably not open the letter.

(3.40) a. Nora probably has not opened the letter.

b. Nora has probably not opened the letter.

(3.41) a. Nora probably was not opening the letter.

b. Nora was probably not opening the letter.

Under the account in which the dummy do is replaced by the V-Agr complex at LF in the very position where it is inserted, the ill-formedness of (3.39b) is expected. The dummy do is not allowed to move to Agr-s by the Economy consideration, since it does not have to. It will be replaced right at the place where it is sitting in overt syntax. On the other hand, the other auxiliaries are not deleted at LF, hence the possibility of overt movement.

Let us consider in detail what aspect of the Economy principle prohibits overt movement of do-Tns in (3.39b). The relevant part of the derivation for (3.39a) is as follows:

(3.42) a. overt syntax: insertion of do by adjunction to Tns

b. LF syntax: i) replacement of do with V-Agr complex

ii) adjunction of V-Agr-Tns (to Agr-s)

That is, the derivation proceeds as follows:

(3.42') a. $[_{Agr\text{-}sP}$ Nora Agr Adv $[_{TP}$ did+Tns $[_{NegP}$ not $[_{Agr\text{-}oP}$ Agr $[_{VP}$ open ...

b. $[_{Agr\text{-}sP}$ Nora Agr Adv $[_{TP}$ [open+Agr]+Tns $[_{NegP}$ not $[_{Agr\text{-}oP}$ t $[_{VP}$ t ...

c. $[_{Agr\text{-}sP}$ Nora [open+Agr+Tns]+Agr Adv $[_{TP}$ t $[_{NegP}$ not $[_{Agr\text{-}oP}$ t $[_{VP}$ t ...

(3.42'a) is the result of do-insertion. The steps from (3.42'a) to (3.42'b) to (3.42'c) are LF operations. The counterpart for (3.39b) is:

(3.43) a. overt syntax: i) insertion of do by adjunction to Tns
ii) adjunction of do-Tns (to Agr-s)
b. LF syntax: replacement of do with V-Agr

Here is how this derivation proceeds.

(3.43') a. [Agr-sP Nora Agr Adv [TP did+Tns [NegP not [Agr-oP Agr [VP open . . .

b. [Agr-sP Nora [did+Tns]+Agr Adv [TP t [NegP not [Agr-oP Agr [VP open . . .

c. [Agr-sP Nora [open+Agr+Tns]+Agr Adv [TP t [NegP not [Agr-oP t [VP t . . .

Again, (3.43'a) is the result of do-insertion. In this derivation, the step from (3.43'a) to (3.43'b) is an operation in overt syntax, while the steps from (3.43'b) to (3.43'c) are LF operations. The verb+Agr-o complex can move over the trace of T°, just as it can move over the neg head.

The crucial difference between the two derivations lies in when movement of the V-Agr-Tns/do-Tns complex takes place.[23] In (3.42), it takes place at LF, while in (3.43), it happens in overt syntax. The principle of Procrastinate then favors the derivation (3.42), hence the ill-formedness of (3.39b). We are assuming that the adjunction site is not taken into account when comparing two chain formation operations, as long as the

23 The node traversing of the verb+Agr-o complex could be another factor favoring (3.42').

moved element is replacing the same entity do. The parenthesis in (3.42) and (3.43) is intended to express this assumption. Note also that the principle of Procrastinate does not apply to the (b) examples of (3.40-41) since the invisibility at LF cancels it.

One might counter, at this point, that the two operations (3.42bii) and (3.43aii) cannot be compared, since the chain headed by [T do-Tns] and the one headed by [T V-Agr-Tns] are different. This objection, however, ignores one important point, namely, that the chain headed by [T do-Tns] does not exist at the end of the derivation. Rather what we have is the chain headed by [T V-Agr-Tns], which is created by replacing the dummy do. Thus, we can legitimately compare the two operations in question and get the right result. Note also that no question of LF (in)visibility of the dummy do arises under our account, since the dummy do ceases to exist at LF.

Under this account, all the other derivations in which the dummy do is not replaced at LF will cause interpretive problems. That is, this account treats do as semantically illegitimate. These derivations do not block the derivation (3.43) because the LF output of these derivations contains the chain [$_{Tns}$ V-Agr-[$_{Tns}$ do-Tns]] which is absent from the LF output of (3.43). The hypothesis is that the derivations resulting in different chain structures cannot be compared in terms of Economy. But as long as there is some other derivation, namely, (3.42) in this case, that blocks (3.43), we can account for the contrast in (3.39).

If, on the other hand, the derivation in which do is not replaced by the V-Agr complex at LF does not pose interpretive problems, we are hard pressed to explain the ill-formedness of (3.39b). The derivation in which do is not replaced will be the same as the derivation for sentences containing a modal.

The behavior of contentful modals, however, is different from that of the dummy do. Compare (3.39) with (3.44).

(3.39) a. Nora probably did not open the letter.

b. *Nora did probably not open the letter.

(3.44) a. Nora probably could not open the letter.

b. Nora could probably not open the letter.

The version with overt movement to Agr-s is allowed for contentful modals, but not for the dummy do. If the derivations for these two cases were the same, it would be surprising to find the dummy do behaving differently. But we have claimed that the dummy do is replaced in contrast to other modals, accounting for the contrast in (3.39) in Economy terms. The contrast between (3.39) and (3.44), then, is not surprising, whatever the correct derivation of (3.44) is, so long as it is different from the derivation for the dummy do. We will now turn to the treatment of contentful modals.

To summarize so far, we have proposed that the dummy do is inserted in negative sentences to check off the strong V-feature of Tns and then to be replaced by the V-Agr complex at LF. Crucially, the hypothesis of do replacement enables us to maintain the three layered Case checking process, since do-replacement requires the V-Agr complex to move over the Neg head. Our account, at the same time, explains the contrast in (3.39), which has not received a principled account in the past literature. Note also that a particular interpretation of the chain-based Economy plays a crucial role in this account.

3.2.2.3. Modals

Let us start with affirmative sentences which contain a modal. Consider the following example.

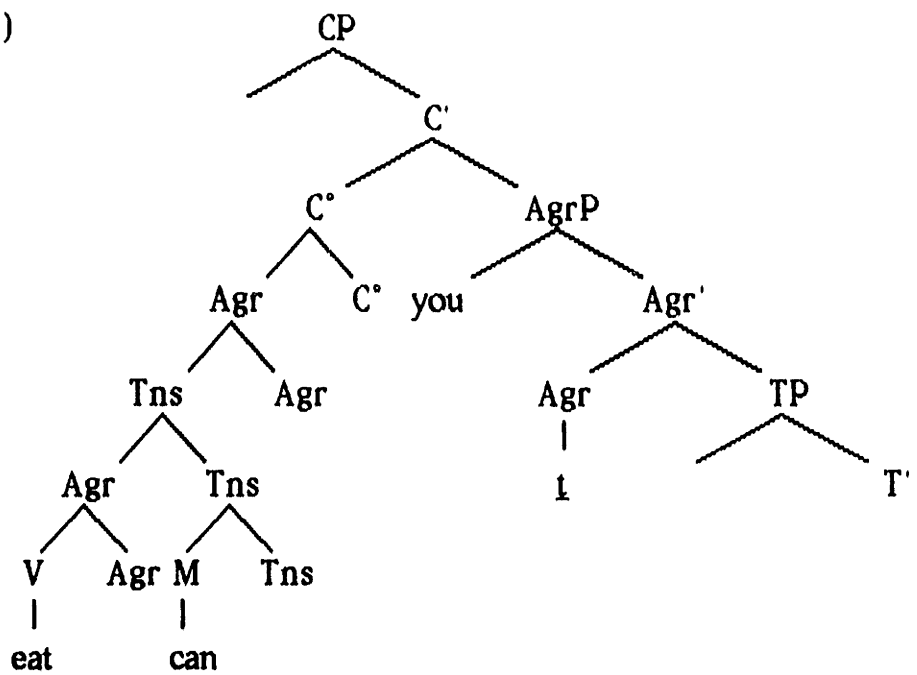
(3.45) a. You must eat it.

b. You must be quiet.

c. You must have finished your work by now.

The modal <u>can</u> is adjoined to Tns when it is inserted into structure. Even though the strong V feature of Tns in negative sentences can only be satisfied by a modal, the feature of a modal can be satisfied by any finite Tns. At LF, (3.45a) has the following structure in the relevant respects, before Agr's disappear.

(3.46)



To get (3.46), the verb is first raised to the lower Agr, and then the Agr-verb complex is adjoined to Tns,[24] which the modal can is already adjoined to. The whole complex of Tns is then raised to the higher Agr, which in turn moves to Comp. In (3.46), the verb, two Agr's, Tns, and Comp are adjoined together, chekcing off the relevant features.

Note that LF invisibility does not apply to infinitival forms of be and have. Thus, (3.45b,c) undergo a derivation analogous to that of (3.45a).

Next, consider negative sentences like (3.47).

(3.47) John cannot eat it.

This time, the requirement (3.17) for negative sentences is satisfied by a contentful modal can. At LF, the verb raises to Agr-o, then V-Agr raises to Tns, without replacing the modal. Further movement proceeds as in the other cases.

Note again that a modal shows the same optional LF invisibility as have and be, in contrast to the dummy do.

(3.48) a. Nora probably did not open the letter.

b. *Nora did probably not open the letter.

(3.49) a. Nora probably could not open the letter.

b. Nora could probably not open the letter.

(3.50) a. Nora probably has not opened the letter.

b. Nora has probably not opened the letter.

(3.51) a. Nora probably was not opening the letter.

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[24] In view of the discussion of excorporation in the Appendix, it may turn out that excorporation takes place here.

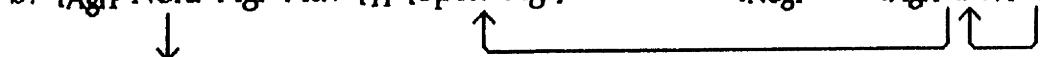
b. Nora was probably not opening the letter.

Let us consider the derivations for (3.49) illustrated below.

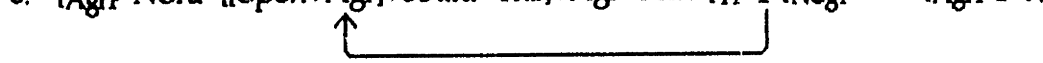
(3.52) a. [$_{AgrP}$ Nora Agr Adv [$_{TP}$ could+Tns [$_{NegP}$ not [$_{AgrP}$ Agr [$_{VP}$ open



b. [$_{AgrP}$ Nora Agr Adv [$_{TP}$ [open+Agr]+could+Tns [$_{NegP}$ not [$_{AgrP}$ t [$_{VP}$ t



c. [$_{AgrP}$ Nora [[open+Agr]+could+Tns]+Agr Adv [$_{TP}$ t [$_{NegP}$ not [$_{AgrP}$ t [$_{VP}$ t



(3.53) a. [$_{AgrP}$ Nora Agr Adv [$_{TP}$ could+Tns [$_{NegP}$ not [$_{AgrP}$ Agr [$_{VP}$ open

b. [$_{AgrP}$ Nora [could+Tns]+Agr Adv [$_{TP}$ t [$_{NegP}$ not [$_{AgrP}$ Agr [$_{VP}$ open



c. [$_{AgrP}$ Nora [[open+Agr]+could+Tns]+Agr Adv [$_{TP}$ t [$_{NegP}$ not [$_{AgrP}$ t [$_{VP}$ t

Here we omit the markings '-s' and '-o' on AgrP for space reasons. (3.52) corresponds to (3.49a), while (3.53) corresponds to (3.49b). In (3.52), the steps from (a) to (b) to (c) all take place at LF. This derivation is forced by the principle of Procrastinate when the modal+Tns(+V+Agr-o) complex is visible to LF operations. In (3.53), the step from (a) to (3.b) is an overt operation. This derivation is allowed when the modal+Tns(+V+Agr-o) complex is invisible to LF operations. The only way to save the derivation from crashing is to move it in overt syntax, overrriding the principle of Procrastinate. Again, we cannot compare the derivations which differ in LF visibility of some items involved. Thus, both options in (3.49) are allowed because of the optional LF (in)visibility of the modal+Tns(+V+Agr-o) complex. In the case of do-support, no question of LF visibility arises, since the

dummy do is to be replaced by the V+Agr-o complex anyway for the derivation to converge.

The LF invisibility of modals except do can also be understood from morphological points of view; they have a defective paradigm in that there is no person/number agreement. There is a remaining question again why the morphological defectiveness leads to this particular invisibility property. This is a topic for future research.

We have not discussed why do-support is prohibited in non-emphatic affirmative sentences in English. We will come back to this problem in section 3.2.5, where diachronic aspects of do-support will be dealt with.

Before leaving the topic, it is interesting to observe that the copular verb be behaves like a meaningful element.[25] Thus:

(3.54) a. John is probably not a good doctor.
b. John probably is not a good doctor.

Now one might wonder what semantic function the copula be plays. A plausible candidate is the Tns interpretation. Notice that predicate nominals like a good doctor in (3.54) are not Tns bearers. Nontheless the structure needs Tns to license Nominative Case. The solution that UG provides is to use the copula here. Since predicate nominals do not have a tense feature to

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[25] This remark applies to the progressive and the passive be as well.

(i) a. Nora probably was not opening the letter.
b. Nora was probably not opening the letter.
(ii) a. Nora probably was not killed in the accident.
b. Nora was probably not killed in the accident.

match with the V feature of Tns, the copula, which bears a tense feature as a verb, is inserted to save the structure, checking the V-feature of Tns. That is, the derivation of the structure that has the Tns node but does not contain a verb always crashes. Suppose further that the T° node plays a role in tense interpretation as well, so that it has to be combined with an element which has temporal information for interpretive purposes. It is plausible to assume that predicate nominals do not have temporal information. The only way to provide such temporal information, then, is to use the copula, which has such temporal information.[26,27] If this is on the right track, the copula cannot be replaced, since that would lead to a semantic problem.

Replacement of the copula is technically implausible as well. Note that the feature make-up of the copula and that of a predicate nominal or adjective are different. The former has person-number agreement and tense, while the latter has gender-number agreement and lacks tense.[28] Even in an impoverished inflectional system of languages like English, we can see that nominals never inflect for tense.

(3.55) a. I am a doctor.
b. You are a doctor.
c. He is a doctor.
g. I was a doctor.
h. You were a doctor.
i. He was a doctor.

---

[26] The abstract event argument in the sense of Higginbotham (1985) might correspond to this temporal information.

[27] This raises questions about copular-less predicative sentences. We assume that a null copula exists in such cases. Cf. Rapoport 1987 on two types of copular constructions, in connection with stage- vs. individual-level predicates.

[28] K. Hale (personal communication) points out that there are langages like Nahuatl which have person agreement for predicate nominals. Some kind of parameter for agreement must be posited.

d. We are doctors.
e. You are doctors.
f. They are doctors.
j. We were doctors.
k. You were doctors.
l. They were doctors.

Given this mismatch, replacement would not work. Now going back to do-replacement, we should note again that the dummy do is somewhat different from the other modals in having transparent person-number agreement and tense morphology. This difference can be made sense of if replacement requires feature compatibility. Note that the dummy do, unlike other modals, has both tense and person-number agreement features. Even though the main verb does not have overt tense-agreement marking in the constructions with do, it is compatible with tense and person-number agreement features. Conversely, unless the dummy do has these features, it cannot be replaced by the main verb at LF. From this perspective, the status of the dummy do should be distinguished from that of the copula.

Thus, for semantic and syntactic reasons, we are forced to conclude that the copula remains at LF, resisting replacement. We will come back to confirmation of this idea in Chapter 4, where we discuss causative constructions.

To sum up, we have seen in this section how structures that contain a modal undergo feature checking. It should be clear by now that there is no category 'auxiliary' as such. We have either special kinds of verbs like have and be, or modals.

3.2.3. Palauan Negation Again

Consider the Palauan negative sentences again in light of our discussion of English do-support.

(3.56) ng diak longuiu er a hong a Toki.
Neg IR3-IM-read P book
'Toki isn't reading the book.'

(3.57) ng dimlak ku- riid a klas er ngak.
Neg-Past IR-1s lost glasses P me
'I didn't lose my glasses.'

If the verb is in its original position below Tns and negation as is apparently the case, we cannot directly connect the irrealis morphology to modality, which should be located at Tns. Let us suppose then that there is a phonologically null dummy modal adjoined to Tns. The irrealis morphology is only an indicator of the presence of this dummy modal.

It is interesting to compare English do and Palauan irrealis with respect to person/number agreement. English encodes the agreement on the dummy modal:

(3.58) a. I do not like it.
b. John does not like it.

Palauan, on the other hand, encodes it on the verb itself, as can be seen from (3.56) and (3.57). This suggests another possibility for analyzing Palauan. Recall that have and be in English do display inflectional features themselves, in contrast to ordinary verbs.

(3.59) a. I have not eaten anything.

b. John has not eaten anything.

Above, we took this contrast to be suggestive of the fact that have and be are more like bound morphemes. If we apply the same consideration to Palauan, we may hypothesize that Palauan is in fact a verb-raising language so that the verb is adjoined to the Neg-Tns complex in (3.56) and (3.57). Or at least, the verb raises to Tns in negative sentences. Then, we can suppose that the analysis of Basque to be presented below holds for Palauan, too.

3.2.4. Affixal Modals --- Basque

Our account of do-insertion in English negative sentences receives interesting support from Basque. According to Laka (1990), Infl has to move to Neg by S-structure in Basque negative sentences. Her analysis can be summarized as follows, slightly simplifying.

(3.60) a. NegP dominates TP in Basque while TP dominates NegP in English.

b. There is an S-structure condition that Tense must c-command Neg at S-structure. (Tense C-command Condition)

c. Because of (3.60b), the finite verbal element raises to Neg.

Below are illustrative examples.

(3.61) a. etxea erori da.

house fallen has

'The house fell down.'

b. *etxea da erori.

c. *erori etxea da.

(3.62) a. etxea **ez** da erori.

house no has fallen

'The house didn't fall down.'

b. *etxea erori **ez** da.

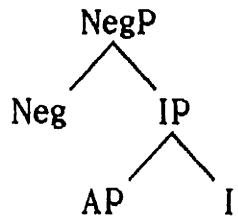
c. **ez** da etxea erori.

In declarative clauses as in (3.61), the main verb and the auxiliary have to occcur in this order and nothing can intervene between them. In negative clauses, the auxiliary must precede the lexical verb and they can be separated. This contrast between declarative and negative clauses is explained by obligatory movement of the tensed auxiliary that takes place in negative clauses.

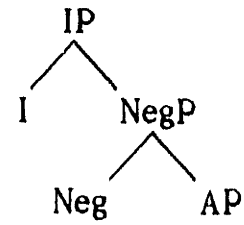
Now there are two problems about Laka's (1990) account. First, her condition in (3.60b) is an S-structure condition which it is desirable to get rid of. Second, she assumes a different phrase structure for Basque, but given the argument provided in Chapter 1, the place of the negative head must be quite restricted. She has some arguments for the different phrase structure, however. So let us look into her account more in detail.

Laka proposes an account of parametric syntax that deals with Basque and English. She assumes the following phrase structures:

(3.63) a. Basque

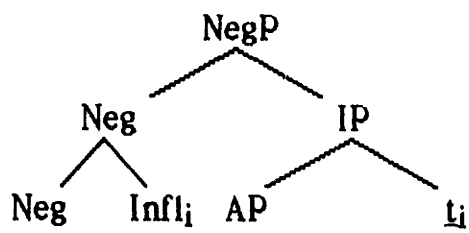


b. English



AP in (3.63) is Aspectual Phrase for Basque, and is Agreement Phrase for English. In fact Laka is not committed to the labeling of AP in English. To maintain the maximal uniformity among languages, let us say that AP in Basque is also Agreement Phrase.[29] Under her account, inflected auxiliaries in Basque are generated under Infl and they move to Neg to satisfy her Tense C-command Condition (3.60b), as in (3.64).

(3.64)



In English, ordinary verbs cannot move and therefore do is inserted to satisfy (3.60b), to prevent lowering of Tense onto the main verb.

Laka has two arguments in proposing the structure (3.63a) for Basque: one based on ellipsis and the other on licensing of negative polarity items. First consider the ellipsis in Basque.

The crucial fact is that Basque has an ellipsis like (3.65), whereas the English analogue (3.66) is impossible.

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[29] It is not clear how Agr-s fits into this picture under Laka's analysis, but let us ignore this problem.

(3.65) Marik liburua erosi du eta Peruk ez.
Mari book-the bought has and Peter no
'Mary has bought the book and Peter hasn't.'

(3.66) *Mary bought a book and Peter not.'

Laka (1990) argues that the contrast follows from the possibility of IP deletion; IP deletion in Basque results in stranding Neg, while that option is impossible, given the structures in (3.63).

The other argument is motivated by negative polarity licensing. Negative polarity items in Basque can occur in subject position, in contrast to English.

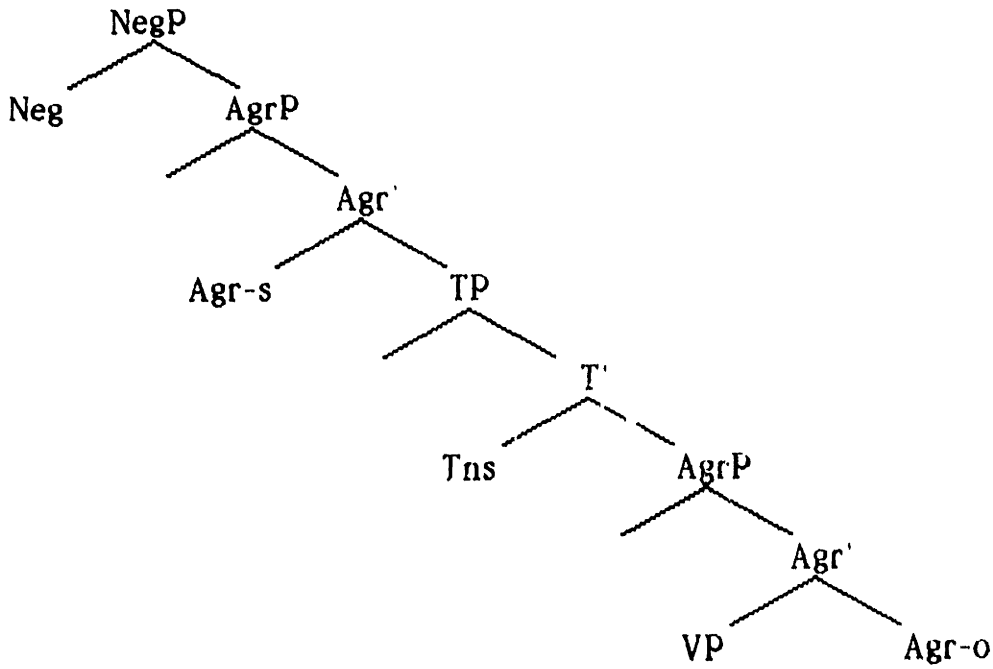
(3.67) a. Ez dio **inork** Iboni etxea eman.
no has anybody Ibon-to house-the given
'Nobody has given the house to Ibon.'

b. *Anybody didn't come.

Laka argues that this contrast is explained if the position of the Neg head is higher than the subject, as in (3.63a).

Our framework can accommodate Laka's analysis by assuming that Basque has the following structure:

(3.68)



Recall from Chapter 1 that the possible positions for a Neg head are either immediately above Agr-oP, as in English, or immediately above Agr-sP. It seems that Basque chooses the latter option. Laka's account of ellipsis and negative polarity licensing can be preserved in this way.

Let us now consider verb raising in negative sentences. Suppose that the inflected auxiliary starts out as a verb, as suggested above, and that it is first adjoined to Agr-o and then the V-Agr complex raises to Tns. Two problems arise at this point. First, the negative element ez is cliticized onto the auxiliary, according to Laka (1990, 30). This is one of her motivations to assume that the auxiliary is adjoined to the Neg head. We have only assumed the verb raising to Tns, which is not sufficient to put the auxiliary and Neg together, since the Neg head is located above Agr-sP. We will

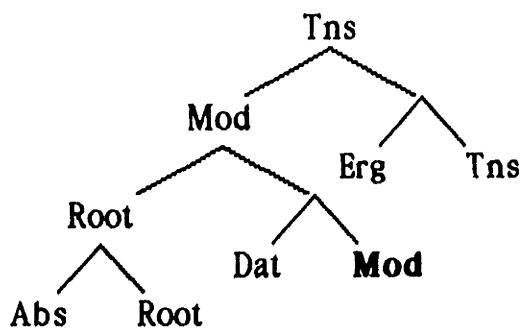
sidestep this problem by saying that the Neg head cliticized to Tns in the PF component.[30]

The second question is what triggers the raising of the verbal complex to Tns. Laka claims that verb raising is due to her Tense C-command Condition which applies at S-structure, but we cannot adopt this proposal, since we would like to eliminate S-structure conditions. Let us suppose that if we assume the same condition (3.17) as English, then an independent property of Basque will derive the raising of the verbal complex only in negative sentences.

(3.17) Tns has to have a strong V feature which can only be satisfied by a modal, in order to be able to host NegP.

What is the independent property of Basque through which (3.17) forces verb raising? Laka (1989) discusses the internal structure of the finite auxiliary verbs. Specifically, she proposes the following structure.

(3.69) Morphological composition of Basque verbs



[30] P. Barbosa (personal communication) points out that the stranding of the negation marker ez is mysterious under this account. We have to leave this problem open.

Basque auxiliaries contain agreement markers and Tense specification, but importantly for us, they mark modality, too. Thus, what English expresses using a modal is expressed by a modality marking on the auxiliary in Basque.

(3.70) a. Irune joan [D aITE KE]
leave she-root-Mod
'Irune can leave.'

b. Irune joan [Z ITE KE eN]
she-root-Mod-Tns
'Irune could leave./could have left'

Let us suppose then that UG provides a parameter concerning syntactic realization of modality.

(3.71) Modal parameter[31]

a. In affxial modal languages, a syntactic modal feature is part of the inflectional feature complex of a verb.

b. In nonaffixal modal languages, a syntactic modal feature is realized as a distinct category modal.

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[31] K. Hale (personal communication) notes that this parameter may have a weak correlation with headedness: affixal modals are found in V-final languages and nonaffixal modals in V-initial languages. Further careful study is needed in this area.

English is a nonaffixal modal language, whereas Basque has an affixal modal. In order to express the fact that the expression of modality is dependent on finiteness, let us say that a modal feature is linked with a tense feature. Then the parameter (3.71) amounts to saying that a modal feature can come linked with the tense feature on a verb or with the tense feature on the Tns node, assuming, as above, that an English modal is directly adjoined to Tns when inserted. We will leave open further execution.

Going back to the original problem about the trigger of verb raising in Basque negative sentences, the affixal nature of Basque modality provides the answer. Assuming that the Basque auxiliary can mark expletive modality by a zero marking, (3.17) forces the auxiliary to raise in negative sentences because it is the verb that contains the relevant modal feature.

We have to be a little careful, though, since (3.17) itself is motivated by the LF condition (3.25).

(3.25) Clauses which host NegP must contain the feature [+modal] in their LF representation.

If Basque auxiliary verbs can directly contain a modal marking, why is (3.17) needed for Basque? Even without overt movement, (3.25) would be satisfied, as long as the auxiliary contains modality. At this point, we would like to suggest that the dummy modality marking on the auxiliary cannot be vacuous. That is, it has to lead to feature checking in overt syntax. Then, we need something like (3.17).

To sum up, we have seen that the different behavior of Basque and English in negative sentences is traced back to the different location of the

modal feature. At the same time, (3.17) gains some explanatory value by providing a uniform account of Basque and English negation.

3.2.5. Position of Modals

Above we simply assumed that modals are adjoined to Tns by Generalized Transformation. In this section, we will present an argument from diachronic syntax that this is indeed a right move.

At the outset, it should be noted that although only gradual diachronic changes can be represented in the existing documents, the changes themselves should be interpreted in discrete individualistic terms, as urged by Lightfoot (1991). Thus, they should be understood in the context of children's parameter setting. If a grammar of a child is different from that of the preceding generation, the change is effected by a different setting of parameters provided by UG. In this sense, changes are abrupt, historical documents reflecting the messy collection of various individuals who have different grammars, which only has the status of a secondary reality. Even a single individual might have incorporated multiple grammars which are only slightly different. With this caveat in mind, let us turn to some diachronic facts.

3.2.5.1. Some "historical facts"

According to Lightfoot (1991) (cf. also Roberts 1993a, Steele et al. 1981 and Warner 1983), there were two stages of change with respect to the Aux/Inflectional system of "English". The first stage consists of the following changes of so-called pre-modal verbs. Pre-modals are etymological ancestors of the present-day English modals.

(3.72) a. These verbs lost their ability to take direct object.

b. They lost non-finite forms, i.e., infinitival and participle forms.[32]

c. They were never followed by the to form of the infinitive.

d. They became inflectionally distinct after the loss of other preterite-present verbs.

e. With the loss of the subjunctive mood, the relation bewteen their present and past tenses became non-temporal in certain senses.

The most crucial properties here are the inability to take direct objects and the lack of non-finite forms. The fact that the pre-modals took direct objects as in (3.73) in the Middle English period indicates that they were not modals in our sense.

(3.73) a. **Wultu** kastles and kinedomes?

wilt-thou (do you want) castles and kingdoms

(c1225: Ancr. R. 389: Visser §559; Roberts 1993a, 313)

b. She **koude** muche of wandrynge by the weye.

she knew much about wandering by the way

(Chaucer; Lightfoot 1979, 99)

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[32] It should be noted, though, that various authors including Kroch (1989b), Lieber (1982), Lightfoot (1991), Warner (1983, 1990) agree that the ancestors of must and shall already lacked nonfinite forms in the OE period.

The fact that they appeared in non-finite contexts is another indication of their non-modal status. Here are some non-finite uses of pre-modals.[33] They are in boldface.

(3.74) a. I shall not **konne** answere
I shall not be-able-to answer
(1386: Chaucer CT, B, in Visser §1649; Roberts 1993a, 242)

b. They are doumbe dogges, not **mowende** berken
They are dumb dogs, not being-able-to bark
(c1380: Wyclif, Prov. 7, 11: Visser §1684; Roberts 1993a, 242)

c. if he had **wolde**
if he had wanted to
(1525 Ld. Berners, Froiss. II, 402, Visser §1687; Roberts 1993a, 312)

d. that appeared at the fyrste to **mow** stande the realm in great stede
(1553 More, Works 885 C1; Lightfoot 1979, 110; Lieber 1982, 87)

e. to **cunne** no more þan is nede to **cunne** but to cunne to subrenesse
to can no more than is need to can, but to can ...
(1380 Wyclif, Serm., Sel. Wks. II, 245; Lieber 1982, 87)

As we will see in section 3.5.1, the Mainland Scandinavian counterparts are not modals either, sharing the same properties as the pre-modals. It should also be noted that many authors including Plank (1984, 314) and Roberts (1993a, 312) claim that the epistemic use of pre-modals in non-finite contexts was non-existent even in the Middle English period. This, again, is a

[33] Abbreviations are copied from the sources indicated at the end.

property shared by the Mainland Scandinavian counterparts, or more generally by other Germanic or Romance counterparts. Cf. Evers and Scholten (1980), Kroch (1989b), Picallo (1990), Plank (1984), and Roberts (1993a).

Lightfoot (1991) characterizes this set of changes as due to reassignment of category membership. He claims that this categorial reanalysis was completed by the early 16th century, although Warner (1983) and Plank (1984) cautiously mention that can, will, and probably may continued to take a direct object until the 17th century,[34] and Warner (1983) advances that it seems reasonable to accept that non-finite forms of can and may were lost in the middle of the 16th century and those of will in the early 17th century. The second stage is the loss of the old inverted and negative form. This is a manifestation of lack of overt verb raising to Infl, as argued by Roberts (1985)[35] and adopted by Lightfoot. Cf. Weerman (1988) for the same view. Below are illustrated the old forms of negation and inversion.

(3.75) a. John spoke not to Mary

b. Spoke John to Mary?

The second stage seems to have been completed only at the end of the 17th century.

3.2.5.2. Analysis and some more "facts"

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[34] Plank (1984) claims that would and could also belongs to this set.
[35] Roberts (1985) does not distinguish the two stages, though. Roberts (1993a), on the other hand, recognizes them.

In our terms, the first stage is a parameter resetting concerning modals: they changed from affixal to nonaffixal modals, the distinction that we discussed above. Steele et al. (1981), referring to earlier sources, characterize the reanalysis of pre-modals as due to the loss of subjunctive mood. Cf. also Plank (1984). They postulate a universal category AUX, which contains tense and modality. At the previous stage of English, AUX instantiated modality as subjuncive. They claim that the decay of subjunctive led to the use of pre-modals as another instantiation of the category modal.[36] Our account is an articulation of this insight. The simple category membership reassignment hypothesis, on the other hand, has a difficulty in handling the concomitant loss of the subjunctive mood.[37] Thus, Roberts (1985, 41-42), noting the relation between the loss of subjunctive mood and the rise of modals, treats loss of agreement in general (and loss of overt V-to-Infl movement as its direct consequence) as central to the change and asserts functional substitution of modals for subjunctive, but this is short of explaining the change; without the postulation of a formal category common to subjunctive and the elements like can, there is no precise causal sense in which "a new means of expressing modality arose" (p. 42) as the subjunctive/ indicative distinction died out. It could be the case that the grammar locates that funciton somewhere other than in English-type modals or in sunjunctive. Note also that the Mainland Scandinavian languages did not develop the syntactic category modal at all after losing subjunctive. In

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[36] There is another possible course of change, namely, loss of syntactic modality, as pointed out by Weerman (1988). The Mainland Scandinavian languages took this course. We will turn to Modern Mainland Scandinavian in section 3.5.1.

[37] The exact date of the loss of subjunctive is not clear. In our idealized model, a monolingual speaker which has a distinct category of modals should not have subjunctive.

other words, there is no necessity for using the syntactic modal feature to express modal notions. In a nutshell, the category membership reassignment hypothesis does not capture the whole picture of the change within the grammar. If subjunctive is a manifestation of an affixal modal, on the other hand, then the change can be pinned down precisely. Thus, it is necessary to label the first change as a shift from affixal to the nonaffixal modals, while acknowledging that Roberts (1985) accepts the insight of Steele et al. about the equivalence of modals and subjunctive.[38]

Note also that the difference in the date of 'category reassignment' of each pre-modal element makes sense under the hypothesis that the first change is a switch in the categorial system of the grammar with respect to the syntactic modal feature, not in individual lexical items. The grammar which uses a distinct category modal can choose the membership of that category. Thus, some element can be categorized as a modal earlier than others.

There is another factor which has not been fitted into the picture yet: appearance and decay of periphrastic do. This do occurred rather freely, even in affirmative sentences where present-day English prohibits it. Visser (§ 1419) gives citations from 16th century grammarians saying that do is simply a tense marker, which are reprinted in Roberts (1993a). At the same time, a claim has been made by Rissanen (1991) that the dummy do in

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[38] The assumption in the literature seems to be that there used to be a homogeneous class of verbs but no modals, though Warner (1990) argues that there was already a distinct grouping including but larger than modals in Old English. Note, however, that UG does not provide such a grouping, according to our theory. If a subgroup existed, they were a subclass of verbs. See Roberts (1993a, 338) for the suggestion that the pre-modals were restructuring verbs in the sense of Rizzi (1982).

affirmative sentences seems to have been used in spoken language as well as in writing.

According to Ellegård (1953), the dummy do arose around the end of the 14th century and became widespread in prose texts at the end of the 15th century.[39] And then it started to decline in affirmative declarative clauses around the last quarter of the 16th century, while it kept increasing in interrogative and negative sentences.[40] We can take this period to be the beginning of the loss of V-to-Infl. But then, appearance of do-support in interrogative and negative sentences alone cannot be taken as loss of V-to-Infl, strictly speaking. We have to look at affirmative declarative sentences to know when V-to-Infl was lost. Let us see why.

Since the account of the dummy do is a centerpiece of this chapter, the issue deserves careful attention. First, we have to account for the fact that UG allows the dummy do in declarative clauses in the early Modern English period while prohibiting it in present-day Modern English.[41] No previous account has offered a satisfactory answer to this question, as far as I know. Second, it is desirable to give an explanation why the changes took place the

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39 According to Higgins (1992), the use of do in elliptical constructions like VP deletion existed from the Old English period onward. He notes, though, that the sequence do+infinitive was not found in the OE period.

40 See Kroch (1989a,b) for a statistical analysis that leads to this factual evaluation. There is a dip in the frequency of do in negative sentences in the late 16th century, though.

41 We will not take up the question why the dummy do was more frequent in transitive clauses than in intransitive clauses, as originally observed by Ellegård (1953). Battistella and Lobeck (1991) argue that consideration of Case is relevant. One significant observation in this connection is that clauses with a sentential complement behave like intransitive clauses, as pointed out by Kroch (1989a).

way they did. Often, the literature is not clear whether do is the trigger or the result of the change.[42] We will also clarify this point.

The first task is directly relevant to the present concern, namely, the position of modals. In this connection, it is important to observe that the verb raising in the early Modern English period is triggered by the strong V-feature of Tns. Kroch (1989b) and Roberts (1993a) point out that Middle English allows a preverbal as well as postverbal adverbial position. Cf. also Ellegård (1953). (3.76b) is an instance of a preverval adverb.

(3.76) a. The Turks . . . made anone redy a grete ordonnaunce.
The Turks prepared soon a large number of weapons.'

b. But oure Crysten folk anone herde . . .
But our Christian folk soon heard . . .
(c1482: Kaye The Delectable Newsse of the Glorious Victorye of the Rhodyans agaynest the Turkes; Gray 1985: 23; Roberts 1993a: 253-54)

According to Kroch (1989b), 16% of the examples in Tatlock and Kennedy's (1927) Chaucer concordance and Kottler and Markman's (1966) concordance to five late Middle English poems in the late 14th century had the never-Verb order, in contrast to the Verb-never order. Furthermore, the rate of the never-Verb order increased rapidly during the late Middle English period.

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[42] Roberts (1985, 1993a) takes the rise of periphrastic do as one of the triggers of the change. Lightfoot (1979, 1991) does not seem to take a firm stand on this point.

(3.77) Position of never (from Ellegård 1953, 184)

period	do-never-V	never-V	V-never
1425-75	3	52	99
1475-1500	4	80	102
1500-25	1	80	28
1525-35	3	151	16
1535-50	14	125	13
1550-75	9	71	8
1575-1600	6	152	5

Note especially that the never-Verb order already became predominant by the first quarter of the 16th century, well before the second stage of the change in the late 16th century.

This change can be made sense of as loss of verb raising to Agr-s. Recall that the possibility of preverbal adverbs is typical of the present-day English auxiliaries, compared with French. Thus, we have the following contrast.

(3.78) a. He is seldom satisfied.

b. Il est rarement satisfait.

c. My friends seldom are unhappy for long periods.

d. *Mes amis rarement sont malheureux très longtemps.

Pollock (1989, 370)

Above, assuming that the adverbs in question are located between Tns and Agr-s, we accounted for this contrast in terms of optional (English) vs. obligatory (French) movement of the V-Infl complex from Tns to Agr-s. In a similar vein, the never-Verb order in Middle English and in early Modern

English is the result of the strong V-feature of Tns, not of Agr. The possibility of postverbal adverbs, on the other hand, suggests that there was additional optional movement from Tns to Agr-s, motivated by LF invisibility.

Once we assume that the V-feature of Tns was strong, then, surprisingly, this grammar assigns the following derivation to an ordinary declarative clause. At the point when T' is constructed, there is a choice whether to raise the verb to Tns or to insert do to satisfy the strong V-feature of Tns. Given the principle of Procrastination, insertion of do is less costly, because if do is inserted to satisfy the strong V-feature of Tns, verb raising can be put off until LF. Hence this option is adopted. Then TP and the topmost AgrP is constructed, with the raising of the subject to Spec of Agr-sP. The crucial step is illustrated in (3.79).

(3.79) John did speak to Mary.

a. $[_T$ Tns $[_{AgrP}$ Agr $[_{VP}$ John speak to Mary]]]

b. $[_T$ do+Tns $[_{AgrP}$ Agr $[_{VP}$ John speak to Mary]]]

Note that the insertion of do is made possible only after the syntactic category modal is established. In fact, this is the course of the changes that took place: the change from affixal to nonaffixal modal was going on at the time when do-support was coming to be used more and more frequently across all environments. Thus, it is no coincidence that the rise of do and the appearance of a new category modal took place at the same time.[43]

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[43] Cf. Denison (1985) for the idea that the development of modals is a necessary step in the development of the dummy do. Roberts (1993a, 294-

Under this account, the apparent optionality of do-support in the corpus must be due to bilingualism, since the version John spoke to Mary is blocked by the derivation associated with (3.79) in the grammar which concerns us. This is not implausible, since even intrasentential code-switching is possible, as noted by Kroch (1989b). Here, the other grammar that yields sentences like John spoke to Mary simply lacks the dummy do or the syntactic category of modal altogether. The difference between the two is therefore minimal, which makes the mixed use of the two grammars easier.

At first sight, it seems strange to have a verb-raising language without actual verb raising, but this situation arises given certain linguistic environments. All that is needed is data which contain the trigger for verb raising and also the input that allows categorization of do as a modal. Thus, the development of nonaffixal modals is a crucial step in the development of the dummy do. It should be noted here that sentences with and without the periphrastic do coexisted at that time, whether they are affirmative or negative. Suppose that the trigger for the strong V-feature of Tns is a case like (3.75a), repeated below, which changes the default value of weak into the marked value of strong.

(3.75) a. John spoke not to Mary

Then, the examples without the dummy do serve as the trigger for verb raising. At the same time, the child has to establish that the parameter

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295) points out that the dummy do became restricted to the finite clauses in the early 16th century, paralleling the development of modals.

Loss of verb raising to Agr-s, another important factor, spans a longer period of time. See Watanabe (1993a) for a detailed discussion of the changes concerning verb raising in English and in Mainland Scandinavian.

concerning the modal feature is nonaffixal. Perhaps defective person/number agreement of modals will do for this purpose, as originally assumed in Lightfoot (1979).[44] When a child encounters examples like John did not come after setting the modal parameter as nonaffixal, do is acquired as a modal. With the acquisition of the dummy modal do, forms like (3.80) become possible in this grammar.

(3.80) John did speak to Mary.

Since examples like (3.80) are analyzable in this grammar, no further change happens and the stable stage is reached.

The crucial assumption here is that there is no parameter resetting from the marked to the unmarked value. That is, once a child has set the nonaffixal modal parameter, (s)he cannot relearn the current grammar and go back to the modal-less grammar even when faced with examples like (3.81).

(3.81) a. John spoke to Mary.

b. John spoke not to Mary.

The examples in (3.81) are ill-formed for the grammar which is verb-raising and has the dummy modal do. The example (3.81b) is ill-formed for the grammar which has the dummy modal do regardless of whether it is verb-raising or not, since the presence of negation requires insertion of a modal due to (3.17). One possibility is that the child will become bilingual in such

[44] According to Warner (1983, 199), complete loss of subject agreement in modals started around the late 17th century.

cases, with grammars with and without affixal modals. Perhaps this accounts for the apparent optionality of the dummy do during the period in question.

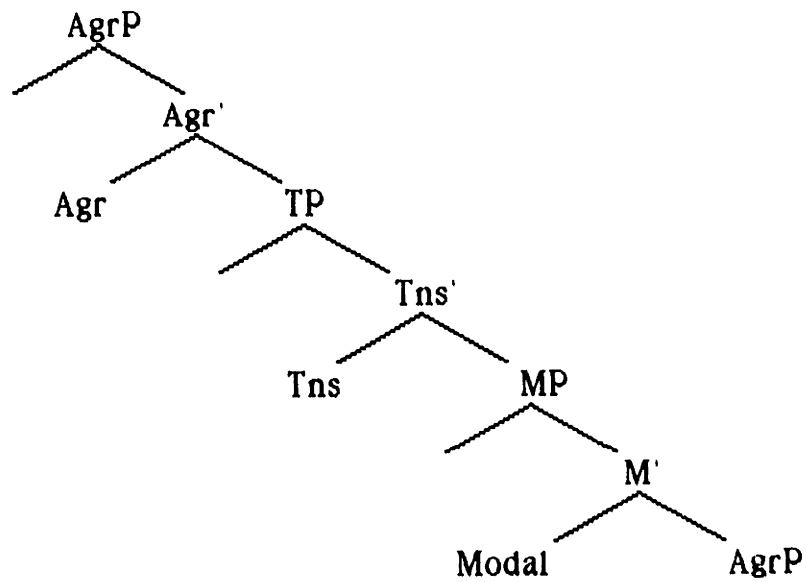
Notice that here we have an interesting situation in which a child fixes the parameters and the lexicon for a single grammar by utilizing the input set which is only provided by combining two different grammars. The examples like (3.75a)-(3.81b), which trigger the strong V-feature on Tns, are not allowed by the grammar which has the dummy modal do in the lexicon at the same time, which is the ultimate grammar that the child acquires. There are two ways to think about this situation. One possibility is that this scenario requires ordered fixing of parameters. In the case at hand, the strong V-feature of Tns must be acquired prior to the acquisition of the nonaffixal value of modality. The other order of parameter fixation necessarily results in a non-verb raising language. The other possibility is that the trigger for a parameter is fixed independently of the rest of the grammar, so that the child has only to look for cases like (3.81b) to set the verb-raising parameter, as long as the child can analyze (3.81b) as consisting of a finite verb and two DPs with an appropriate theta-role interpretation. In this situation, parameter setting is made easier, since the child can only look at a relatively restricted set of primary data, without giving a full analysis of the data within his grammar which is characterized by a particular setting of parameters at a aprticular time of acquisition. Under this possibility, what is required out of the analysis of the data by the child is just UG compatibility. That is, the trigger is characterized directly in terms

of UG, without the child having to take into account the current setting of parameters.[45]

3.2.5.3. Modal adjoined to Tns

If the above story is on the right track, we have evidence that a modal is adjoined to Tns by Generalized Transformation. Suppose that a modal projected an independent modal phrase as in (3.82).

(3.82)



Then there would be no basis for comparing the derivation from (3.83a) in which do is inserted and the one in which it is not.

(3.83) a. John did speak to Mary.

b. John spoke to Mary.

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[45] Issues of acquisition are dealt with in depth in Watanabe (1993a).

The former derivation involves overt raising of the modal to Tns (to Agr and perhaps the verb to the lower Agr if the V-feature of Agr is strong) and LF raising of the verb-Infl complex, while the latter raises the verb to Agr to Tns to Agr. In this case, we have different lexical items, and we have to compare the cost of overt raising of the dummy modal, on the one hand, and the cost of overt raising of the verb-Infl complex on the other. When we have different arrays of lexical items, the Economy consideration simply does not apply. Even if we can gloss over this difference by saying that the dummy do is ultimately replaced by the verb-Agr complex (as we concluded above), we have to compare the following two derivations:

(3.84) a. overt syntax: adjunction of a modal to Tns
LF syntax: i) adjunction of V to Agr-o
ii) replacement of do by raising V+Agr to Tns
iii) raising of V+Agr+Tns to agr-s

b. overt syntax: i) adjunction of V to Agr-o
ii) raising of V+Agr to Tns
LF syntax: raising of V+Agr+Tns to agr-s

(3.84a) is the derivation to be chosen to yield examples like John did speak to Mary. (3.84b) results in overt raising of the finite verb. The principle of Procrastination prefers the derivation in (3.84a), but it contains an extra chain formation operation of moving the dummy modal in overt syntax. Thus, it is not clear which derivation is more economical. If we assume that a modal is directly introduced into structure by adjunction to Tns, on the other hand, no such complication arises. Thus, it is more desirable and promising to assume that modals are adjoined to Tns.

Before leaving, let us briefly discuss the loss of the dummy do in affirmative sentences in the 17th century. Thus, sentences like (3.85) are no longer grammatical in English.

(3.85) *John did speak to Mary.

Again, we rely on language acquisition mechanism, in addition to UG. Recall that we have assumed that the trigger data for the strong V-feature of Tns is an example like (3.81b).

(3.81) b. John spoke not to Mary.

If the linguistic environments only contain data like (3.86),[46] the value of the V-feature of Tns remains at default, namely, weak, since there is no evidence to set it to the marked value of plus raising.[47]

(3.86) John did not like Mary.

Then, even if the dummy do is acquired as a modal from negative sentences, there is no reason to insert it in affirmative clauses, since nothing requires that option. Recall that we have a similar situation in Basque. It was

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[46] That is, assuming that the bilingual situation was no longer available to children. Rissanen (1991) concludes, by looking at trial records, that the periphrastive do in affirmative sentences was more frequent in spoken language than in written texts and emphasizes the spoken language nature of the periphrastic do.

[47] See Watanabe (1993a) for a detailed discussion of the learnability of verb raising, using the material discussed here.

suggested above that the overt auxiliary raising in Basque negative sentences is due to the requirement that the dummy modal marking on the auxiliary must lead to feature checking in overt syntax, i.e., the dummy marking cannot be vacuous. The problem with (3.85) is the same: the dummy do cannot be vacuous. Here we invoke the Economy of Representation, stated as follows:

(3.87) Economy of Representation

> Expletive elements can be inserted into the structure only if insertion leads directly to satisfaction of some (strong) feature discharge.

Expletive elements, in contrast to contentful items, do not contribute to semantic interpretation. Thus, unless there is a demand from the computational system, they cannot be inserted.

If the V-feature of Tns is strong, insertion of do results in feature checking. But otherwise, insertion of do serves no purpose. Thus, as long as the V-feature of Tns is weak, the dummy do cannot appear in affirmative sentences. This explains why V-to-Infl was lost at the same time as the ban on the periphrastic do in affirmative declarative sentences set in.[48]

To summarize, we have seen that the periphrastic do that appeared even in affirmative sentences in the early Modern English period provides an

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48 There are dialects of English which retain the dummy do in affirmative sentences. Roberts (1993a) discusses South-Western England dialects. Caribbean English (O'Neil 1993) is another such example. We assume that do in these dialects is analyzed as a realization of Tns.

argument for the hypothesis that the dummy do is directly inserted through adjunction to Tns.

3.3. Wh-Agreement in Palauan

We now turn to cases where wh-movement induces do-support. Recall that one of the problems posed by do-support in English matrix questions is that only non-subject extraction triggers it. Do-support, however, is not the only place where we find subject/nonsubject asymmetries, as insightfully observed by Koopman (1983), who linked the ill-formedness of (3.88a) to the familiar that-trace effect illustrated by (3.88b).

(3.88) a. *Who did buy the book?

b. *Who do you think that bought the book?

Before tackling the English cases, however, we will take a look at the phenomenon which has attracted less attention in the mainstream literature in this connection.

3.3.1. The Phenomenon

Georgopoulos (1985; 1991a; 1991b) discusses an interesting phenomenon in Palauan, a Western Austronesian language. Chamorro also displays a similar one, as described by Chung (1982) and Chung and Georgopoulos (1988), but we will use Palauan for illustration, since Chamorro is a little more complicated.

In Palauan, which is a VOS language, verbs show a special morphology when there is an A'-dependency. And this morphology is restricted to the verbs that intervene between the operator position and the variable position. Wh-questions, Clefts, Relativization, and Topicalization behave in the same way in this respect.

Palauan is a verb-initial language and shows overt subject agreement on the verb. Object agreement shows up in the perfective. Consider the following.

(3.89) a. ng-te'a$_i$ [a kileld-ii a sub e$_i$]
CL-who R-PF-heat-3s soup
b. ng-kileld-ii a sub a te'ang
R3s-PF-heat-3s soup who
'Who heated up the soup?' (=a,b) Georgopoulos (1991a, 155-156)

(3.90) ng-ngera$_i$ [a le- silseb -ii e$_i$ a se'el-il]
CL-what IR3-PF-burn-3s friend-3s
'What did his friend burn?' Georgopoulos (1991b, 88)

(3.91) a. a Naomi$_i$ [a rirell - ii a kliou e$_i$ el mo er ngak]
R-PF-make-3s dessert L go P me
b. a kliou$_i$ [a l-lirell - ii e$_i$ a Naomi el mo er ngak]
dessert IR3-PF-make-3s L go P me
'Naomi made a dessert for me.' (-a,b) Georgopoulos (1985, 78)

The verb shows different morphology, depending on whether a subject or a nonsubject is extracted. When a subject is extracted as in (3.89a), the verb

takes realis morphology and loses subject agreement, which is present when the in-situ strategy is used as in (3.89b). when a nonsubject undergoes movement, the verb takes irrealis morphology and retains subject agreement, as in (3.90). (3.91) illustrates the same point with Topicalization. Georgopoulos reports that the mood distinction between realis and irrealis is purely syntactic in the context of wh-movement.[49,50] That is, there is no semantic difference between (3.89a) and (3.90) which is due to the difference in mood. Interestingly, this special morphology is sensitive to the local information. To quote her description:

(3.92) In the structural domain between an A'-binder and its variable, the verb agrees with

a. the Case of the clausal argument containing the variable, or

b. the Case of the variable. Georgopoulos (1985, 82)

Here she talks about agreement with Case of variables and clauses, but what is actually taking place is that extraction of (and out of) subjects and nonsubjects displays different morphology on the verb: realis for subjects,

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[49] The mood distinction in Palauan is the following: realis in declaratives and yes/no questions; irrealis in negations, conditionals, commands, and some adverbials. Georgopoulos (1985, note 19) notes that the irrealis context retains the irrealis morphology even if the subject is extracted. It is important to keep in mind that negation chooses irrealis. We will come back to this point later.

[50] Georgopoulos (1985; 1991b) argues that Palauan uses only the resumptive pronoun strategy, but wh-movement is an option which is available as a null option. Thus, there is no reason to believe that this option is prohibited unless there is strong evidence. Georgopoulos (1985; 1991b) does not present such evidence. We will therefore assume that movement takes place when no island intervenes.

irrealis for nonsubjects. We have seen the simplest cases above. Consider (3.93), which involve long-distance extraction.

(3.93) a. ng- te'a$_i$ [a l- ilsa a Miriam [el milnguiu er a buk er ngii e$_i$]]
CL who IR3-PF-see Comp R-IM-read P book P her
'Who did Miriam see reading her book?' Georgopoulos (1991b, 91)

Here, the subject of the most embedded clause is extracted and that is why the verb of the most embedded clause is inflected with realis morphology. Notice the absence of subject agreement. The verbs of the higher clauses, on the other hand, employ irrealis, since extraction is out of a nonsubject for each of these verbs. That is, the variable is a non-subject constituent of these verbs. Note also that a complementizer is present in front of each embedded verb.[51] This shows that the realis/irrealis distinction cannot be anything other than verb morphology.

In (3.94), the verbs of both clauses display irrealis, since the variable itself is also a nonsubject.

(3.94) a bung$_i$ [el l- ulemdasu a del -ak [el l- omekeroul e$_i$ a Mary er a sers -el]]
flowers Comp IR3-think mother-1s Comp IR3-grow P garden-3s
'the flowers that my mother thought that Mary was growing in her garden'
Georgopoulos (1991b, 91)

---

[51] The particle e in (3.93a) also plays a complementizer-role, according to Georgopoulos (1991b, 42).

In (3.95), both the embedded clause and the higher clause show realis.[52]

(3.95) a Mary$_i$ [a kltukl [el kmo ng- oltoir er a John e$_i$]]
R-clear Comp R3s-IM-love P
'Mary, (it's) clear loves John.' Georgopoulos (1991b, 90)

Here, the variable and the clause which contains the gap are both subjects.

To summarize, the important point here is that something special happens to the verbal morphology when wh-extraction takes place[53] and that this special morphology shows a subject/non-subject asymmetry. Furthermore, this sensitivity is defined with respect to each verb intervening between the variable and the operator.

3.3.2. The Account

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52 Georgopoulos (1991a, note 20) claims that exceptional presence of subject agreement in (3.95) is due to a semantic property of the complementizer. Chung and Georgopoulos (1988) note that the complementizer el kimo governs realis morphology regardless of whether there is a variable or not. There is a different option for the choice of C°, however, as can be seen from (i).

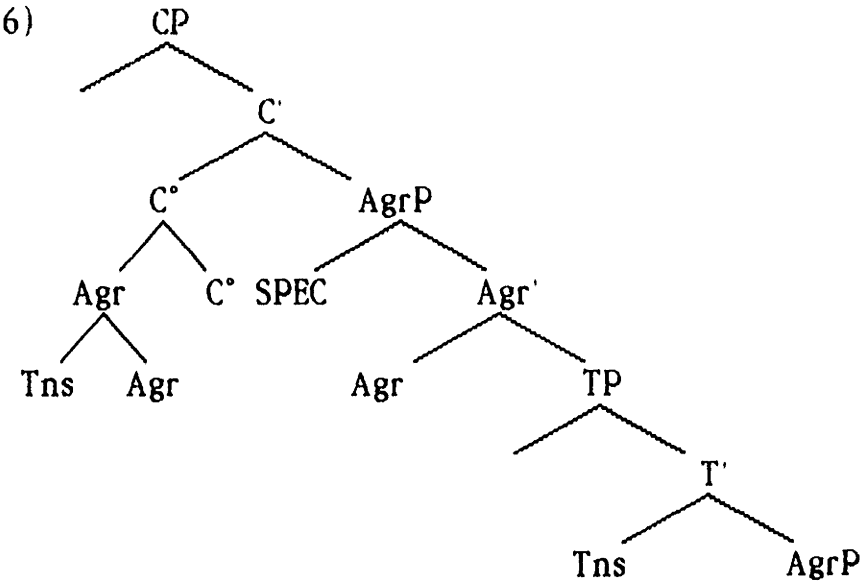
(i) a John$_i$ [a kltukl [el l-oltoir er ngii$_i$ a Mary]]
R-clear Comp IR-3-love P him
'John, it's clear taht Mary loves (him).' Georgopoulos (1991b, 90)

Although a resumptive pronoun is used here, the agreement on the embedded verb records nonsubject extraction.

53 We have to assume that resumptive pronouns involve LF movement, as proposed by Demirdache (1991), since the resumptive pronoun strategy also involves this special morphology.

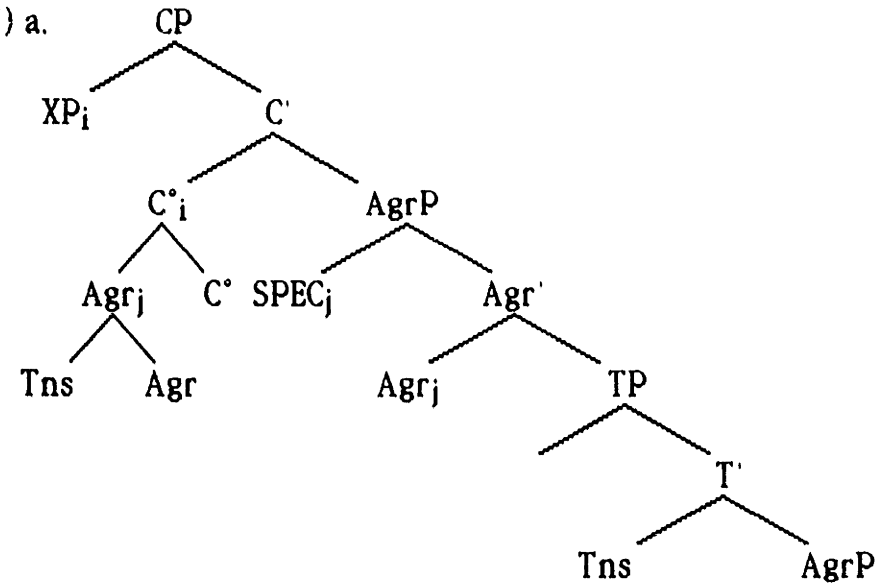
Next, we will see how our framework accommodates the phenomenon in a natural way. In fact, the account comes almost for free. Recall that the finite verb ends up in Comp at LF in every language under our proposal. Thus, at LF, we have the following structure when no extraction takes place.

(3.96)

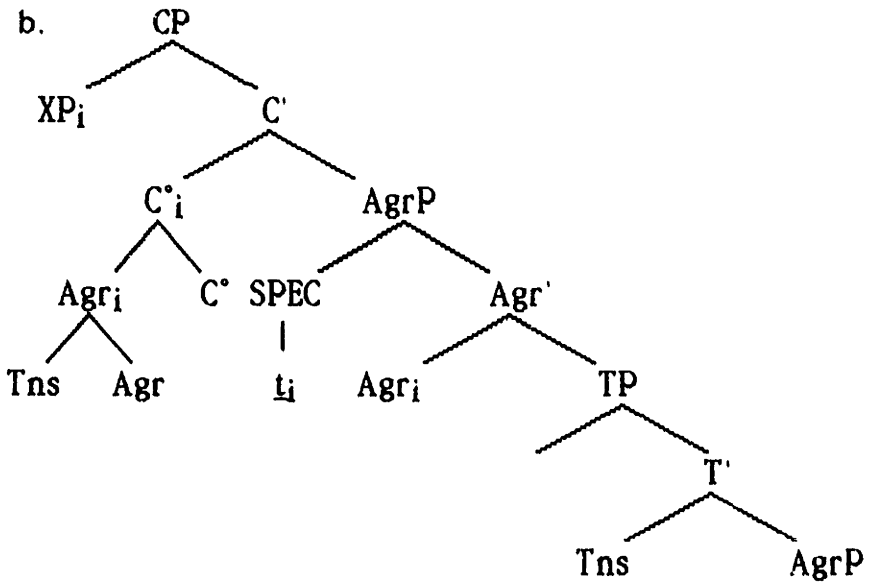


Now consider what happens when a wh-element (an operator or a trace) is in Spec of CP. There are two possibilities. Indices are given to represent Spec-Head agreement and movement relation.

(3.97) a.



b.



(3.97a) is a case where a non-subject is extracted; (3.97b) is a case of subject extraction. Notice that these are the three configurations that the Comp can enter into. Recall also that feature checking holds between Agr and Comp under our theory of Case checking. Thus the feature [F] on Agr has to correspond to the one that Comp has. Now suppose that Spec-head agreement at CP has an effect on the feature content of C°. It follows that Comp can be in three different configurations, resulting in three different

kinds of feature content. In order to check the feature of Comp, then, the feature of Agr must have three varieties. And the feature of Agr in turn is created through Case checking, which is based on the Case feature of Tns. This is what we have been calling an [F] feature. It follows that Tns should have three varieties as well. Let us suppose that Tns is the location of realis and irrealis morphology. Then we can explain why the verb changes shape depending on how wh-extraction takes place: it is a reflection of a configuration of Comp. Irrealis is the verb form that is used when something that does not agree with Agr-s appears in Spec of CP.[54] If the occupant of Spec of CP agrees with Agr-s, the verb drops the agreement morpheme, while retaining realis morphology. Let us say that the lack of agreement is also due to the shape of Tns. Then we have some idea why wh-agreement takes place: Tns encodes the information to which Comp is sensitive. In a sense, there are three subspecies of Nominative Case, depending on which element is extracted.

It should be emphasized that this account becomes possible only under our modified Case theory, which requires the finite verb to be raised to C° at LF in every language. This verb raising creates a configuration in which A-processes like Case interact with A-bar processes which make use of Spec of CP. Thus, the phenomenon of wh-agreement lends support to our modification of Case theory.

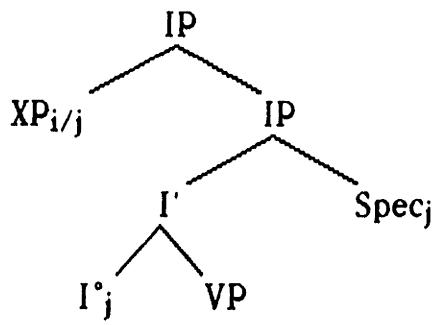
Georgopoulos (1991a) proposes a very similar account of wh-agreement. But in her analysis, Comp is not playing any role, since wh-movement in

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[54] Georgopoulos (1991b) reports that wh-agreement in the case of adjunct extraction is optional. Our system cannot explain this adjunct/argument asymmetry.

Palauan is assumed to be adjunction to IP. For her, the relevant configuration is as follows:

(3.98)



Thus, agreement of I° with the IP adjoined element is assumed to be the factor responsible for the wh-agreement. Note that our account is more restrictive in that Spec-Head agreement is the only form in which a maximal projection can agree with a head. Thus, our account can claim superiority over hers.

Now Georgopoulos indeed has some reason to claim that overt wh-movement ends up as IP adjunction. One major consideration is the position of wh-phrases in indirect questions. They can either occur in-situ or be preposed. But when they are preposed, they still occur to the right of a complementizer, as in (3.99).

(3.99) ak-uker [el kimo ng-te'a a 'o-milsang]
R-1s-ask Comp Cl-who IR-2-PF-saw
'I'm asking who you saw.' Georgopoulos (1991b, 146)

In our framework, the head of an A'-chain cannot be in an IP-adjunction position. There are two alternatives. One is to assume CP recursion here.

Another option, which is in fact in line with Georgopoulos's (1991b) claim, is to assume the cleft structure for indirect questions. Then, (3.99) is analyzed as a cleft with a wh-phrase in-situ, as in (3.100).

(3.100) ... that it is who ...

Since the choice is immaterial for our purposes, we leave open which is on the right track.

3.4. wh-Agreement in English

Next, we will look at English, assuming that Palauan reflects the UG principles very transparently.

3.4.1. Subject-Nonsubject Asymmetries

The following is the summary of the shape of A'-chains in English tensed clauses. Here I will ignore intermediate clauses, which behave like the nonsubject extraction cases.

(3.101) (A) Topmost position

i) matrix questions

a. $[_{CP}\ Wh_i\ [_{C'}\ \emptyset\ [_{IP}\ t_i\ V_f \ldots$ (subject extraction)

b. $[_{CP}\ Wh_i\ [_{C'}$ do $[_{IP}$ Subj $V_f \ldots$ (nonsubject extraction)

ii) embedded questions

a. $[_{CP}\ Wh_i\ [_{C'}$ *that/$\emptyset\ [_{IP}\ t_i\ V_f \ldots$ (subject extraction)

b. $[_{CP}\ Wh_i\ [_{C'}$ *that/$\emptyset\ [_{IP}$ Subj $V_f \ldots$ (nonsubject extraction)

iii) relative clauses with an empty operator

a. $[_{CP}\ Op_i\ [_{C'}$ that/*ø $[_{IP}\ t_i\ V_f \ldots$ (subject extraction)

b. $[_{CP}\ Op_i\ [_{C'}$ that/ø $[_{IP}$ Subj $V_f \ldots$ (nonsubject extraction)

iv) relative clauses with an overt operator

a. $[_{CP}\ Wh_i\ [_{C'}$ *that/ø $[_{IP}\ t_i\ V_f \ldots$ (subject extraction)

b. $[_{CP}\ Wh_i\ [_{C'}$ *that/ø $[_{IP}$ Subj $V_f \ldots$ (nonsubject extraction)

(B) most embedded clauses

a. $[_{CP}\ t_i\ [_{C'}$ *that/ø $[_{IP}\ t_i\ V_f \ldots$ (subject extraction)

b. $[_{CP}\ t_i\ [_{C'}$ that/ø $[_{IP}$ Subj V ... (nonsubject extraction)

Observe that a subject/nonsubject asymmetry always exists except in embedded questions and relatives headed by an overt operator.[55] Although the manifestation of the asymmetry takes a different shape in each paradigm, it is tempting to assimilate the English pattern to that of Palauan. And that is the possibility that we will pursue.

Recall that although the asymmetry is manifested in the shape of Tns in the case of Palauan, Comp is also supposed to have three different shapes. Now let us suppose that it is a parametric choice across languages and within a language depending on which A'-chain is involved whether the asymmetry is phonologically manifested on Comp or on Tns or on both. In English, the asymmetry is manifested mostly on Comp. The so-called that-trace effect, illustrated in (3.102), is one such instantiation

(3.102) Who do you think (*that) t came to the party?

---

[55] It is fair to ask why these two cases suppress the asymmetry.

There is another form of the that-trace effect in the case of relatives.

(3.103) the boy *(that) t is reading the book

Notice that it is rather the absence of that which causes ill-formedness in (3.103). It is somewhat arbitrary to decide which is more basic than the other, though it might turn out that a principled theoretical decision can be made about which context requires an overt complementizer.[56]

One factor that blurs the picture in English is the fact that the shape of intermediate Comp in the case of nonsubject extraction is the same as in the case where no extraction takes place.

(3.104) a. What do you think (that) John bought t?

b. I think (that) John bought it.

If we turn to the matrix question, subject extraction and non-extraction take the same form, isolating object extraction. Observe (3.105).

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[56] One might think that the absence of an overt complementizer form in cases like (3.103) causes a serious structural ambiguity so that it is difficult to parse despite its grammaticality. Chomsky and Lasnik (1977) note, however, that Black English allows deletion of the wh-phrase in cases like (i).

(i) [DP the man (who) own the land] came over.

This dialectal contrast indicates that the complementizer deletion is a matter of grammar.

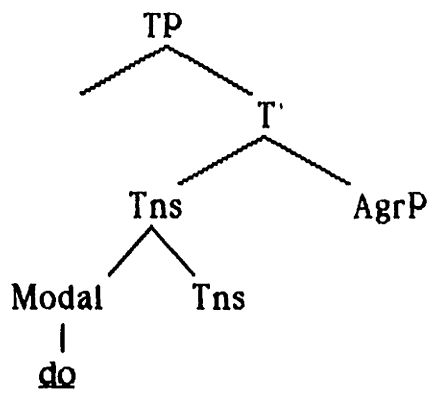
(3.105) a. John bought it.

b. Who t bought it?

c. What did John buy t?

In this paradigm, both Comp and Tns are implicated. I assume that the dummy do is inserted under Tns as in (3.106), maintaining the parallelism with the case of negative sentences and the Palauan irrealis. Comp in the case of nonsubject extraction has a strong V-feature that attracts this inserted do, causing SAI.

(3.106)



Let us suppose, as in the case of negation, that Tns in the matrix nonsubject extraction has a strong V-feature that can only be satisfied by inserting a modal. Then, the only way to get a modal in phrase structure is direct adjunction to Tns by a binary generalized transformation. Since the matrix C° has a strong V feature, the modal-Tns complex is raised to C° in order to check off this feature, picking up Agr-s on the way. Below is the structure for (3.105c) after raising to Comp.

(3.107) $[_{CP}$ what$_i$ [do-Tns-Agr-Comp]$[_{AgrP}$ John$_j$ t $[_{TP}$ t $[_{AgrP}$ Agr $[_{VP}$ t$_j$ buy t$_i$ ...

Since do is a dummy verb, the main verb will be raised to replace it at LF, in order to get rid of this meaningless entity. The LF structure is the following:

(3.108) $[_{CP}$ what$_i$ [buy-Agr-Tns-Agr-Comp]$[_{AgrP}$ John$_j$ t $[_{TP}$ t $[_{AgrP}$ t $[_{VP}$ t$_j$ t t$_i$ ...

Here the verb-Agr complex is directly adjoined to the Tns in Comp, skipping the intervening traces of Tns and Agr. This is possible since Agr will ultimately disappear.

An alternative derivation in which the main verb replaces the inserted do before Spell-Out and is raised to Comp is ruled out by the Economy of derivation. Procrastination prefers the derivation in which verb-raising takes place at LF.

Now let us consider the role of modals in more detail. Remember that Palauan retains irrealis in the face of subject extraction, if the non-extraction context requires irrealis. Thus, in (3.109) and (3.110), the verb in the conditional and adverbial takes the irrealis form regardless of Topicalization within it.

(3.109) a. a David a ldese'li a bilas, e ngmou'als er kid.
IR-3-build boat Ptc R-3s-tell P us

b. a bilas a ldese'li a David, e ngmou'als er kid.
boat IR-3-build

'If David builds a boat, he will tell us.' (=a, b)

Georgopoulos (1991b, 89)

(3.110) a. a bo lme'ellakl a skuul, e ngungil er a omesuub.
IR-Aux IR-3-calm school Ptc R-3s-good P R-study
b. a skuul a bo lme'ellakl, e ngungil er a omesuub.
school IR-Aux IR-3-calm
'When school calms down, it's a good place to study.' (=a, b)
Georgopoulos (1991b, 89)

(3.109a) has a subject topic, whereas (3.109b) has a nonsubject topic. Still the verbs have the same irrealis form, which is found with conditionals. Though (3.110a) has no topic and the subject is topicalized in (3.110b), the verbs take the irrealis form.

In English, too, the presence of a modal like can blocks do-insertion, as in (3.111).

(3.111) What can John buy?

In (3.111), can satisfies the strong V-feature of Tns. Further insertion of do does not lead to satisfaction of any feature discharge, hence prohibited due to the Economy of Representation (3.87). (3.111) is exactly like (3.107, 108) except that can will not be replaced at LF since it has semantic content. Therefore, what is required by wh-agreement is just the presence of a modal element, and do is inserted only when there is no other modal around. Thus, we can state the following:

(3.112) Syntactic realization of wh-agreement on Tns takes the form of a

strong V feature that can be satisfied only by a modal.[57]

(3.112) is a morphological parameter. If a strong V feature is selected, then a modal is inserted; whereas if a weak V feature is selected, nothing happens. English matrix questions and Palauan wh-chains in general take the strong value. And in the case of Palauan, the dummy modal coincides with irrealis.

A word is in order about the cases that contain <u>have</u> or <u>be</u>. They are already raised to Agr-s in declaratives. Thus, in matrix questions, they have already replaced the dummy <u>do</u> before Spell-Out even though <u>do</u> is required by (3.112). Hence the apparent absence of <u>do</u> in the following.

(3.113) a. Who has he talked to?

b. What is he looking for?

To sum up, English also manifests the asymmetrical wh-agreement, but in a more opaque way than Palauan. Furthermore, the locus of manifestation is mostly on Comp, except in matrix questions. Let us call Comp/Tns in the case of subject extraction $Comp_S$/Tns_S. Comp/Tns in the case of nonsubject extraction will be called $Comp_{NS}$/Tns_{NS}. The paradigm in (3.111) can be summarized as follows.

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[57] Note that our account is somewhat reminiscent of Baker's (1981, 1991) analysis, where (matrix) questions, negations, and emphatic constructions select a special VP headed by the dummy <u>do</u>. Our account of the dummy <u>do</u>, however, is placed in a more general theoretical framework, claiming universality. One manifestation of this difference lies in categorization of <u>do</u>: while Baker treats it as a verb, we regard it as a modal. Because of the universal character of our account, many of the stipulations in Baker's account follow from general principles here.

(3.114) a. $Comp_S/Tns_S$ ---> { ø in matrix/indirect questions and most embedded clauses; that in topmost relative clauses }

b. $Comp_{ns}/Tns_{ns}$ ---> { do in matrix questions; that/ø in relative clauses headed by an empty operator and most embedded clauses; ø in indirect questions and relative clauses headed by a wh-operator }

We will look at some crosslinguistic variations in sections 3.6 and 3.7.

3.4.2. Previous Accounts

The that-trace effect, lack of do-support for subject extraction, and the obligatory presence of that in relative clauses have somehow been treated as unitary phenomena in the past literature (cf. Chomsky (1981), Koopman (1983), Lasnik and Saito (1992), Law (1991), Pesetsky (1982), Rizzi (1990), among others). There are two points which are common to all these accounts. First, they all assume that nothing special is happening in nonsubject extraction. In view of Palauan, this is wrong; there is something special about non-subject extraction as well. Second, they all locate the problem of subject extraction directly in the shape of complementizers. Again, this way of looking at the problem cannot be extended to Palauan, where the subject/nonsubject asymmetry shows up on the verb morphology.

Rizzi's (1990) and Law's (1991) accounts, however, are the closest to ours, among others. Rizzi hypothesizes that a tensed Comp in English has an option of being expanded into Agr or that. When expanded into Agr, it agrees with the element in Spec. Now in his framework, a nonpronominal empty category requires proper head-government, with potential head-governors limited to lexical categories, Tns, and Agr. In the case of subject extraction, only the Agr in Comp can properly head govern the trace, on the assumption that proper head government is defined in terms of c-command, not m-command; Infl does not c-command the trace in Spec of IP. Hence the contrast in (3.115).

(3.115) a. Who do you think [t_i Agr [t_i Infl left]]

b. *Who do you think [t_i that [t_i Infl left]]

In the case of object extraction, however, nothing special is taking place according to Rizzi (1990), since the trace is properly head-governed by the verb. Thus, there is no way of extending this account to Palauan. Locating the source of the that-trace effect in the absence of agreeing Comp is problematic, too. Recall that Palauan drops subject agreement when subject extraction takes place. Therefore, even if Rizzi's account were to be extended to take into account of the shape of the finite verb or Infl as well, the prediction would go in the opposite direction.

These two problems do not arise in our account, since we have abstracted away from rather superficial forms of functional categories and concentrated instead on the abstract three-way contrast that exists. Determination of superficial forms that realize the contrast is relegated to the task of morpho-phonology. Note also that we have eliminated the recourse to head-

government, which Rizzi crucially relies on. As we noted in the account of the distribution of PRO in Chapter 2, the Minimalist approach hopes to stick to straightforward X-bar theoretic notions, eliminating notions like government. Our account achieves this goal, too, in addition to its more abstract, hence more general character. The similarity of Rizzi's account to ours, however, lies in his reliance on Spec-head agreement at the CP level, which is lacking in Law's (1991).

Law (1991), on the other hand, relates the that-trace effect to the possibility of verb movement to Comp. Informally, under his account, the verb-INFL complex cannot replace the complementizer in (3.115b), resulting in the failure of head government of the trace. Law denies the role of Spec-head agreement at the CP level, because he is looking at the cases where nothing special happens in object extraction. Thus, our account can be seen as a combination of the two approaches, though cast in quite a different framework.

3.4.3. Parametric Variations

Sobin (1987) discusses a dialect of English which does not display the that-trace effect. Thus, in this dialect, cases like (3.116) are acceptable.

(3.116) Who do you think that t won the game?

Apparently, there is no other difference from the "standard" dialect.

If this is the case, it highlights a rather trivial morphological aspect of the that-trace effect. In terms of our account, it has to do with the morpho-

phonological realization of the complementizer which is used in the case of subject extraction, while syntax stays the same.

Given this character of our account, we expect some other variations in other dialects. We have mentioned one in note 56, where we cited Chomsky and Lasnik's (1977) observation that relative clause cases like (3.117) are acceptable in Black English.

(3.117) [$_{DP}$ the boy [$_{CP}$ t is reading the book]]

Let us note another one, discussed by McCloskey (1992b). In Hiberno English, we find inversion in embedded questions as well.[58]

(3.118) a. Ask your father does he want his dinner.

b. I wonder what should we do.

This time, syntax as well as morphology is involved, since the V-feature of both Tns and Comp is strong.

At this point, the full range of the variations is not explored yet. It may turn out that further restrictions are necessary, but that is a topic for future research.

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[58] There is a restriction on the kind of matrix predicates which allow inversion. Thus, the following are impossible.

(i) a. *The police couldn't establish who had they beaten up.
b. *It was amazing who did they invite.

This phenomenon is related to the issue of CP recursion. See McCloskey (1992b) and Roberts (1993b) for further discussion.

3.4.4. Summary

We have seen that the wh-agreement phenomena including do-support in English arise from the interactions between t'.e A-processes and the A-bar processes in CP. Variations found among languages are then reduced to low-level differences in morpho-phonological manifestation of the underlying syntactic mechanism.

3.5. Modal, Negation, and Wh-Agreement

In this section, we will some more connections between wh-agreement and negation.

3.5.1. V2 and Negation in Mainland Scandinavian Languages

The Mainland Scandinavian languages show striking contrasts with English in that they lack the counterpart of do-support in matrix questions and negative sentences. Consider the following Swedish examples.

(3.119) a. Vem träffade han på stationen?
who met he at the-station
'Who did he meet at the station?'

b. Varför öppnade han inte brevet?
why opened he not the-letter
'Why didn't he open the letter?' Platzack (1985, 49-50)

(3.120) Jag undrar varför han inte öppnade brevet.
I wonder why he not opened the-letter
Platzack (1985, 50)

The examples (3.119) illustrate the fact that matrix questions trigger inversion of the finite verb. Note that the Mainland Scandinavian languages do not raise the finite verb in overt syntax, as shown by Holmberg (1986, 1988). This can be seen from the contrast between (3.119b) and (3.120). (3.120) further illustrates that there is no counterpart of do-support in negative sentences. We have already seen that overt verb raising to C° in matrix questions poses a serious problem for the account of the English do-support which is proposed by Chomsky (1991).

Lack of the counterpart of do-support in both cases lends support to our approach, which attributes the do-support in English to the special strong V-feature of Tns, namely, (3.22).

(3.22) Tns has to have a strong V-feature which can only be satisfied by a modal, in order to be able to host NegP.

This is grounded on an LF condition (3.25).

(3.25) Clauses which host NegP must contain the feature [+modal] in their LF representation.

Platzack (1986; 186, 196) notes that the Germanic V2 languages including Mainland Scandinavian do not have the modal auxiliaries of the type found in English.[59] Let us see the evidence. First, what look like modal verbs

[59] This does not mean that there is a subclass of verbs which possess a special clustering of properties. In particular, the verbs that correspond to the English modals might belong to the class of restructuring verbs in the

semantically can appear in non-finite contexts.[60] This is illustrated by a Swedish example (3.121).

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sense of Rizzi (1982). Roberts (1993, 338) suggests this possibility for Middle English pre-modals.

[60] Platzack (1979, 46) observes that the epistemic reading of these verbs must be associated with a finite tense. The same restriction applies in Danish, according to Vikner (1988), with a possible exception of kunne 'can' and embedding under raising predicates. In Icelandic, embedding of an epistemic modal verb under another epistemic one or an ECM/raising predicate is freer, according to Thráinsson and Vikner (1992), though the other non-finite contexts disallow epistemic modality reading. This restriction to the finite contexts must be a semantic constraint on the interpretation of epistemic modality. It should be noted that the same verb allows both epistemic and root readings, as in (i).

(i) a. Klockan måste vara fem. 'It must be five o'clock.'	epistemic
b. Jag måste betala min skatt. 'I must pay my taxes.'	root
(ii) a. Klockan kan vara fem. 'It may be five o'clock.'	epsitemic
b. Pelle kan simma. 'Pelle is able to swim.'	root

And as we have seen in the text, the root usage is possible in non-finite contexts. Thus, exclusion of the epistemic reading from non-finite contexts has nothing to do with morpho-syntactic defectiveness of these verbs.

Picallo (1991) also observes that modal verbs in Catalan lose the epistemic reading in non-finite contexts, although the root reading is possible in these contexts.

Evers and Scholten (1980) show that the same restriction applies to epistemic verbs in Dutch and Italian, too. Thus, this constraint seems to be a universal semantic property of epistemic modality.

It is interesting to note in this connection that Iatridou (1990) observes that adjectival modality predicates like 'possible' and 'probable' are incompatible with temporal interpretation under the epistemic reading (which Iatridou calls metaphysical modality). If only the finite tense allows an atemporal reading, the restriction of modal verbs to finite contexts will receive the same explanation. In contrast to finite clauses, control

(3.121) John skulle kunna göra det.

should can do it

'John should be able to do it.' Platzack (1986, 186)

Note that the literal English translation of (3.121) is ill-formed.[61]

(3.122) *John should can do it.

Also, what look like modal verbs can take a non-verbal complement, as observed by Platzack (1979). This is illustrated in (3.123).

(3.123) a. Ungdomen vill fram.

'The youth wants through.'

b. Var skall du av?

'Where shall you off?'

c. Jag måste till Malmö idag.

'I must to Malmoe today.'

d. Han borde i säng.

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complements are linked to future interpretation, while the tense of ECM/raising complements has to be bound by another tense.

[61] There are dialects of English that allow double modals, as in (i), but their behavior is very different in inversion.

(i) You might could buy that at Bruno's.
(ii) a. *Might you could buy that at Bruno's?
b. Could you might buy that at Bruno's?
c. Might could you buy that at Bruno's? Thráinsson and Vikner (1992)

See Thráinsson and Vikner (1992).

'He should to bed.' Platzack (1979, 49)

Vikner (1988) shows that the same properties, appearance in non-finite contexts and non-verbal complementation, hold in Danish as well. Here are some examples of non-finite appearance.

(3.124) a. Det er moderne PRO at ville tjene mange penge hurtigt.
'It is fashionable to want to earn a lot of money quickly.'
b. Han drømte om PRO at kunne svømme.
'He dreamt about being able to swim.' Vikner (1988, 8)

Notice that these are properties that characterize the pre-modals in Middle English that we discussed above.

Lack of the category modal in the Mainland Scandinavian languages can account for the lack of the counterpart of the English do-support in these languages. Recall that (3.22) does not apply in the contexts which disallow the presence of a modal. Thus, do-support does not apply in infinitival clauses.

(3.125) a. John tried not to speak Japanese.
b. *John tried do not to speak Japanese.

Now the same thing happens in Mainland Scandinavian. Since these languages lack the means of satisfying (3.22), (3.22) does not apply. The

result for negative sentences is that nothing special takes place.[62] Consider (3.120) repeated below as (3.126).

(3.126) Jag undrar varför han inte [VP öppnade brevet]
I wonder why he not opened the-letter

The finite verb is located in its original position.

In the case of matrix questions, movement to C° still has to take place.

(3.127) [CP Vem träffade$_i$ [IP han t_i på stationen]]
who met he at the-station
'Who did he meet at the station?'

The strong V-feature of C° is not affected by the lack of modals. Thus, raising of the V-Infl complex then is the only way to satisfy this property of C° in the case of matrix quesitons.

At this point, one might still wonder why (3.22) does not simply rule out cases where a modal cannot be inserted either because the context is

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[62] We cannot rule out the possibility that the non-head status of negation (see (i), where Object Shift crosses over negation) is responsible for the lack of do-support. See Roberts (1993a) for this suggestion.

(i) Varför läste studenterna den$_i$ inte alla t_i
why read the-students it not all
'Why didn't all the students read it?' Holmberg (1986, 165)

But the correlation with matrix questions suggests that we are on the right track. If the lack of do-support had nothing to do with the lack of the category modal, the lack of do-support in the case of matrix questions would remain mysterious.

incombatible with a modal (infinitival clauses) or because the grammar lacks the category of modals (Mainland Scandinavian). There is no obvious answer to this question, except that this property is pointing to a rather low-level descriptive character of (3.22).

Note, however, that it is the ability to fail to apply when it cannot apply which accounts for the difference between English and Mainland Scandinavian. If the general computational system were implicated in do-support in negative sentences as in Chomsky (1991), it would be impossible to correlate the existence of a category like modal with the existence of do-support without compromising the entire system.[63] Introduction of (3.22) and (3.25) creates room for isolated low-level parametric variations in the computational system.

Now let us note that the lack of the counterpart of do-support is not due to the lack of the counterpart of do in the Mainland Scandinavian languages. Holmberg (1988) notes that they allow VP fronting, claiming that this is evidence for lack of verb raising.

(3.128) Spelar gitarr gör han inte.
play guitar do he not
'He does not play the guitar.'

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[63] N. Chomsky (personal communication) suggests that Mainland Scandinavian (or any language which lacks modals) delays the deletion of Agr at LF so that LF raising of $[_{Agr\text{-}o}$ V-Agr] over negation will be possible. English, which has modals, does not have this option and therefore must resort to do-support in negative sentences. Cf. note 1.

An obvious question is how to make a principled distinction in the timing of Agr deletion. Our proposal is an attempt to link the parametric options about modality to the feature system of a grammar.

In the Swedish example (3.128), a pro-verb or light verb appears in C°.[64,65] There is no reason why this pro-verb element need not appear in the ordinary V2 contexts nor in negative sentences. Thus, the lack of the counterpart of do-support is strong evidence that we are on the right track.

Note incidentally that the existence of cases like (3.128) in Mainland Scandinavian suggests that the do-support in English VP-fronting should be treated differently from the other cases.

Lastly, let us deal with the question of overt verb raising in Mainland Scandinavian. Roberts (1993a) suggests that Mainland Scandinavian involves overt short verb movement, given the property of Tns. Roberts assumes the clause structure proposed by Belletti (1990), which is schematized in (3.129).

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64 Interestingly, Platzack (1979, 64) notes that modal-like verbs, ha 'have', vara 'be', and bli 'become' resist the insertion of göra 'do'.

(i) a. *Är sjuk gör han.
be ill do he
b. *Har ont gör han.
have pain do he
c. *Måste sjunga gör han.
must sing he does

A similar phenomenon is observed with respect to tag questions in Danish by Vikner (1988, 4).

This is perhaps related to the question of short verb raising to be discussed shortly. But we will not pursue this point about these verbs.

65 British English allows do in non-finite contexts as well, according to Baker (1984). Below are some examples.

(i) a. Bob hasn't said whether he will attend the reception, but he may do.
b. This cheese didn't cost a great deal of money, but the other one may have done.

This function of do may be the same as the Swedish one. Further investigation is necessary.

(3.129) $[_{AgrP}$ Agr $[_{TP}$ Tns $[_{VP}$ V]]]

He claims that evidence is equivocal with respect to movement to Tns. There are two considerations that lead us to suppose that there is no overt verb raising in Mainland Scandinavian. First, as is noticed by Roberts himself, floating quantifiers cannot appear following the finite verb, as illustrated by Swedish examples in (3.130).

(3.130) a. *varför studenterna pratar **alla** under lektionerna
why the students talk all during the lessons
b. varför studenterna **alla** pratar under lektionerna

He dismisses this as inconclusive by saying that the base position of the subject does not count for association with floating quantifiers. More significantly, though, allowing short verb movement in our framework predicts that Mainland Scandinavian allows object shift in embedded contexts as well, which is false. Holmberg (1986) correlates overt verb raising with the possibility of object shift and we have incorporated this insight in terms of extension of domains induced by head movement. Thus, we will conclude that there is no overt raising in Mainland Scandinavian.

We have seen that the lack of the counterpart of do-support in Mainland Scandinavian inversion and negation contexts is due to the lack of the category of modals. By way of summary, let us compare the behavior of three types of languages in negation and wh-movement, namely, English, Basque, and Mainland Scandinavian.

(3.131)

	modal parameter	negation	(matrix) questions
English	+ (nonaffixal)	do-support	inversion with do
Basque	+ (affixal)	V-raising to Tns	V-raising[66]
Main Sc.	-	(no change)	inversion with V

Note that the use of affixal modals displays a noticeable effect only in the case of negation. But we will see next that a subtle side-effect in wh-extraction can sometimes be observed in affixal modal languages.

3.5.2. French Stylistic Inversion

The connection of modals with negation and wh-movement is not restricted to Palauan and English. French also exhibits such an instance.

French exhibits a phenomenon which was used by Kayne and Pollock (1978) to argue for successive cyclic wh-movement in the debate about unbounded vs. successive cyclic treatment of wh-movement in the late 70's. The phenomenon in question, which is called Stylistic Inversion, is that the clauses that lie between the variable and the operator can optionally postpose their subject, as in (3.132).

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[66] So far, we have not presented data on Basque wh-questions. There is an indication that verb movement is involved. Basque requires adjacency between a wh-phrase and the verb, as in (i).

(i) a. Zein herri-tan bizi zen Jon lehenago?
which town-in live Aux before
'In which town did John live before?'
b. *Zein herri-tan Jon bizi zen lehenago?

Ortiz de Urbina (1989, 213-214)

Ortiz de Urbina (1989) analyzes this configuration as arising from raising of the verb complex to C°.

(3.132) a. ?Les filles avec qui tu disais que prétendait que sortirait
the girls with whom you were saying that was claiming that would go out
son mari la pauvre femme dont je viens de te parler sont
her husband the poor woman about whom I just told you are
toutes là.
all here.
'The girls who you were saying that the poor woman I have just told you about was claiming that her husband would go out with are all here.'

b. Les filles avec qui tu disais que cette pauvre femme prétendait
the girls with whom you were saying that that poor woman claimed
que son mari sortirait sont toutes là.
that her husband would go out are all here.
'The girls who you were saying that that poor woman was claiming that her husband would go out with are all here.'

(3.132a) is the version in which Inversion takes place; (3.132b) is the one without Inversion. Detailed discussion of its properties is found in Kayne and Pollock (1978). Now an interesting fact in the present context is that there is another environment in which Stylistic Inversion is possible: subjunctive complements. Consider the following.

(3.133) a. Elle dit que son ami partira. b. *Elle dit que partira son ami.
She says that her friend will leave-Ind

(3.134) a. Je veux que Paul parte. b. Je veux que parte Paul.
I want that leave-Subj

The verb in (3.133) selects an indicative complement and Stylistic Inversion in that clause is prohibited. The verb in (3.134), on the other hand, selects a subjunctive complement and Stylistic Inversion is possible.

One might be also curious what happens in negative sentences in French. There is one kind of negative sentences that allow Stylistic Inversion. Consider the following:

(3.135) a. N'ont téléphoné que deux linguistes.
Neg have telephoned QUE two linguists
'Only two linguists called.'

b. N'a aimé Marie que Jean.
Neg have loved QUE
'Only Jean has loved Marie.' Pollock (1985, 303)

These examples involve the preverbal negative marker, with the subject postposed after a complementizer-looking element que. If these cases can be assimilated to Stylistic Inversion,[67] then we have a third context where it

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[67] There is one difference noted by Pollock (1985). In contrast to ordinary Stylistic Inversion in (ib), control of PRO is impossible in (ia).

(i) a. *Ne se promenaient que quelques souris dans ce grenier en PRO se riant du chat.
'Only a few mice ran about in the attic laughing at the cat.'

b. Dans quel grenier se promenaient des milliers de souris en PRO se riant du chat?
'In which attic did thousands of mice run about laughing at the cat?'

Thus, there is a difference from ordinary Stylistic Inversion. But the crucial point for us is that the ne-que construction also allows expletive pro in the subject position.

takes place: negation. It should be noted, though, that ordinary negative sentences do not allow Stylistic Inversion.

(3.136) a. *N'est venu personne que Paul.
'Nobody came but Paul.'
b. N'est venu que Paul.
'Only Paul came.' Azoulay-Vicente (1988, 212)

For some discussion of the ne-que construction, see Azoulay-Vicente (1988) and Pollock (1985, 1986).

One wonders why these three environments allow Stylistic Inversion. Let us suppose that Stylistic Inversion involves expletive pro in Spec of Agr-s (cf. Déprez 1990). Turning to the A'-binding domain, it would be desirable to assimilate it to wh-agreement in Palauan etc. And this is plausible, if we analyze the expletive pro in Stylistic Inversion as due to the nature of Agr, since the Palauan phenomenon also involves the agreement system, namely, Tense-modal. Now what can we say about subjunctive clauses? Notice that subjunctive is modal in nature. To generalize the two environments, we say that modals in French allow AGR_S to license expletive pro and that wh-agreement and subjunctive in this language involve a modal node under Tense. In the wh-agreement case, the modal in question has to be a dummy, just as the English do, since the actual shape of verbal inflection is the same whether wh-movement takes place or not. This dummy modal is overtly replaced by the finite verb. In the subjunctive clauses, the modal affects verbal inflection.

It is tempting to extend this idea to negative sentences as well, even though the restriction of Stylistic Inversion to the ne-que construction

remains somewhat mysterious. But to the extent that the ne-que construction is a species of negative sentences, one might entertain the hypothesis that this construction also involves a dummy subjunctive.

It is important to note here that subjunctive in French and modal elements (and the dummy do) in English share another property, namely, the impossibility to appear in infinitives. In this respect as well, it is plausible to assimilate subjunctive to modals (or the other way round). Then, our claim that wh-agreement involves a dummy modal in Palauan, in English, and in French gains some strength. Furthermore, in French, this modal shows up everywhere along an A'-chain, like Palauan and unlike English. But unlike Palauan, its shape is totally obliterated by verb raising.

Here the question arises whether Stylistic Inversion displays a subject/nonsubject asymmetry. Apparently, there is an asymmetry: subjects cannot extracted without que -› qui alternation. This is not decisive, however. Extraction from an inherent subjunctive clause, which should allow the postverbal subject, is impossible, as Pollock (1986) discusses. (3.137) illustrates this point.

(3.137) a. Il faudrait que viennent plus de linguistes à nos réunions pour que nos théories soient mieux comprises.

b. *Combien de linguistes faudrait-il que viennent à nos réunions pour que nos théories soient mieux comprises.

Although there are many ways to deal with this prohibition (cf. Shlonsky (1990)), one possibility is that the shape of Comp must be changed to qui even in the case of extraction of a postverbal subject.

To sum up, there will be no reason why French Stylistic Inversion is allowed in the contexts where it is, unless wh-extraction requires the presence of a modal in French, too.

3.6. Wh-Agreement and Null Subjects

In the previous section, we have seen an instance in which wh-agreement is manifested in the form of licensing expletive pro. This is a natural consequence if wh-agreement is a manifestation of the interactions between the A-bar processes and the A-processes. In this section, we will see that referential pro is also allowed by wh-agreement in some cases.

The case in point is Old French, discussed by Adams (1987, 1988). She claims that referential pro is only licensed in the canonical government configuration in Old French, as in (3.138).

(3.138) $[_{CP}$ XP V_f $[_{IP}$ pro t_{V+I} ...

Old French is an SVO language, with V2 in the matrix clauses. The observation is that null subjects are allowed only in the clauses which show V2. Some examples of null subjects are given below.

(3.139) a. Au matin s'apareilla pro por aler au tornoiement.
in the morning himself-prepared he for to go to-the tournament
(La Mort le Roi Artu 7; Adams 1987, 2)

b. Si firent pro grant joie la nuit.
so made they great joy that night
(Robert de Clari XII; Adams 1987, 2)

See also Roberts (1993a) for a recent discussion.

In accordance with the Minimalist program, we cannot retain the account based on canonical government. At the same time, we have to make sure that null subjects will not be erroneously licensed in the configuration (3.140).

(3.140) *[$_{CP}$ (XP) C° [$_{IP}$ pro V_f ...

Instead of directionality, we can now makes use of the mechanism of wh-agreement to account for the null subject phenomenon in Old French. Notice that V2 configuration involves movement of a maximal projection into Spec of CP and verb raising to C°. Thus, this is exactly the structure where we can expect some wh-agreement phenomenon. We have seen in the previous section that licensing of expletive pro becomes possible under wh-movement in Modern French. Old French, however, allows referential pro. Suppose that pro requires formal licensing and identification, as proposed by Rizzi (1986b). Formal licensing under the Agr-based Case theory is through Spec-head agreement in AgrP. Under Rizzi's (1986b) theory, the identification requirement is responsible for whether referential pro is allowed or not. Suppose then that the identification requirement for referential pro is met in Old French but not in Modern French.[68] On the assumption that wh-agreement leads to formal licensing of pro both in Old French and in Modern French, we can account for the fact that Old French, too, allows pro, and at

[68] Cf. Roberts (1993a) for the richness of the inflectional paradigm in Old French.

the same time we can explain the difference between the two through the identification requirement.

3.7. Subject/Non-Subject Asymmetries

In most cases of wh-agreement, two of the three configurations are conflated, blurring the whole picture. But viewed from our perspective, it is easy to see that these are manifestations of the same syntactic mechanism, differing only in trivial ways. Rizzi (1990a) provides a good catalogue of the phenomena. The complementizer systems which are analogous to that of English but are different in various respects can be found in French (Déprez 1989, Pesetsky 1982), Norwegian (Taraldsen 1978, 1986), and West Flemish (Bennis and Haegeman 1984, Haegeman 1992), among others. The verbal morphology analogous to that of Palauan is found in Chamorro (Chung 1982, 1992, Chung and Georgopoulos 1988) and Berber (Choe 1987 and other papers in Guerssel and Hale 1987 for data). Haik (1990), Zaenen (1983), and the papers cited there discuss wh-agreement phenomena which do not show the subject/non-subject asymmetry as well as those which do.

In this section, we will look at other types of wh-agreement. The phenomena which we will look at have some implications for the analysis of V2 phenomena in Germanic languages.

Travis (1984, 1991) and Zwart (1993) present the distribution of weak pronouns in Dutch as one of the strongest arguments against the uniform V2 analysis of matrix clauses. The observation is that subject pronouns can take

a weak form in the sentence-initial position whereas object pronouns cannot.[69]

(3.141) a. Ik zie hem.
I see him
b. 'k zie hem.
(3.142) a. Hem zie ik.
him see I
b. *'m zie ik. Zwart (1993, 303)

They argue that this asymmetry can be explained if subject-initial clauses and Topicalization clauses have different structures. Specifically, they claim that subject-initial clauses are not CP but Agr-sP (=IP in Travis' framework). If weak pronouns cannot appear in Spec of CP, according to them, the contrast between (3.141) and (3.142) will be accounted for.

This is not the only way of interpreting the contrast, however. Recall that we would expect some asymmetries in the inflectional and Case systems in the case of A-bar chain formation. Topicalization should not be an exception to this hypothesis. From this viewpoint, the contrast between (3.141) and (3.142) can be taken to manifest the familiar subject/non-subject asymmetry in another form: weak pronouns allowed in subject extraction while blocked in non-subject extraction. That is, feature checking breaks down when a non-subject weak pronoun is placed in Spec of CP. Thus, there is no need to analyze subject-initial clauses as Agr-sP. Subject-initial clauses also involve the CP structure.

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[69] Similar phenomena exist in other Germanic languages as well. See Vikner and Schwartz (1991).

Zwart (1993) presents another interesting asymmetry, which should also fall under our theory. In Chapter 2, we have looked at the phenomenon of complementizer agreement, where the morpheme agreeing with the subject appears in CP, attached to C° if there is an overt head, or attached to the element in Spec of CP. This agreement morpheme can show up on the verb itself, replacing its verbal agreement. Consider the following pair from East Netherlandic.

(3.143) a. dat-e wij speul-t
that-1pl we play-1pl
b. Vandaag speul-e/*speul-t wij
today play-1pl we Zwart (1993, 322-323)

In (3.143a), we find an agreement morpheme appearing on the complementizer. Notice that in (3.143b), the agreement morpheme for C° appears on the verb which is placed at C°.

Interestingly, subject-initial clauses show the ordinary verbal agreement on the finite verb, as in (3.144).

(3.144) Wij speul-t/*speul-e Zwart (1993, 322)

Zwart (1993) takes this phenomenon to favor the Agr-sP analysis of subject-initial clauses, but again, the contrast between (3.143b) and (3.144) should be understood in terms of wh-agreement. Notice that it is not only in this case that subject extraction cases behave in the same way as non-extraction cases. Do-support in English is analogous in this respect. Compare (3.145) with the complementizer agreement above.

(3.145) a. (that) John likes music

b. What does John like?/*What likes John?/*What (does) John likes?

c. Who likes music?/*Who does like music?

Do-support, too, applies only in non-subject extraction cases. Thus, it is not surprising to find the complementizer agreement on the finite verb only in non-subject extraction cases.

To summarize, we have seen various manifestations of wh-agreement. It can affect any place in the inflectional system involving Tns, Agr-s, and C°. Given the mechanism provided by UG, children have no difficulty in identifying such manifestations. Note that the crucial feature of our analysis is that non-subject extraction is as special as subject extraction. Under the ECP-based analysis as in Chomsky (1981) or the head-government requirement analysis of Rizzi (1990), subject extraction alone requires special treatment. Under our analysis, subject extraction and nonsubject extraction each create distinct configurations in the local Comp position and the different strategies used for each of them are only morpho-phonological manifestations of the underlying syntactic difference. In this way, we are able to accommodate the wh-agreement phenomena in Palauan and the Comp-trace type of phenomena under the same rubric. We can also extend the coverage to the phenomena affecting the shape of the subject such as pro and weak pronouns. To the extent that our modification of the Case theory enables us to achieve this level of abstraction, we can believe that it is on the right track.

Beyond the scope of our discussion is the resumptive pronoun strategy. In Irish (McCloskey 1990), Hebrew (Borer 1984, Shlonsky 1992), and Palestinian (Shlonsky 1992), the highest subject position disallows resumptive pronouns. This is illustrated in the Palestinian example (3.146).

(3.146) l-bint ʔilli (*hiy) raayḥa ʕalbeet
the-girl that (she) going to house
'the girl that is going to home' Shlonsky (1992, 446)

Palestinian is particularly interesting in uniformly disallowing extraction of direct objects, embedded subjects, and embedded objects. Instead, resumptive pronouns have to be used.

(3.147) a. l-bint ʔilli šufti-* (ha)
the-girl that (you.F) saw-(her)
'the girl that you saw'
b. l-bint ʔilli fakkarti ʔinno *(hiy) raayḥa ʕalbeet
the-girl that (you.F) thought that *(she) going to the house
'the girl that you thought that (she) is going home'
c. l-bint ʔilli fakkarti ʔinno Mona ḥabbat-*(ha)
the-girl that (you.F) thought that Mona loved-(her)
'the girl that you thought that Mona loved'
Shlonsky (1992, 445)

Note that this is exactly the same as the way wh-agreement is manifested with respect to the topmost predicate. It is not clear at this point how to

accommodate these cases, but the relevance of wh-agreement seems to be clear.

Chapter 4

V -› Agr -› Tns

In this chapter, we will see some consequences of our modification of the Case theory with respect to Accusative Case. Recall that our theory requires the presence of Tns to check off the feature [F] that arises from Accusative Case checking. It is not easy to find evidence that Tns is implicated in the series of processes for Accusative Case checking, since Tns is always there in the ordinary clauses. If we look at reduced clauses, however, we can build up some arguments that our modified Case theory gives us desirable results.

4.1. Causative

The reduced clauses that we are looking for are found in one kind of causative constructions. Based on the results of Chapter 2, we will argue that an appropriate functional category on top of AgrP is necessary for Accusative Case checking as well as Nominative and Null Case checking.

4.1.1. Two Types of Causative

Since Gibson (1980), Gibson and Raposo (1986), and Marantz (1984), it has been recognized that there are (at least) two types of morphologically complex causative constructions in languages of the world, and it has been a major descriptive challenge to the theory of UG to account for the differences between the two. The most conspicuous difference is observed when a

transitive verb is embedded under a causative verb. As a first approximation, let us phrase it in terms of Grammatical Functions (GF).

(4.1) Type 1 (Reduced Causative)

embedded clause	GF in matrix clause
external argument	Oblique
internal argument	Object

(4.2) Type 2 (ECM Causative)

embedded clause	GF in matrix clause
external argument	Object
internal argument	'Secondary Object'

The subject of an embedded intransitive verb behaves invariantly as object of the matrix in terms of Case, although languages may be different with respect to other properties of the intransitive subject under causative such as eligibility for antecedent of reflexives, as Baker (1988a) demonstrates. Note that GF is only a nontheoretical cover term for certain properties and thus imprecise, as shown by Marantz (1984) and Baker (1988a). This is particularly true of 'secondary object'. We will see a precise characterization of these two types of causative as we go along.

Now let us illustrate. The diagnostics that are used in the literature to identify the matrix object are passivization, Case marking, and object agreement. Take Turkish as a representative of the Type 1 languages. Consider the following examples from Aissen (1974b, 15).

(4.3) a Mehmet Hasan-ı ağla-t-tı

Acc cry-Caus-Past

'Mehmet made Hasan cry.'

b. Mehmet Hasan-a bavul-u aç-tır-dı

Dat suitcase-Acc open-Caus-Past

'Mehmet made Hasan open the suitcase.'

The causative suffix takes the form of -t after stems ending in a vowel or a liquid and -DIr otherwise, though there are some idiosyncratic cases. Notice that the embedded object is marked by Accusative Case while the embedded subject is in Dative in (4.3b). The embedded subject of an intransitive is marked by Accusative. When passivization applies, only the argument marked by Accusative can become the subject of the matrix clause.

(4.4) a. Hasan (Mehmet tarafından) ağla-t-ıl-dı

by cry-Caus-Pass-Past

'Hasan was made to cry (by Mehmet).'

b. Bavul (Mehmet tarafından) Hasan-a aç-tır-ıl-dı

suitcase by Dat open-Caus-Pass-Past

'The suitcase was caused (by Mehmet) to be opened by Hasan.'

c. *Hasan (Mehmet tarafından) bavul-u aç-tır-ıl-dı

by suitcase-Acc open-Caus-Pass-Past

'Hasan was made (by Mehmet) to open the suitcase.'

Aissen (1974b, 15)

The passive agent is put in parentheses, since Turkish generally favors its suppression. Note that though the English gloss of (4.4b) contains passive

both in the embedded clause and in the matrix, the Turkish example has only one passive morpheme outside of the causative suffix.

Let us call the Type 1 construction reduced causative, since we propose an impoverished clause structure for this type of causative.

In addition to Turkish (Aissen 1974a,b, Aissen and Hankamer 1980, Knecht 1986, Zimmer 1976), other languages that have the reduced causative construction are Malayalam (Mohanan 1983), Italian (Burzio 1986, Guasti 1991, 1992, Zubizarreta 1985), and a dialect of Chichewa (Baker 1988a),[1] among others. French and Spanish are also said to have the reduced causative (Aissen 1974b, Gibson 1980, Kayne 1975, Rouveret and Vergnaud 1980) but they have certain differences from Italian which make it difficult to classify them with Italian. See Zubizarreta (1985, 1987) for discussion of differences between French and Spanish on one hand and Italian on the other. Guasti (1992), Li (1990a, b), Reed (1991), and Rosen (1989) contain recent discussions of French.

Trithart's (1977) Chichewa, a Type 2 language, on the other hand, displays a different pattern. Consider the following, cited in Baker (1988a, 164).

(4.5) a. Mphunzitsi a-na-(wa)-lemb-ets-a ana.
teacher SP-Past-(OP)-write-Caus-Asp children
'The teacher made the children write.'

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[1] According to Alsina (1992), this is not a dialectal difference. He claims that Chichewa has two types of causative, one of which is Type 1. The other behaves like faire par constructions in Romance, a third type of causative, not to be illustrated here but to be relegated to section 4.3.4.

Malayalam also presents a more complicated picture, according to Alsina and Joshi (1991).

b. Catherine a-na-(mu)-kolol-ets-a mwana wake chimanga.
SP-Past-(OP)-harvest-Caus-Asp child her corn
'Catherine made her child harvest the corn.'

Note the optional object agreement marking the embedded subject. Agreement with the embedded object is impossible, as shown by (4.6).

(4.6) *Catherine a-na-chi-kolol-ets-a mwana wake chimanga.
SP-Past-OP-harvest-Caus-Asp child her corn
'Catherine made her child harvest the corn.'

When passivization applies, it is always the embedded subject that becomes the matrix subject.

(4.7) a. Ana a-na-lemb-ets-edw-a ndi mphunzitsi.
children SP-Past-write-Caus-Pass-Asp by teacher
'The children were made to write by the teacher.'

b. Mnyamata a-na-kolol-ets-edw-a chimanga ndi Catherine.
boy SP-Past-harvest-Caus-Pass-Asp corn by
'The boy was made to harvest the corn by Catherine.'

c. *Chimanga chi-na-kolol-ets-edw-a mwana wake ndi Catherine.
corn SP-Past-harvest-Caus-Pass-Asp child her by
'The corn was made to be harvested by her child by Catherine.'

Notice that the Type 2 causative is the same as the regular ECM in English in this respect. Thus:

(4.8) a. John believes him to have cried.

b. John believes him to have beat her.

(4.9) a. He is believed [t to have cried] by John.

b. He is believed [t to have beat her] by John.

c. *She is believed [him to have beat t] by John.

For this reason, we will put aside the Type 2 causative for the moment, assuming that the same analysis carries over to them as the English ECM, namely, Agr-sP complementation as argued for in Chapter 2. Chimwiini (Abasheikh 1979), Chamorro (Gibson 1980), Japanese (Kitagawa 1986, Kuno 1973, Kuroda 1965, Miyagawa 1989, and others), Sesotho (Machobane 1989) are also said to belong to this class.

There is a third type of causative which is represented by the Romance faire par construction but is more wide-spread than hitherto considered. Cf. Alsina (1992), Alsina and Joshi (1991), Guasti (1992), Kayne (1975). We will turn to this kind of causative in section 4.3.4, after causative-passive interactions are discussed.

In the next section, we will concentrate on the properties of the reduced causative (Type 1), and then come back to the Type 2 in Section 4.1.3. We will discuss how to deal with recalcitrant cases, which are represented by Italian (Burzio 1986), Kinyarwanda (Kimenyi 1980), SiSwati (De Guzman 1987), and Kichaga (Alsina 1992), at the end of this chapter.

4.1.2. Case Properties of the Reduced Causative

Let us look at the Case properties of the reduced causative in more detail, using Turkish and Italian.

It is well-known that transitivity of embedded verbs affects the Case-marking of the embedded subject in causative. Thus, in Turkish, the embedded subject is marked by dative when the embedded verb is transitive, while it is marked by Accusative when the embedded verb is intransitive.[2]

(4.10) a. Çocuğ-u koş-tur-du-k
child-Acc run-Caus-Past-1pl
'We made the child run.'

b. *Çocuğ-a koş-tur-du-k
child-Dat run-Caus-Past-1pl Aissen (1974b, 20)

(4.11) a. Hasan öl-dü.
die-Past
'Hasan died.'

---

[2] Knecht (1986, 155) and Zimmer (1976) note that when the embedded verb is ditransitive, the version in which the embedded subject is marked by tarafından, which is also used to mark the passive agent, is better than the version in which the embedded subject is marked by dative. Thus, (ib) is preferred to (ia).

(i) a. Müdür-e mektub-u Hasan-a göster-t-ti-m.
director-Dat letter-Acc Dat show-Caus-Past-1s
'I made the director show the letter to Hasan.'

b. Müdür tarafından mektub-u Hasan-a göster-t-ti-m.
by

Knecht (1986) also notes, however, that the use of tarafından with a simple transitive verb as in (ii) is impossible.

(ii) *(Ben) pencere-yi Cengiz tarafından aç-tır-dı-m.
I window-Acc by open-Caus-Past-1s.
'I had the window opened by Cengiz.'

b. Mehmet Hasan-ı öl-dür-dü.

Acc die-Caus-Past

'Mehmet caused Hasan to die.' Aissen (1974b, 8)

(4.12) a. Kasab-a et-i kes-tir-di-m.

butcher-Datmeat-Acccut-Caus-Past-1sg

'I had the butcher cut the meat.'

b. *Kasab-ı et-i kes-tir-di-m.

butcher-Accmeat-Acccut-Caus-Past-1sg Aissen (1974b, 20)

As we have seen above, only the Accusative-marked element can become the subject of the matrix clause when passivization applies. To repeat the examples:

(4.3) a. Mehmet Hasan-ı ağla-t-tı.

Accry-Caus-Past

'Mehmet made Hasan cry.'

b. Mehmet Hasan-a bavul-u aç-tır-dı.

Dat suitcase-Accopen-Caus-Past

'Mehmet made Hasan open the suitcase.'

(4.4) a. Hasan (Mehmet tarafından) ağla-t-ıl-dı.

by cry-Caus-Pass-Past

'Hasan was made to cry (by Mehmet).'

b. Bavul (Mehmet tarafından) Hasan-a aç-tır-ıl-dı.

suitcase by Dat open-Caus-Pass-Past

'The suitcase was caused (by Mehmet) to be opened by Hasan.'

c. *Hasan (Mehmet tarafından) bavul-u aç-tır-ıl-dı.

by suitcase-Acc open-Caus-Pass-Past

'Hasan was made (by Mehmet) to open the suitcase.'

Passivization is limited to Accusative arguments. There are verbs that take dative objects in Turkish, but they behave as intransitive when they are embedded under the causative verb, as noted by Aissen (1974b, 14-16). That is, only the embedded subject can become the matrix subject under passivization.

(4.13) a. Hasan okul-a / *okul-u başla-dı
school-Dat Acc begin-Past
'Hasan began school.'

b. Çocuğ-u okul-a başla-t-tı-k
child-Accschool-Datbegin-Caus-Past-1Pl
'We made the child begin school.'

c. Çocuk okul-a başla-t-ıl-dı
child school-Dat begin-Caus-Pass-Past
'The child was made to begin school.'

d. *Okul çocuğ-u başla-t-ıl-dı
schoolchild-Accbegin-Caus-Pass-Past
'School was caused to be begun by the child.' Aissen (1974b, 14, 16)

To get these results within our framework, the following two things must be ensured:

(4.14) a. The embedded Accusative object raises past the embedded subject to reach Spec of the matrix Agr-oP.

b. The embedded subject gets special case marking only when the

embedded verb is transitive; otherwise, it moves to Spec of the matrix Agr-oP to check Accusative.

Let us consider (4.14a) first. Besides passivizability, there is an indication that the embedded object moves into Spec of the matrix Agr-oP when we consider Italian, another language which has Type 1 causative. In Italian, too, the embedded object becomes the matrix subject when Passivization applies to the matrix clause, as in (4.15).[3,4]

(4.15) a. Maria ha fatto riparare la macchina a Giovanni.
has made repair the car to
'Maria made Giovanni repair the car.'

b. La macchina fu fatta riparare a Giovanni.
the car was made repair to
'The car was made to be repaired by Giovanni.'

Note also the dative marking on the embedded subject in both examples.

Now Italian shows participle agreement with direct object clitics, as in (4.16).

(4.16) Giovanni la ha accusata.
her has accused(fem.)
'Giovanni has accused her.'

---

3 It is also possible to have the embedded subject become the matrix subject under passivization. We will return to this problem below.

4 In French and Spanish, passivization of causative is not possible. See the references cite above.

In the causative construction, the Accusative clitic corresponding to the embedded object appears on the matrix verb, as in (4.17).

(4.17) a. Maria la$_i$ fa riparare t_i a Giovanni.

b. ??Maria fa ripararla$_i$ t_i a Giovanni.

'Maria makes Giovanni repair it.' Burzio (1986, 238)

Burzio (1986) notes that the Accusative clitic triggers agreement on the matrix participle.[5]

(4.18) La$_i$ ho fatta riparare t_i a Giovanni.

it(fem.) have made(fem.) repair to

'I have made Giovanni repair it.'

If participle agreement is to be analyzed as Spec-head agreement in Agr-oP as proposed by Kayne (1985, 1989a),[6] (4.18) shows that the embedded object reaches Spec of the matrix Agr-oP.

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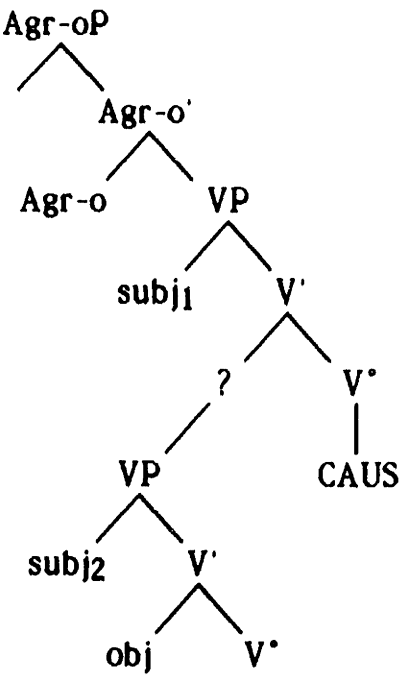
5 The subject of an embedded intransitive triggers agreement, too, when cliticized.

(i) Lia li ha fatti dormire di sopra.
them have made(pl.) sleep upstairs
'Lia made them sleep upstairs.'
slightly modified from Guasti (1992, 50)

6 Kayne (1989a) in fact claims that the participle agreement induced by wh-movement is mediated by a trace adjoined to AgrP. But Branigan (1991) and Sportiche (1990) show that the participle agreement in the case of wh-movement is also due to Spec-head agreement in AgrP.

Let us consider how (4.14a) can be achieved. Notice that we have to make sure that the embedded object can move over two subject positions, Spec of the embedded VP[7] and that of the matrix VP, to reach Spec of the matrix Agr-oP. A partial structure in question has the following form:

(4.19)



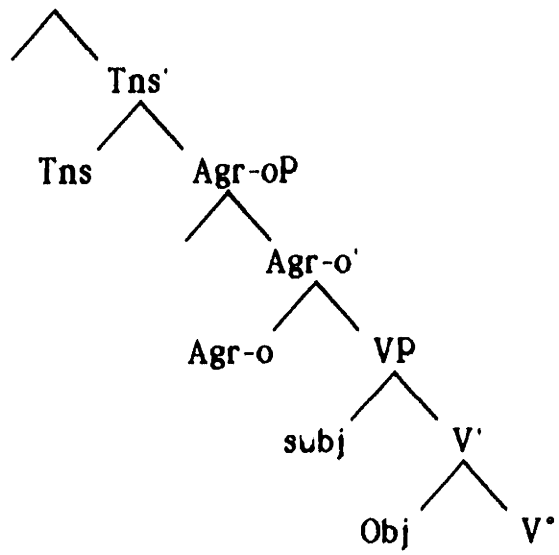
Given the Economy principle that deals with the Relativized Minimality effects, this kind of movement is impossible unless there is at least another position between $subj_1$ and $subj_2$ which the embedded object can pass through. This position, furthermore, must be Spec of the phrase which immediately dominates the embedded VP, since this is the only configuration where the A-movement operation can take place past an element in Spec of the embedded VP. In this sense, the situation in the

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[7] Another possibility is that the embedded oblique subject is an adjunct. The main reason for regarding it as an argument (in Spec of VP) is the binding facts reviewed in section 4.2.3.1. We will come back to this point.

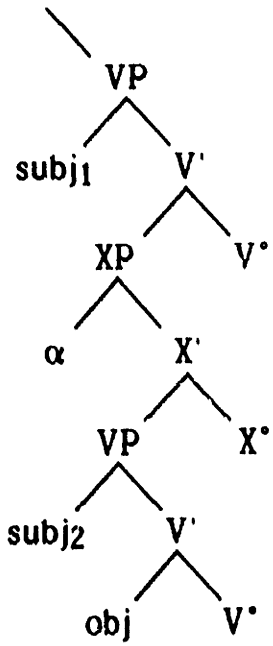
clause embedded under a causative verb is basically the same as in simple transitive clauses. Recall how the object moves into Spec of Agr-oP in simple transitive clauses. Consider (4.20) for this purpose.

(4.20)



The object can move over (the trace of) the subject in Spec of VP after the verb gets adjoined to Agr-o, making Spec of VP and Spec of Agr-oP equidistant. Similarly, in the case of the causative, the embedded object must move through α of (4.21) on its way to Spec of the matrix Agr-oP after the embedded V° raises to X°, making α and subj$_2$ equidistant from obj.

(4.21)



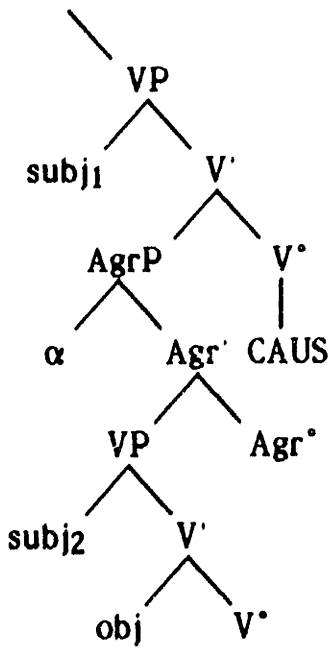
Now two questions arise: (i) what is the categorial identity of XP in (4.21), and (ii) whether there is additional structure between XP and the matrix VP. On the assumption that the Case features of a verb have to be checked off, X° must be Agr. Since there is no need to have further structure on top of Agr-XP, let us assume that there is in fact no head intervening between Agr-X° and the causative verb. We will come to the justification of this structure in section 4.3.3, where we discuss similarities between one kind of Japanese passive and the Italian causative.

Notice that this set of hypotheses gives the right result under our revised version of the Case theory. Our theory claims that Case checking can legitimately take place only when there is an appropriate functional category which can check off the feature [F] after the relevant Agr is adjoined to it. When there is no such appropriate functional category, Case checking becomes impossible. Furthermore, we have seen in Chapter 2 that A-movement has to stop at the first position in which Case checking can take place. Thus, movement of the embedded object through α in (4.21) is

possible only if α is not such a position. Our theory ensures that Spec of AgrP alone cannot be a Case-checking position. Thus, when Agr-oP is embedded under the reduced causative verb, α is not a Case-checking position, allowing A-movement through that position. Under Chomsky's (1992) proposal, on the other hand, Spec of AgrP is always a Case-checking position when a Case-bearing head is adjoined to the Agr head, which makes it impossible for the embedded object to move into the higher Agr-oP in the configuration of (4.21).

To sum up so far, we have seen that the reduced causative (Type 1) has the following structure:

(4.22)



Let us now consider the Case of the embedded subject. To continue with the cases where the embedded verb is transitive, we have to deal with the dative Case that appears on the embedded subject. Consider the following Turkish example.

(4.23) Hasan adam-a kutu-yu aç-tır-dı
man-Dat box-Acc open-Caus-Past
'Hasan made the man open the box.'

We simply assume that the dative on the embedded subject is inserted by a language-particular rule, analogous to the one that inserts by for passive agents in English, and that this device suffices for Case-checking. If this special rule does not apply, one of the arguments of the embedded verb cannot check Case, resulting in crash of the derivation.

The insertion of an oblique Case marker on a causee of the reduced causative does not seem to be idiosyncratic. There are properties common to causees of the reduced causative and passive agents. As noted by Baker (1988a, 487), the reduced causative can omit causees in some languages. Turkish seems to be one of these, since we have (4.24) alongside of (4.23).

(4.24) a. Hasan kutu-yu aç-tır-dı
box-Acc open-Caus-Past
'Hasan had the box opened.' Zimmer (1976, 407)

b. Kadın et-i kes-tir-di.
woman meat-Acc cut-Caus-Past
'The woman had the meat cut.' Knecht (1986, 158)

Analogously, passive agents can be omitted.

(4.25) The city was destroyed (by the barbarians).

Furthermore, omissibility is limited to the embedded subject marked by dative, as illustrated in (4.26).

(4.26) a. Şoför Hasan-ı otobüs-e bin-dir-di.
driver Acc bus-Dat board-Caus-Past
'The driver made Hasan board the bus.'

b. *Şoför otobüs-e bin-dir-di.
driver bus-Dat board-Caus-Past
'The driver had the bus boarded.' Zimmer (1976, 407)

(4.27) *Antrenör koş-tur-du.
trainer run-Caus-Past
'The trainer made (someone) run.' Knecht (1986, 158)

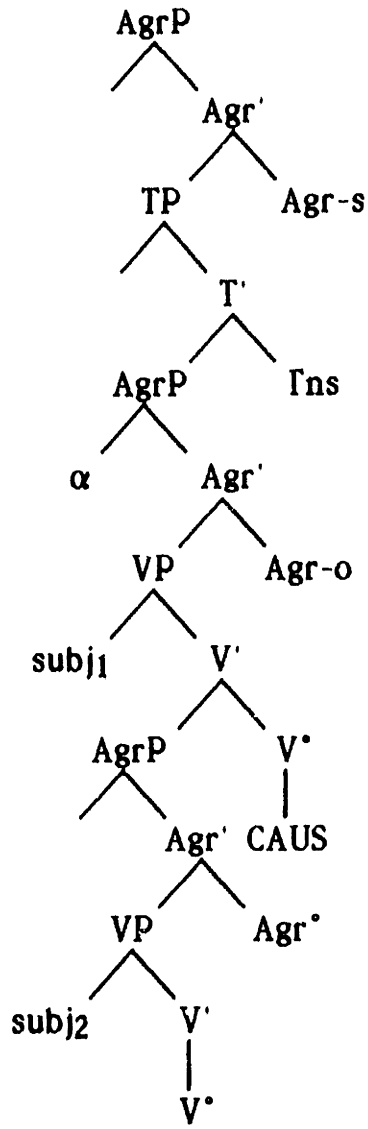
The apparent lack of the embedded subject cannot be due to the presence of pro, since only Nominative subjects and Genitive phrases are recoverable through agreement in Turkish.[8] Omission of embedded subjects of the reduced causative and passive agents is not due to pro. We will return to the similarities of the reduced causative and passive with respect to the external argument of the embedded verb in 4.2.3 below.

Finally, let us consider embedding of intransitive verbs. This case presents no difficulty. The embedded subject behaves as the matrix object. Given the underlying structure (4.28), simple A-movement can place $Subj_2$ in the position of α as long as the causative verb raises to Agr-o, rendering α and $Subj_1$ equidistant.

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[8] See Kornfilt (1984) for the distribution of pro in Turkish.

(4.28)



In this case, there is no need to go through Spec of the embedded AgrP, since it is Subj2 in (4.28) itself which is moving. Note that the only potential trigger for the Minimality violation for this movement is (the trace of) the matrix subject in Spec of VP.

To summarize, we have proposed that the reduced causative (Type 1) c-selects Agr-oP as their complement. Spec of this Agr-oP serves as an escape

route for the embedded object,[9] which moves up to Spec of the matrix Agr-oP under our modified Case theory. Note that our modified Case theory enables one to derive the property of the reduced causative by merely specifying the categorial status of the embedded clause. The rest of the computational work is done by the general machinery of feature checking and the Economy principles.

4.1.3. Type 2 Causative

Let us turn to the Type 2 causative constructions. They are basically the same as the English ECM construction in the relevant respects. Thus, we treat them as Agr-sP complementation. There are languages, however, in which this treatment is not obvious. In this section, we look at one such language, namely, Japanese.

Superficially, Japanese displays the same Case array as Turkish and Italian: dative on the transitive subject, Accusative on the intransitive subject[10] and transitive object.[11] (4.29) illustrates these facts.

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9 It is predicted that VP complementation would only allow the embedding of intransitive predicates. Some of the polysynthetic languages including Mohawk, Rembarnga, Ngalakan, Tuscarora are candidates for this possibility, since the causative in these languages only embeds intransitive predicates, according to Baker (1993, in preparation). More on this in Chapter 7.

10 In fact, the dative marker is also possible with the intransitive subject, as in (i).

(i) John-wa Mary-ni waraw-ase-ta.
Top Dat laugh-Caus-Past

The literature discusses the semantic difference between the two Case patterns, but we will avoid this topic here.

11 See Kuroda (1965), Inoue (1976), Shibatani (1976), Kitagawa (1986), Takezawa (1987), and Miyagawa (1989), among others.

(4.29) a. John-ga Mary-ni hon-o yom-ase-ta (koto)
Nom Dat book-Acc read-Caus-Past
'John made Mary read the/a book.'

b. *John-ga Mary-o hon-o yom-ase-ta (koto).
Nom Acc book-Acc read-Caus-Past
'John made Mary read the/a book.'

c. John-ga Mary-o waraw-ase-ta (koto).
Nom Acc laugh-Caus-Past
'John made Mary laugh.'

The behavior under passivization, however, is different from what is found in Turkish and Italian. It is always the embedded subject which becomes the matrix subject under passivization; the embedded object can never become the matrix subject.

(4.30) a. Mary-ga John-ni hon-o yom-ase-rare-ta (koto).
Nom Dat book-Acc read-Caus-Pass-Past
'Mary was made to read the/a book.'

b. *Hon-ga (John-ni) (Mary-ni) yom-ase-rare-ta (koto).
book-Nom Dat Dat read-Caus-Pass-Past
'The/A book was made by John to be read by Mary.'

c. Mary-ga John-ni waraw-ase-rare-ta (koto).
Nom Dat laugh-Caus-Pass-Past
'Mary was made to laugh by John.'

The passivization facts rather point to the ECM character of the Japanese causative. Then, the question arises about the status of the dative marking on the embedded subject.

There is a suggestive piece of evidence that this dative marking is a disguised structural Case. Guasti (1991, 1992) discusses the causative in the San Nicola dialect of Arberesh. In this dialect, the embedded clause of the causative construction has a dative subject when it is transitive and an accusative subject when it is intransitive.

(4.31) a. Lia i bon të ghojtmj ghibrin ghajarellit.
him-Dat makes SP read-S-Pres-3sg book-Acc kid-Dat
'Lia makes the kid read the book.'

b. Lia bon të shurbenj Frankun.
makes SP work-s-Pres-3sg Frankun-Acc
'Lia makes Frankun work.' Guasti (1991, 223)

Apparently, the Case marking is the same as in Italian. According to Guasti (1991, 1992), however, the dative phrase agrees with the embedded verb.[12] If the dative phrase were marked by inherent or some oblique Case, we would not expect agreement, since it would not be placed in Spec of an AgrP. This suggests that the San Nicola dialect has the ECM causative, despite its appearance. Another difference from Italian is that the embedded object cannot be turned into the matrix subject under passivization, again pointing to the ECM status of the construction.

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[12] Guasti does not provide the crucial examples in which the dative subject is plural, though.

(4.32) *Gibri osht i bon të ghojimj ghajarellit.
book-Nom is Art made SP read-s-Pres-3sg kid-Dat
'The book is made to be read by the kid.' Guasti (1991, 223)[13]

Furthermore, passive can be embedded under the causative verb in this dialect.

(4.33) Gibri osht i bon të jet i ghojirtur (ka ghajarelli).
book-Nom is Art made SP be-s-Pres-3sg Art read-past part. by kid
'The book is made to be read by the kid.' Guasti (1991, 224)

As we will see in section 4.3.1, embeddability of passive is an indication that the construction is the ECM causative.

Returning to Japanese, we can say that the dative marking is a superficial morphological one, given the Arbëresh facts.

4.1.4. Comparison with Previous Studies

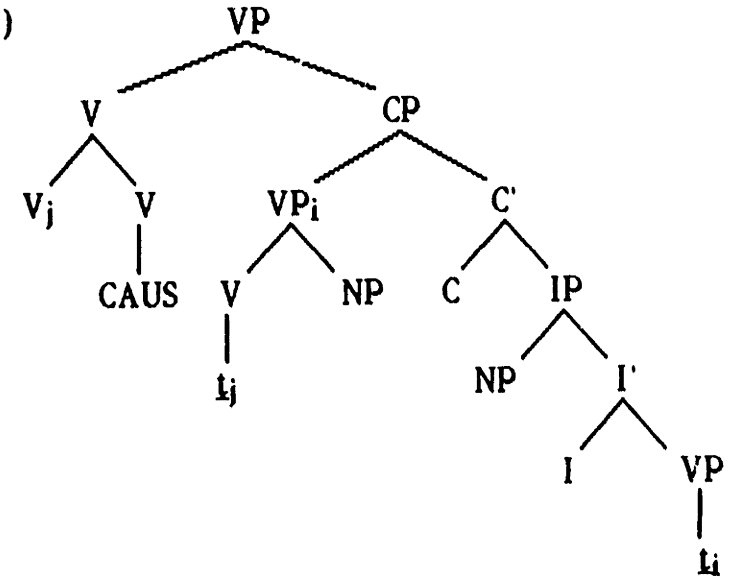
Let us briefly compare some previous analyses of the reduced causative with ours.

First, consider Baker's analysis (1988a). He proposed to account for the reduced causative by assigning it the structure in (4.34).

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13 According to Guasti (1992, 147), adjectives and past participles are preceded by an article.

(4.34)



In this configuration, the causative verb is able to govern the embedded object due to his Government Transparency Corollary. The crucial part of this analysis is raising of VP into Spec of CP. This process makes it possible for the causative verb to govern the embedded object after the embedded verb is incorporated into the causative verb.[14]

The movement of VP into Spec of CP, however, is suspicious given the A-bar nature of Spec of CP. The Agr-based Case theory avoids this problem by treating the Case property of the reduced causative in the same way as ECM. Consider the following schema of movement.

(4.35) a. . . . [$_{\text{Agr-oP}}$ Spec Agr [$_{\text{VP}}$ V [$_{\text{embedded clause}}$ . . . subject . . .

b. . . . [$_{\text{Agr-oP}}$ Spec Agr [$_{\text{VP}}$ V [$_{\text{embedded clause}}$ . . . object . . .

[14] The movement of VP into Spec of CP followed by V incorporation is not the only way to enable the causative verb to govern the embedded object. But here, we will talk about his particular analysis, avoiding the discussion of possible adjustments.

(4.35a) represents ECM, and (4.35b) the reduced causative. Notice that the cause of movement is the same in the two cases. A particular argument of the embedded clause fails to be Case checked within the embedded clause because there is no appropriate functional category on top of Agr-sP in the case of ECM and Agr-oP in the case of the reduced causative.

There are a series of recent analyses by Hoffman (1991), Li (1990a, b), and Rosen (1989) which propose VP complementation for the reduced causative. Each of these analyses has a particular way of handling the Case property, which does not concern us now. An important point for us is that VP complementation is incompatible with Agr-based Case theory if the embedded subject acts as an argument, since the embedded object must move over this subject. As we have seen, AgrP complementation allows Spec of AgrP to act as an escape hatch for the embedded object when it moves over the embedded subject. Thus, as long as the embedded subject is an argument, we need AgrP complementation. We will come back to the issue of the embedded subject below.

4.2. Passive

Now we turn to the analysis of the so-called passive constructions. I would like to emphasize the word "so-called" here because the claim in this section is that there are two types of "passive" that have totally different structures, the distinction of which has not received much attention in the literature. In this sense, our approach marks a radical departure from the previous approaches to "passive". To be sure, "passive" within the principles and parameters approach is only a descriptive term which refers to certain

phenomena where various principles of grammar interact, and thus it does not have any theoretical significance beyond that. This character, however, is more conspicuous under our framework, as we will see in due course. Nonetheless, we will continue to use the term "passive" to refer to a certain clustering of properties that have to be accounted for.

4.2.1. Two Types of Passive

The clustering of properties that we will be interested in is the following:

(4.36) a. The external argument of the verb is realized not in its ordinary position but in the form of an oblique phrase, or not realized at all.

b. One of the verb's internal arguments (or an argument of the embedded clause) gets whatever Case is available in its context, instead of Accusative Case.[15]

c. The verb is marked by special morphology.

There are two kinds of morphology which mark passives.[16] One is represented by the passive in English.

(4.37) a. The key was handed to John by Mary.

b. Mary handed the key to John.

---

[15] It is Nominative Case if no special embedding is involved. We are also abstracting away from impersonal passives here.

[16] In the terminology of Siewierska (1984), synthetic and periphrastic passives. See also Haspelmath (1990) for more on passive morphology. See also Dobrovie-Sorin (1993, forthcoming) for two kinds of passive constructions.

In (4.37a), the verb be is added, with the main verb in the form of past participle, which is also used for the perfective, as in (4.38).

(4.38) Mary has handed the key to John.

We will call this participial passive (periphrastic passive in Siewierska's (1984) terminology). English uses be as a higher verb. Other languages use verbs corresponding to become, come, go, etc. The other type is exemplified by the Turkish passive, illustrated in (4.39)

(4.39) a. Yakut kedi tarafından ısır-ıl-dı
cat by bite-Pass-Past
'Yakut was bitten by the cat.'

b. Kedi Yakut-u ısır-dı
cat Acc bite-Past
'the cat bit Yakut.' Knecht (1986, 32)

A morpheme -Il[17] is added to the verb, preceding the Tense marking. There is no change in the verb morphology other than that. Let us call this type simple passive (synthetic passive in Siewierska's (1984) terminology). Another example of this type of passive is found in the Romance reflexive passive. We will look at it below.

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[17] It takes the form of -In after vowels and /l/, and -Il otherwise.

Despite the difference in morphology, these two kinds of passive seem to have basically the same properties.[18] They share the properties in (4.36). We will see, however, that they are somewhat different in certain respects related to the properties listed in (4.36).

4.2.2. Case Absorption in Passivization

Let us focus on the property (4.36b) first. In the LGB type theory, it is characterized in terms of Case. Specifically, the passive morphology is claimed to absorb the Accusative Case of the verb. The basis of this claim is the fact that an argument which is marked Accusative in the active version appears in the Nominative form in the passive, as in (4.40).

(4.40) a. He was hit by Mary.

b. Mary hit him.

We will inherit this aspect of the LGB theory and recast it in the Agr-based Case theory. By doing so, we can see subtle differences between the participial passive and the simple passive.

4.2.2.1. The participial passive

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[18] Marantz (1988) notes that there are two types of passive-like constructions, only one of which can attach to unaccusative predicates and retain Accusative Case on internal arguments. He claims that the constructions where INFL acts as an external argument, as in the analysis of passive in general by Baker (1988), will have these properties. We will turn to these properties in section 4.2.3.2. Baker's (1988) analysis will be taken up in section 4.2.5. Note that Marantz (1988) does not emphasize the role of passive morphology, though it is implicit.

The partial structure for (4.40a) under our theory is (4.41), excluding the by-phrase.[19]

(4.41) $[_{Ag\text{-}sP}$ He$_i$ [was$_j$+Agr-o+Tns+Agr-s] $[_{TP}$ $[_{Agr\text{-}oP}$ $[_{VP}$ t_j $[_{AgrP}$ hit$_k$+Agr $[_{VP}$ t_k t_i ...

Following the analysis of Romance participle agreement by Kayne (1985, 1989a), let us assume that there is an Agr Phrase on top of the main VP. Cf. Burzio (1986) for participle agreement. On the other hand, there is no reason to posit other functional heads between this Agr Phrase and the copular verb be. The ordinary set of functional categories, namely, Agr-s, Tns, and Agr-o, are projected above the VP headed by be. Let us assume that this is the correct structure for the participial passive.

Notice that given these assumptions, our modified Case theory can derive the absorption of Accusative in the same manner as in the case of the reduced causative. Suppose that be cannot check off the [F] feature that arises from Accusative Case checking. If so, Case checking in the boldfaced AgrP in (4.41) becomes impossible, since the [F] feature that would arise from Case checking in the AgrP in question has to be checked off in order for the derivation to converge. The Accusative Case feature is simply transferred to the Agr above the main verb and will be gone when Agr disappears at LF. Case checking in the AgrP above the VP headed by be is also impossible, since be does not have the Accusative Case feature. The only way that the internal argument of hit can be licensed is to be marked Nominative. Since the external argument gets an oblique marking as we will

[19] Some traces are omitted.

see in section 4.2.3, the Spec of Agr-sP will be reserved for the internal argument. Then the internal argument can (and must) be raised to that position, undergoing Case checking there.

Under this theory, nothing special has to be said beyond the details of the phrase structure of the passive construction in question. There is no stipulated process of Case absorption as in the LGB type of theory. Transfer of a Case feature to Agr is quite general. We have seen this in the discussion of the reduced causative above. And blocking of Case checking in case of impoverished structure which lacks an appropriate [F] feature checker is also general, as we have seen in the cases of the ECM in Chapter 2 and the reduced causatives in this chapter. Thus, the Case property simply follows from the structural specification, given our Case theory.

At this point, a comparison with the participial perfective is in order. Consider the following pair.

(4.42) a. John has eaten the cake.

b. The cake was eaten.

The form of the participle used in passive and that of the one used for perfective are the same across a large number of languages including Germanic and Romance languages. This cannot be a coincidence. The Case properties of the two, however, are different: apparent Accusative Case absorption in the passive construction and checking of Accusative Case in the perfective construction. Since the form of the verb which bears the Accusative Case feature is identical, it is counter-intuitive to attribute this difference in Case properties to the participle itself. Our modification of Case theory provides a natural means to differentiate the two constructions. We

have already seen how the alleged Case absorption works in the passive. A parallel account can be given of Accusative Case checking in the perfective, too. A partial structure of (4.42a) is given below.

(4.43) $[_{Agr\text{-}sP}$ John $[has_i$+Agr-o+Tns+Agr-s$]$ $[_{TP}$ $[_{Agr\text{-}oP}$ $[_{VP}$ t_i $[_{AgrP}$ eaten the cake $]]]]$

Recall that the head of the phrase immediately dominating AgrP plays a crucial role in licensing Case checking under our proposal. Given that the only formal difference between passive and perfective is the choice between be and have, an obvious initial move here is to suppose that the auxiliary verb have, in contrast to be, can check off the [F] feature on Agr that arises from Accusative Case checking.[20] If so, there is no Case absorption in the case of perfective, and the role of Agr which heads the participle is invariant; it is just ordinary Agr. Participation of have in checking the [F] feature is natural, since even though have is categorized as a verb, it is very close to functional categories.[21,22]

Note that this treatment of perfective entails that the participle must eventually be adjoined to have. In that case, the participial verb will come inside the checking domain of have. Thus, it is predicted that there are

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20 We will revise this account shortly.

21 One might wonder why have has the ability of check off the [F] feature, but not be. Partly in view of this question, we will revise the account below.

22 An alternative analysis of perfective is that the higher verb have provides Accusative Case feature. But our fundamental point holds, since we are arguing that Case checking must be followed by another process involving raising of Agr to a higher functional head. Participle phrases cannot carry out Case checking under this alternative, either.

See also the discussion of Celtic languages below, where the revision promised in the previous note is presented.

languages which encode the aspectual features on the verb itself. This seems to be correct.[23]

At this point, comparison with previous attempts to accommodate the fact that the same participle form is used in perfective and passive will be instructive.

Roberts (1987, 40-42) explicitly addresses this question. His hypothesis is that the head of the participle en is an argument that needs Case and a theta role, accounting for suppression of an external theta role and Case absorption under passivization. Cf. Baker (1988a) and Baker, Johnson, and Roberts (1989) for developments of this idea. In the case of perfective, on the other hand, the external argument of the participle is transmitted to the subject of have, while the Case of have is absorbed, saving the Case of the participle.[24] Thus, transmission of the external theta role has to be stipulated under Robert's approach.

Our analysis is similar to Robert's in that it capitalizes on a different property of have to block Case absorption in perfective. Have, in contrast to be, can check off the [F] feature that arises from Accusative Case checking.

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[23] See Rivero (1990b) and Joseph and Smirniotopoulos (1993) for Modern Greek. Bambara uses a suffix for perfective in intransitive clauses. See Koopman (1992) and a later discussion of aux selection.

Affixal expression of aspect will still be consistent with the revision presented below.

[24] Cf. Hoekstra (1984, 1986) and Campbell (1989) for a similar idea. Hoekstra, however, is more concerned with auxiliary choice in perfective of the kind that Burzio (1986) discusses in relation to the unaccusativity hypothesis. We will briefly discuss auxiliary selection below.

Cowper (1989) also proposes a similar analysis, which assumes external theta role transmission. The difference is that for her, -en is an affix which simply removes the external theta role and Accusative Case feature of participles. In perfective, Accusative Case feature is assigned by have to the participle, which in turn assigns it to the direct object.

The crucial difference thus lies in the treatment of external argument. This brings us to the question why external theta role is realized differently under passivization, but we will put off its discussion till section 4.2.3. Here we will restrict ourselves to the question how external argument behaves in perfective. Given the VP-internal subject hypothesis, the underlying structure of (4.42a) is:

(4.44) $[_{Agr\text{-}s'}$ has_i+Agr-o+Tns+Agr-s] $[_{TP}$ $[_{Agr\text{-}oP}$ $[_{VP}$ t_i $[_{AgrP}$
$[_{VP}$ John eaten the cake]]]]]

When Agr-s' is expanded to form Agr-sP, John is raised into Spec of Agr-sP, giving (4.42a). No Relativized Minimality violation is caused, hence the well-formedness of the structure. Note that nothing special needs to be said about the external argument. In this respect, our proposal can claim superiority, although the argument here is incomplete, since we have not provided the account of why the external theta role is realized in an oblique form under passivization. We will turn to this in section 4.2.3. There, realization of the external argument in an oblique form is shown to be a general phenomenon which is not limited to passivization.

At this point, a word about auxiliary selection found in Romance and Germanic languages is in order. Simplified somewhat, transitive and unergative verbs use the have type auxiliary verb in the perfective while unaccusative verbs use the be type. Here are some illustrative examples from Italian.

(4.45) a. Giovanni ha telefonato.
has

'Givanni has telephoned.'

b. L'artiglieria ha affondato due navi nemiche.

has

'The artillery has sunk two enemy ships.'

c. Due navi nemiche sono affondate.

are

'Two enemy ships have sunk.' Burzio (1986, 53-54.)

(4.45a) is a case of an unergative verb, with avere 'have'. In (4.45c) with an unaccusative verb, we see the switch from avere to essere 'be', which is absent in English. Given our theory of Case checking and Case absorption, it is not surprising to find variations in clauses where no Accusative Case checking is involved, such as unaccusative clauses. Note that avere is not needed in unaccusative clauses, since they do not check Accusative Case.[25]

Recently, Kayne (1992) attempts to deal with a far greater complexity of aux selection in Romance languages. In this thesis, we are not in a position to touch on the very interesting, but complex material that he discusses.[26] Let us mention, however, one important idea that Kayne (1992) pursues. He adopts Freeze's (1992) hypothesis that the main verb have is a result of

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25 It seems to be a very significant fact that unergative verbs behave like transitive verbs in this respect. A possibility is that unergative verbs take an underlying object, as proposed by Hale and Keyser (1991a, b). See also Laka (1993).

In principle, we expect to find the use of be with unergatives in some languages. Perfective in Bambara could be such a case. In Bambara, transitive predicate use an independent particle ye while intransitive predicates use a suffix -ra. This may be one instantiation of the have-be alternation, though Koopman (1992) offers a different account.

26 See also Vikner and Sprouse (1988) for some variations in Romance and Germanic.

incorporating an abstract preposition into the main verb be, and extends it to the perfective have and be, too: the perfective have is formed by incorporating a preposition into be. According to this hypothesis, the structure of perfective in overt syntax is:

(4.46) $[_{VP}$ have+H°$_i$ $[_{HP}$ t_i $[_{AgrP}$ Agr $[_{VP}$ John eaten the cake]]]]]

Here, we use the label H° instead of P°, with the following modification in mind. Let us assume that the head H° on top of AgrP is in fact an appropriate functional category to check off the [F] feature that arises from Accusative Case checking. Since the structure containing be simply lacks this head, no Case checking is possible in AgrP which lies between be and the embedded main verb.

Some independent support of the idea that perfective involves an additional functional category below the copula (have or be) comes from Celtic languages, where the aspectual distinction is made by using different particles in combination with the copula. Consider the following examples from Scottish Gaelic.

(4.47) a. Bha Calum air am balach (a) fhaicinn.
be-Past Prt the boy Prt see-VN
'Calum had seen the boy.'

b. Bha Calum a' faicinn a'bhalaich.
be-Past Prt see-VN the boy-Gen
'Calum was seeing the boy.' Ramchand (1992)

Note that both perfective and progressive use the same copula but different particles.[27] Thus, in Scottish Gaelic we can clearly see the head which is hypothesized to be incorporated into the copula in Romance and Germanic. The same kind of transparency is observed in Irish (McCloskey 1983, Stenson 1981) and Welsh (Hendrick 1991, Sproat 1985), too. Hendrick (1991) and Ramchand (1992) argue that these postsubject particles head Aspect Phrases.

Here, we will keep using H°, for the reason that if the Aux selection which is sensitive to unaccusativity is accounted for along the lines of the Freeze-Kayne proposal, the perfective form with an unaccusative verb will not have the head H° in languages like Italian, where the perfective form of an unaccusative verb uses the be type auxiliary.[28] Thus, under (the simplified version of) the Freeze-Kayne hypothesis, H° cannot be identified as an Aspect head.

It is interesting to observe that progressive also uses a particle in (4.47b). In this connection, let us consider the English progressive, as in (4.48).[29]

(4.48) John is scolding him

Note first that the object is Accusative, despite the fact that be is used. At first sight, this seems to contradict our hypothesis concerning the role of

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[27] Note also different Case markings. (4.47a) involves Nominative/ Accusative (they have the same shape, according to Ramchand), while (4.47b) involves Genitive on the direct object. The significance of this still escapes theoretical formulation, but see the text below.

[28] Kayne (1992) himself argues that the participle clause of an unaccusative verb has less structure than that of a transitive or unergative.

[29] Thanks to J. Bobaljik (personal communication) for directing my attention to the question of Case checking in progressive.

have and be in the follow-up to Case checking: only have (or the incorporated part of it) can check off the [F] feature. Since the English progressive uses be, Accusative Case checking should be impossible. The fact about Celtic languages that we have just reviewed, however, gives an important clue to the solution. Let us suppose that the English progressive involves a particle as in Celtic, and that the verb below this particle is incorporated into this particle by LF, as in (4.49).[30]

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30 A similar idea is proposed by Hendrick (1991), in connection with the synthetic perfective in Breton. This is also Kayne's (1992) way of accounting for the use of 'be' in transitive perfective in some Romance dialects.

Significantly, the object appears postverbally in the Breton perfective, as in (i).

(i) Dec'h en deus Yann gwelet Mona.
yesterday have-Pres seen
'Yann saw Mona yesterday.' Hendrick (1991, 173)

If the verb is raised to the position of H, it precedes the object even if the latter is in Spec of AgrP. Thus, the difference between Scottish Gaelic and Breton will be accounted for.

There is an alternative way of looking at (i). Breton is different from other Celtic languages in that it has the HAVE/BE distinction. The have type verb is used for perfective whereas be type is used for progressive in Breton. Now notice that the have type verb is used and a particle is missing in (i). Progressive, on the other hand, uses the be type and a particle o, as in (ii).

(ii) Da Gemper e oan o vont.
to Quimper Prt be-Past-1sg Prt go Hendrick (1991, 174)

This suggests that Breton incorporates the particle in perfective, in contrast to other Celtic languages, lending further support to the Freeze-Kayne hypothesis.

Incidentally, in the structure (4.49) below, the verb be should have been raised out of VP by LF.

(4.49) [VP is [HP H+Agr$_i$+scolding$_j$ [AgrP t_i [VP John t_j him]]]]

The Celtic counterparts will also have the same structure and the same LF incorporation. Under this hypothesis, -ing indicates that the verb has morphological features to be checked by H, or that -ing itself is H. Since nothing incorporates into the copula, on the other hand, it takes the form of be.

Notice, however, that the parallelism between English and Celtic is not perfect: Celtic uses Genitive Case marking in progressive. Note further that the Genitive object appears postverbally in (4.47b), repeated here. Recall from the discussion in the Appendix that Bobaljik and Carnie (1992) propose to analyze the preverbal object in Irish infinitival clauses as sitting in Spec of Agr-oP in overt syntax. Let us suppose that a similar analysis applies here: preverbal objects in perfective are placed in Spec of AgrP. Then, the Genitive marking on the postverbal object in (4.47b) is only an indication that Accusative Case checking has not been carried out.

Given these considerations, the examples in (4.47) will be assigned the following partial structure in overt syntax:

(4.47') a. Bha$_i$ Calum [VP t_i [HP air [AgrP am balach$_h$ (a) fhaicinn$_j$ [VP t_j t_h]]]
be-Past Prt the boy Prt see-VN

b. Bha$_i$ Calum [VP t_i [HP a' [AgrP Agr [VP faicinn a'bhalaich]]]]
be-Past Prt see-VN the boy-Gen

Strictly speaking, Agr has to be raised to H° through excorporation in order to let the subject move over the object without inducing Relativized

Minimality violation.[31] Now, the difference between preverbal objects in perfective and postverbal objects in progressive can be understood as reflecting the different possibilities of Agr-to-H° excorporation. If this takes place in overt syntax, there will be no Relativized Minimality violation even when Spec of AgrP is occupied by the object. If, however, Agr-to-H° excorporation takes place only at LF in progressive, overt raising of the object to Spec of Agr-o induces Relativized Minimality violation when the subject moves over the object in Spec of AgrP.[32]

Note incidentally that this analysis of the Celtic perfective weighs against the alternative of English perfective mentioned in note 21, where the Accusative Case feature is provided not by the main verb but by <u>have</u>. In (4.47'a), the Accusative object is preposed to Spec of AgrP, preceded by the head H°. It undergoes Case checking by the main verb there. If the perfective in English and in Celtic has the same underlying structure, Accusative objects in the perfective should also be Case-checked by the main verb in the lowest AgrP, not by <u>have</u> in the matrix Agr-oP.[33]

To sum up thus far, we have looked at how Case checking works in the passive, perfective, and progressive. By taking into account Celtic aspectual expressions, we have adopted Freeze's (1992) and Kayne's (1992) idea that <u>have</u> has a particle incorporated in it, and argued that this particle checks off the [F] feature arising from Accusative Case checking. Lack of this particle is

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31 See the discussion of Irish infinitives in the Appendix.

32 This discussion still leaves open the question what forces overt raising of Accusative objects in perfective.

33 The impossibility of having the participle passive on top of the perfective, as in (i), is consistent with our hypothesis that the main verb, but not <u>have</u>, checks Accusative Case in perfective.

(i) *The city was had destroyed by the enemy.

responsible for the Accusative Case absorption in the participial passive. In addition, our proposal can accommodate without ad-hoc machinery the possibility of Accusative Case checking in the participial perfective, which is minimally different in structure from passive. We have also reconciled the use of be in the English progressive with Accusative Case checking in this construction, by positing the underlying structure analogous to the Celtic counterparts.[34]

4.2.2.2. The so-called direct and indirect passives in Japanese

The Japanese passive lends striking support to our analysis of the reduced causative and the participial passive. One peculiarity of the Japanese passive[35] is that there is a type which does not display the cluster of properties in (4.36). Passivization in Japanese is marked by the morpheme -(r)are.[36] Let us look at the ordinary type of passive.

(4.50) a. John-ga sono tegami-o yon-da.
Nom that letter-Acc read-Past
'John read that letter.'

b. Sono tegami-ga John-niyotte yom-are-ta.
that letter-Nom by read-Pass-Past

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[34] Bittner (forthcoming) proposes to account for the West Greenlandic passive by recognizing the biclausal structure. Her account, though based on a different set of assumptions, also captures the parallel between the participial passive and the reduced causative. It is hoped that our account will carry over to Ergative languages like West Greenlandic.

[35] Chinese, Thai, and Vietnamese also share this peculiarity according to Siewierska (1984), and we expect them to be analyzed in the same way as Japanese, though the details are beyond the scope of this thesis.

[36] The initial consonant /r/ drops after verbs which end with a consonant.

'That letter was read by John.'

Here, the internal argument of the verb gets Nominative Case in the passive version, with the external argument introduced by an oblique expression niyotte.[37] This type of passive, which has been called the direct passive[38] in the literature, conforms to the characterization in (4.36). There is another type, however, which does not. Consider the following.

(4.51) Mary-ga John-ni sono tegami-o yom-are-ta.
Nom Dat that letter-Acc read-Pass-Past
'Mary was adversely affected by John's reading of that letter.'

Note that (4.51) also uses the same morpheme -(r)are. Comparing (4.50a) and (4.51), we notice that in (4.51), the internal argument keeps its original Accusative marking, while the external argument is marked by Dative. Furthermore, there is an additional experiencer argument which bears Nominative Case. This kind of passive has been called the indirect or adversity passive.[39] The latter naming indicates its meaning, namely, that

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37 The external argument is marked by ni in certain cases. For the differences between the use of niyotte and ni, see Kuroda (1979) and Hoshi (1991).

38 We will restrict the discussion to the type of direct passive which marks the external argument by ni-yotte. There is another type of direct passive which marks the external argument by ni. The latter has sometimes been classified with indirect passive which will be introduced below (ex. Kuroda (1979), Kitagawa and Kuroda (1992)). See Hoshi (1991, 1992) for an alternative proposal. We will not commit ourselves to the status of the latter type here. See Watanabe (in preparation) for some discussion.

39 See Howard and Niyekawa-Howard (1976) for a review of earlier references.

the experiencer argument marked by Nominative is adversely affected by the event expressed by the original main verb.

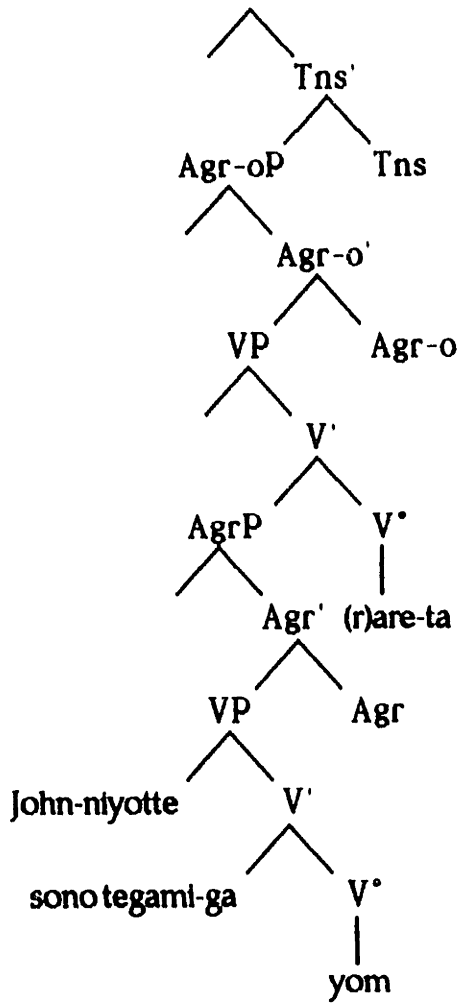
The immediate interest of the two kinds of passive in Japanese is that a straightforward uniform analysis of the two can be given under our modification of Case theory.[40] Recall that both in the reduced causative and in the participial passive, the Accusative Case feature of the main (embedded) verb disappears at LF together with the Agr to which it is transferred. This is because there is no appropriate functional head that checks off the [F] feature. This accounts for Accusative Case absorption in the participial passive. Accusative Case absorption in the reduced causative, on the other hand, is not directly observable, since the causative verb itself provides an Accusative Case feature in the matrix clause, where Case checking at Agr-oP is possible. But under our account, Accusative Case on the embedded object in the reduced causative is checked by the causative verb in the matrix Agr-oP. This accounts for the Case behavior of the embedded object as matrix object.

Kubo (1990) argues that a subset of cases originally subsumed under indirect passive display the behavior of direct passive. Specifically, she argues that NP movement from DP takes place in these cases. I suspect that what is involved is possessor raising, as claimed by Terada (1990), where possessor raising is understood not to involve movement of the possessor from the possessed DP. For an analysis of possessor raising which I think is on the right track, see Marantz (1990). The peculiarity in Japanese is that possessor raising is possible only under passivization. There is an analogous case in Italian causative, as we will see in section 4.4.

[40] Uniform analyses have been proposed in the literature. See Howard and Niyekawa-Howard (1976) for discussion of early proposals. We will turn to critical assessment shortly.

Now suppose that the Japanese passive morpheme basically corresponds to the copula.[41] That is, let us suppose that the (direct) passive in Japanese has the same structure as the participial passive. Then, the underlying structure of (4.50b) is the following:

(4.52)



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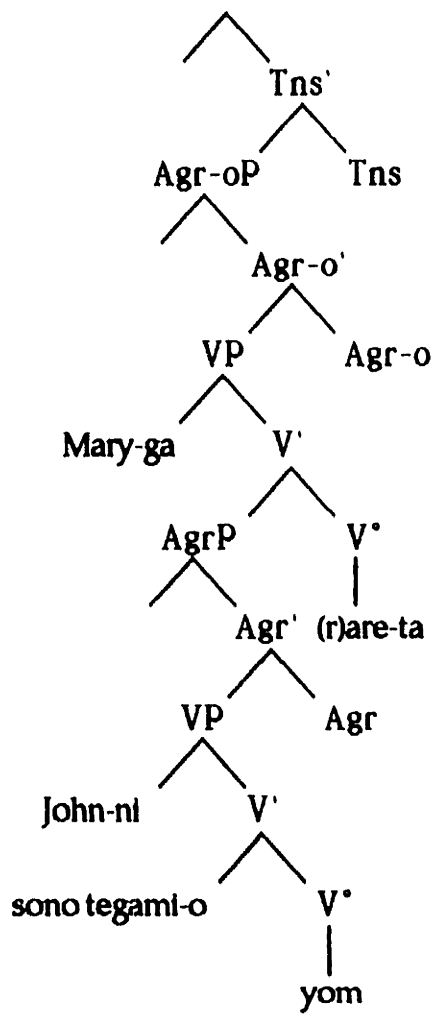
[41] In traditional Japanese grammar, the passive morpheme is thought to be derived from the copular verb ar. See Sansom (1928) and Tokieda (1950). One might be able to say that -r- of the passive morpheme -(r)are is Agr. It is not clear where the final -e in the passive morpheme -(r)are comes from.

Note also that the existence of the indirect passive suggests that the passive morpheme is not exactly the same as the copula. We will turn to the indirect passive shortly.

Let us assume that head movement is responsible for merger of the main verb and the copula.[42] Accusative Case absorption itself is due to the fact that there is no adequate functional category above the embedded AgrP.

Turning to the indirect passive, notice that (4.51) looks like the reduced causative. Suppose then that the underlying structure of (4.51) is (4.53).

(4.53)



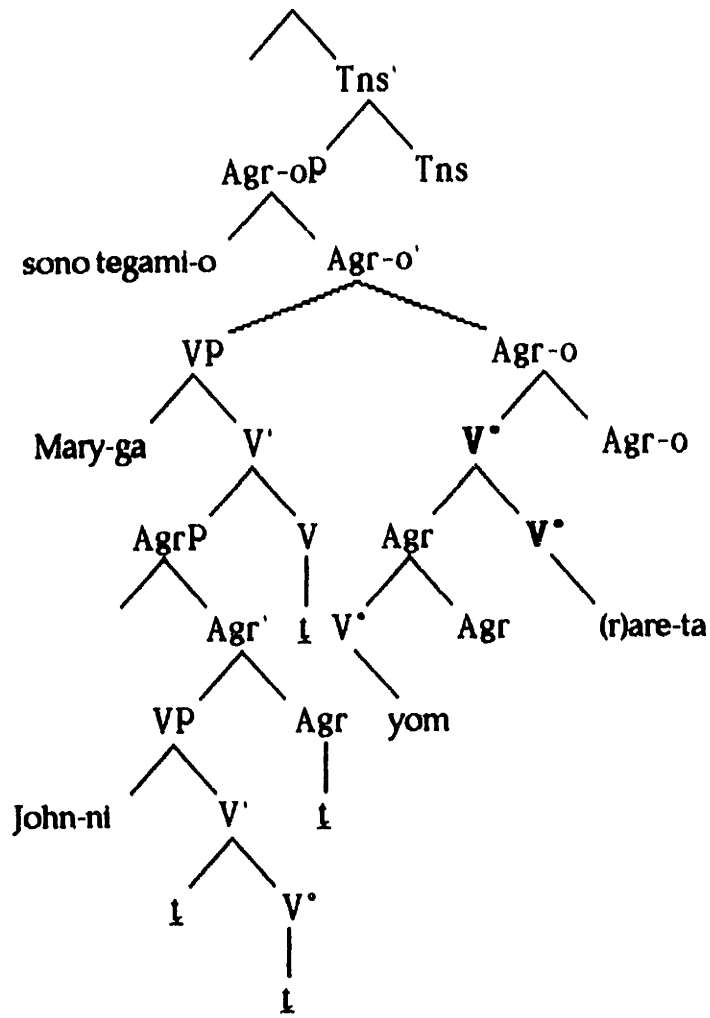
[42] We are not committed to the position that Japanese is a verb-raising language. Raising of the verb embedded under the copula takes place independently of the requirement of general verb raising, perhaps for the reason that the passive copula is a bound morpheme.

Below, we will suggest that raising of the embedded verb to the copula must take place by the end of derivation, for reasons having to do with licensing of the oblique marking ('by' in English) of the passive agent.

The differences between the direct and the indirect passives are i) that the verb -(r)are in the indirect passive projects an external argument and ii) that it has an Accusative Case feature. The verb -(r)are that appears in the direct passive lacks both of these properties. Notice that these are a set of properties typically associated with a simple transitivity alternation. In the indirect passive, therefore, we have to say that the transitive counterpart of the copula is involved as the higher predicate.

The embedded object in the case of the direct passive moves through Spec of the embedded AgrP to reach Spec of the matrix Agr-sP, where Nominative Case checking takes place. This accounts for the Case alternation from Accusative to Nominative. The embedded object in the indirect passive, on the other hand, stops at Spec of the matrix Agr-oP, where it undergoes Accusative Case checking. The configuration in which this takes place is illustrated in (4.54).

(4.54)



The boldfaced V checks Accusative Case on the DP in Spec of the matrix Agr-oP, after which the matrix subject Mary-ga undergoes raising to reach Spec of the matrix Agr-sP. The Case checking of the embedded object in Spec of the matrix Agr-oP is possible since the transitive verb -(r)are provides Accusative Case feature. Spec of the embedded AgrP is not a Case position, on the other hand, and therefore movement can go through that position. Thus, Accusative Case in the indirect passive is due to the passive verb itself, which behaves like an ordinary transitive verb: it has an Accusative Case feature and an external theta role.

We will turn to evidence that the indirect passive has the same structure as the reduced causative, after passive-causative interactions are examined in section 4.3.

Let us turn to the uniform analyses of the direct and the indirect passives that have been proposed in the literature, originally by Hasegawa (1964) and Kuroda (1965). This proposal claims that the direct passive involves pro as the internal argument of the main verb, to phrase it in modern terms,[43] so that a biclausal structure is posited for both the direct and the indirect passive. Thus, the examples in (4.50b) and (4.51) would be assigned the following structure:

(4.55) a. [S Mary-ga[S John-ni sono tegami-o [V yom]]-[V are]-ta]
Nom Dat that letter-Acc read-Pass-Past

b. [S Sono tegami$_i$-ga[S John-niyotte pro$_i$ [V yom]]-[V are]-ta]
that letter-Nom by read-Pass-Past

Here we use the category label S to conform to the older framework. The important point of this version of the uniform hypothesis is that it involves clausal embedding.

The most serious problem which faces that approach is the possibility of passivizing idiom chunks pointed out by Harada (1977). Consider (4.56).

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[43] The internal argument of the embedded verb is deleted under identity with the matrix subject in Hasegawa's and Kuroda's analysis. The details of the analysis have not been debated in the subsequent literature, including Howard and Niyekawa-Howard (1976), Kuno (1983).

The analysis that posits pro in direct passive is due to Kitagwa and Kuroda (1992). It should be noted that they carefully exclude ni-yotte passive from discussion. Thus, the counter arguments in the text are against a strawman hypothesis.

(4.56) a. John-ga kono bunseki-ni kechi-o tsuke-ta.
Nom this analysis-Dat KECHI-Acc attach-Past
'John criticized this analysis.'

b. Kechi-ga kono bunseki-ni tsuke-rare-ta.
KECHI-Nom this analysis-Dat attach-Pass-Past
'This analysis was criticized.'

(4.56b) is the passive version of (4.56a). This variety of the uniform analysis would assign the structure (4.57) to (4.56b).

(4.57) [S Kechi$_i$-ga [S kono bunseki-ni pro$_i$ [V tsuke]]-[V rare]-ta]

Since kechi can only be combined with the verb tsuke 'attach', however, it cannot be an argument of the passive verb -rare. Then, (4.57) cannot be the correct structure. It follows that the Nominative-Case marked phrase kechi must originate as sister to the verb tsuke and subsequently be moved to Spec of the matrix Agr-sP, as in our analysis.

Miyagawa (1989) puts forward a different, lexical version of the uniform analysis, in which the following properties of the passive morpheme are stipulated:

(4.58) (i) The passive morpheme -(r)are must absorb Case, either accusative or dative, if the case-assigning feature exists.

(ii) If -(r)are absorbs the Case from the verb that it attaches to, it can optionally assign this absorbed Case.

Miyagawa (1989, 172)

Under Miyagawa's approach, a passive verb is attached in the lexicon both in the direct and in the indirect passive. Thus, both the direct and the indirect passive have a monoclausal structure.[44] The clause (ii) of (4.58) is designed to account for the presence of an Accusative marked DP in the indirect passive, as in (4.51), repeated here.

(4.51) Mary-ga John-ni sono tegami-o yom-are-ta.
Nom Dat that letter-Acc read-Pass-Past
'Mary was adversely affected by John's reading that letter.'

Note that reassignment of the absorbed Case is a very curious property. Now notice that our analysis using the biclausal structure coupled with a general theory of Case, makes this property follow from the categorial structure of the indirect passive. Recall that the Accusative Case feature of the embedded verb is not used for Case checking under our analysis; it will simply disappear at LF together with the Agr that immediately dominates the embedded VP. The Accusative Case on the embedded object instead comes from the copula-like verb, with Case checking taking place in the matrix Agr-oP. Thus, our approach can be taken to give a theoretical expression to Miyagawa's (1989) idea.

We still have to account for the putative differences between the direct and the indirect passive noted in the literature. It should be noted at the outset, however, that positing totally different functions of the passive morpheme for the direct and the indirect passive is very strange, as

[44] This point raises a serious problem for binding of reflexive zibun, to which we will turn below.

remarked by Saito (1982, 98). Thus, even though some problematic cases remain to be accounted for, that will not weaken our argument for a uniform treatment from Case considerations.

An extensive discussion of the differences between the direct and the indirect passive can be found in Kubo (1990).[45] Here is a list of the major differences between the two.

(4.59) Major Differences between the Indirect and the Direct passive

A. Concerning the passive agent[46]

i) ability to bind zibun (Kuno 1973, McCawley 1972)

the agent in direct passive unable to bind

the agent in indirect passive able to bind

ii) ability to launch floating quantifier (Miyagawa 1989)

the agent in direct passive able to be associated with a FQ

the agent in indirect passive unable to be associated with a FQ

iii) omission of passive agent (Kuno 1973)

the agent in direct passive omissible

the agent in indirect passive not omissible

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[45] She uses the distinction between gapped passive and gapless passive to avoid confusion about where the dividing line lies.

It should be noted that she does not distinguish between the use of ni and ni-yotte marking on the passive agent, nor does most of the work in the literature cited below. The discussion in the text will be adjusted accordingly. That is, we will only discuss that species of direct passive which uses ni-yotte.

[46] The term 'passive agent' is misleading in that indirect passive can embed nonagentive predicates, but for simplicity's sake, we will keep this term.

B. VP preposing (Hoji, Miyagawa, Tada 1989, Tateishi 1991, cf. Kubo 1990)

impossible in direct passive

possible in indirect passive

C. Floating quantifier associated with the surface subject over an intervening argument (Miyagawa 1989)

possible in direct passive

impossible in indirect passive

D. Perfective te-iru (Takezawa 1989, cf. Kuroda 1979)

possible with direct passive

impossible with indirect passive

E. Honorifics (Sugioka 1984, Kubo 1990, Kuno 1983)

the agent in direct passive unable to trigger honorification

the agent in indirect passive able to trigger honorification

The authors in parentheses are the major sources which observe the phenomenon in question in connection with the direct vs. the indirect passive.

Among these, (4.59B, C & D) have to do with whether the structure contains a gap or not. Since our analysis of the direct and the indirect passives preserves this aspect, we will not go into these points here. We will not touch on (4.59E), either, since the analysis of honorifics under the our framework is not clear at this point. For illustration of the facts concerning

these points, see the references cited. The points in (4.59A), on the other hand, merit a comment.

The problem discussed in connection with (4.59A) is the adjunct status of the original external argument. That is, the external argument marked by niyotte in the direct passive cannot act as a binder of a reflexive, nor can it launch a floating quantifier, in contrast to the external argument marked by ni in the indirect passive, which can act as a binder of a reflexive and launch a floating quantifier. Furthermore, the former can be omitted fairly freely, while the latter cannot be omitted without having an antecedent in the discourse. Here is a pair illustrating the binding possibility.

(4.60) a. *John-ga Mary$_i$-niyotte zibun$_i$-no heya-ni tozikome-rare-ta.
Nom by self-Gen room-Loc lock-up-Pass-Past
'John was locked up in her room by Mary.'

b. Tom-ga Mary$_i$-ni John-o zibun$_i$-no heya-ni tozikome-rare-ta.
Nom Dat Acc self-Gen room-Loc lock-up-Pass-Past
'Tom was adversely affected by Mary's locking up John in her room.'

In (4.60a), zibun cannot take Mary as its antecedent. (4.60a) is grammatical if John is the intended antecedent of zibun. In (4.60b), on the other hand, the embedded subject can be the antecedent of zibun.

As we will see below, however, Baker, Johnson, and Roberts (1989) note that passive agents act like arguments with respect to control and binding in English and some other languages. Thus, there is no obstacle in claiming that the Japanese indirect passive and the participial passive in English have the same categorial structure, with the sole difference being that the English copula does not project an external theta role of its own nor does it have an

Accusative Case feature. And if the adjunct-like properties of the Japanese direct passive are treated as possible variation of the status of the external argument of the embedded predicate of the reduced causative and the participial passive in general, then a unified treatment of the direct and the indirect passive becomes desirable. To the extent that our modified Case theory provides such a unified account, it receives support.

Note incidentally that this unified account of two kinds of passive is expected to apply to the same two kinds of passive in Chinese (Hashimoto 1988, Y.-H. A. Li 1990, Tsai 1992), Korean (Park 1986, Washio 1993), Thai (Siewierska 1984), and Vietnamese (Siewierska 1984), though the investigation of this possibility is left to future research.

4.2.2.3. The simple passive

Let us turn to simple passive. In this case, we have to explicitly state the absorption property of the passive morpheme. Simple passives represent the residue of the Case absorption problem, in this sense. It is always an important question whether or not the so-called passive in a particular language can be analyzed as an auxiliary verb like English be,[47] but there are certain cases where that analysis is impossible. One such example is the Romance impersonal construction, illustrated in (4.61) with Italian. Cf. Belletti (1982), Burzio (1986), Cinque (1988).

(4.61) a. Alcuni articoli si leggeranno volentieri.
a few articles Refl. read-3pl voluntarily
'A few articles will be read voluntarily.'

[47] We have seen in the previous section one such case where the decision on this point has significant consequences, namely, Japanese passive.

b. I dolci al cioccolato si mangiano in questa pasticceria.
chocolate cookies Refl. eat-3pl in this pastry shop
'Chocolate cookies are eaten in this pastry shop.'

Baker (1988a, 333)

These examples are similar to the participial passive in Italian exemplified in (4.62), in that the preverbal argument agrees with the tensed verb. That is, the construction in (4.61) is the passive in the sense of (4.36).

(4.62) I dolci al cioccolato sono stati mangiati in questa pasticceria.
chocolate cookies are-3pl been eaten in this pastry shop
'Chocolate cookies have been eaten in this pastry shop.'

We cannot apply the account described above of the participial passive to the simple passive, since there is no structural basis on which to posit the biclausal structure for (4.61). There is no participle involved in the simple passive. Instead, the construction in (4.61) involves the reflexive clitic, though it does not have a reflexive reading. We still have to account for the absorption of the Accusative Case. To accomplish this, let us suppose that the passive morpheme that appears in the simple passive is a special type of Agr which destroys the Accusative Case feature of transitive verbs.[48] Given this, there is no way of checking Accusative. Let me emphasize that the destruction of the Accusative Case feature in the simple passive is a process comparable to the ordinary Case checking. That is, it creates a feature [F] on

[48] Urbanczyk (1992) proposed basically the same analysis for passive in general. Crucially, she does not make the distinction between simple and participle passive.

the Agr-o - passive morpheme, which has to be checked off by Tns. The absorption in the participial passive is simply a failure of Case checking due to lack of enough structure; Case checking itself is optional.

Although this proposal appears to be very stipulative at first sight, there are some indications that this special Agr is actually blocking Case checking. The evidence comes from Icelandic quirky Case. As is well known in the literature (Andrews (1990), Sigurðsson (1989, 1991), Yip, Maling, and Jackendoff (1987), Zaenen and Maling (1984), Zaenen, Maling, and Thráinsson (1985), and the references cited there), Icelandic has rather productive so-called quirky Case phenomena. In Icelandic, some verbal arguments display idiosyncratic Case marking which is preserved even under passivization. As shown by Zaenen, Maling, and Thráinsson (1985), a quirky-Case marked argument becomes the subject of the clause in the passive construction. Consider the following examples.

(4.63) a. Ég hjálpaði honum.
I helped him (DAT)

b. Honum var hjálpað.
him (DAT) was helped

c. Ég mun sakna hans.
I will miss him (Gen)

d. Hans var saknað.
him (Gen) was missed

Given that Icelandic is a V2 language, there is a question whether (4.63b) involves raising of the object to the subject position or (4.63b) is simply derived by Topicalization. Zaenen, Maling, and Thráinsson (1985)

demonstrate convincingly that the former is the case. I will not repeat their entire arguments here.

Now, we have the participial passive in (4.63). Under our framework, the dative object in (4.63a) in fact needs Accusative Case checking. Since that option is impossible in (4.63b), the dative object has to resort to Nominative Case checking at Agr-sP. Nevertheless, dative marking remains, giving the appearance that no structural case is involved. At the beginning of the paper, Zaenen, Maling, and Thráinsson (1985) mention another type of passive construction in Icelandic which does not preserve the quirky Case marking. This type of passive adds the morpheme -st to the original verb, forming pairs like the following.

(4.64) heyrast 'be audible' heyra 'hear'
tynast 'get lost' tyna 'lose' Anderson (1990)

The verb tyna takes a dative object, but the passive/middle version has a Nominative subject.

(4.65) a. Ég týndi úrinu.
I lost the-watch (Dat)
b. Úrið týndist.
the-watch (Nom) got-lost
'The watch got lost.'
c. Úrinu var týnt.
the-watch (Dat) was lost Sigurðsson (1989, 269)

Although Zaenen, Maling, and Thráinsson (1985) puts the use of -st in the lexicon, it is reasonable to equate it with the Romance reflexive clitic si (Italian), given the range of meanings associated with the morpheme -st: in addition to the middle/passive meaning, it expresses the reflexive/reciprocal meaning, derives an unaccusative verb from a causative, transitive verb, and has more idiosyncratic uses.[49] We will assume that this process is syntactic and is equivalent to the simple passive.

There is one piece of evidence that the morpheme -st is Agr-o. Anderson (1990), in a detailed study of -st, notes that the verbs marked with -st lack the agreeing participle form. They have a participle form called "supine", which has the form of the neuter Nominative singular of the participle. If the ordinary (agreeing) participle is built of the ordinary (adjectival) Agr-o plus a verb, the lack of the the agreeing participle form in -st verbs is due to the presence of a different Agr-o, namely, the Case-destroying Agr -st.

Returning to the main point, even though we are dealing with the quirky Case marking, the contrast in the way quirky Case is absorbed suggests rather different characteristics of the two types of passives: the simple passive involves the operation of Case-feature destruction, while nothing happens in the case of the participial passive. The discrepancy with respect to the quirky Case marking fits our characterization of the simple and the participial passive.

4.2.3. The External Theta-Role in the Passive and the Reduced Causative

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[49] See Anderson (1990) for the list of its uses.

Let us turn to the property (4.36a), the oblique marking on passive agents. The exact treatment of this property, unfortunately, is beyond the scope of this thesis. This section instead has two modest goals. One is to set the problem of external arguments of passive in a broader perspective. As we noted above, there are several similarities between the participial passive agent and the embedded subject of the reduced causative.[50] We will elaborate on this point. The other goal is to link the simple passive with another construction in connection with the property (4.36a). We were led to conclude above that the simple passive involves a special type of Agr-o which literally absorbs the Accusative Case feature. We will see that this property may not be so idiosyncratic, based on the restriction on the oblique marking in passive.

In short, this section is a list of problems which future research should address.

4.2.3.1. The reduced causative and the participial passive

Let us consider the insertion of an oblique marker in the reduced causative and the participial passive. To start with the reduced causative, the insertion of an oblique marker is forced by the need of the derivation to converge. Suppose that no oblique marker is inserted on the external argument of the embedded transitive. Then, the only way that it can enter the structure is to carry structural Case feature. There is, however, only one Case checking position for the arguments of the embedded clause, namely, Spec of the matrix Agr-oP. Recall that the reduced causative in Turkish has the following structure, assuming the head-final nature of Turkish:

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[50] Baker (1988a, 487, note 38) also notes omission of the embedded external argument in Reduced causative.

(4.66) $[_{Agr\text{-}sP}\,[_{TP}\,[_{Agr\text{-}oP}[_{VP}$ Subj $[_{AgrP}[_{VP}$ Subj Obj V] Agr] V_{caus}] Agr-o] Tns] Agr-s]

Spec of the matrix Agr-sP has to be reserved for the external argument of the causative verb itself. Furthermore, because of the lack of an appropriate functional head over the embedded AgrP, Spec of the embedded Agr-oP cannot check Case. Thus, the derivation necessarily crashes unless an oblique marker is inserted on the external argument of the embedded clause.

The same situation holds for the participial passive as well. This time, the matrix verb does not have an external argument but lacks Accusative Case. Thus, only Spec of the matrix Agr-sP is a Case-checking position in the entire clause. Again, unless an oblique marker is inserted on the external argument, the derivation will crash.

An immediate question that arises is why the oblique marking is limited to external arguments. If the oblique marking were possible on an internal argument, a "passive" version (4.67b) of the active (4.67a) should have a convergent derivation.

(4.67) a. Mary handed the key to John.

b. *Mary was handed by the key to John.

This limitation is yet to be accounted for.[51]

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51 The process of antipassive, which can be informally characterized as object -> oblique, may be a case where an oblique marking is available to internal arguments. But this marking is not free, since English, for example, does not have antipassive.

Let us look at some properties common to the external arguments of the participial passive and the reduced causative. First, both can act as binder of anaphors and controller of PRO. This is the reason for treating the oblique phrases in the participial passive and the reduced causative as arguments in the above discussion. The point about anaphor binding is illustrated in (4.68-71).

(4.68) a. Testimony was given about himself$_i$ by the suspect$_i$.

b. Such privileges should be kept to oneself.

c. Letters were cleverly sent to each other.

d. The blankets were put on top of each other to keep warm.

Roberts (1987, 161-162, 166)

(4.69) a. Certe verità non devono essere nascoste a se stessi. Italian[52]

'Certain truths should not be hidden from oneself.'

b. Una simile domanda deve essere rivolta prima di tutti a se stessi.

'Such a demand must be first asked of ...eself.'

Baker (1988a, 316)

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52 Roberts (1987, 275) claims that reciprocal binding is also possible.

(i) a. Lettere si inviavano l'uno all'altro.
letters sent to each other

b. Fotografie si mostravano l'uno all'altro.
photographs showed to each other

Since the subject is feminine plural while the reciprocal is masculine singular, the antecedent must be the external argument. According to Cinque (1988), however, this kind of si does not allow reciprocal binding, though they are not dealing with exactly the same examples.

(4.70) a. Con le minacce, fecero accusare se stesso$_i$ a Giovanni$_i$. Italian

with threats made-3pl accuse himself

'With threats, they made Giovanni accuse himself.'

b. Faremo curare i propri$_i$ interessi ai nostri clienti$_i$.

will-make-2pl take-care-of their own interests to our customers

'We will make our customers take care of their own interests.'

Burzio (1986, 264)

(4.71) Ayşebana$_i$ kendimi$_i$ yak-tır-dı Turkish

me (Dat) myself (Acc) burn-Caus-Past

'Ayşe caused me to burn myself.' Aissen (1974b, 95)

(4.68-69) are passive constructions; (4.70-71) are cases of the reduced causative. Baker (1988a), Baker, Johnson, and Roberts (1989), and Roberts (1987) contain a detailed discussion on the binding and control facts about passive, claiming that the passive agent is syntactically present because it can bind anaphors and control PRO. Baker (1988a, 212-214) claims, on the basis of data from Malayalam (Mohanan 1983), that the causee of the reduced causative cannot act as antecedent for binding purposes, but this claim is not general, given the data above from Italian and Turkish.

In the case of the reduced causative, this binding fact poses a problem for the approach assumed here, which allows only interface conditions at LF and at PF. Under this theory, the Binding Conditions are supposed to apply at the end of LF (Chomsky 1992). Take (4.70). The embedded object, which is an anaphor itself (4.70a) or contains an anaphor (4.70b), will be raised to Spec

of the matrix Agr-oP at LF. The relevant part of the LF representation of (4.70b) is as follows:[53]

(4.72) Faremo$_j$ [$_{Agr\text{-}oP}$ **i propri$_i$ interessi$_k$** [$_{VP}$ t$_j$ [$_{AgrP}$ curare$_i$ [$_{VP}$ t$_i$ t$_k$ ai nostri clienti$_i$]]]]

The bold-faced embedded object is higher than the embedded subject at LF, failing to be c-commanded by the latter. If the Binding Conditions apply at LF, some additional machinery is needed to rule (4.72) in.

Second, they can both become null.[54] The identity of this empty category, however, is not clear. It cannot be PRO, as proposed by Fukui (1986), Fukui and Speas (1986), and Guilfoyle et al. (1992) for the null passive agent. There is no way of checking Null Case in the reduced causative and passive. It cannot be pro, since pro usually needs identification by rich agreement. It cannot be an NP trace nor a variable. Thus, we might have to posit a novel type of empty category. The syntactic reality of this empty category is indicated by its binding ability, as shown in the passive cases (4.68-69).

Null passive agents receive an existential quantification reading, as discussed in detail by Roberts (1987, 143-160). (4.73), for example, is interpreted as (4.74).[55]

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[53] As we have seen in the Appendix, the embedded verb of Italian causative is adjoined to the matrix verb and the latter excorporates. We will omit this complication here.

[54] Some languages do not allow omission of external arguments. The Italian causative seems to be one such example. See Guasti (1992). We will come back to this point when discussing fair-par.

[55] Cases like (i) suggest that the existential reading arises through Existential Closure of Heim (1982).

(i) It is generally believed that...

(4.73) Mary was kissed.

(4.74) Mary was kissed by someone.

Roberts further notes that a quantifier in a by-phrase cannot take scope over sentential negation in (4.75).

(4.75) a. The target wasn't hit by many arrows.

b. The target wasn't hit by every arrow.

This behavior is paralleled by that of the implicit passive agent in (4.76).

(4.76) The target wasn't hit.

This example only means that there is no one who killed John. If the implicit argument were interpreted other than as existential quantifier, this reading would not come out, given that the implicit argument is syntactically present, as shown by the binding facts.

The same seems true with causative, but a detailed study must be relegated to future work.

Now let us consider the embedding of an intransitive verb. This time, there is no need to insert an oblique marker. In the reduced causative, the

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In (i), in contrast to (4.73), there is an explicit binder, an adverb of quantification, which gives rise to a generic reading of the passive agent.

The narrow scope of the existential reading of passive agents in (4.76) might also suggest that Existential Closure is responsible. According to Diesing (1990b), Existential Closure has only VP as its scope. If negation is higher than VP, negation takes a wider scope.

embedded subject can move to Spec of the matrix Agr-oP, instead of requiring an oblique marker. Here, we find parametric variations. Apparently, in Turkish, the embedded subject of causative has to be marked by Accusative.

(4.11) a. Çocuğu koş-tur-du-k
child-Acc run-Caus-Past-1pl
'We made the child run.'

b. *Çocuğ-a koş-tur-du-k
child-Dat run-Caus-Past-1pl

In Italian, on the other hand, the external argument of certain unergative verbs can be marked by Dative when there is an indirect object, at least for some speakers.

(4.77) a. ?Gli farò telefonare a Maria.
to-him will-make-1s telephone to
'I will make him phone Maria.' Burzio (1986, 277)

b. Farò telefonare Giovanni a Maria.
will-make-1s telephone to
'I will make Giovanni phone Maria.' Burzio (1986, 242)

c. Facciamo correre a Mario.
let-us-make run to
'Let's get Mario to do the running' Radford (1977, 233)

This type of variation is paralleled by the behavior of the participial passive. As is well know, some languages like German and Dutch allow impersonal passive with intransitive verbs.

(4.78) a. Er wordt door de jongens gefloten. Dutch
there become by the boys whistle
'There is whistling by the boys.'

b. Es wurde gestern von uns getanzt. German
it became yesterday by us danced
'There was dancing by us yesterday.' Siewierska (1984, 94, 97)

In English, on the other hand, this kind of impersonal passive is impossible, while impersonal passive with a sentential complement is possible.[56]

(4.79) a. *It/*There was danced (by us).

b. *It/*There was drunk till late at night (by the boys).'

c. It was believed/held/reasoned (by everybody) that the conclusion was false.

Embedding of intransitive predicates under the reduced causative does not require the insertion of an oblique marking, since there are sufficient

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56 Lappin and Shlonsky (1993) note that the possibility of impersonal passive of intransitive verbs correlates with the possibility of secondary predicates modifying the implicit passive agent.

(i) a. Das Konzert wurde formell angezogen gespielt.
the concert was formally dressed played
'The concert was played formally dressed.'

b. *The concert was played formally dressed.'

German allows it as in (ia), while English prohibits it, as in (ib).

Case positions. One might wonder what would happen if the oblique marking did not happen with the embedded intransitive verb in the participial. We would get perfective.

(4.80) Everybody has believed/held/reasoned that...

Recall that we have analyzed the perfective almost in the same way as the participial passive: embedding of a simple AgrP. For some reason, the perfective verb is switched from the be-type to the have-type, but other than that, we have exactly the same structure.

It is important to observe here that the oblique insertion is limited to the external argument of an embedded verb both in the participial passive and the reduced causative. Thus, it has been observed (Perlmutter (1978), Perlmutter and Postal (1984), and Burzio (1986)) that unaccusative verbs do not undergo passivization, in contrast to unergative verbs.[57] This has been called the 1-Advancement Exclusiveness Law (1AEX) effect in Relational Grammar. Thus, we have a contrast between (4.81) and (4.82) from Perlmutter's (1978) Dutch examples.

(4.81) a. Er wordt hier door de jonge lui veel gedanst.
'It was danced here a lot by the young people.'

b. Hier wordt (er) veel gewerkt.
'It is worked here a lot.'

(4.82) a. *Er werd door de bloemen binnen een paar dagen verflenst.
'It was by the flowers in a few days wilted.'

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[57] There are exceptions noted in the literature. We will come back to this problem in the next subsection.

b. *In dit weeshuis wordt er door de kinderen ergsnel gegroeid.

'In this orphanage it is by the children very fast grown.'

Interestingly, the oblique insertion is prohibited for unaccusative verbs in the reduced causative as well.[58] Thus, Radford (1977) and Burzio (1986) note that the 'subject' of the embedded unergative verbs may be marked by dative, while this is impossible with unaccusative verbs.[59]

(4.83) a. Fagli vedere/sentire/provare/ascoltare/assaggiare/suonare/battere.
Make-to-him see /hear /try /listen /try /ring /knock

b. ?*Fagli salire/scendere/entrare/uscire/andare/venire/arrivare/partire.
Make-to-hingo-up/go-down/enter/go-out/go/come/arrive/depart

Radford (1977, 234)

This is a confirmation that the same process of the oblique marking is taking place both in the participial passive and in the reduced causative.

Putting aside the question what accounts for the parametric difference with respect to the oblique marking on the external argument of unergative verbs, let us now consider how to make sure that the oblique insertion is restricted to the reduced causative and passive. In other words, we have to ensure that the cases like (4.84) are ruled out.

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58 Authier and Reed (1991) observe that the same contrast holds in some French dialects, though they only discuss cases where the embedded 'subject' is cliticized.

59 Although Radford (1977) does not use the term unaccusative or ergative, he mentions that the verbs which take essere 'be' in perfective resist dative marking, attributing the observation to G. Lepschy. The use of essere is an indication of unaccusativity in Italian. See Perlmutter (1978) and Burzio (1986).

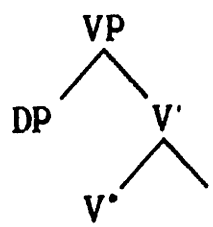
(4.84) a. *It/*There ate the cake (by John).

b. *It/*There talked to Mary (by John).

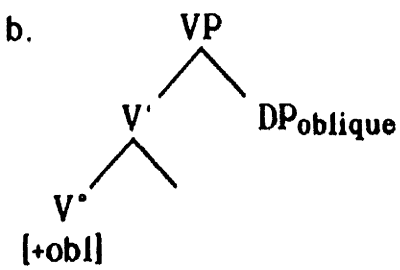
One principled way of ruling out these cases is to appeal to the last resort nature of NP movement and say that the Accusative object cannot be raised at LF to either replace or adjoin to the expletive in the subject position. In the case of there, this is straightforward. The expletive it, however, leaves some elements of uncertainty, given the impersonal passive in (4.78), where it is not clear what will happen at LF.

Another way is to assume mechanically that the oblique marking creates through Spec-head relation a feature on the embedded verb that can only be checked off by either the causative verb or the copula-like verb that heads the participial passive. Or to put it differently, if the verb comes with a special feature having to do with the oblique marking, the external argument can and must get the oblique marking, the mechanics of which is mediated by Spec-head relation. That is, we have two kinds of VP, depending on whether the external argument is marked by oblique, as in (4.85).

(4.85) a.



b.



(4.85a) is a case of an ordinary active sentence. Nothing special happens. In (4.85b), the oblique marking is paired up with the [+obl] feature on the verb.

This feature will be checked off by the copula or the causative verb when the embedded verb is raised to the copula or the causative verb. In cases like (4.84), there is no way of checking off this feature in the absence of the copula and the causative verb, resulting in a crashing derivation.

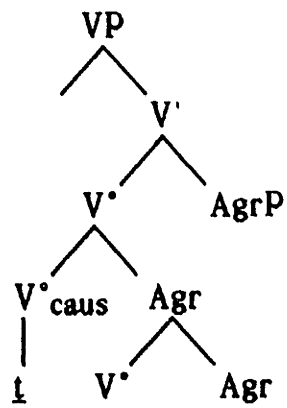
The hypothesis that Spec-head relation is crucial here also derives the fact that unaccusative verbs resist the oblique marking in both passive and the reduced causative as illustrated in (4.82) and (4.83b) above, since they do not have an external argument which occupies Spec of VP.

There is some indication that our proposal is on the right track. In the Appendix to Chapter 2, we have mentioned that the embedded verb of the Italian causative is raised out of the embedded clause. Consider the relevant example again.

(A.65) I professori$_i$ non fanno più commentare (tutti$_i$) lo stesso libro a Lia.
the professors Neg make not comment all the same book to
'The professors do not all make Lia comment on the same book.'
Guasti (1991, 214)

In (A.65), we have to assume that the embedded verb is raised out of the embedded AgrP. In the Appendix, we have left open the question why this raising has to take place, but assumed that it is adjoined to (the trace of) the matrix causative verb, as in (4.86).

(4.86)



This is analyzed as an instance of excorporation in the sense of Roberts (1991). After adjunction of the embedded V-Agr complex, the matrix causative verb gets raised to the matrix Agr-o, leaving behind the adjoined element.

Now we seem to have an answer to the question why the embedded verb-Agr complex has to be raised to the causative verb: the embedded verb has to raise because the [+obl] feature has to be checked off by the causative verb.

It is interesting at this point to look at the case of embedding intransitive verbs as well, since there is no oblique marking on the external argument in this case. Consider (4.87).

(4.87) a. Hanno fatto lavorare tutti Lia.
have-Pres-3pl made work all
'They all made Lia work.'

b. Hanno fatto telefonare tutti Maria a Giovanni.
have-Pres-3pl made telephone all to
'They all made Maria call Giovanni.'

In these cases, the floating quantifier associated with the matrix subject intervenes between the embedded verb and the argument(s) of the embedded clause, just as in (A.65). Since there is no oblique marking this time, we cannot motivate the raising of the embedded verb-Agr complex by the oblique marking on the external argument alone. Thus, there seems to a different reason for the raising of the embedded verb-Agr complex. We will leave the discussion open at this point, pending further research on the nature of the oblique phrase.

To summarize, we have seen some properties common to external arguments of the participial passive and embedded subjects of the reduced causative. It is a task of future research to explain why we have this clustering of properties.

4.2.3.2. Oblique marking in the simple passive

Now, we will turn to a different theme, namely, the special status of Agr-o in the simple passive. We will see that there is a special Agr-s, suggesting that the two form a natural class.

4.2.3.2.1. Apparent 1AEX violations

Given that the simple passive uses a different mechanism to derive Accusative Case absorption, we might expect some differences in other aspects of the simple passive. In fact, this expectation seems to be fulfilled. We noted above that the oblique marking in the reduced causative and that in the participial passive have in common a property of being restricted to the external argument of the embedded verb. A next question is whether the same is true in the simple passive. In the area of passive, however, exceptions have been noted in the literature to the hypothesis that

passivization cannot apply to unaccusative predicates including passive ones. Baker (1988a) and Baker, Johnson, and Roberts (1989) address this problem in their framework. The exceptions noted are Italian (Burzio 1986, Cinque 1988), Turkish (Knecht 1986, Özkaragoz 1980, 1986), Irish (Nerbonne 1982, Stenson 1981, 1989), Sanskrit (Ostler 1979), and Lithuanian (Keenan and Timberlake 1985, Nerbonne 1982, Timberlake 1982). Marantz (1988) adds North Russian and Nepali to this list.

First of all, it is important to note that at least for Italian, Turkish, and Nepali, the exceptions involve the simple passive. As we will see, the Irish construction is not even passive in our sense. Suppose that we state the following hypothesis:

(4.88) Passive Homophony

> The special Agr-o used in the simple passive is sometimes homophonous with another special morpheme.

These languages, then, do not threaten the hypothesis that the passive, whether it is participial or simple, always shows the IAEX effects, because what appears to be a violation simply involves a different construction. If (4.88) is true, we can conclude that the oblique marking in the simple passive is also restricted to external arguments. Let us look at some of them to see if we can maintain (4.88).

Let us start with Turkish. As we have noted above, the Turkish passive is created by inserting the passive morpheme between the verb stem and the Tense marking and thus is an example of the simple passive. Turkish allows double passive, in addition to passivization of unaccusative verbs. The double passive looks like the following:

(4.89) a. Bu şato-da boğ-ul-un-ur.
this chateau-Loc strangle-Pass-Pass-Aor[60]
'One is strangled in this chateau.'

b. Bu oda-da döv-ül-ün-ür.
this room-Loc hit-Pass-Pass-Aor
'One is beaten in this room.' Özkaragöz (1986, 77)

Irish presents an interesting case, since it has two kinds of passive-like constructions, as noted by Stenson (1981). One type, which involves a biclausal structure headed by a 'be'-verb,[61] always expresses perfective meaning. The other type, which involves so-called autonomous morphology on the verb, is not related to perfective meaning. The former is illustrated in (4.90), the latter in (4.91).

(4.90) a. Beidh an obair déanta amárach.
be-Fut the work done tomorrow
'The work will be done tomorrow.'

b. Bhí an ronnach ceannaithe ag Cáit.
be-Past the mackerel bought by Kate
'The mackerel was bought by Late.' Stenson (1981, 146, 149)

(4.91) a. Tugadh an tarbh don fheilméara.
give-Past-Aut the bull to the farmer

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60 According to Özkaragöz (1986), the double passive is restricted to the aorist tense.

61 Recall that Irish has two 'be'-verbs. This 'be'-verb is different from the copular verb discussed in Chapter 2.

'The bull was given to the farmer.'

b. Siúilfear abhaile.
walk-Fut-Aut homeward
'One will walk home.' Stenson (1989, 381)

In contrast to the perfective passive, the autonomous form does not allow an oblique phrase.

(4.92) Buaileadh Ciarraí (*ag/le) Gaillimh.
beat-Past-Aut Kerry by Galway Stenson (1989, 382)

The autonomous form can 'passivize' the perfective passive, as in (4.93).

(4.93) a. Táthar maraithe.
be-Pres-Aut killed
'One has been killed/is dead.'

b. Beifear scanraithe ag taibhsí.
be-Fut-Aut frightened by ghosts
'One will be frightened by ghosts.' Stenson (1989, 392-393)

Notice that given the presence of an oblique phrase, (4.93b) cannot be analyzed as perfective passive of an autonomous form. If the autonomous passive applied before the perfective passive, the original external argument could not appear. In (4.93b), what is missing is the original internal argument. Furthermore, the presence of the autonomous form on the 'be'-verb suggests that this inflection marks the original object, as Stenson (1989) claims.

The Italian exception involves reflexive morphology, as we will see in detail. Thus, the observation about Turkish, Irish, and Italian suggests that the apparent 1AEX violation is possible only for the simple passive. As we will see, the autonomous construction in Irish is not even the passive in our sense, namely, the clustering of properties (4.36).

Lithuanian and Sanskrit initially seem to pose problems for this generalization. According to Nerbonne (1982), Lithuanian forms passive by combining the present or past participle and the 'be' auxiliary, as in (4.94).

(4.94) a. Krištolinis sietynas buvo mano pirktas.
chandelier-Nom/m/sg be-Past-3 me-Gen bought/Nom-/m/sg
'The chandelier was bought by me.' Timberlake (1982, 510)

b. Ji (yrà) myli-m-a
she is love-Pres.Pass.-Nom/fem/sg
'she is loved.' Nerbonne (1982, 73)

The 'be'-verb can be omitted in the present tense. Here are some examples of passive of unaccusative predicates.

(4.95) a. Ko čia degta/dužta/plyšta?
what-Gen here burnt/shattered/burst-Nom/n/sg
'What was it that burned/shattered/burst here?'
Timberlake (1982, 511)

b. Jõ ēsama gēro žmogaũs.
He-Gen be-Pres.Pass. good-Gen man-Gen
He is a good man.' Nerbonne (1982, 74)

Double passive is also possible, as in (4.96a), which is a passive version of (4.96b).

(4.96) a. To lapelio būta vėjo nupūsto.
that leaf-Gen/m/sg been-Nom/n/sg wind-Gen blown-Gen/m/sg
'That leaf was blown down by the wind.'

b. Tas lapelis vėjo nupūstas.
that leaf-Nom/m/sg wind-Gen blown-Nom/m/sg
'That leaf was blown down by the wind.' Timberlake (1982, 517)

Thus, it seems that we have 1AEX violations with the participial passive. Notice, however, that the 'be'-verb is consistently missing in the relevant examples.[62] If this is not a coincidence, we may entertain the hypothesis that despite its appearance, the participial passive in Lithuanian is in fact reanalyzed as the simple passive. Since the 'be'-verb can be missing in the present tense, this is not unreasonable. Then, Lithuanian ceases to be a counter-example to our generalization. North Russian is similar to Lithuanian.

The same thing can be said about Sanskrit, it seems. It has three passive forms, according to Ostler (1979), but none of them seems to require an overtly biclausal structure. So let us state the following:

(4.97) Apparent 1AEX violations are limited to the simple passive.

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[62] There is only one example with the 'be'-verb in Nerbonne (1982) and Timberlake (1982) combined.

(4.97) is explained by the hypothesis of Passive Homophony (4.88), repeated below.

(4.88) Passive Homophony

The special Agr-o used in the simple passive is sometimes homophonous with another special morpheme.

This hypothesis is partially anticipated by Postal (1986), who claims that the discussion in the literature has not established that the structure which apparently violates 1AEX is the passive construction in the relevant theoretical sense.[63] To the extent that the other special morphology is not sensitive to the effect of 1AEX, an apparent violation arises. But Postal (1986) went only this far. Now, the other part of the answer is that this kind of ambiguity can only be found with the simple passive. Recall that the

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63 Biktimir (1986) reaches the same conclusion for the Turkish cases, based on the ability to control PRO. The crucial contrast is the following:

(i) a. [PRO sakız çiğne-yerek] hoca-yla konuş-ul-maz.
gum chew-ArAk teacher-with speak-Pass-Neg:Aor
'One does not speak with the teacher while chewing gum.'
Biktimir (1986, 66)

b. *Ben Ayşe$_i$ tarafından [PRO$_i$ gül-erek] öp-ül-dü-m.
I by laugh-ArAk kiss-Pass-Past-1sg
'I was kissed by Ayşe, while laughing.'
Özkaragöz (1980, 416)

In (ib), the interpretation in which PRO is controlled by the 'by'-phrase is unavailable, while PRO is controlled by an implicit argument in (ia). Biktimir argues that (ia) represents a different construction.

Note incidentally that the inability of the oblique phrase to control PRO poses an interesting crosslinguistic question about universal properties of the oblique phrase.

participial passive consists simply of a participle and an auxiliary verb 'be'. In a sense, there is no special morphology involved in the participial passive. Thus, there is no room for ambiguity. The simple passive, on the other hand, is marked by a special morphology on the verb, leaving room for ambiguity. Hence the generalization (4.97).

4.2.3.2.2. Impersonal construction

To identify the special morpheme in (4.88), we now turn to Italian, a detailed analysis of which by Cinque (1988) and others sheds a revealing light on the question at hand.

It has been observed in the literature (Belletti 1982, Burzio 1986, Cinque 1988, Manzini 1986, among others) that there are two types of passive-like constructions associated with the reflexive clitic si in Italian. In one type, the direct object, if any, is preposed and agrees with the finite verb; in the other, the object stays in its original position.

(4.98) I dolci al cioccolato si mangiano in questa pasticceria.
'Chocolate cookies are eaten in this pastry shop.'

(4.99) a. In questa pasticceria si mangia soltanto i dolci al cioccolato.
'In this pastry shop one eats only chocolate cookies.'

b. Li si mangia volentieri in questa pasticceria.
'One eats them with pleasure in this pastry shop.'

(4.98-99) from Belletti (1982, 1, 13)

In (4.98), the verb agrees with the preposed object, indicating that Accusative Case is absorbed. Let us call this type passive SI. In (4.99), the verb shows the default third person singular form. In (4.99b), in particular,

the object is cliticized, indicating that it is marked by Accusative Case. Let us call this type impersonal SI, following the traditional terminology.

The reflexive clitic with an impersonal meaning can occur with the participial passive and unaccusative verbs, as in (4.100).

(4.100) a. Spesso si arriva in ritardo.
'Often one arrives late.'
b. Si è spesso trattati male.
'One is often ill-treated.' Cinque (1988, 522)

These are instances of apparent 1AEX violation. The question is whether the reflexive clitic in (4.100) is passive SI or impersonal SI. If it is impersonal SI, the violation is only apparent.

Cinque (1988) shows, first, that passive SI has a different distribution from impersonal SI, and second, that the one that is compatible with the participial passive and unaccusative predicates is impersonal SI. The relevant context is a complement to a raising verb, as in (4.101).

(4.101) a. Sembrano essersi vendute poche automobili.
seem (pl.) be-SI sold (pl.) few cars
'Few cars seem to have been sold.'
b. *Sembra essersi venduto poche automobili.
seem (sg.) be-SI sold (sg.) few cars
'One seems to have sold few cars.'
b'. *Sembra esserlesi vendute a un prezzo eccessivo.
seem (sg.) be-them-SI sold (pl.) at an excessive price
'One seems to have sold them at an excessive price.'

c. *Sembra essersi arrivati troppo tardi.

'One seems to have arrived too late.'

d. *Sembra non essersi stati invitati da nessuno.

'One seems not to have been invited by anybody.

Cinque (1988, 556-7, 524-5)

The contrast between (4.101a) and (4.101b, b') shows that the original object must be associated with Nominative Case of the matrix clause in this context. Notice that the matrix verb agrees with the original object in (4.101a), but not in (4.101b, b'). In other words, only passive SI is allowed in this context; impersonal SI is impossible. The ill-formedness of (4.101c, d) then indicates that the type which is compatible with the participial passive and unaccusative predicates is different from passive SI. It then must be impersonal SI. Thus, although the same morpheme, namely, the reflexive clitic, is used, we have two different sets of properties which should be distinguished. This confirms our hypothesis of Passive Homophony stated in (4.88).

Now we can move on to the question of the identity of impersonal SI. Let us observe that impersonal SI is impossible in control contexts, too, as noted in the literature.[64]

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64 Passive SI is impossible in (4.102a), since the original object in the postverbal position can only get Null Case checking. In fact, passive SI is barred from control contexts as well, even if the original object gets Null Case.

(i) *Sarebbe bello [PRO$_i$ invitarsi t_i a quella festa]
would-be nice invite-SI to that party
'It would be nice to be invited to that party. Burzio (1986, 50)

(4.102) a. *Sarebbe meglio scoprirsi il colpevole.
would-be better discover-SI the culprit
'It would be better for one to discover the culprit.'

b. *Sarebbe meglio arrivarsi puntuali.
would-be better arrive-SI on-time
'It would be better for one to arrive on time.'

c. *Sarebbe meglio essersi aiutati da qualcuno.
would-be better be-SI helped by someone
'It would be better for one to be helped by someone.'

Cinque (1988, 522-3)

Belletti (1982) and Cinque (1988) conclude from this that impersonal SI must be marked by Nominative Case. In terms of the Case theory that we are assuming, Nominative Case is associated with Agr-s, in general. Then, we can phrase this property of impersonal SI in the following way:

(4.103) The impersonal morpheme is a special Agr-s.

This proposal makes the special Agr-o of the simple passive less special. Note that under this hypothesis, the Passive Homophony in (4.88) amounts to the claim that the special Agr-s and the special Agr-o sometimes take the same form, creating a sense of ambiguity.

The Irish autonomous construction can be analyzed as special Agr-s, too. Stenson (1981, 1989) notes that the original object retains the Accusative Case.

(4.104) Buaileadh arís iad/*siad.
beat-Past-Aut again them/they
'They were beaten again.' Stenson (1989, 384)

Thus, no Accusative Case absorption takes place, which suggests that we have the special impersonal Agr-s. Stenson's (1989) conclusion is that the autonomous form is an impersonal construction.

Turkish (Knecht 1986, 33) and Sanskrit (Ostler 1979, 367) do not allow the impersonal construction with transitive predicates. It is therefore impossible to confirm that the putative impersonal morphology does not absorb Accusative Case. Lithuanian, on the other hand, seems to have transitive impersonal constructions, according to Timberlake (1982, 522).

Now the question arises how the implicit argument is represented in syntax. An initially plausible hypothesis is that the special impersonal Agr-s licenses a null subject, in the spirit of Belletti (1982), who attributes the lack of the impersonal construction in French to its non-null subject language status.[65]

As an initial corroboration of this hypothesis, it is interesting to observe that the impersonal construction does not allow the presence of an overt oblique phrase. We have seen this for Irish already. The example is repeated below.

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65 Stenson (1989) claims that the subject position is occupied by PRO. Cf. Guilfoyle (1990) for a counterargument. Guilfoyle treats the autonomous form as Det incorporation, on a par with ordinary personal missing subjects in Irish. For missing subjects in Irish, see also McCloskey and Hale (1984).

(4.92) Buaileadh Clarraí (*(ag/le) Gaillimh).

beat-Past-Aut Kerry by Galway

The same is true of the Italian as well as the Turkish construction.

(4.105) *Ieri si è ballato da tutti. Italian

'Yesterday it was danced by everybody.' Cinque (1988, 529)

(4.106) Ben-den (*çocuk-lar tarafından) kaç-ıl-dı. Turkish

1s-Abl child-Pl by run-away-Pass-Past

'I was run away from (by the children).' Knecht (1986, 40-1)

Lithuanian and Sanskrit, on the other hand, are troublesome in allowing an overt oblique phrase.

(4.96) a. To lapelio būta vėjo nupūsto. Lithuanain

that leaf-Gen/m/sg been-Nom/n/sg wind-Gen blown-Gen/m/sg

'That leaf was blown down by the wind.'

(4.107) mayā (māsam) āsyate. Sanskrit

me-Instr month-Acc sit-Pass-3sg

'I sit for a month.' Ostler (1979, 367)

A careful look at Lithuanian data, however, suggests that we may be able to accommodate overt oblique phrases as well. Postal (1986) perceptively observed that the participial main verb in (4.96a) agrees with its original object in Genitive, masculine singular. In (4.96b), repeated here, the participial main verb agrees with its original object in Nominative, masculine, singular.

(4.96) b. Tas lapelis vėjo nupūstas.

that leaf-Nom/m/sg wind-Gen blown-Nom/m/sg

'That leaf was blown down by the wind.'

Given the parallel between the two cases, it seems reasonable to assume that movement of the Genitive phrase in question through Spec of Agr-oP corresponding to the participle phrase takes place in (4.96a). Let us suppose then that the original internal argument occupies Spec of the matrix Agr-sP, despite its Genitive marking. Under this assumption, we can say that this oblique marking is a disguised form of structural Case checked by the special Agr-s which is responsible for the impersonal construction. In this sense, this oblique marking is somewhat similar to quirky Case of Icelandic, discussed above. If this story is on the right track and can be generalized to Sanscrit as well, we can maintain that the impersonal construction is characterized by a special Agr-s, which licenses a null generic subject or a quirky Case subject.

To summarize, we have seen that there are two special kinds of Agr which are sometimes realized by the same morpheme. One appears as Agr-s in the impersonal construction; the other as Agr-o in the simple passive. In this sense, there is a kind of symmetry in the system which posits a special kind of Agr-o which literally absorbs Accusative Case. Is this consistent with the hypothesis that Agr is just a collection of ϕ-features and Case features? The special properties of these special kinds of Agr must come from the nature of the intrinsic features of Agr, if we would like to maintain that Agr is a collection of features. Perhaps investigation of ergativity might be

instructive, since it involves a different Case system.[66] But this must be left for future research.

This wraps up the discussion of external arguments in passive. We will now shift our focus to the passive ambiguity.

4.2.4. Passive/Impersonal/Reflexive/Anti-Causative Ambiguity

In the previous section, we have seen that the morphology of the simple passive is ambiguous with the impersonal morphology in some languages. We have analyzed the latter as a special Agr-s. There are other well-known dimensions of ambiguity of the passive morphology, too. We will claim in this section that some of them have to be analyzed as special Agr-o, more or less in the same way as the passive morphology.

The literature including Haspelmath (1990), Marantz (1984), Shibatani (1985), Siewierska (1984), among others, notes that the passive morphology is ambiguous with the lexical reflexive morphology, too. This type of ambiguity is found in Romance languages, Slavic languages, Balkan languages like Modern Greek and Albanian (Rivero 1990b), and many other languages. See the references cited. Here we will concentrate on Italian, which has been studied extensively.

A most straightforward piece of evidence that the lexical reflexive morphology is a special Agr-o which absorbs Accusative Case feature comes from the fact that the sole argument in a transitive clause originates as an internal argument. Consider the following:

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[66] See Bittner (forthcoming), Bobaljik (1992, 1993a), Murasugi (1992), among others, for various approaches to Ergativity.

(4.108) a. Si sono uccisi parecchi prigionieri.

Refl be killed several prisoners

'Several prisoners have killed themselves.'

b. Se ne sono uccisi parecchi.

Refl of-them be killed several

'Several of them have killed themselves.' Burzio (1986, 411)[67]

As discussed in detail by Burzio (1986), ne-cliticization is sensitive to whether the postverbal element associated with the ne-clitic is in the direct object position or not. Hence the following contrast.

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67 Burzio (1986, 424-5) notes that some speakers do not accept cases like (4.108b) easily. He further notes that the reciprocal reading is generally impossible in cases like (4.108b), though it is available with the reflexive clitic, as in (i).

(i) I bambini si lavano.
the children Refl wash
'The children wash themselves/each other.' Manzini (1986, 248)

Interestingly, Manzini (1986, 259) omits the reciprocal reading when discussing inversion as in (ii).

(ii) Se ne lavano molti.
Refl of-them wash many

Perlmutter (1983), on the other hand, claims that there are speakers who do not allow the reflexive reading in (iii).

(iii) Se ne sono denunciate mote
Refl of-them are denounced many
'ok Many of them are denounced./*Many of them denounced themselves.'
Perlmutter (1983, 155)

(4.109) a. Ne arriveranno molti.
of-them will-arrive many
'Many of them will arrive.'

b. *Ne telefoneranno molti.
of-them will-telephone many
'Many of them will telephone.'

c. Giovanni ne inviterà molti.
of-them will-invite many
'Giovanni will invite many of them.'

d. Ne saranno invitati molti.
of-them will-be invited many
'Many of them will be invited.'

e. *Giovanni ne parlerà a due.
of-them will-talk to two
'Giovanni will talk to two of them.' Burzio (1986, 22-23)

Given this analysis of ne-cliticization, the well-formedness of (4.108b) indicates that the postverbal element which determines verb agreement is in the original position. It then follows that the non-inversion version of (4.108a) has a postverbal trace, as in (4.110).

(4.110)

[Parecchiprigionieri]$_i$ si sono uccisi t_i.
several prisoners Refl be killed

Note that this derivation is the same as that of ordinary passive. Thus, it seems reasonable to say that the reflexive morphology has the same Case

property as the simple passive morphology: the ability to destroy the Accusative Case feature.

Let us note that Turkish exhibits partial homophony of lexical reflexive and passive. Recall that the Turkish passive morpheme takes the form of -In after vowels and /l/, and -Il otherwise. The lexical reflexive morpheme is -In. Thus, vowel-final verbs are ambiguous when -In is affixed, as in (4.111).

(4.111) Mehmet yıka-n-dı
wash-Pass/Refl-Past
'Mehmet washed himself/was washed.' Ozkaragoz (1986, 78)

In fact, Turkish can add another passive morpheme -Il to disambiguate, according to Özkaragöz (1986). (4.112) has only the passive reading.

(4.112) Mehmet yıka-n-ıl-dı
'Mehmet was washed.'

This construction must be distinguished from the real double passive in Turkish discussed above.

In Section 4.3.2, we will see further instances of parallelism between passive and reflexive morphology with respect to Case, though we will not go into the question how reflexive interpretation is obtained in this thesis.[68]

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[68] We have to make sure that (the device which ensures) reflexive interpretation gets established before the end of LF, since Agr no longer exists at that point.

Another type of passive ambiguity has to do with anti-causativization. Again, this kind of ambiguity is observed in numerous languages, including Romance, Slavic, Balkan,[69] and Scandinavian. See the references cited above in connection with passive-reflexive ambiguity. Again, we will concentrate on Italian. Here is a transitive-intransitive pair mediated by the reflexive clitic.

(4.113) a. Giovanni rompe il vetro.
breaks the glass
b. Il vetro si rompe.
the glass SI breaks Burzio (1986, 38)

Ne-cliticization in (4.114) shows that the surface subject in (4.113b) originates from the object position.

(4.114) Se ne rompono molti.
SI of-them break many
'Many of them break.' Burzio (1986, 38)

In contrast to the reflexive morphology, anti-causativization suppresses external theta-role as well as Accusative Case. A natural question to ask is whether we can allow a special Agr-o to suppress an external theta-role directly. Given that Agr possesses just a bundle of ϕ-features plus the function of destroying the Accusative Case feature, the answer seems to be in the negative. There is, however, a way of deriving the suppression of

[69] See Massey (1991) for details of Albanian nonactive voice, which is ambiguous among passive, reflexive/reciprocal, and anticausative.

external theta-role from Case reasons. Suppose that the external theta-role is always projectable. Notice what would happen when the external theta-role, together with an internal theta-role is projected into the structure which has a special Agr-o that destroys Accusative Case feature. Consider the following structure as illustration.

(4.115) $[_{Agr\text{-}sP}$ Spec Agr-s $[_{TP}$ Tns $[_{Agr\text{-}oP}$ Spec SI[70] $[_{VP}$ Giovanni rompe il vetro

Since the structure contains the special Agr-o, there is only one position which can check structural Case, namely, Spec of Agr-sP. There are two structurally-marked DPs in (4.115), however. Thus, there is no way in which derivation of (4.115) can converge. It then follows that no external theta-role can be projected into the structure which has a special Agr-o that destroys Accusative Case feature.[71] Thus, the Case property of this special Agr-o alone can account for the full set of properties associated with anti-causativization.

To summarize, we have argued that the reflexive and anti-causative morphemes share the same Case property with the passive morphology. This approach entails that only the simple passive can be ambiguous with reflexivization and anti-causativization. Together with the impersonal

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[70] We place SI as special Agr-o, but nothing hinges on this decision.
Note also that Spec positions are created only when chain formation puts something there, strictly speaking. We will gloss over this point and proceed somewhat informally.

[71] We must also make sure that an oblique marking will not apply in anti-causativization, as pointed out by H. Lasnik (personal communication). We do not have an answer to this problem, but it might be pointed out that the simple passive in Italian does not allow the expression of the passive agent and that of Turkish prefers to suppress the oblique phrase. A further investigation is necessary.

construction discussed in the previous section, then, we can state the following generalization:

(4.116) Possible Range of Passive Ambiguity[72]

Only the simple passive shows ambiguity with the impersonal, the reflexive, and the anti-causative morphology.

4.2.5. Previous Analyses of Passive

The foregoing analysis of passive incorporates various elements of previous analyses. In this section, we will make clear these connections.

Our analysis of the participial passive is a resurrection of Hasegawa (1968) and Lakoff (1971), where the biclausal nature of the construction is recognized. Lakoff's modification is closer to our analysis; he postulates the following underlying structure for a sentence like it was destroyed by Mary:[73]

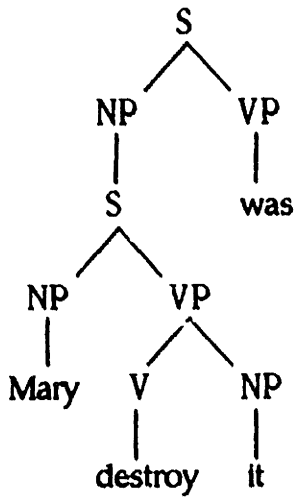
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72 A potentially problematic case is presented by a Korean suffix -I which is used as the causative, the passive, and the anti-causative, according to Park (1986). Park (1986) notes at the same time, however, that causativization and passivization with this suffix are not productive.

73 Node labelling is not updated. Hasegawa's is different in that there is a matrix subject, under identity of which the downstairs object gets deleted. Inadequacy of Hasegawa's proposal, as pointed out by Chomsky (1970) and Lakoff (1971), is that it cannot account for the fact that the be-passive can break up idioms, as in (i).

(i) a. Track was kept of Bernardine by the FBI.
b. Advantage was taken of John.

(4.117)



In the recent literature, Hasegawa (1988) also posits a biclausal structure for the participial passive. In her analysis, the higher VP is headed by -en, to which the embedded verb is raised. She assumes that the trace of the verb cannot assign Case, accounting for Accusative case absorption.

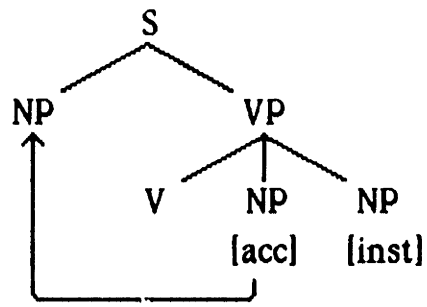
The overall picture including both the participial passive and the simple passive is presented by Babby and Brecht (1975), who argue that the analysis of passive traditional since Chomsky (1957) has to be decomposed into modular operations (a morphology part and a movement part, especially).[74] They based their claim on two types of passive in Russian. Their analysis of the participial passive is only slightly different from (4.117) in that they generate the external argument predicate-internally (like our analysis) and treat participles as adjectives (unlike ours). An internal argument moves to the subject position in the participial passive because adjectives block preposing of the external argument, according to their analysis.

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[74] This claim should be distinguished from the one by Chomsky (1970), where agent postposing and object preposing are treated separately.

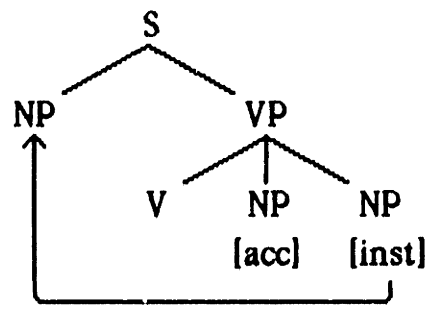
They analyze the simple passive as arising from simple preposing of the object, as in (4.118).

(4.118)



As noted above, they generate the external argument under VP. When object preposing takes place, the morpheme -sja is introduced and attached to the verb. The preposed object bears Nominative Case, while the external argument gets instrumental marking. When the external argument is preposed as in (4.119), on the other hand, nothing special is attached to the verb, resulting in an active sentence. The external argument gets Nominative marking this time.

(4.119)



Corresponding to (4.118) and (4.119) are (4.120) and (4.121), respectively.

(4.120) Kalitka otkryvaetsja Olegom.

the-gate is-opening-sja Oleg-inst

'The gate is being opened by Oleg.'

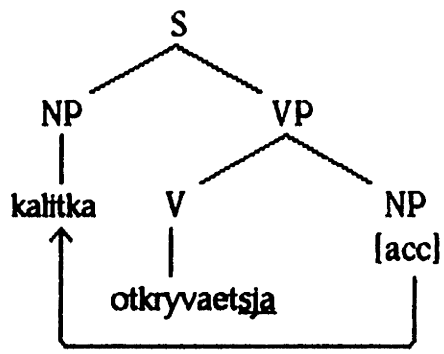
(4.121) Oleg otkryvaet kalitku.

is-opening the-gate

'Oleg is opening the gate.'

The morpheme -sja is introduced even when there is no external argument, as in (4.122), thus conforming to the passive-anticausative ambiguity that we have reviewed above.

(4.122)



'The gate is opening.'

Our analysis can be interpreted as giving a principled theoretical expression to this picture, which was impossible in the 70's.

Turning our eyes to more recent proposals, let us note that there is no way of preserving the proposal of Baker, Johnson, Roberts (1989)[75] in its original form under the current framework. Their idea is that the passive morpheme -EN, located in the inflectional system, is an argument which requires both Case and a theta role, resulting in dethematization of the

[75] Cf. also Baker (1988a) and Roberts (1987).

subject position and Accusative Case absorption. Though ingenious, the hypothesis of the passive morpheme as a special Infl is incompatible with the current set of assumptions, since inflectional heads cannot be arguments of a verb. A way of saving their idea would be to say that the passive morpheme is a noun incorporated into the main verb, taking away its Accusative feature. This would might work, especially, for the simple passive. It remains to work out how this particular noun incorporation proceeds, and to compare it with the special Agr-o hypothesis mentioned above. The key issues would be, first, the incorporation of an external argument, which is generally held to be impossible (Baker 1988a), and second, the passive homophony discussed above, which seems to be restricted to the simple passive.

As far as the participial passive is concerned, our analysis is superior. Recall that the fact that past participles are used both in passive and perfective is given a natural, principled account under our framework. The Baker, Johnson, and Roberts (1989) hypothesis or its modification suggested here would have a difficulty in capturing this simple fact.

Their demonstration that the external argument is syntactically active[76] is incorporated in our analysis as the claim that the oblique phrase is simply sitting in the VP-internal subject position. This idea makes it possible to compare the oblique phrase in passive to that in the reduced causative and capture the similarities between the two. It is not clear, however, how to explain various properties associated with the oblique marking. This should be a topic for future research.

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[76] Cf. Jaeggli (1986) for a precursor of this idea.

4.3. Passive-Causative Interactions

In this section, we will look at the interactions between causatives and passives in some detail. We have already looked at the cases where passivization applies to the output of causativization. To briefly recapitulate the facts:

(4.123) Passivization of causative clauses

I. Transitive predicates embedded under causative verb

a. The embedded object becomes the matrix subject in reduced causative.

b. The embedded subject becomes the matrix subject in ECM causative.

II. Intransitive predicates embedded under causative verb

The embedded subject becomes the matrix subject in both types of causative.

This is straightforward, since passivization affects structural Accusative Case.

4.3.1. Embedding of Passive

4.3.1.1. The reduced causative

In this section, we will concentrate on the cases where a passive clause is embedded under a causative verb. Let us start with the reduced causative.

Baker (1988a) observes that the reduced causative never allows embedding of passive, (whether participial or simple). First, let us consider

embedding the simple passive under the reduced causative verb. This is illustrated by Turkish examples.

(4.124) a. *Hasan bavul-u aç-ıl-dır-dı
suitcase-acc open-Pass-Caus-Past
'Hasan had the suitcase opened.'
b. *Mektub-u yaz-ıl-dır-dı-m.
letter-Acc write-Pass-Caus-Past-1sg
'I got the letter written.' Aissen (1974b, 124)

If we remove the passive morphology, they become grammatical.

(4.125) a. Hasan bavul-u aç-tır-dı
suitcase-acc open-Caus-Past
'Hasan had the suitcase opened.'
b. Mektub-u yaz-dır-dı-m.
letter-Acc write-Caus-Past-1sg
'I got the letter written.' Aissen (1974b, 125)

The same phenomenon is observed with the impersonal passive in Italian, too. Thus, the reflexive clitic cannot appear under the causative, as in (4.126).[77]

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[77] It cannot appear, however, in control infinitival clauses, either. Thus, it is possible that the same factor is blocking the appearance of reflexive-passive here as well. It is beyond the scope of this thesis to go into this matter. See Cinque (1988) for some discussion.

(4.126) *Il preside farà avvertirsi immediatamente (a)i genitori.

'the president will make the parents be notified immediately.'

Burzio (1986, 282)

This result is expected under the hypothesis that what the simple passive morpheme does is equivalent to the ordinary Case checking. It creates an [F] feature, and thus needs an appropriate functional category, namely, Tns, to check it off. The reduced causative, however, has only Agr between the embedded VP and the causative verb. The derivation crashes, therefore, when the embedded Agr is the passive morpheme.

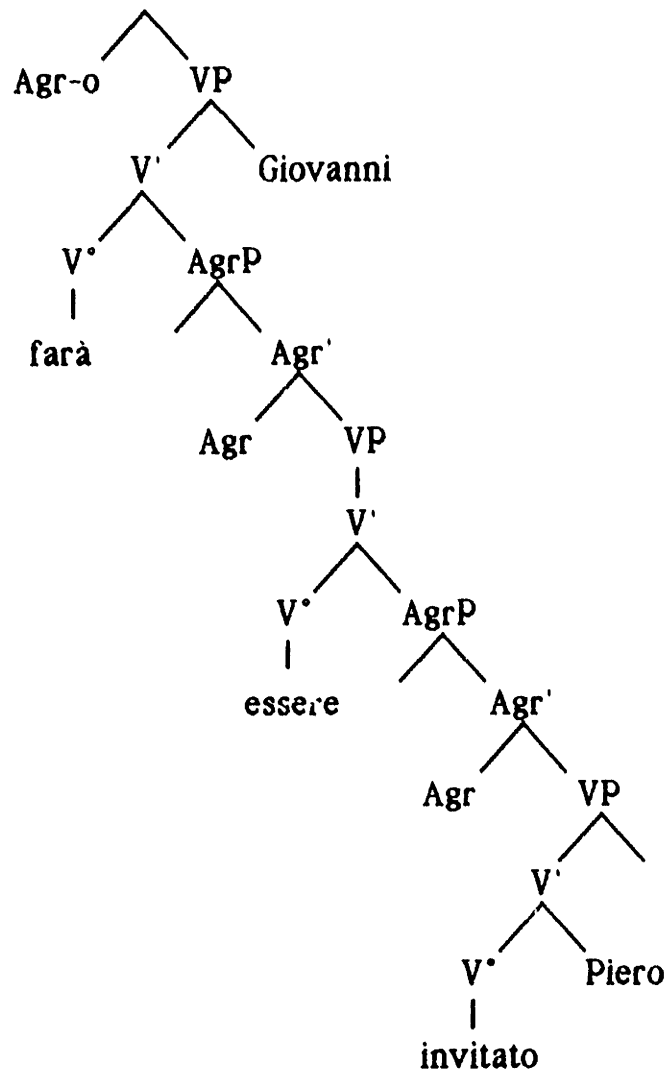
This explanation predicts that embedding of the participle passive under the reduced causative is allowed, since the participle passive does not create a [F] feature. Contrary to this initial prediction, it is impossible.

(4.127) *Giovanni farà essere invitato (a) Piero.

'Giovanni will make Piero be invited.' Burzio (1986, 280)

The (partial) underlying structure for (4.127) would be:

(4.128)



There should be nothing wrong with this structure, as far as Case checking is concerned. The problem with (4.127) in fact is more general. Consider the following example.

(4.129) ?*Questo farà essere Giovanni più attento.

'This will make Giovanni be more careful.' Burzio (1986, 281)

The problem does not lie in the embedding of a raising predicate itself, since another raising verb sembrare 'seem' can be embedded under the causative.

(4.130) La sua expressione fa sembrare Giovanni ammalato.

'His expression makes Giovanni seem sick.' Burzio (1986, 280)

Recall from Chapter 3 that we have argued that the copular verb is interpreted at LF only when it supports Tns. At the same time, we have argued in this chapter that the reduced causative embeds only an AgrP which does not contain Tns. Given these two assumptions, the ill-formedness of (4.127) and (4.129) is explained; the copular verb cannot be interpreted properly in these examples.[78] Furthermore, it is also impossible to replace the copular with a predicative adjective at LF, in order to eliminate the uninterpretable entity, the copula. Recall the discussion in Chapter 3. Note that adjectives have a different set of features from verbs. Specifically, adjectives lack the tense feature. Thus, Economy considerations simply prohibit movement of an adjective for replacement purposes only. Then, the copula remains, leading to interpretive problems.

To sum up, we have seen that the reduced causative cannot embed neither types of passive, but for different reasons.

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[78] One might attempt to extend this account to the impossibility of embedding the perfective in the Italian causative.

(i) ?*Giovanni farà aver letto il libro a Piero.
'Giovanni will make Piero have read the book.'

That is, the perfective also needs to be supported by Tns in order to be interpreted properly. See Giorgi and Pianesi (1991) in this connection, where they discuss the relation between syntax and semantics of perfect tense, based on the Reichenbachan model. According to their analysis, perfect must encode two temporal relations. The Tense node above the <u>have</u> type auxiliary is thus essential, since it encodes one of the relations.

4.3.1.2. The ECM causative

Let us turn to the ECM causative. This time, we will discuss the embedding of the participle passive first.

In section 4.2.4 above, we argued that Japanese passive should be classified as participle passive. Now, we have also seen that the causative construction in Japanese is an ECM causative. In contrast to Italian, the Japanese causative can embed a passive clause, as in (4.131).

(4.131) Mary-wa Taroo-o Ziroo-ni home-rare-sase-ta.
Top Acc Dat praise-Pass-Caus-Past
'Mary made Taroo be praised by Ziroo.' Baker (1988a, 415)

This is expected, since the ECM construction is supposed to have the Tns node in the embedded clause, which supports the copular verb.

Chamorro also has an ECM causative, as indicated by the fact that it is the embedded subject which is turned into the matrix subject under passivization.

(4.132) a. In na'-fa'gasi si Jesse ni kareta.
1pl.ex Caus-wash PN Obl car
'We made Jesse wash the car.' Gibson (1980, 76)

b. Ma-na'-fa'gasi si Henry ni kareta nu i famagu'un.
Pass-Caus-wash PN Obl car Obl the children
'Henry was made to wash the car by the children.'
Gibson (1980, 87)

The causative morpheme is a prefix na'-, while passive is marked by the prefix ma- or the infix -in-.

Chamorro allows passive in the clause embedded under causative.

(4.133) Si nana ha na'-ma-fa'gasi i kareta ni lalahi.
PN mother 3sg Caus-Pass-wash the car Obl males
'Mother had the car washed by the boys.' Gibson (1980, 115)

This is expected, since ECM clauses allow passivization within them.

There is an independent piece of evidence that Chamorro has an ECM causative. In Chamorro, intransitive plural subjects are marked by the plural agreement marker man-/fan-, as in (4.134).

(4.134) a. Man-dikiki'.
Pl-small
'They are small.'

b. Pära u fan-s-in-aolak i famagu'un gi as tata-n-ñiha.[79]
Irr 3pl pl-Pass-spank the children Obl father-N-their
'The children are going to be spanked by their father.'
Gibson (1980, 24)

The causee shows this plural agreement, too.

---

79 There appears a morpheme -s- between the plural agreement marker and the passive morpheme. This is not glossed in Gibson's original.

Note also that the verb 'spank' has a different shape in (4.135b). This may be a typo in the original.

(4.135) a. Hu na'-fañ-otchu siha.
1sg Caus-Pl-eat them
'I fed them' Gibson (1980, 112)

b. Hu na'-fan-s-in-aloak i famagu'un gi as tata-n-ñiha.
1sg Caus-Pl-Pass-spank the children Obl father-N-their
Gibson (1980, 117)

The plural marker in (4.153) agrees with the embedded subject.[80] This vindicates our analysis of Type 2 causative as having the same structure as ECM clauses, namely, Agr-sP complementation.

As noted by Baker (1988a, 487), not all Type 2 causative constructions allow embedding of a passive morpheme. He mentions Swahili as not allowing it. Sesotho (Machobane 1989) disallows it, too. Therefore, the prediction goes only in one way: if embedding of passive is allowed, then it is ECM causative.[81]

4.3.2. Embedding of Reflexive/Anti-Causative

Now, we are in a position to strengthen the parallel Case-theoretic treatment of the passive, the reflexive, and the anti-causative morphology proposed above.

It has been observed in the literature (Burzio 1986, Zubizarreta 1985, 1987) that the reflexive and the anti-causative morphology is prohibited

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[80] This is an exception to Li's (1990a, b) generalization that complex predicates cannot contain functional heads.

[81] If a grammar has both the ECM and the reduced causative, we have a mixture of properties. We will see some such cases at the end of this chapter.

from appearing under the causative verb in Italian. Here are the relevant examples.

(4.136) a. *Il vento ha fatto dissiparsi le nubi.
the wind has made dissipate-SI the clouds
'The wind made the clouds dissipate.' Zubizarreta (1987, 158)

b. *Mario ha fatto accusarsi Piero
has made accuse-SI
'Mario made Piero accuse himself.' Zubizarreta (1987, 167)

As can be seen from the English gloss, (4.136a) is a case of anti-causativization, and (4.136b) reflexivization. In contrast to the case of passive SI, the impossibility of (4.136) cannot be attributed to the infinitival nature of the embedded clause in which the anti-causative and the reflexive morphology appears, since the reflexive SI and the anti-causative SI can appear in control complements as well.

(4.137) a. Quel vaso era già rovinato anche prima [di PRO_i rompersi t_i]
'That vase was already ruined even before breaking.'

b. Sarebbe bello [PRO_i vedersi t_i più spesso]
'It would be nice to see each other more often.'
Burzio (1986, 51)

The impossibility of (4.136) follows if the anti-causative SI and the reflexive SI destroys the Accusative Case feature and creates a [F] feature, just like the special Agr-o of simple passive. The complement of Italian

causative lacks an appropriate functional category (Tns) to check off this [F] feature.

The same account carries over to Turkish lexical reflexive as well. Aissen (1974a,b) and Aissen and Hankamer (1980) observe that the lexical reflexive cannot appear under causative in Turkish. Recall that affixation of -In turns a transitive predicate into a reflexive one, as in (4.138) and (4.139).

(4.138) a. Mehmet kız-ı yıka-dı
girl-Acc wash-Past
'Mehmet washed the girl.'

b. Mehmet yık-ın-dı
wash-Refl-Past
'Mehmet washed himself.' Aissen (1974a, 344)

(4.139) a. Orhan kız-ı kaşı-dı
girl-Ac scratch-Past
'Orhan scratched the girl.'

b. Orhan kaşı-n-dı
scratch-Refl-Past
'Orhan scratched himself.' Aissen (1974a, 345)

Embedding of the lexical reflexive under the causative verb, however, is impossible.[82]

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[82] Aissen and Hankamer (1980) claim that the lexical reciprocal can be embedded under the causative verb, retracting the claim to the contrary in Aissen (19974a,b). The reciprocal reading is obtained by affixing -Iş, as in (i). (ii) shows embedding under the causative verb.

(4.140) a. *Hasan Mehmed-i/-e yika-n-dir-di
-Acc/-Dat wash-Refl-Caus-Past
'Hasan made Mehmet wash himself.
b. *Ali Orhan-ı/-a kaşı-n-dır-dı
-Acc/-Dat scratch-Refl-Caus-Past
'Ali made Orhan scratch himself.' Aissen (1974b, 126)

Since the Turkish causative has the same structure as the Italian causative, the same machinery accounts for the impossibility of (4.140).

It should be noted, though, that anti-causativization in Turkish, which also involves the suffix -In, can take place under the causative verb, according to Aissen (1974a, b). The verb kaşı 'scratch' comes to mean 'itch' when affixed by -In. Thus, (4.139b) is in fact ambiguous between 'Orhan scratched himself' and 'Orhan itched'. The anti-causative meaning survives even when embedded under the causative verb, as in (4.141).

(4.141) Ali Orhan-ı/-a kaşı-n-dır-dı
-Acc/-Dat scratch-Refl-Caus-Past
'Ali made Orhan itch.' Aissen (1974b, 127)

(i) Ikizler öp-üş-tü.
twins kiss-Recip-Past
'The twins kissed each other.'

(ii) Memur ikizler-i öp-üş-tür-dü.
official twins-Acc kiss-Recip-Caus-Past
'The officials had the twins kiss each other.'

The contrast points to a significant difference between lexical reflexive and reciprocal, but we will not pursue the matter here.

As noted by Aissen (1974a, b) herself, the well-formedness of (4.141) can be accounted for if we assume that anti-causativization in Turkish is fully lexicalized. In other words, the well-formedness of (4.141) suggests that no Accusative Case absorption is involved in the formation of verbs like kaşın 'itch'. This difference between Italian and Turkish can be understood if we pay attention to the form of the indicator of the special Agr-o involved. In Italian, it is somewhat independent, appearing as a clitic, whereas in Turkish, it is buried inside inflected verbs, making it possible to analyze -In verbs as having independent entries with independent meaning. Since (4.141) is the only example discussed in the literature, however, we will leave the question of Turkish anti-causativization for future research.

To summarize, we have seen that the special Agr-o which destroys Accusative Case feature cannot be embedded under the reduced causative, in general, because the structure lacks an appropriate functional head that checks off the [F] feature in question.

4.3.3. The Indirect Passive Again

Having seen how embedding of special type of Agr-o under the reduced causative leads to ill-formedness, let us return to the analysis of the direct and the indirect passive in Japanese. We will see that the indirect passive has the same structure as the reduced causative.

Here are examples again.

(4.142) a. Sono tegami-ga John-niyotte yom-are-ta.
that letter-Nom by read-Pass-Past

'That letter was read by John.'

b. Mary-ga John-ni sono tegami-o yom-are-ta.
Nom Dat that letter-Acc read-Pass-Past
'John read that letter on Mary.'

(4.142a) is an instance of the direct passive; (4.142b) the indirect passive. Above we analyzed them as complementation of AgrP under the morpheme -(r)are, which is a verb. The differences between the indirect and the direct passive follow from whether the passive morpheme projects an external argument and bears an Accusative Case feature, the set of properties that go with ordinary transitivity alternation.

Under this analysis of the indirect passive, it is predicted that Case-destroying Agr-o cannot be embedded under the indirect passive. In fact, Japanese possesses such Agr-o. In Japanese, transitivity alternation like John broke the vase vs. the vase broke is expressed by overt morphology. In certain cases, the transitive part is created by adding a morpheme to the intransitive form, while there are opposite cases. Furthermore, there are cases where the transitive and the intransitive forms share a common stem, to which a transitivizing and an intransitivizing affix is attached. A representative example of each case is provided below.

(4.143) Class I a. wak 'boil$_{intr.}$' b. wak-as 'boil$_{tr.}$'
(4.144) Class II a. war-e 'break$_{intr.}$' b. war 'break$_{tr.}$'
(4.145) Class III a. mawa-r 'turn$_{intr.}$' b. mawa-s 'turn$_{tr.}$'

A comprehensive list is found in Jacobsen (1992). See also Inoue (1976) and Teramura (1982). Washio (1990) observes that the Class II cannot be

embedded under the indirect passive.[83] This is illustrated in the following examples from Washio.

(4.146) a. *Boku-wa mado-ni totuzen war-e-rare-ta.
I-Top window-Dat suddenly break-INTR-Pass-Past
'The window suddenly broke on me.'

b. *Boku-wa kutu-no himo-ni hodok-e-rare-ta.
I-Top shoe-Gen lace-Dat untie-INTR-Pass-Past
'The shoelace untied on me.'

(4.147) a. Boku-wa taiya-ni pankus-are-ta.
I-Top tire-Dat blow out-Pass-Past
'The tire went flat on me.'

b. Boku-wa inku-ni kawak are-ta.
I-Top ink-Dat dry out-Pass-Past
'The ink dried on me.'

c. Boku-wa tokei-ni tom-ar-are-ta.
I-Top watch-Dat stop-INTR-Pass-Past
'My watch stopped on me.'

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[83] The impossibility of embedding a certain kind of intransitive verbs under indirect passive goes back at least to Mikami (1953), who proposes the distinction between noodooshi 'active verb' and shodooshi 'inactive verb'. The latter resists the embedding under indirect passive. The relevance of morphology, however, is Washio's discovery, as far as I know, although Teramura's (1968) classification indicates that the intransitive part systematically resists embedding under indirect passive in only those pairs in which the intransitive part is created from the transitive by direct affixation. See also Teramura (1982).

Incidentally, the English translation of the terms is due to Mikami (1953) himself. Jacobsen (1992) renders shodooshi as nonactive verb. This translation is apt in view of the use of nonactive voice in the Balkan languages.

(4.146) are cases where the intransitive form is made by adding a morpheme to the transitive counterpart. For (4.146b), the alternation is hodok-e$_{intr.}$ vs. hodok$_{tr.}$. And the result of embedding is ill-formed. (4.147a, b) are cases where the transitive form is created by additional morphology. Thus, the verbs in (4.147a, b) alternate as in pankus$_{intr.}$ vs. pankus-as$_{tr.}$ and kawak$_{intr.}$ vs. kawak-as$_{tr.}$. In (4.147c), the alternation is tom-ar$_{intr.}$ vs. tom-e$_{tr.}$. Although some of the cases like (4.147) are marginal, they are never as unacceptable as cases like (4.146).

If the role of intransitivizing morphology in Class II is to suppress the Accusative Case feature of the original verb stem, our prediction is born out.

There is another prediction that our analysis makes about the indirect passive: impossibility of embedding the copula under the indirect passive. This is also born out. The observation is due to Mikami (1953). Consider (4.148)

(4.148) a. Shoogaibutsu-ga ar-u.
obstacle-Nom be-Pres
'There are obstacles.'

b. *Doraibaa-ga shoogaibutsu-ni ar-are-ta.
driver-Nom obstacle-Dat be-Pass-Past
'The driver suffered from there being obstacles.'

As argued by Watanabe (1990), the verb ar seems to be functioning as the copular verb in Japanese: it shows idiosyncratic behavior in negative sentences, suggesting that it undergoes overt raising, in contrast to other

ordinary verbs.[84] As shown by (4.148b), this verb cannot be embedded under passive. The predicative use of the copula behaves in the same way, as in (4.149).

(4.149) a. John-ga goojoo-de aru.
Nom obstinate be
'John is obstinate.'
b. *Mary-wa John-ni goojoo-de ar-are-ta.
Top Dat obstinate be-Pass-Past
'Mary suffered from John's obstinacy.'

The contrast in (4.150) is parallel to the contrast in Italian in (4.151), which we have discussed above.

(4.150) a. *John-wa musuko-ni yakuza-de ar-areta.
Top son-Dat gangster-Loc be-Pass-Past
'John was adversely affected by his son being a gangster.'
b. John-wa musuko-ni yakuza-ni nar-areta.
Top son-Dat gangster-Dat become-Pass-Past
'John was adversely affected by his son becoming a gangster.'

---

[84] The most crucial argument was based on the hypothesis that Japanese inserts ar in negative sentences with ordinary verbs, the rule corresponding to do-support in English. Since we have argued in Chapter 3 that the reason why do is inserted has to do with its modal nature, we cannot maintain this part of the analysis of the Japanese copula. One possibility is to adopt the modal analysis for Japanese as well. One consideration in this connection is that the potential morpheme -(ra)re is said to be related to the copula. Cf. Tokieda (1950, 102). On this basis, one might hypothesize that Japanese has a dummy modal which has almost the same shape as the copula and is inserted in negative sentences.

(4.151) a. ?*Questo farà essere Giovanni più attento.

'This will make Giovanni be more careful.'

b. La sua expressione fa sembrare Giovanni ammalato.

'His expression makes Giovanni seem sick.'

Burzio (1986, 280-1)

The contrast here can be explained if the copula needs to be semantically supported by the Tense node. Thus, we have another piece of evidence that the indirect passive has the same structure as the reduced causative.[85]

To summarize, we have seen evidence from anti-causativization and embedding of the copula that the Japanese indirect passive has the same structure as the reduced causative.

4.3.4. A Third Type of Causative: faire par

So far, we have looked at two kinds of causative constructions, but the recent literature[86] (Alsina 1992, Alsina and Joshi 1991, Guasti 1992) suggests that there is a third type of causative, represented by the so-called faire-par construction in Romance languages. As a conclusion of this chapter, we will take a brief look at the properties of this type of causative and consider how they will fit in under our framework.

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[85] There are other verbs which resist embedding under indirect passive. This is a topic for future research.

[86] cf. Rosen (1983) for an early discussion in the Relational Grammar framework. She does not discuss the Affectedness Condition, though.

4.3.4.1. Italian

Below is presented an example from Italian.

(4.152) Ho fatto riparare la macchina (da Giovanni).

'I had the car repaired (by Giovanni).' Guasti (1992, 109)

Since the presence of a 'by'-phrase suggests a parallelism with passive, it has been a focus of controversy in the literature (Burzio (1986), Guasti (1990, 1992), Kayne (1975), Radford (1978), among others) how to deal with this construction. A rather important discovery in recent literature in this connection is the Affectedness Effect noted by Guasti (1990, 1992). As initially observed by Anderson (1978) for passive nominals and by an earlier version of Jaeggli (1986) for middles, only a limited range of transitive predicates can form passive nominals and middles.[87]

(4.153) Passive Nominals

a. Mary's fear of storms/*storms' fear (by Mary)

b. the sight of John/*John's sight Guasti (1992, 115)

(4.154) Middles

a. *Storms fear frequently in this country.

b. *John sees easily. Guasti (1992, 115)

---

[87] See Fiengo (1980), Giorgi and Longobardi (1991), Grimshaw (1990), Hale and Keyser (1991a, b), Keyser and Roeper (1984), Pesetsky (1991), Roberts (1987), Zubizarreta (1987), and the references cited there for the treatment of passive nominals and/or middles.

Informally, the constraint at work here is that if the internal argument is not affected by the process described by the verb, both passive nominal and middle formation is impossible.

Guasti's observation is that the same constraint applies to the faire-par construction as well.[88] Hence the following contrast between the participle passive and the faire-par construction.

(4.155) a. La grandine è temuta dai contadini.
'The hail is feared by the farmers.'

b. *La grandine ha fatto temere un disastro dai contadini.
'The hail made the farmer fear a disaster.'

---

[88] As noted by Guasti (1992, 116), the possibility of faire-par constructions with some intransitive verbs forces us to assume that a prepositional object in cases like (i) is an affected object.

(i) Ho fatto telefonare a Lia da Paolo.
'I had Paolo call Lia.'

This consequence may be justified to the extent that preposition stranding is marginally allowed in middle formation, as noted by Keyser and Roeper (1984, 400).

(ii) a. ?John laughs at easily.
b. ?John depends on easily.

The Affectedness Effect also explains the fact noted by Burzio (1986, 253) that intransitive verbs without an object cannot appear in the faire-par construction, as illustrated by (iii).

(iii) *Farò {lavorare/camminare/studiare} da Piero.
'I will make {work/walk/study} by Piero.'

If there is no object, there is no chance of having an affected object. Hence the ill-formedness of (iii).

(4.156) a. Questo film è stato visto da tutti.

'This film has been seen by everyone.'

b. *Maria ha fatto vedere le foto delle vacanze da Gianni.

'Maria made Gianni see the holidays photos.'

(4.155-156) from Guasti (1992, 114)

There is another parallel between the faire-par construction and middles: the original external argument cannot control PRO.[89]

(4.157) *Bureaucrats bribe easily to keep them happy.

Keyser & Roeper (1984, 407)

(4.158) Il sindaco$_i$ ha fatto costruire il monumento dall'architetto Nervi$_j$,

per PRO$_{i/*j}$ ottenere appoggi polotici.

'The mayor has made build the monument by the architect Nervi, to obtain political support.' Guasti (1992, 111)

In this respect, they contrast with English passive.

(4.159) Bureaucrats were bribed to keep them happy.

Given that the same constraint applies to the faire-par construction and middle formation, a uniform treatment of the two seems desirable.

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89 There is a difference between the faire-par construction and middles in that in middles, the 'by'-phrase cannot appear at all in the first place.

(i) Bureaucrats bribe easily (*by managers).

Keyser and Roeper (1984) propose to analyze middles as involving a null version of Romance reflexive clitic.[90] They argue that middle formation involves syntactic NP movement as in passive. In our terms, it means that middles involve a special Agr-o which absorbs Accusative Case. If this analysis should be extended to the faire-par construction, we will be in a little uncomfortable position, since we have seen above that the complement to the Italian causative verb does not allow the presence of the reflexive clitic, whether it functions as passive, reflexive, or anti-causative. Recall that the reflexive clitic in such uses is a special kind of Agr-o. If the complement structure of the faire-par construction is the same as the reduced causative in Italian, embedding such a kind of null reflexive clitic should be impossible. Thus, we have to ask if the move of positing a null reflexive clitic is justified. In fact, there is a reason to believe that this is on the right track.

Examples like (4.160) are ambiguous between the reflexive reading and the non-reflexive one.[91]

(4.160) Maria ha fatto accusare Piero

'Maria made Piero accuse himself/ Maria had Piero accused.'

Burzio (1986, 421)

The non-reflexive reading must arise from the faire-par construction, since the Dative phrase in the ordinary causative construction must always be

[90] They attribute the initial idea to L. Rizzi. See Pesetsky (1991) for a development of this proposal under a different set of assumptions than ours.
[91] The ambiguity does not arise in French, though.

overt, as argued by Guasti (1992). Note that the oblique phrase cannot be covert in cases where the faire-par construction is impossible.

(4.161) a. Quell'affare ha fatto guadagnare molto denaro (a/*da) Ugo.
'That deal made Ugo earn a lot of money.'

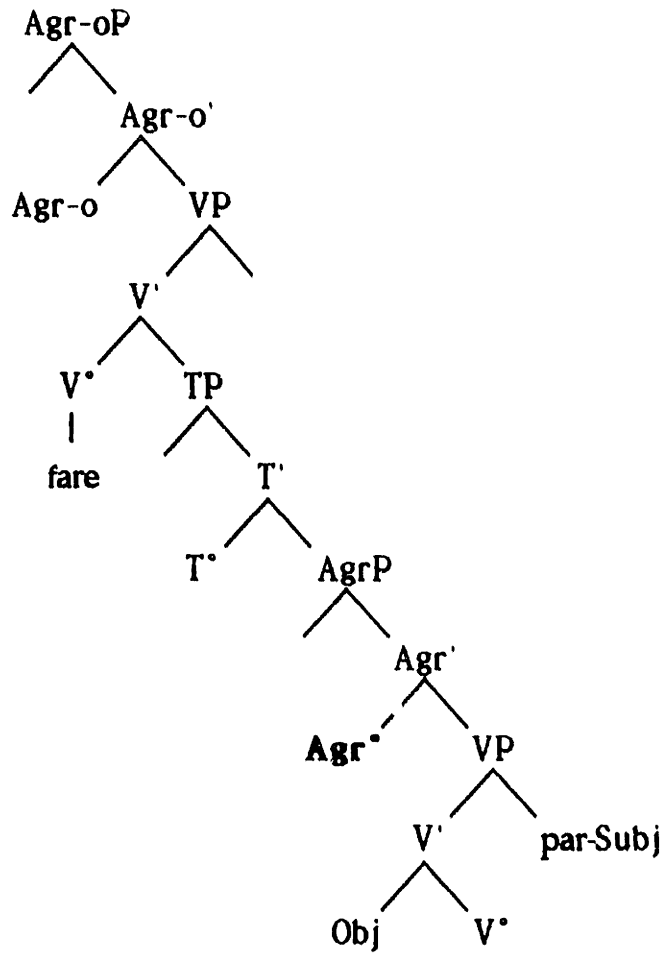
b. *Quell'affare ha fatto guadagnare molto denaro.

Guasti (1992, 99, 101)

The reflexive reading must arise from the presence of a special Agr-o, if our analysis in the preceding sections is correct. Then, if the faire-par construction involves a special Agr-o, the ambiguity in (4.160) is an instance of familiar passive-reflexive ambiguity.

To sum up, we propose to analyze the faire-par construction as having the following structure:

(4.162)



The bold-faced Agr is the one that destroys the Accusative Case feature. Note that the Tns node is necessary to license this special Agr. The object of the embedded clause will move to Spec of the matrix Agr-oP to check Accusative Case. As expected, passivization in the matrix clause turns the original embedded object into the matrix subject.

(4.163) a. La macchina fu fatta riparare da Giovanni.
the car was made repair by

b. La macchina si era fatta riparare da Giovanni.
the car SI had made repair by Burzio (1986, 258)

(4.163a) is a case of participle passive, and (4.163b) simple passive.

There are problems to be solved. First, to allow a special Agr-o, the Italian causative has to have an option of taking a TP complement. Second, this TP complement is only allowed when there is a phonologically null special Agr-o. Third, the null Agr-o does not occur anywhere else in Italian. These conditions remain as stipulations at present. All of these are important for future research. But now, we will turn to other such cases in connection with causative.

4.3.4.2. Other cases

Alsina and Joshi (1991) and Alsina (1992) also argue that some causative constructions are sensitive to the Affectedness Effect and that many languages have two types of the causative, one of which displays the Affectedness Effect.[92] Chichewa is one such language. As noted at the beginning of this chapter, Chichewa was analyzed by Baker (1988a) as having two dialects, one which has the reduced causative and the other which has the ECM causative (Trithart 1977). Alsina (1992), however, claims that the distinction is not between dialects but between two construction in a single grammar. As illustrated in section 4.1.1., Chichewa has ECM causative. Alsina's claim is that it has another type of causative. Consider the following pair.

(4.164) a. Nŭngu i-na-phík-its-a kadzidzi maûngu.
9-porcupine 9SM-Past-cook-Caus-fv 1a-owl 6-pumpkins
'The porcupine made the owl cook the pumpkins.'

[92] See Guasti (1993) for a critical discussion of Alsina's proposal.

b. Nŭngu i-na-phík-íts-a maûngu kwá kádzídzi.
9-porcupine 9SM-Past-cook-Caus-fv 6-pumpkins to 1a-owl
'The porcupine had the pumpkins cooked by the owl.'
Alsina (1992, 518)

(4.164a) is an example of the ECM causative. Baker (1988a) analyzed the type exemplified by (4.164b) as the reduced causative, since the embedded object becomes the matrix subject under passivization.

(4.165) a. Anayani a-na-meny-ets-a ana kwa buluzi.
baboons SM-Past-hit-Caus-Asp children to lizard
'The baboons made the lizard hit the children.'
b. Ana a-na-meny-ets-edw-a kwa buluzi (ndi anyani).
children SM-Past-hit-Caus-Pass-Asp to lizard by baboons
'The children were made to be hit by the lizard (by the baboons).'
Baker (1988a, 163)[93]

In (4.164b), an oblique phrase is used to express the external argument of the embedded verb. Even though this oblique marker is different from the one used in passive, the construction in (4.164b) exhibits the Affectedness Effect just as in the Italian faire-par construction. Thus, we have the following contrast:

(4.166) a. Chatsalira a-ku-mv-éts-á aná phókŏso..
1 1SM-Pres-hear-Caus-fv 2-children 5-noise

[93] The gloss is different from Alsina's, but we haven't adjusted it.

b. *Chatsalíra a-ku-mv-éts-á phókŏso (kwá ăná).

1 1SM-Pres-hear-Caus-fv 5-noise to 2-children

'Chatsalira is making the children hear the noise.'

Alsina (1992, 528)

(4.166b) is impossible since the object of the verb -mv- 'hear' is not an affected object. Note that passivization of the verb like -mv- 'hear' is possible, as illustrated in (4.167).

(4.167) Phokŏso li-ku-mv-édw-a (ndí ăná).

5-noise 5SM-Pres-hear-Pass-fv by 2-children

'The noise is being heard (by the children).'

Alsina (1992, 528)

Thus, as long as the Affectedness Effect is an indicator of a phonologically null special Agr which destroys the Accusative case feature, we can put this Chechewa construction and the Italian faire-par construction under the same rubric.

Although a detailed investigation is still necessary, it seems that we have to admit this type of causative construction. This almost wraps up the discussion of causative and passive. We will conclude this chapter with a brief look at one significant remaining problem in this area.

4.4. Multiple Accusative Languages?

In this section, we will note some remaining problems in the typology of causative constructions.

Baker's (1988) classification of causative constructions is based on the Case properties of verbs in particular languages. Among the languages of the world, according to his typology, are the ones which allegedly can check two Accusative Cases. A representative language of this class is Kinyarwanda, a Bantu language. According to Kimenyi's (1980) observation, the causative of this language allows both the causee and the original object to behave as matrix object with respect to passivization and object agreement.

(4.168) a. Umugabo á-r-úubak-iish-a abákozi inzu.
man SM-Pres-build-Caus-Asp workers house
'The man is making the workers build the house.'

b. Abákozi bá-r-úubak-iish-w-a inzu n'úmugabo.
workers SM-Pres-build-Caus-Pass-Asp house by man
'The workers are made to build the house by the man.'

c. Inzu í-r-úubak-iish-w-a abákozi n'úmugabo.
house SM-Pres-build-Caus-Pass-Asp workers by man
'The house is being made by the man to be built by the workers.'

Kimenyi (1980, 170-1)

(4.169) a. Umugabo a-rá-**b**-úubak-iish-a inzu.
man SM-Pres-OM-build-Caus-Asp house
'The man is making them build the house.'

b. Umugabo a-rá-**y**-úubak-iish-a abákozi.
man SM-Pres-OM-build-Caus-Asp workers
'The man is making the workers build it.'

c. Umugabo a-rá-**yi-b**-úubak-iish-a.
man SM-Pres-OM-OM-build-Caus-Asp
'The man is making them build it.' Kimenyi (1980, 171)

Note also that postverbal arguments in (4.168a) do not have any oblique marking.

Under the assumption that the clause structure is (4.170), there is no way of accommodating two objects in Spec of the matrix AgrP(s) of the causative construction.

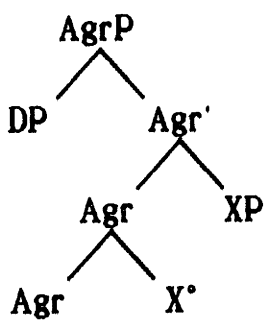
(4.170) $[_{Agr\text{-}sP}$ Agr-s $[_{TP}$ T° $[_{Agr\text{-}oP}$ Agr-o $[_{VP}$ V° ...

Thus, the existence of this kind of causative poses a great challenge to the current framework.

An initial reaction would be to question the assumption that Bantu object agreement markers encode structurally Case marked arguments. If we throw away this assumption, these cases cease to be problematic. In fact, Bresnan and Mchombo (1987) treated them as incorporated pronouns in Chichewa. But for the moment, let us proceed, assuming that object markers encode genuine agreement.

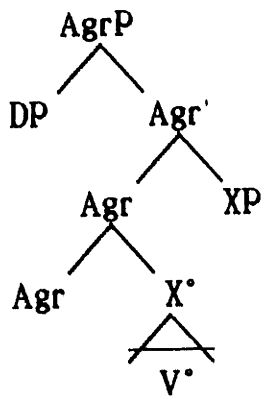
It would not do to create more Case positions in the matrix clause, if the Case bearing head X° directly checks Case of DP in the configuration in (4.171).

(4.171)



On the assumption that verbs provide Accusative Case features, proliferation of AgrP would not be able to solve the problem, since the hypothesis that (4.171) is the configuration of Case checking precludes the verb to check Case twice. Notice that when the verb-infl complex is adjoined to a second Agr-o, it would have the shape like (4.172).

(4.172)



The verb is buried under the head which is adjoined to Agr. One might wonder whether it is possible to get rid of this intervening head, since Agr disappears at LF. We cannot, however, eliminate the presence of this intervening head X° under our modified Case theory, which requires an additional functional head on top of Agr. This additional head does not disappear, ensuring that it would block Case checking of DP in Spec by the verb itself.

Another possibility, namely, of relying on this additional head to provide a second Accusative Case feature faces a difficulty, too. Under this hypothesis, the clause structure for the type of languages in question would be:

(4.173) [AgrP Agr [TP T° [AgrP Spec Agr [XP X° [AgrP Spec Agr [VP Spec V°

The difficulty is to prevent the higher object in Spec of Agr-oP above XP in (4.173) from violating Relativized Minimality. The only possibility in the structure (4.173) would be to fill Spec of the higher two Agr Phrases in overt syntax and Spec of the lowest Agr Phrase at LF. The derivation is illustrated in (4.174).

(4.174) [AgrP Spec1 ... [Agr-oP Spec2 ... [Agr-oP Spec3 [VP Subj V [AgrP [VP Subj Obj

step 1

step 2

step 3

Here functional heads other than Agr are omitted for reasons of space. It does not matter whether we switch Step 1 and Step 3 so that Step 1 is movement of the embedded object and Step 3 movement of the embedded subject. The crucial point is leave Spec3 unfilled in overt syntax. Thus, Steps 1 and 2 take place in overt syntax, crossing at most one intervening A-position. These operations will be made possible by making the relevant Spec of AgrP and the intervening A-position equidistant. Step 3 at LF is also possible, despite the fact that it crosses two A-positions, due to the presence of AgrP on top of the embedded VP.

There are several questions to be answered. First, is there an independent reason to postulate an additional functional head that provides a second Accusative Case feature? Second, are overlapping chains allowed? Step 1 must move through Spec3, since it crosses over the matrix subject in

Spec of VP. Then, Step 3 places the head of a chain in Spec3. If this is not allowed, the above derivation will be ruled out. Third, this partition of operations, that is, Steps 1 and 2 in overt syntax and Step 3 at LF, has to be justified, too. All these questions are open now. Fourth, we need some evidence that shows that both the embedded subject and the embedded object end up Spec of matrix AgrPs. This question leads us to consider another alternative.

A more plausible, less treacherous way out is to assume that Kinyarwanda has both the reduced and the ECM causative. Then, either argument of the embedded clause can function as a matrix object.[94] The presence of two object markers in (4.169c) appears problematic initially, but if we recall that the embedded object checks Accusative Case in the embedded clause in the ECM structure, (4.169c) can be analyzed as having the ECM structure.

This hypothesis makes a significant prediction. Recall that the external argument of the embedded clause is marked oblique in the reduced causative. Thus, the reduced causative should disallow the object marker associated with the embedded subject. To force the reduced causative structure, we have to turn the embedded object into the matrix subject under passivization. The test is to see if (4.168c) can allow the object marker associated with the embedded subject. Now, (4.175) is possible.[95]

(4.175) Inzu i-rá-**b**úubak-iish-w-a n'ûmugabo.
house SM-Pres-OM-build-Caus-Pass-Asp by man
'The house is being made by the man to be built by the workers.'

---

[94] This is essentially the solution that Baker (1988a) adopted.
[95] Thanks to Kimenyi for providing the judgment.

Thus, there is something else going on in Kinyarwanda. We have to leave the matter open.

In contrast, in another Bantu language SiSwati, discussed by De Guzman (1987), the two embedded arguments cannot show the object behavior at the same time.

In SiSwati, both the causee and the original object behave as matrix object with respect to passivization and object agreement,[96] just as in Kinyarwanda.

(4.176) a. mákè ú-gèz-ís-è Tòzí líbhòdò.
mother SM-wash-Caus-Tns pot
'Mother made Tozi wash the pot.'

b. mákè ú-lí-gèz-ís-è Tòzí (líbhòdò).
mother SM-OM-wash-Caus-Tns pot
'Mother made Tozi wash it (pot).'

c. mákè ú-m-gèz-ís-è líbnoùò (Tòzí).
mother SM-OM-wash-Caus-Tns pot
'Mother made her (Tozi) wash the pot.'

d. líbhòdò lí-gèz-ís-w-è Tòzí ngu mákè.
pot SM-wash-Caus-Pass-Tns by mother
'The pot was made to be washed by Tozi by mother.'

e. Tòzí ú-gèz-ís-w-è líbhòdò ngù mákè.
SM-wash-Caus-Tns pot by mother
'Tozi was made to wash the pot by mother.'

---

96 There is one difference from Kinyarwanda, however. According to De Guzman, Only one object marker is allowed in SiSwati.

De Guzman (1987, 311, 313)

Crucially, though, (4.176e) allows an object marker, while (4.176d) prohibits it.

(4.177) a. *lìbhòdò lí-**m**-gèz-ís-w-è ngù mákè (Tòzí).
pot SM-OM-wash-Caus-Pass-Tns by mother
'The pot was made to be washed by her (Tozi) by mother.'

b. Tòzí ú-**lí**-gèz-ís-w-è lìbhòdò n$_g$ù mákè.
SM-OM-wash-Caus-Tns pot by mother
'Tozi was made to wash the pot by mother.'

De Guzman (1987, 314)

The impossibility of (4.177a) suggests that the postverbal unmarked phrase in (4.176d) is in fact a disguised oblique phrase. This result confirms that SiSwati, though it appears to allow both the embedded subject and the embedded object to behave like matrix objects, does not allow the two to display that behavior at the same time. The possibility of using either the reduced causative or the ECM causative gives that appearance. What makes the use of the reduced causative opaque in SiSwati is the fact that the oblique marking which usually appears on the causee of the reduced causative is invisible in this language. Only object marking can tell apart obliquely marked phrases and structurally Case marked phrases.

The pattern of SiSwati is in fact found in Italian, though to a limited extent. That is, Italian has both the reduced causative and the ECM causative, though the latter is limited to some restricted contexts. Italian does not leave any doubt about the reduced causative, because the causee is

marked by Dative. The more subtle one is The ECM causative this time. Burzio (1986) notes that Italian does not allow The ECM causative in a form like (4.178).[97]

(4.178) *Maria ha fatto [Giovanni riparare la macchina]
has made repair the car

The passive version is well-formed, however.

(4.179) Giovanni fu fatto riparare la macchina.
was made repair the car
'Giovanni was made to repair the car.' Burzio (1986, 232)

Interestingly, clitic climbing is impossible in the passivized version like (4.179), in contrast to the reduced causative. This is illustrated in the following pair:

(4.180) a. ?*Giovanni lo fu fatto riparare.
it was made repair
'Giovanni was made to repair it.' Burzio (1986, 232)

b. La ho fatta riparare a Giovanni.
it has-1sg made repair Dat
'I have made Giovanni repair it.' Burzio (1986, 258)

---

97 We are concentrating on the verb fare.

(4.180a) is the passive version of The ECM causative, which prohibits clitic climbing. As shown by (4.180b), (the active version of) the reduced causative allows clitic climbing. If clitic climbing is sensitive to the position where Accusative Case is checked, this is an expected result. In (4.180a), the embedded object checks Accusative Case within the embedded clause. Hence the impossibility of clitic climbing.

When we move on to Kichaga, another problematic Bantu language, the counterpart of (4.177a) is possible.

(4.181) a. Aleksi n-a-i-zrem-ilr-a mana muinda.
Foc-SM-Pres-cultivate-Caus-vf child farm
'Alex is causing the child to cultivate the farm.'

b. N-a-i-**m**-zrem-ilr-a muinda.
Foc-SM-OM-Pres-cultivate-Caus-vf farm
'He is causing him to cultivate the farm.'

c. N-a-i-**u**-zrem-ilr-a mana.
Foc-SM-OM-Pres-cultivate-Caus-vf child
'He is causing the child to cultivate it.'

d. Mana n-a-le-**u**-zrem-ilr-o.
child Foc-SM-Past-OM-cultivate-Caus-Pass
'The child was caused to cultivate it.'

e. Muinda u-i-**m**-zrem-ilr-o.
farm SM-Pres-OM-cultivate-Caus-Pass
'The farm is caused to be cultivated by him.'

Alsina and Moshi (1990)

As shown in (4.181e), an object marker can encode the causee while the embedded object is turned into the matrix subject under passivization. Thus, it appears that Kichaga truly allows both the embedded subject and object to behave like matrix objects, in contrast to SiSwati. There is a wrinkle, however. As noted by Alsina (1992, note 13) and Alsina and Moshi (1990), the version of (4.181e) where the causee is not encoded by an object marker is marginal.

(4.182) ?Muinda u-i-**m**-zrem-ilr-o mana.
farm SM-Pres-OM-cultivate-Caus-Pass child
'The farm is caused to be cultivated by the child.'

Thus, it is not so clear what is going on in in (4.181e). We are not in a position to investigate further the problems of the Kichaga causative. But we hope to have shown the challenges that they pose and the directions to pursue.[98]

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[98] Some amount of work has been done in the area of applicative constructions in Bresnan and Moshi (1990), Marantz (1990), and the references cited there. Causative and double object constructions do not behave in the same way, contrary to the claim by Baker (1988a), as shown by Hoffman (1990). A careful comparison of the two types of constructions will be an important topic for future research. For a promising line of research for the double object construction, see Collins (1993a).

Chapter 5

V -> Agr -> Tns -> Agr -> Comp

So far, we have seen that each of the AgrP systems, Agr-sP and Agr-oP, needs an extra functional head on top of it in order to successfully carry out Case checking. In this chapter, we are going to see that the Tns node actually plays two roles in the Case checking system at the same time, as we have proposed. Recall that the Tns node checks off the [F] feature arising from Accusative Case checking in Agr-oP, as well as providing the Nominative or Null Case feature for checking in Agr-sP. The crucial evidence comes from cases where the feature checking possibilities in Agr-oP covary with those in Agr-sP. We have three such cases.

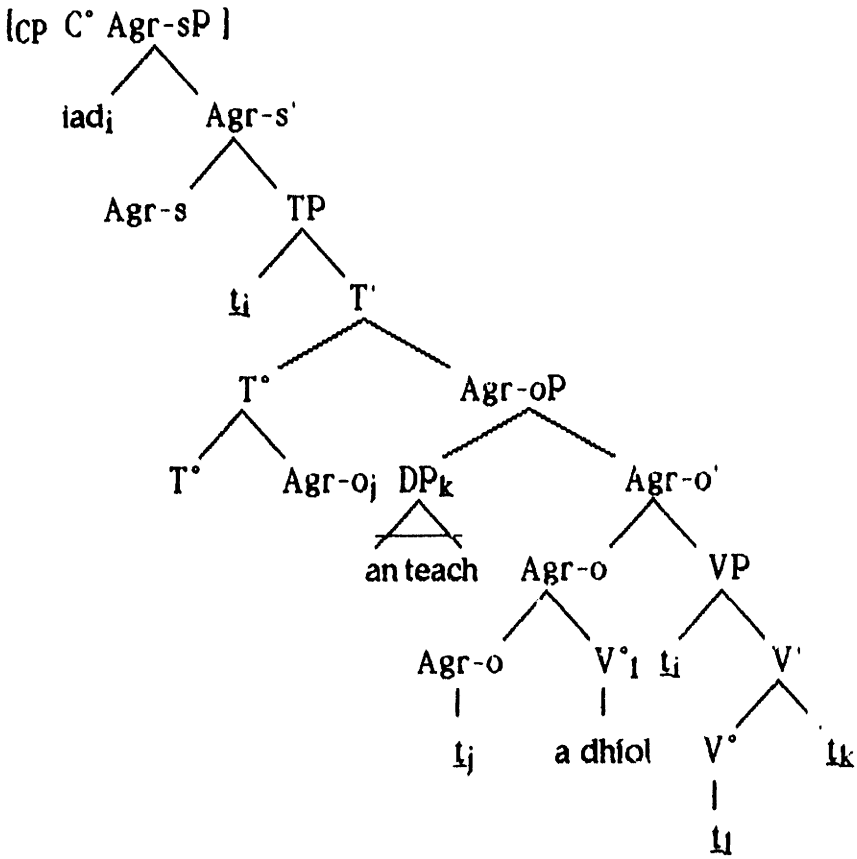
5.1. Dialects of Irish

In the Appendix to Chapter 2, we have seen that the SOV word order in infinitives of the northern dialects of Irish can be accounted for by preposing the object into Spec of Agr-oP and raising of the verb to Agr-o followed by excorporation of Agr-o. The infinitival complement in (5.1), for example, has the structure in (5.2).

(5.1) Níor mhaith liom [iad an teach a dhíol]
Neg I-would-like them the house Infin sell
'I wouldn't like them to sell the house.'

McCloskey & Sells (1988, 162)

(5.2)



In (5.1), both the subject and the object are marked by Accusative Case, suggesting that the 'ECM from COMP' phenomenon in English may in fact turn out to be based on universal properties of the infinitival Tns, namely, the ability of provide Accusative Case feature. A significant difference between English and Irish, then, is that English marks Null Case checking and Accusative Case checking on infinitival subjects using different complementizers, while Irish does not. Another difference is that Irish uses Accusative Case on infinitival subjects more extensively, thus leading some authors to claim that Accusative Case is default in Irish. There are, however,

obligatory control verbs in Irish, according to McCloskey (1980a).[1] Thus, the behavior of infinitival clauses in Irish is essentially the same as in English.

In the southern dialects, it is impossible to have both a lexical subject and a lexical object in front of an infinitival verb (McCloskey 1980b, McCloskey and Sells 1988). Thus, we have the following contrast:[2]

(5.3) a. Ní thaithneann leat [mé a thabhairt namhaid uirthi]
Neg pleases with-you me Infin give enemy on-her
'It does not please you for me to call her enemy.'

b. *Ní thaithneann leat [mé namhaid a thabhairt uirthi]

McCloskey & Sells (1988, 167-8)

If the subject is PRO, the object can appear preverbally, as in (5.4).

(5.4) Ní theastaíonn uaim [PRO é a dhíol]
Neg wants from-me it Infin sell
'I don't want to sell it.' McCloskey & Sells (1988, 167)

The subject of an intransitive verb can be lexical, as in (5.5).

(5.5) Níor mhaith liom [é a fhanacht anseo]
I-wouldn't-like him Infin stay here

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[1] Most of the verbs that McCloskey (1980a, 348) cites seem to be raising predicates, but verbs like déan iarracht 'make an attempt' and féach le 'try' seem to be genuine cases of control.

[2] The preverbal position is associated with Accusative Case, whereas the postverbal object may or must be marked by Genitive, depending on idiolects. See McCloskey (1983, 40).

'I wouldn't like him to stay here.' McCloskey & Sells (1988, 167)

The restriction in the southern dialects then can be stated as follows:

(5.6) In the southern dialects of Irish, infinitival clauses allow Spec of only one AgrP to be filled with Accusative-marked DP in overt syntax.

Note that the subject of infinitives is marked by Accusative Case in Irish. The preverbal object is also marked by Accusative.

Our modification of Case theory makes it possible to make sense of a restriction like (5.6). Recall that the Tns node participates in the Case checking process in two distinct ways: first, to check off the [F] feature that arises from Accusative Case checking at Agr-oP; and second, to provide the Case feature itself which is to be checked at Agr-sP. The restriction in (5.6) amounts to saying basically that the infinitival Tns in the southern dialects of Irish can perform only one of its functions in overt syntax. Strictly speaking, the restriction in question is the following:

(5.7) In the southern dialects of Irish, the infinitival Tns cannot provide an Accusative Case feature for checking in Agr-sP in overt syntax after it checks off the [F] feature that arises from Accusative Case checking in Agr-oP.

Sensitivity to the type of Case in (5.6) reinforces the hypothesis that Accusative Case on the subject is provided by Tns.

I am not sure, on the other hand, what to do with the Genitive Case that appears on postverbal objects.

5.2. Japanese Floating Quantifiers

Next, we will look at a similar phenomenon in Japanese. This time, both the object and the subject have the freedom of undergoing movement in overt syntax, but not at the same time.

As originally observed by Haig (1980) and Kuroda (1980, 1983), there is an asymmetry in the licensing of floating quantifiers in Japanese. Consider the pair in (5.8).

(5.8) a. **Hon**-o gakusei-ga **san-satsu** katta.
book-Acc student-Nom three-CL bought
'The students bought three books'

b. *__Gakusei__-ga hon-o **san-nin** katta.
student-Nom book-Acc three-CL bought
'Three students bought books.' Kuroda (1983, 154)

In (5.8a), the object hon-o 'book-Acc' can be associated with the floating quantifier san-satsu even when the subject intervenes between them. Intervention of the object between the subject gakusei-ga 'student-Nom' and the floating quantifier san-nin, on the other hand, is impossible, as in (5.8b).

Saito (1985) points out that it is crucial to block subject scrambling to account for the contrast in (5.8). Assuming that a floating quantifier and its associate must be in a local relation, the well-formedness of (5.8a) is guaranteed because the object is preposed, leaving a trace with which the floating quantifier is associated. The relevant structure is shown in (5.9).

(5.9) **Hon**$_i$-o [gakusei-ga t_i **san-satsu**katta]

The needed local relation between the floating quantifier and its associate, whatever its precise formulation is, holds in (5.9). Object scrambling is possible, in general. If we apply object scrambling to (5.10), we get (5.11).

(5.10) **gakusei**-ga **san-nin** hon-o katta

(5.11) hon$_i$-o [**gakusei**-ga **san-nin** t_i katta]

Both (5.10) and (5.11) are acceptable if they go to PF at this stage. If further application of scrambling to the subject in (5.11) were possible, (5.12) would result.

(5.12) ***gakusei**$_j$-ga [hon$_i$-o [t_j **san-nin** t_i katta]]

(5.12) should be ill-formed, however, since (5.8b) is not acceptable. Saito claims that the Nominative Case marking ga in Japanese is not structural Case and that subject scrambling leaves a variable[3] without structural Case. Thus, the impossibility of (5.12) is due to illicit subject scrambling, according to Saito (1985).

There are two problems in blocking subject scrambling in the current framework. First, if so-called Nominative and Accusative in Japanese are

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3 Saito assumes that scrambling is uniformly A-bar movement. We no longer share this assumption, given the work done by Mahajan (1990), Saito (1992), Tada (1990), and others. See also Jones (in preparation).

structural Cases, (5.12) should be the ultimate LF representation,[4] with the following bracketing, abstracting away from verb raising:

(5.12') **gakusei**$_j$-ga [$_{Agr\text{-}oP}$ hon$_i$-o [$_{VP}$ t_j **san-nin** t_i katta]]

Saito's (1985) claim that ga is not structural Case still is a viable solution to the problem in this respect. If this claim is adopted, subject preposing in (5.12') will be A-bar chain formation, if possible at all. Suppose, following Déprez (1989), that floating quantifiers can be associated with NP traces, but not with variables. It follows that even if subject preposing is possible in (5.12'), this movement will not lead to licensing of the floating quantifier.

The claim that ga is not structural Case, however, goes against the account of Japanese passive in Chapter 3. There, we observed the familiar Case conversion in the passive, as in (5.13).

(5.13) a. John-ga kono bunseki-ni kechi-**o** tsuke-ta.
Nom this analysis-Dat KECHI-Acc attach-Past
'John criticized this analysis.'

b. John-niyotte kono bunseki-ni kechi-**ga** tsuke-rare-ta.
by this analysis-Dat KECHI-Nom attach-Pass-Past

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[4] Cf. also Koizumi (1993) for a relevant discussion. He uses the impossibility of cases like (5.8b) as one of his arguments for the hypothesis that a transitive clause always involves the structure in (i).

(i) [$_{Agr\text{-}sP}$ [$_{TP}$ [$_{VP}$ Subj V° [$_{\Omega P}$ [$_{Agr\text{-}oP}$ [$_{VP}$ V° Obj]]]]]

He does not specify the nature of ΩP.

If our analysis is right, this argument for the clause structure (i) loses its force. The structure like (i) is perhaps correct for ditransitive verbs, though. See Collins (1993a) for a relevant discussion.

This is passivization of an idiom chunk. Note that the Case marking of an idiom object kechi changes from Accusative to Nominative in (5.13). Thus, we cannot maintain the idea that ga is something other than a structural Case marking.

A second problem in blocking scrambling of subjects is that there are apparently cases of subject scrambling in Japanese. Consider (5.14).

(5.14) **Gakusei**-ga kinoo **san-nin** hon-o katta.
student-Nom yesterday three-CL book-Acc bought
'Three students bought books yesterday.'

Ueda (1990) observe that time adverbs, locatives, and sentential adverbs can separate a floating quantifier from the associated subject. Cf. also Haig (1980). Ueda (1990) analyzes this phenomenon as arising from A-movement of subjects from Spec of VP to Spec of IP. Ueda acknowledges the problem of blocking cases like (5.12) and stipulates that adjunction to VP is prohibited. Since he did not adopt the split INFL hypothesis, the only possibility of placing the object between Spec of VP and Spec of IP for him is VP adjunction. Under these assumptions, there will be no landing site for the object which is lower than the derived subject position.

We can take a slightly different tack. Suppose that only one AgrP can host an argument in overt syntax in Japanese. This has the consequence that where there is a derived subject position in overt syntax, there is no landing site for A-movement of the object.[5] (5.12) will accordingly be blocked in

5 On the assumption that Spec of TP cannot host the subject so that the only derived subject position is Spec of Agr-sP.

overt syntax. Coupled with Deprez's (1989) hypothesis that only A movement can lead to licensing of floating quantifiers, the contrast in (5.8) will be accounted for.

Now what this story means is that we have a constraint similar to (5.7), which we posited for the southern dialects of Irish.

(5.15) In Japanese, Tns cannot provide a Nominative Case feature for checking in Agr-sP or TP in overt syntax after it checks off the [F] feature that arises from Accusative Case checking in Agr-oP.

Formulated this way, (5.15) prevents another possibility, namely, the analysis of (5.12) as (5.12"), sealing a loophole (see note 5) in the account which only mentions AgrP.

(5.12") $[_{TP}$ **gakusei**$_j$-ga $[_{Agr\text{-}oP}$ hon$_i$-o $[_{VP}$ t_j **san-nin** t_i katta $]]]$

Again, we see Tns playing two roles at the same time. If these two functions were not located on a single head, it would be difficult to capture the restriction.

There is one problem to be mentioned here. In Chapter 2, we introduced the results of Bobaljik and Jonas (1993) concerning Icelandic subjects, according to which the subject of a transitive clause must be raised at least as higher as to Spec of TP. We have seen that there is a principled theoretical reason why their results hold. If our analysis of Japanese is correct, however, it goes against Bobaljik and Jonas's results. Notice that in (5.8a), repeated below, where the trace of the preposed object licenses a

floating quantifier, the subject is supposed to be within VP, since the object is in Spec of Agr-oP.

(5.8) a. **Hon-o** gakusei-ga **san-satsu** katta.
book-Acc student-Nom three-CL bought
'The students bought three books.'

At this moment, we do not have a way of reconciling these conflicting results. We have to leave this problem open for future research.

5.3. Nominative Objects in Icelandic

In this section, we will look at another instance of dependency between Case checking in Agr-sP and Case checking in Agr-oP. This time, the phenomenon concerns the actual shape of structural Case. Marantz (1991) discusses Icelandic Nominative objects as an example where a dependency in Case realization is observable.[6] His theory deals with PF Case realization. We will recast the spirit of his approach in terms of the Agr-based theory.

5.3.1. Distribution of Nominative Objects

Icelandic has rather productive so-called quirky Case phenomena. As we have seen in the previous chapter, this Case marking is preserved in the participial passive, as illustrated in (5.16).

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6 Marantz (1991) also discusses Georgian as another such example. Our basic point should carry over to this language.

(5.16) a. Ég hjálpaði honum.

I helped him (DAT)

b. Honum var hjálpað.

him (DAT) was helped

c. Ég mun sakna hans.

I will miss him (Gen)

d. Hans var saknað.

him (Gen) was missed

Quirky subjects show up in an active transitive clause, too, as in (5.17).

(5.17) a. Barninu batnaði veikin.

the-child (Dat) recovered-from the-disease (Nom)

'The child recovered from the disease.'

b. Barninu finnst mjólk góð.

the-child (Dat) finds milk (Nom) good (Nom)

'The child likes milk.' Yip et al. (1987, 223)

Yip et al. (1987) give a list of possible Case patterns for two-place and three-place predicates, which is repeated below.

(5.18) a. Nom V Acc, Nom V Dat, Nom V Gen,

(Acc V Nom), Acc V Acc, (Acc V Gen), Dat V Nom[7]

b. Nom V Dat Acc, Nom V Acc Dat, Nom V Acc Gen, Nom V Dat Dat,

Nom V Dat Gen, (Nom V Acc Acc)

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7 Those involving predication with the copula are omitted.

Those in parentheses are rare.

What interests us are cases of the Dative subject. As noted by Sigurðsson (1991), Nominative objects trigger agreement with the finite verb, but only in number.

(5.19) Okkur höfðu leiðst strákarnir.
us (Dat) had-3pl bored the-boys (Nom)
'We had been bored by the boys.' Sigurðsson (1991, 334)

In (5.19), the person marker on the verb happens to be the same as the Nominative object, but Sigurðsson (1991) notes that many speakers do not allow first or second person Nominative objects, and that even those speakers who do allow first or second person Nominative objects prefer the default form which is the same as the third person singular agreement. In this respect, this agreement is different from ordinary subject-verb agreement which involves both person and number.

The fact that Nominative objects agree with a finite verb suggests that the Nominative Case on these objects is structural Case, mediated by AgrP.

When the structure like (5.17&19) is embedded in ECM complements, the object remains Nominative.

(5.20) Þeir telja barninu hafa batnað veikin.
they believe the-child (Dat) have recovered-from the-disease (Nom)
'They believe the child to have recovered from the disease.'
Andrews (1990, 211)

(5.20) also shows that the Dative argument is in fact occupying the 'subject' position, namely, Spec of Agr-sP. It follows that in cases like (5.17&19), the object must check Nominative Case in Spec of Agr-oP,[8] since that is the only structural Case position other than Spec of Agr-sP, which is occupied by the Dative subject. Note also that a somewhat different property of agreement between Nominative objects and the finite verb (namely, prohibition against first and second person) can then be taken as an indication that Agr-s is not involved.

Nominative objects occur in control clauses as well as in raising complements.

(5.21) a. Stráknum líka þessir bílar.
the-boy (Dat) like-3pl these cars (Nom)
b. [Að líka slíkir bílar] er mikið happ.
Comp like such cars (Nom) is great luck Jonas (1992)

(5.22) a. Stráknum er talið líka slíkir bílar.
the-boy (Dat) is thought(U) like such cars(Nom.m.pl)
b. Stráknum eru taldir líka slíkir bílar.
the-boy (Dat) are thought(Nom.m.pl) like such cars(Nom.m.pl)

(5.21b) is an example of clause with a PRO subject, and (5.22) cases of raising. Interestingly, the matrix verb shows optional agreement with the

[8] See also Jonas (1992) for relevant discussion. She suggests, as we also will do shortly, that Nominative objects check Case in Spec of Agr-oP. For a different view, see Schütze, C. (1993), who claims that Spec of TP is responsible.

embedded Nominative object in the case of raising complements.[9] (5.22) involves the participle passive in the matrix. The participle in (5.22a) displays the default form, while the participle in (5.22b) agrees with the embedded object. The same paradigm can be constructed with straight raising verbs like virðast 'seem'.

(5.23) a. Stráknum virðist líka þessir bílar.
the-boy (Dat) seem-3sg like these cars
b. Stráknum virðast líka þessir bílar.
the-boy (Dat) seem-3pl like these cars
'The boy seems to like these cars.'

Now how can we pin down the distribution of Nominative objects? Assuming that Nominative Case is checked in Spec of the matrix Agr-oP in cases like (5.22), the following generalization seems to hold:

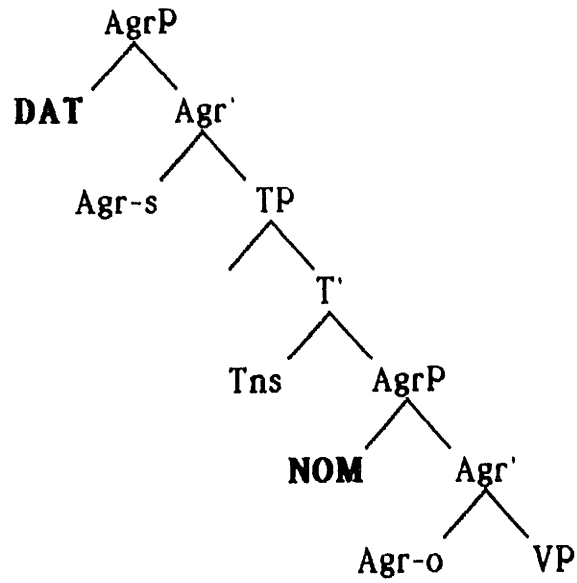
(5.24) Distribution of Nominative objects (in Icelandic)
Spec of Agr-o can check Nominative iff Spec of Agr-sP immediately above it hosts a quirky Dative argument in overt syntax.

That is, if a quirky Dative argument is in Spec of Agr-s of (5.25) in overt syntax, then Spec of Agr-o of (5.25) can check Nominative Case at LF, whether or not Spec of Agr-s is subsequently vacated at LF.

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9 My Icelandic consultants generally prefer the agreement version.

(5.25)



The validity of (5.24) is straightforward in cases of simple clauses and ECM complements. Turning to less transparent cases, if PRO with quirky Dative occupies Spec of Agr-s in overt syntax in (5.21b), the Nominative objects in those cases fall under (5.24). In the case of raising complements in (5.22), (5.24) dictates that optionality of agreement with the matrix verb is a matter of PF realization and that the Nominative object always checks Case in Spec of the matrix Agr-oP at LF, because the embedded clause only has a trace of the Dative subject in Spec of Agr-sP.

There is an independent piece of evidence that optionality of agreement in (5.22) should be interpreted this way. Icelandic has some peculiar raising verbs which have Dative subjects. Here are some examples.

(5.26) a. Mér finnst [Olafur lesa margar bækur]
me (Dat) find-3sg Olaf (Nom) read many books
'In my opinion, Olaf reads many books.'

b. Mér virðist [Ólafur lesa margar bækur]
me (Dat) seem-3sg Olaf (Nom) read many books
'It seems to me that Olaf reads many books.' Sigurðsson (1989, 98)

Note that the embedded subject is marked Nominative, suggesting Case checking in the matrix Agr-oP.[10] This will be another example of Nominative objects that falls under (5.24).

The verb virðast 'seem' is particularly interesting in that in the absence of the Dative phrase, it behaves like an ordinary raising verb, as in (5.27).

(5.27) Þeir virðast [vera skemmtilegir]
they (Nom) seem-3pl be interesting

This possibility confirms the above suggestion, since there is no position to check Nominative Case in the embedded clause in (5.27). If there were a Case position within the embedded clause in (5.27), movement of the subject to the matrix clause would be blocked for the Economy reason outlined in Chapter 2. The same should be true in (5.26).

Now, when the Dative subject is present, the matrix verb agrees with the Nominative embedded subject optionally.

(5.28) a. Mér virðist [Þeir vera skemmtilegir]
me (Dat) seem-3sg they (Nom) be interesting

---

[10] This is 'Exceptional Nominative Case Marking' (Sigurðsson (1989, 100)), so to speak.

b. Mér virðast [þeir vera skemmtilegir]
me (Dat) seem-3pl they (Nom) be interesting
Sigurðsson (1989, 99)

Since the Dative argument is sitting in the matrix subject position, the embedded subject must check Nominative Case in spec of the matrix Agr-oP. If this is so, the optionality of agreement becomes parallel to what we find in (5.22). Thus, we can explain away the optionality of agreement in (5.22) as a matter of PF realization and assume that the Nominative object ends up in Spec of the matrix Agr-oP whether or not there is overt agreement.

If cases like (5.28) involve involve raising of the embedded subject to Spec of the matrix Agr-oP, it is predicted that there will be an interesting interaction between this construction and quirky subjects. When the embedded subject in the construction like (5.28) is Dative and the object is Nominative, it is predicted that the Nominative object cannot trigger agreement with the matrix verb, since Specs of both matrix Agr-s and Agr-o Phrases are filled with Dative phrases and there is no room left in the matrix clause for the Nominative object. This prediction is born out. Consider the following examples.

(5.29) a. Mér virðist [strákunum líka þessir bílar]
me (Dat) seem-3sg the-boy (Dat) like these cars

b. *?Mér virðast [stráknum líka þessir bílar][11]

me (Dat) seem-3pl the-boy (Dat) like these cars

'It seems to me that the boy likes these cars.'

Since the embedded Dative subject stráknum 'the boy' will end up in Spec of the matrix Agr-oP, the Nominative object must check Case in the embedded Agr-oP, unable to agree with the matrix verb.

A simpler alternative to (5.14), namely, (5.30) is not descriptively adequate.

(5.30) Spec of Agr-oP can check Nominative iff the verb which is adjoined to it has a Dative argument.

First, (5.30) cannot explain the LF position of the Nominative object in constructions involving auxiliary verbs. Consider (5.19) again.

(5.19) Okkur höfðu leiðst strákarnir.

us (Dat) had-3pl bored the-boys (Nom)

'We had been bored by the boys.'

Here, the auxiliary verb agrees with the Nominative object in number, suggesting that the Nominative object moves to Spec of the matrix Agr-oP at LF. (5.30) fails to account for this case, since the Dative phrase is not an

[11] What is mysterious is that (5.29b) does not seem to be completely unacceptable. But the contrast with the other cases of optional agreement is strong. Recall that our consultants prefer agreement. Here, the non-agreeing version is strongly preferred.

argument of the auxiliary verb corresponding to 'have'. Second, cases like (5.22b) and (5.23b) fall outside of (5.30).

(5.22) b. Stráknum eru taldir líka slíkir bílar.
the-boy (Dat) are thought (Nom.m.pl) like such cars (Nom.m.pl)

(5.23) b. Stráknum virðast líka þessir bílar.
the-boy (Dat) seem-3pl like these cars

The Dative phrase in the matrix subject position is not an argument of the matrix predicate, but the agreement suggests that the Nominative object moves into the matrix clause at LF. Thus, (5.30) cannot replace (5.24).

Let us now turn to the theoretical meaning of (5.24). Notice that (5.24) is an instance of dependency between Spec of Agr-s and Spec of Agr-o. We have already seen such instances in the previous sections which deal with Irish and Japanese. This time, the process which takes place in Spec of Agr-s is not Case checking, because of the cases like (5.20, 22, 26). Rather, it has to do with some feature checking associated with overt A-chain formation. Let us suppose that the Extended Projection Principle (EPP) effect is induced by a strong NP-feature of Agr-s.[12] Suppose further that the checking of this feature in overt syntax leaves some mark on Agr-s, say, [- Procrastinate], which indicates that this chain formation in overt syntax is immune from the principle of Procrastinate. Now let us assume that this [- Procrastinate] marking records the Case of the DP which has checked off the strong NP feature. What (5.24) amounts to is that the Tns node which has checked off the [F] feature that arises from Nominative Case checking in Agr-oP has to be

[12] This move seems to be problematic in view of the uniformity of Agr. We will come back to this point in the final chapter.

matched with the Agr-s which keeps the record of having been checked by a Dative DP. This indicates that the Case checking process in Agr-oP is connected with the feature checking process in Agr-sP in some way. Crucially, this account assumes that the Case checking in Agr-oP leaves a mark on the Tns node, which in turn has a connection with Agr-s.

This admittedly is not clean. Whatever precise mechanism derives (5.24), however, the dependency between Agr-s and Agr-o can only be ensured by the roles played by Tns. This supports our hypothesis that the Tns node is involved in the follow-up to Case checking.

The phenomenon of Nominative objects seems wide spread. Tada (1991) analyzes Nominative objects in Japanese as checking Case in Spec of Agr-oP. Italian psych-verbs studied by Belletti and Rizzi (1988) also have Nominative objects, apparently. Future investigation must look into this topic.

5.3.2. Overlapping Chains

Now let us see exactly how movement proceeds in the cases discussed above. There are three types of cases to consider, depending on the position of the Dative argument before SPELL-OUT.

(5.31) a. (... V°) [$_{Agr\text{-}sP}$ DP_{Dat} ... V° DP_{Nom}]

b. [$_{Agr\text{-}sP}$ DP_{Dat} ... V° [$_{Agr\text{-}sP}$ t ... V° DP_{Nom}]

c. [$_{Agr\text{-}sP}$ DP_{Dat} ... V° [$_{Agr\text{-}sP}$ DP_{Nom} V° ...]

(5.31a) represents simple clause cases like (5.17, 19) or the embedded version like (5.20, 21). (5.31b) corresponds to cases like (5.22, 23). (5.31c) is the schema of (5.26, 28).

The derivations of (5.31a) and (5.31c) are not different from their Accusative counterparts. That is, (5.31a) and (5.31c) are mapped into the following LF representations:

(5.31') a. (... V°) $[_{Agr\text{-}sP}\ DP_{Dat}\ Agr+T^{\circ}+Agr+V^{\circ}\ [_{TP}\ [_{Agr\text{-}oP}\ DP_{Nom}\ [_{VP}$ ...

c. $[_{Agr\text{-}sP}\ DP_{Dat}\ Agr+T^{\circ}+Agr+V^{\circ}\ [_{TP}\ [_{Agr\text{-}oP}\ DP_{Nom}\ [_{Agr\text{-}sP}\ t\ V^{\circ}$ ...

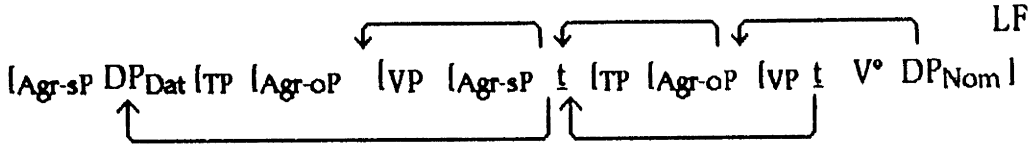
(5.31b) presents a more interesting challenge. So let us consider first how overt movement proceeds and then turn to LF operations. Here is how the Dative phrase undergoes overt movement. We will abstract away from the positioning of various heads unless it becomes relevant.

(5.32) $[_{Agr\text{-}sP}\ DP_{Dat}\ [_{TP}\ [_{Agr\text{-}oP}\ [_{VP}\ [_{Agr\text{-}sP}\ t\ [_{TP}\ [_{Agr\text{-}oP}\ [_{VP}\ t\ V^{\circ}\ DP_{Nom}\ ]$

The Dative phrase at least has to go through Spec of the embedded Agr-sP, because of the Extended Projection Principle effect. Now the question is how the Nominative object moves up to Spec of the matrix Agr-oP. The Nominative object first moves to Spec of the embedded Agr-oP to avoid a Relativized Minimality violation and then goes on. A next thing to worry about is the trace of the Dative phrase in Spec of the embedded Agr-sP. In this case, a potential Relativized Minimality violation cannot be circumvented by moving through Spec of the matrix verb, if the embedded Agr-s never raises to the matrix verb to make Spec of the matrix verb and

Spec of the embedded Agr-sP equidistant. Let us suppose this raising of Agr-s to V never happens. Apparently, we are stuck, unless movement of the Nominative object is also able to move through Spec of the embedded Agr-sP, sharing this position with the chain of the Dative phrase. This derivation is illustrated in (5.33).

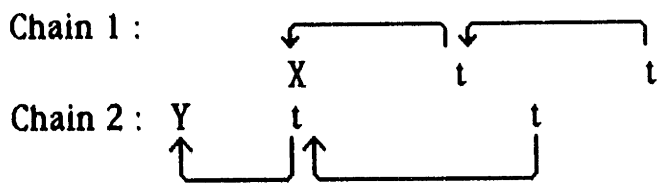
(5.33)



The upper side indicates how LF movement of the Nominative object takes place. This is the only way of avoiding a Relativized Minimality violation.

If this type of chain overlapping is allowed, it is still consistent with the hypothesis that intermediate positions of chains are not visible to semantic interpretation. Suppose that a chain is a collection of positions in X-bar structure. The only requirement for felicitous interpretation will be that this collection can be unambiguously interpretable. In (5.33), there is no overlapping in the positions visible to semantic interpretation, so no ambiguity arises. In fact, (5.33) is the only type of chain overlapping allowed under this hypothesis about semantic contributions of chains. Thus, the type of chain overlapping exemplified in (5.33) must be distinguished from another type illustrated in (5.34).

(5.34)



In (5.34), the head of one chain overlaps with an intermediate position of another chain. Since the head position must be visible to LF interpretation, there is an ambiguity concerning the position occupied by X: it belongs both to Chain 1 and Chain 2. Interpretation therefore goes wrong.

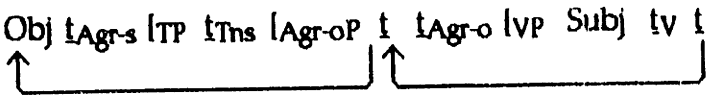
In fact, there is a place where prohibition against chain overlapping in the configuration of (5.34) might play a role. In Chapter 1, we briefly discussed how to make sure that the subject ends up in Spec of Agr-sP and the object in Spec of Agr-oP in transitive clauses. The derivations which must be blocked are the ones in which the object ends up in Spec of Agr-sP and the subject in Spec of Agr-oP. This desired result is obtained by means of Relativized Minimality and Equidistance, but there was a crucial auxiliary assumption. There are two types of derivations to consider. One of them places the subject in Spec of Agr-oP first and then tries to move the object into Spec of Agr-sP. This derivation is easy to block. Consider the structure (5.35).

(5.35) ([$_{\text{Agr-sP}}$) [$_{\text{TP}}$ V+Agr+Tns [$_{\text{Agr-oP}}$ Subj $\underline{t}_{\text{Agr}}$ [$_{\text{VP}}$ $\underline{t}$ $\underline{t}_{\text{V}}$ Obj

This is the point at which object preposing is to take place. It will cross over two filled positions, namely, Spec of VP and Spec of Agr-oP. There is no way of avoiding a Relativized Minimality violation in this case. Equidistance will not help, because only two specifier positions can become equidistant when head movement is in the adjunction mode. Thus, this derivation is ruled out.

Consider the other derivation, which places the object in Spec of Agr-sP in overt syntax and then tries to raise the subject at LF. The relevant configuration is (5.36), where the verb is already raised to C° and is omitted.

(5.36) [Agr-sP Obj tAgr-s [TP tTns [Agr-oP t tAgr-o [VP Subj tv t



Note that the overt movement of the object must go through Spec of Agr-oP,[13] since that is the only way of avoiding a Minimality violation caused by the subject in Spec of VP. But now the subject is to be raised to Spec of Agr-oP. This derivation must be ruled out, too, to get the correct placement of the subject and the object. If the chain overlapping of the form in (5.34) is generally blocked for interpretive problems, the goal will be achieved.

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13 It is possible that the object gets trapped at Spec of Agr-oP, because it is a Case position. Given that the subject moves over Spec of Agr-oP in a correct derivation, however, this consideration presumably does not apply here.

Chapter 6

Case in PP

In this chapter, we will explore extensions of the Case theory proposed in this thesis. The domain of the old Case theory in LGB was not restricted to Nominative and Accusative. In particular, prepositions (and postpositions) were also "Case assigners" in the LGB type theory. Since our Case theory only covers Nominative, Accusative, and Null Case, a question about P naturally arises. One possibility is to relegate the Case of P to a different system, by making use of the distinction between structural Case and inherent Case of Chomsky (1986a): the Case theory will be restricted to the former and the Case of P will belong to the latter. Here, however, we will see some evidence that suggests that the Case of P in fact falls under the domain of the Case theory.

6.1. Structure of 'PP'

In this section, we will look at the structure of PP in some detail, exploring ways to accommodate variations across and within languages in a principled framework.

6.1.1. Welsh Agreeing P

There are languages where P shows agreement with its object. McCloskey and Hale (1984) show that one such language, Irish, allows small pro as an

object of P. In this subsection, we will focus on a related language Welsh, drawing on the analysis by Rouveret (1991).

Welsh has both inflected prepositions and uninflected ones. The distribution of each form is conditioned by its object. The agreeing form is used when the object is a pronoun whether it is overt or null, whereas the uninflected form is used when the object is nonpronominal. Rouveret makes an interesting observation that in the majority of cases, the inflected form does not simply consist of the uninflected form and the agreement morpheme. There is a third element appearing in between. There are two cases to consider. In one, the third element appears only in the third person. Thus, Rouveret offers the following analysis.

(6.1) a. yn 'in' yn-dd-o 'in him'
b. gan 'with' gan-dd-o 'with him'
c. heb 'without' heb-dd-o 'without him'

The connecting element is invariantly -dd-. The full paradigm of yn is the following:

(6.2)

yn	sg.	pl.
1.	ynof	ynom
2.	ynot	ynoch
3.	ynddo (m.)	ynddynt
	ynddi (f.)	

Williams (1980, 128)

Compare this with the paradigm (6.3) of the preposition at 'to', which belongs to the class that does not insert the connective element.

(6.3)

<u>at</u>	sg.	pl.
1.	ataf	atom
2.	atat	atoch
3.	ato (m.)	atynt
	ati (f.)	

In the case of the prepositions like <u>am</u> 'about' and <u>o</u> 'of', the connective appears in all the persons and its form specific to the prepositions. In the case of <u>o</u>, -<u>hon</u>- is the connective.

(6.4)

<u>o</u>	sg.	pl.
1.	ohonof	ohonom
2.	ohonot	ohonoch
3.	ohono (m.)	ohonynt
	ohoni (f.)	

See Williams (1980, pp.127-129) for other examples of these various classes.

Rouveret simply claims that this connective is a functional head, proposing (6.5).

(6.5) Agreement morphology can only be affixed to a functional head.

Notice, however, that (6.5) is very close to the spirit of our Case theory, where the entire process of structural Case checking requires an appropriate functional head on top of Agr. On the other hand, the presence of this connective element is a total mystery if Case checking involves only P and

Agr. It would be all the more mysterious if the Case of P did not belong to the structural Case system; why should such an element be required? Therefore, let us suppose that the Case of P is a species of structural Case[1] and assume, despite the composition of the agreeing form as P-connective-

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[1] N. Chomsky (personal communication) asks why there is no ECM or raising with PP. If P assigns inherent Case, P should not be able to check Case of an element which is not an argument of P, prohibiting ECM/raising. It is possible that P involves both structural Case and inherent Case.

There is one potential instance of ECM or raising with PP, though. Consider the following paradigm.

(i) a. I prevented there from being a riot.
b. I prevented tabs from being kept on Lucy.
(ii) a. *There was prevented from being a riot.
b. *Tabs were prevented from being kept on Lucy. Postal (1974, 159)

Given the well-formedness of examples containing <u>there</u> and an idiom chunk, we must assume that some kind of ECM or raising is involved in (i). The matrix verb <u>prevent</u>, however, does not seem to be responsible for this ECM/raising, since passivization is impossible, as shown in (ii). We cannot adopt an alternative which treats <u>from</u> as some kind of complementizer and claims that the Case in question is coming from within the complement of <u>from</u> (cf. Chapter 2), either, since <u>there</u> and <u>tabs</u> precede <u>from</u>. It does not seem appropriate to treat <u>from</u> as some kind of Infl. We are led to conclude that the structural Case which is the source of ECM/raising must be coming from P. Under this hypothesis, (ib) will have a structure like (iii), to use the node labeling of (6.6). We abstract away from the categorial status of the complement of P.

(iii) I prevented $[_{\phi P}$ $[_{AgrP}$ tabs$_i$ $[_{PP}$ from $[_{XP}$ being $[_{VP}$ kept t_i on Lucy]]]]

<u>Tabs</u> will be Case checked in Spec of AgrP in (iii).

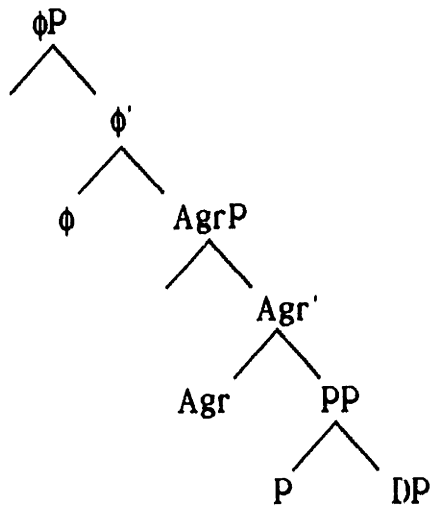
One immediate question is why Agr of P triggers overt movement in this case, but not in ordinary cases (iv).

(iv) a. $[_{AgrP}$ $[_{PP}$ on the table]] b. *$[_{AgrP}$ the table$_i$ $[_{PP}$ on t_i]]]

We will put aside this question and others.

Agr, that the hierarchical structure is the following, where linear order is irrelevant.

(6.6)



I leave open whether there is Spec for PP. Note that it is possible to regard Spec of ϕP as what Riemsdijk (1978) proposes as Spec of PP. We will turn to this question in § 5.3.

In the configuration (6.6), P has the relevant Case feature, which is passed on to Agr, where the actual Case checking is performed and a [F] feature is created. The [F] feature then is checked off by ϕ. Thus, (6.6) conforms to the general form of Case checking configuration.

6.1.2. Navajo Spatial Enclitics and Mayan Relation Nouns

Now the question immediately arises what semantic function ϕ plays in (6.6). To answer this, it is instructive to look at other cases where you find an additional element within 'PP'.

6.1.2.1. Navajo

K. Hale (personal communication) pointed out that Navajo displays a structure like (6.6). Although we cannot go into the full complexities of the Navajo spatial (and temporal) expressions, we will attempt to provide a rough outline, drawing on Kaufman (1975).

In Navajo, there are two categories used to express locational relations: enclitics and postpositions. Enclitics attach to only a limited class of nouns, namely, items that denote places, while postpositions do not impose such a restriction. Hence the following contrast.

(6.7) Kii kin-tánídéé' oołbąs.
Kee Flagstaff-from 3-drive
'Kee is driving from Flagstaff.' Kaufman (1975, 40)

(6.8) a. *Jáandéé' yóó' anáshwod.
John-from away 1past-run
'I ran away from John.'

b. Jáan bits'áá yóó' anáshwod.
John 3-from away 1past-run
'I ran away from John.' Kaufman (1975, 73)

In (6.8a), the enclitic -déé' cannot attach to a personal name. A postposition, on the other hand, has no such problem in (6.8b). Note also that postpositions display object agreement in (6.8b), while enclitics do not. Furthermore, the agreement on postpositions is almost identical with the possessor agreement on nouns, according to Young and Morgan (1987). Despite these differences, both enclitics and postpositions can be used to

express similar spatial notions, as in (6.9), where the enclitic -gónę' and the postposition ii' are used for similar purposes.

(6.9) a. hooghangónę' sidá.
house-in 3-sit
'He is sitting in the house.'

b. hooghan yii' sidá.
house 3-in 3-sit
'He is sitting in the house.' Kaufman (1975, 70)

Now, an enclitic can attach to a postposition, as in (6.10).

(6.10) [kin yii'gónę' sidáhígíí] shił yá'át'ééh.
house 3-in-into 3-sit-Comp 1-with 3-be-good
'I like the house he is sitting in.' Kaufman (1975, 78)

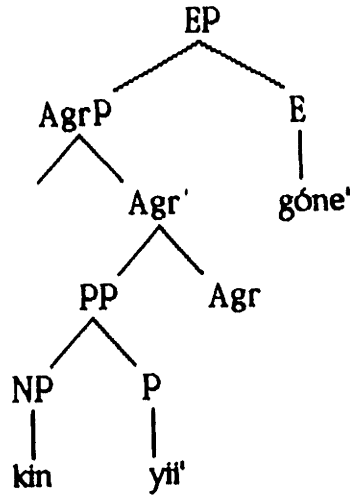
(6.10) is an instance of head-internal relative, and what concerns us is the bracketed clause. Here, an enclitic and a postposition appear together. Given the head-final nature of Navajo, it seems reasonable to assume that an enclitic takes PP as its object. Taking into account agreement on a postposition as well, we can assign the following structure to the relevant part of (6.10).[2,3]

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[2] Kaufman (1975) hypothesizes that an enclitic and a postposition form a postposition. We take this to be a result of incorporation that applies to (5.11).

[3] The presence of DP is ignored here. We will come back to a thorny problem posed by DP.

(6.11)



If we take this to be a general structure for spatial expressions in Navajo, then the cases that either contain only an enclitic or only a postposition should be analyzed as containing a null postposition and a null enclitic, respectively. Notice that (6.11) is hierarchically the same as (6.6), abstracting away from the direction of headedness. Thus, it is just a matter of lexicalization whether a particular language has an independent enclitic or not. English either has only null proclitics[4] or has prepositions incorporated into proclitics, while Navajo has independent overt enclitics.

6.1.2.2. Mayan

Overt decomposition of P into three elements seems to be wide spread, in fact. Now we will take a brief look at a Mayan language K'ekchi. Most Mayan languages express oblique relations like locative with the help of so-called relational nouns. Here are some concrete examples from K'ekchi, taken from Berinstein (1984).

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[4] Given the head-initial nature of English, the category which corresponds to the Navajo enclitic will be a proclitic.

(6.12) a. chi r-e li cuink
at his-mouth the man 'with the man'

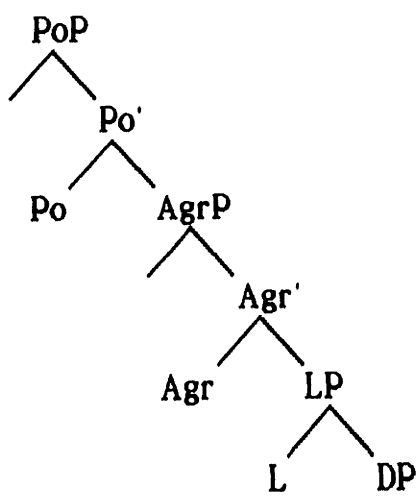
b. chok' r-e li cuink
for his-mouth the man 'for the man'

c. chi r-ix li cuink
at his-back the man 'behind the man'

The phrase is composed of a preposition, an agreement marker, a relational noun, and the noun phrase that bears an oblique relation.[5] Thus, we can assign a structure like (6.6) to these expressions.

There is a terminological issue here. K'ekchi has three prepositions which appear outside of relational nouns. In (6.6) and (6.11), on the other hand, P is the innermost item. To avoid confusion, let us invent new category names. The universal hierarchical structure for oblique expressions is labeled as follows:

(6.13)



5 According to Berinstein (1984), only relational nouns derived from body parts are introduced with a preposition. She lists 5 such nouns and 5 others which do not cooccur with a preposition.

A head called L(ocation) takes a DP and turns it into a Locational phrase. Agr intervenes for Case purposes and then a head Po(sition) brings a Location in relation with another phrase in the clause. According to this new terminology, the Navajo postpositions are Ls, while the Mayan prepositions are Po's.

This picture is suggested by the following description by Kaufman (1975, p. 73).

> an enclitic does not make a word locative, but attaches to a locative to provide directional or spatial information. A postposition, in contrast, can create a locative interpretation for almost any noun.

Conceptually, L names a location, and as a name, it must be nominal. Recall that the agreement of the Navajo postposition is similar to the nominal paradigm. Then, we can regard L as nominal in character. This conforms to the nominal origin of the Mayan relational nouns, too.

In this section, we have seen more dramatic evidence for three-layered decomposition of so-called PP and have provided a rough semantic characterization of the structure.

6.1.3. Locational Nouns

Overt realization of Po and L is found in other places as well. In this section, we will look at further cases of such decomposition.

6.1.3.1. Japanese

One does not have to look far for the decomposition in question. Japanese displays separate Locational heads, which are underlined in the examples below.

(6.14) a. tsukue no ue-ni
desk Gen top-Loc 'on (top of) the desk'

b. tsukue no sita-ni
desk Gen bottom-Loc 'below the desk, at the bottom of the desk'

c. tsukue no mae-ni
desk Gen front-Loc 'in front of the desk'

d. tsukue no usiro-ni
desk Gen back-Loc 'behind the desk'

e. tsukue no yoko-ni
desk Gen side-Loc 'beside the desk'

Given lack of overt realization of agreement in Japanese, it is not surprising to find that there is no agreement morpheme in (6.14). Note that the Locational heads in (6.14) also function as plain nouns as well. Some examples are given below.

(6.15) a. John-wa tsukue-no ue-o fuita.
Top desk-Gen top-Acc wiped
'John wiped clean the top of the desk.'

b. John-wa tsukue-no sita-o nozokikonda.
Top desk-Gen bottom looked into
'John looked into the bottom of the desk.'

c. John-wa kuroma-no mae-o terasita.

Top car-Gen front-Acc light-up

'John lit up the place in front of the car.'

Japanese postpositions are Po, accordingly. There are cases where only a postposition can be found in Japanese, to be sure, but in these cases, we are led to say that either a null L is employed or L is incorporated into Po.

6.1.3.2. English

By looking at the glosses in (6.14), we notice that English, too, has 'composite prepositions' such as in front of and on top of. And some of the simple prepositions also allow morphological decomposition. Here is a list of these 'simple' prepositions.

(6.16) aboard, across, along, amid, around, before, behind, below, beneath, beside, between, beyond, inside, outside,

These cases are also suggestive of the structure (6.13) that we have proposed, and, in combination with the clearer cases from Navajo, Mayan, and Japanese, testify that it can be found almost everywhere. In the majority of English prepositions such as from, after, etc., we assume that either a null Po is employed or L is incorporated into Po.

6.1.3.2.1. Bare NP adverbs

The proposal that what is called a preposition is made up of a nominal category L(ocation) and a relational category Po(sition) opens up interesting

possibilities for bare NP adverbs that Larson (1985) discusses. The basic property of these peculiar phrases is that they have the form of NP (or DP) but they function as adverbial elements. Consider the following from Larson (1985).

(6.17) a. you have lived { every place that max lived.[6] / *(in) Germany. }

b. Peter worded the letter { that way/*that manner. / tactlessly. / in a thoughtful manner. }

A limited set of nouns such as <u>place</u> and <u>way</u> that express time, location, direction, and manner can appear without prepositions which are necessary in the case of ordinary NP/DP. At the same time, they surely can act like ordinary NP/DP, too.

(6.18) a. Every place/*city (that) John has lived was ugly.

b. The way/*fashion (that) I spoke to him was rude.

Larson (1987, 239)

Notice the absence of a preposition with the relative clause in the examples cited.

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[6] H. Lasnik (personal communication) notes that examples like (i) are not acceptable.

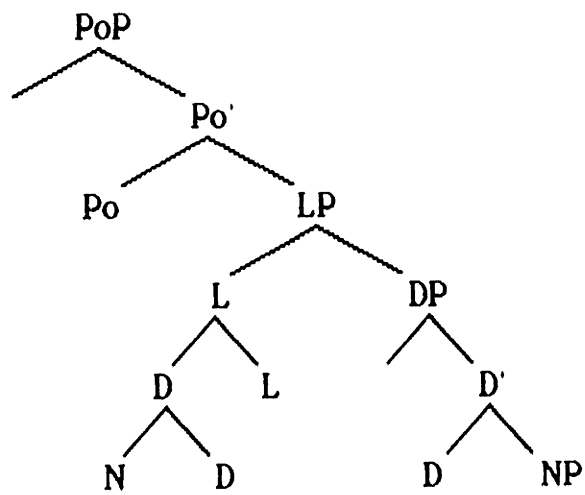
(i) *John lived that place.

There are some additional restrictions which we do not understand.

Larson (1985) proposed to account for their dual status in terms of Case theory. They are NPs in need of Case but they, unlike ordinary NPs, are able to Case-mark themselves. For this reason, they have the structure of NP but can appear without a preposition.

Larson (1985) argues against the analysis that has a rule simply delete a preposition which Bresnan and Grimshaw (1978) put forth, for the reason that it is ad-hoc. But Larson's proposal is not explanatory, either. It is phrased in terms of the then current theory, but it does no more than describe the properties of these weird items in English. Now we are in a position to provide a more principled and crosslinguistically viable account. Suppose that these special nouns[7] undergo LF incorporation into L(ocation) so that the LF representation of these adverbial phrases is (6.19).

(6.19)



Let us assume a simple DP structure where D° takes NP. Here AgrP does not have to exist, because incorporation of D will obviate the need of Case

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[7] Assume that spatial notions can be used to express other semantic notions like time and manner. Cf. Jackendoff (1983), though he does not discuss extension to manner.

checking through Agr, as suggested by Baker (1988). The Case feature of L(ocation) will be directly checked with D and for this reason L does not raise to Po, either. Given this set of assumptions, we can make sense of the lack of prepositions in the case of bare NP adverbials. Recall that we noted above that English either has null Po, or has L incorporated into Po in the majority of prepositions. Suppose that Po lacks phonetic content in English regardless of whether L incorporates into Po. If so, there is a reason why no overt preposition appears in (6.19): the head noun is incorporated into L, and hence L and Po are now separate. Thus, we can observe the null Po directly. Po in (6.19) is the item that does not check the [F] feature which arises from Case checking.

A justification of our position comes from the Navajo enclitics discussed above. We noted Kaufman's (1975) observation that enclitics can take only a limited class of nouns that denote places. In this respect, we can take this special class of nouns as the Navajo counterparts of Larson's (1985) bare NP adverbs. Importantly, when an enclitic directly takes an NP, no agreement marker appears, as illustrated in (6.20).

(6.20) Kii kinłánídęę́' oołbąs.
Kee Flagstaff-from 3-drive
'Kee is driving from Flagstaff.' Kaufman (1975, 40)

This is striking, since Navajo, unlike Japanese, exhibits overt agreement in general and in the case of postpositions, too. But if we assume that

incorporation into L obviates Case checking through AgrP, the lack of agreement is not surprising at all.[8]

To sum up, we have seen that our theory of Case extended to P can provide a principled perspective on Larson's bare NP adverbs.

6.1.3.2.2. Multiple selection in PP?[9]

Our decomposition of P into Po and L has another nice consequence. Larson (1990) attributes the ambiguity of temporal clauses in (6.21) to operator movement.

(6.21) I saw Mary in New York [before she claimed that she would arrive]

That is, he argues that either (6.22a) or (6.22b) can be assigned as the representation of the temporal clause in (6.21).

(6.22) a. [$_{PP}$ before [$_{CP}$ Op$_i$ she claimed [$_{CP}$ that she would arrive t_i]]]

b. [$_{PP}$ before [$_{CP}$ Op$_i$ she claimed [$_{CP}$ that she would arrive] t_i]]

He further claims that operator movement is made possible by the ability of P to assign Case to a nominal element.

The relevance of Case seems to be dubious, however. Since it is the head of an A-bar chain that receives Case, it is conceptually incompatible with our framework. Furthermore, Miyamoto (in preparation) points out that

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[8] It should be pointed out here that noun incorporation and agreement are in a complementary distribution in polysynthetic languages. That is, noun incorporation prohibits the agreement marker which is otherwise obligatory. The same process is taking place in the Navajo locational expressions, too.

[9] This section owes its existence to Miyamoto (in preparation).

temporal clauses in Japanese exhibit the same kind of ambiguity. Consider the following.

(6.23) Boku-wa [PP [CP Haruko-ga [CP [IP pro tsuku] to] iwu] mae-ni]
I-Top Nom arrive Comp say before
kanojo-o Storrs-de mikaketa.
she-Acc Loc saw
'I saw Haruko in Storrs before she said she would arrive.'

Just as in English, (6.23) is ambiguous. Now as noted above, adverbial expressions in Japanese often display the decomposition, and the temporal expressions are no exceptions. Thus in (6.23), we find the nominal-like element mae 'front', which is also used to express a locational notion, as we saw in (6.14c). In this configuration, it is difficult to motivate the operator movement by Case considerations. Complements to nouns in Japanese are marked by Genitive Case, but we see no Genitive Case marker in (6.23).

The strongest argument that Larson (1990) presents for the relevance of Case has to do with the fact that the clauses that show ambiguity are headed by prepositions which take NP objects. Thus, according to Larson (1990), while does not allow ambiguity in (6.24).

(6.24) a. I didn't see Mary in New York while she said she was there.
b. I will be in Boston while I promised I would be there.

Under Larson's account, it disallows ambiguity because it cannot take an NP object as shown in (6.25).

(6.25) a. *while that day

cf. b. before that day

Johnson (1988), however, while agreeing with the judgment about (6.24), claims that while also allows ambiguity, pointing to (6.26).

(6.26) Mikey denounced the Soviet Union (only) while Joyce insisted that the party members should.

If Johnson is right, Case is irrelevant. The generalization seems to be that only temporal clauses exhibit ambiguity.[10]

Our proposal can provide a rationale for why operator movement takes place, though its limitation to temporal clauses remains mysterious.[11] Given that spatial relations can be used to express other semantic notions like time and possession as Jackendoff (1983) claims, we can figuratively speak of temporal locations etc. Now, recall that the decomposition of P into Po and L is accompanied by semantic decomposition of spatial relations, too: L turns an entity into a location and Po indicates the spatial relation between this location and something else. Thus, semantically, L needs a reference point. On the assumption that CP cannot provide such a reference point, something

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10 Other clausal adjuncts are not ambiguous. Observe the examples in (i).

(i) a. I still respect him although [he claims [that he killed his mother]]
b. I visited New York because [Mary dreamed [that Max was there]]
c. I won't visit New York unless [Bill promises [Mary will be there]]
Larson (1990, 173)

These do not show the ambiguity.

11 One obvious consideration is that tense has a close relation with event structure of the clause.

else has to. Otherwise, the structure would become uninterpretable. Operator movement provides such a reference point.[12]

6.2. "Reanalysis" of P

The evidence for extending our Case theory to PP presented in the previous section concerns the form of Case checking. Here, we will look at its functional aspects, dealing with interactions between the Case of P and A-movement.

6.2.1. The Fundamental Problem

Since Riemsdijk (1978) and Hornstein and Weinberg (1981), a lot of work has been done on preposition stranding in English and in other languages. One of the central questions in this domain of research has been the discrepancy between preposition stranding derived by wh-movement and the pseudo passive, as illustrated in (6.27) and (6.28).

(6.27) a. *John was talked to Harry about.

b. Who did Sam talk to Harry about?

(6.28) a. *The table was put the mouse on.

b. What table did Harry put the mouse on?

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[12] See Miyamoto (in preparation) for a detailed discussion of what forces operator movement.

In general, the pseudo passive does not allow a phrase intervening between the verb and the stranded preposition, while A-bar movement does not impose such a restriction. Note that (6.29) is well-formed.

(6.29) John was talked about.

Here, we will focus on the properties of the pseudo passive, since they pose a very acute problem for the general theory of Case.

As we have seen in section 2.2, movement through a Case-checking position is prohibited. Thus, (6.30) is ruled out.

(6.30) *John$_i$ seems [$_{AgrP}$ t_i is happy].

The same account can be applied to cases like (6.31), if it is assumed that the object of P bears structural Case.

(6.31) *There seems to me/nobody that Mary is happy.

Specifically, suppose that there is an AgrP over PP and its Spec is a Case-checking position. Then, LF movement of me/nobody has to pass through this position in order for the prepositional object to be adjoined to there. This option being prohibited, there is left uninterpretable. The same account applies to (6.32).

(6.32) *He/Him seems to t that Mary is happy.

Movement of the prepositional object to the subject position violates the ban against moving through a Case-checking position.

Notice at this point that the discussion so far already constitutes an argument for accommodating the Case of P into the Case theory, since there is a nontrivial interaction between Case of P and A-movement. Of course, this alone cannot prove that the Case of P is part of the Case theory, since there is an option of bifurcating the morphological system. But the presence of a ϕ-phrase on top of PP and AgrP suggests that bifurcation here would miss a significant generalization: both systems use the same configuration. We can therefore conclude that the Case system should incorporate the Case of P.

Here, comparison with Icelandic quirky Case might be instructive. Zaenen, Maling, and Thráinsson (1985) show that in Icelandic, idiosyncratic Case that certain verbs assign to their object is preserved under passivization.[13] Consider the following pair.

(6.33) a. Ég hjálpaði honum.
I helped him (DAT)

b. Honum var hjálpað.
him (DAT) was helped

Given that Icelandic is a V2 language, there is a question whether (6.33b) involves raising of the object to the subject position or (6.33b) is simply derived by Topicalization. Zaenen, Maling, and Thráinsson (1985) demonstrate convincingly that the former is the case. I will not repeat their

[13] See section 4.2.2.3, too, where Case preservation of Icelandic passive is discussed.

entire arguments here, but just pick out one. It is well-known that yes-no questions in V2 languages have no Topic. The element that follows the inverted finite verb is the subject. And indeed, the dative phrase appears in that position.

(6.34) Var honum aldrei hjálpað af foreldrum sínum?
was he (DAT) never helped by parents his

Now, we cannot attribute the raising to the subject position to the EPP requirement, since the same reasoning would allow (6.32). Rather we have to say that the internal argument of the verb 'help' cannot check Case at Spec of Agr-oP in the passive and therefore is allowed to move to Spec of Agr-sP. If this is on the right track, the impossibility of (6.32) indicates that the Case of P, unlike quirky Case in Icelandic, should be treated within the Case system.

6.2.2. Reanalysis as ECM

Returning to (6.29), we have to ask why A-movement is possible at all.[14] If the Case of P is structural Case, our modified Case theory can provide a

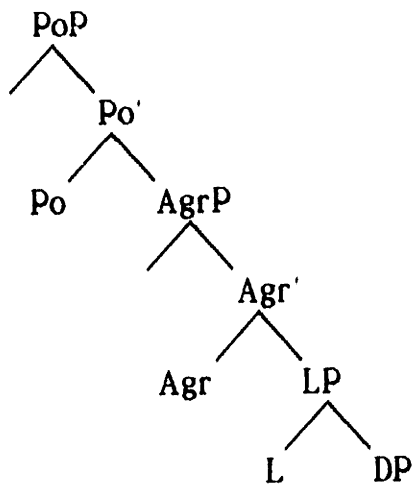
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[14] Another very important question is why there is no reanalysis with unaccusative verbs. Preposition stranding with A-movement occurs only with passive verbs.

The unaccusative structures which potentially allow preposition stranding are the following, where absence of branching indicates absence of θ-role:

straightforward way of handling this 'reanalysis' phenomenon. Our modified Case theory has a means of making a certain position inappropriate for Case checking: removal of the specified functional category above AgrP. In the case of PP, this functional category is P_0, as posited in (6.13).

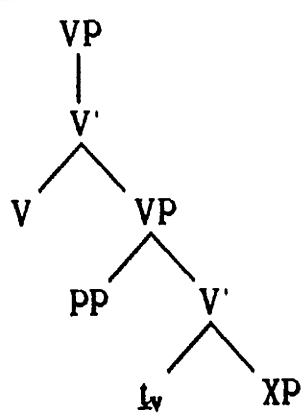
(6.13)



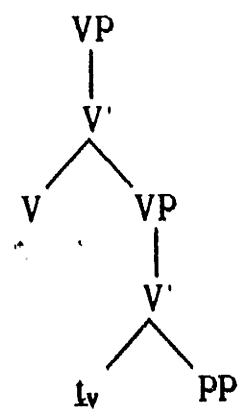
Then, let us suppose that the presence of P_0P is optional in English. Then, in (6.35), there are two ways of checking the case of the prepositional object.

(6.35) John talked about it.

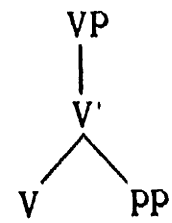
(i) a.



b.



c.



Suppose that argument structures in (i) are independently ruled out. The lack of reanalysis with unaccusative verbs will then be explained.

Either it raises to Spec of AgrP within P_0P or to Spec of Agr-oP in the absence of P_0P. In the latter case, it becomes possible to derive the pseudo passive like (6.29).

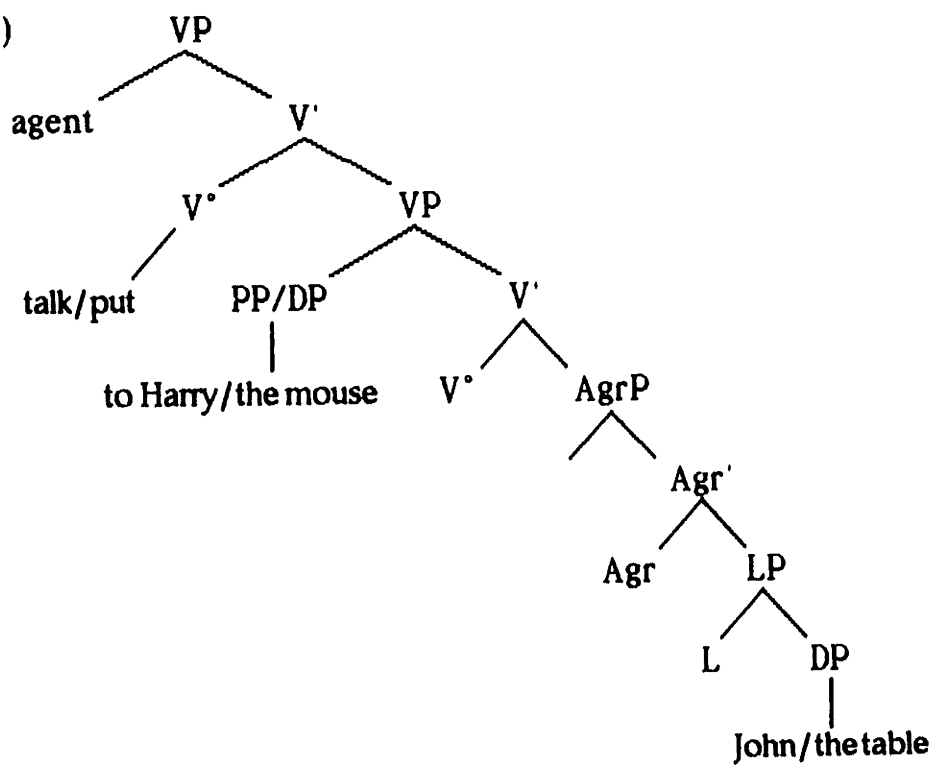
Note that we do not have to add some kind of adjacency condition on 'reanalysis' to account for the ill-formedness of (6.27a) and (6.28a), repeated here.

(6.27) a. *John was talked to Harry about.

(6.28) a. *The table was put the mouse on.

In both cases, movement of the prepositional object is blocked by an intervening DP or PP, assuming the following structure for them.

(6.36)



Spec of AgrP below V' is not a position where Case can be checked. The DP John or the table has to move beyond the arguments (or their traces) to be placed in Spec of the matrix Agr-oP in active sentences and in Spec of Agr-sP in passive sentences. In fact, (6.28a) is ruled out simply because the DP the mouse competes with the prepositional object for one structural Case. (6.27a) is more interesting. If the position of PP counts as an A-position, Relativized Minimality is violated when the prepositional object moves over that position. Notice that Spec of the next VP is also occupied by the trace of the subject. Hence the ill-formedness of (6.27a).[15]

It is not only intervening arguments but also adverbs that block preposition stranding. Consider (6.37).

(6.37) a. ??John was voted eagerly for by most conservatives.

b. ??Bill was talked bitterly to. Baker (1988b, 42)

These are certainly degraded. Baker (1988b) notes, however, that these are clearly better than the cases where arguments intervene, pointing to the contrast between (6.37) and (6.38).

---

[15] There is a technical issue here. Consider the structure in (i).

(i) $[_{Agr\text{-}oP}$ V+Agr-o $[_{VP1}$ t_{Subj} t_V $[_{VP2}$ PP_1 t_V $[_{PP2}$ P DP]]]]

Here, we have a three-membered verbal chain (V, t, t). This chain's internal domain is supposed to be (Spec of Agr-oP, Spec of VP_1, Spec of VP_2, PP_2). If so, however, these positions would be all equidistant from DP within PP_2, enabling that DP to erroneously skip both Spec of VP and Spec of VP to move into Spec of Agr-oP, contrary to the text claim.

Note that this verbal chain is created by two chain formation operations. This suggests that the application of equidistance should be relativized to each chain formation operation.

(6.38) a. *John was talked to Harry about.

b. *The table was put the mouse on.

If cases like (6.37) are also excluded by Relativized Minimality, the contrast between (6.37) and (6.38) remains to be accounted for. If Relativized Minimality is violated in (6.37), the marginality of (6.37) remains to be accounted for.

We cannot perhaps exclude the role played by adjacency in the reanalysis phenomena. One relevant consideration here is that reflexive binding is sensitive to whether preposition stranding takes place or P is pied-piped. Consider (6.39).

(6.39) a. *To John, Mary talked about himself.

b. *To whom did Mary talk about himself?

c. Who did Mary talk to about himself?

If pied-piping takes place, the object of a preposition cannot bind an anaphor outside of PP. If there is an independent process of reanalysis which is sensitive to adjacency, and if anaphor binding from within PP must be preceded by reanalysis, the contrast in (6.39) might be made sense of, on the assumption that pied-piping reflects lack of reanalysis. Going back to the contrast between (6.37) and (6.38), we might say that reanalysis is blocked in both cases, with the added Minimality violation in the cases of (6.38).

The assumption that anaphor binding is sensitive to reanalysis is problematic, however, under the copy theory of movement advocated by

Chomsky (1992). According to this theory, (6.40) has the derivation in (6.41).

(6.40) (I wonder) in which house John lived.

(6.41) a. in which house John lived in which house

b. which house [in t] John lived in which house

c. which x, x a house John lived in x

The step from (6.41b) to (6.41c) involves deletion of everything but an operator in Spec of CP and deletion of the copy of the operator in the trace position.

If this derivation applies to (6.39b), we would get the same representation as (6.39c). Binding Theory could not distinguish these two cases. We will simply leave the matter here. For discussions of binding by prepositional objects, see Branigan (1992), Pesetsky (1992), and Riemsdijk and Williams (1986).

Chapter 7

Conclusion and Further Issues

In the preceding chapters, we have seen how a simple modification of Agr-based Case theory affects the overall picture of the empirical domain. Specifically, it turns out that Accusative Case absorption in the participial passive is basically the same phenomenon as ECM/raising. The reduced causative found in languages like Italian and Turkish is also found to involve Accusative Case absorption. Significantly, these unifying results are achieved by specifying only the categorial labeling of phrase structure, minimal information needed for structural description. The rest of the work is done by a general mechanism of Case theory.

There are Case-related phenomena that we have not discussed. Notably, PRO in gerunds in examples like John likes [PRO reading books] should require a structure of the form [$_{XP}$ X° [$_{AgrP}$ PRO Agr [$_{VP}$ Y° ... VP]]]. We must wait for future investigation to see if we can justify this kind of structure.

In this chapter, we will look at some loose ends coming out of the discussion, which will provide further areas of inquiry. We will focus on two issues, one about Agr, the other about excorporation.

7.1. Properties of Agr

In our discussion of the reduced causative and the participial passive, we have assumed that there is a layer of AgrP dominating the main VP. The schematic structures are given below.

(7.1) Reduced Causative: [$_{VP}$ V_{Caus} [$_{AgrP}$ Agr VP]]

(7.2) Participial Passive: [$_{VP}$ be [$_{AgrP}$ Agr VP]]

The question is what property of grammar requires this structure. We have noted the necessity of positing this structure for the reduced causative on the ground that Spec of AgrP can provide an escape hatch for the embedded object, which moves to Spec of the matrix Agr-oP, as in (7.3).

(7.3) [$_{Agr\text{-}oP}$ Spec Agr-o [$_{VP}$ **Subj** V_{Caus} [$_{AgrP}$ Spec Agr [$_{VP}$ **Subj** V Obj]]]]



It is impossible to cross over two subject positions in one step without violating Relativized Minimality, and therefore one open slot just above the embedded subject position needs to be created. Thus, AgrP is posited. In (7.3), no Relativized Minimality violation is induced, with the help of the equidistance mechanism.

There is no guarantee, however, that grammar allows a successful derivation when a transitive clause is embedded under the reduced causative. Principles of grammar might conspire to block a well-formed output in this case. If grammar, for some reason, forced VP complementation, only the embedding of intransitive predicates would be possible. We must conclude that there is an independent principle that requires AgrP complementation.

A similar problem arises in a simplex clause as well. Pollock (1989) notes that short verb raising takes place in French infinitives.

(7.4) a. Souvent paraître triste pendant son voyage de noce, c'est rare.
Often look sad during one's honeymoon that is rare
b. Paraître souvent triste pendant son voyage de noce, c'est rare.

(7.5) a. Ne pas sembler heureux est une condition pour écrire des romans.
neg seem happy is a prerequisite for writing novels
b. *Ne sembler pas heureux est une condition pour écrire des romans.

In (7.4), we see optional verb raising over an adverb. This movement, however, cannot cross negation, as shown by (7.5). Given the clausal structure (7.6), what we see in (7.4) is movement of the infinitival verb to Agr-o.

(7.6) $[_{Agr\text{-}sP}$ Agr-s $[_{TP}$ Tns $([_{NegP}$ Neg$)[_{Agr\text{-}oP}$ Agr-o $[_{VP}$ ... V ... $]](])]$

Notice that the infinitival predicates in (7.4) and (7.5) are unaccusatives. There is no obvious need to have Agr-o in these clauses, since no Case checking takes place.[1] Agr-o is still necessary as a landing site of the infinitival verb. Here again, we need an independent principle to force the presence of AgrP above VP.

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[1] In unergative clauses, there is a possibility of Case checking, given Hale and Keyser's (1991a, b) hypothesis that unergative predicates are underlyingly transitive. But see Laka (1993) for an argument that "unergative objects" do not check structural Case but inherent Case without the help of Agr.

Quite generally, then, we might claim that lexical categories must be contained in AgrP.

(7.7) Lexical Association with Agr

Lexical categories must be associated with Agr.

This will be a matter of morphology, with morphological features of lexical categories in need of checking with Agr. We have seen the presence of AgrP in PP in the previous chapter. Chomsky (1992) suggests that adjective phrases also are complements of Agr, the claim which at least goes back to Kitagawa (1985). There is much discussion of some kind of AgrP within DP in recent literature, including Carstens (1991, 1993), Ritter (1991), Valois (1991), and Szabolci (1987). Thus, as a matter of plain fact, the claim of (7.7) seems to be on the right track.

One qualification is in order, however. As noted in Chapter 4, polysynthetic languages including Mohawk, Rembarnga, Ngalakan, Tuscarora, and Seneca disallow embedding of transitive predicates under the causative, according to Baker (1993, in preparation). Baker attempts to tie this property of the causative to a more general character of polysynthetic languages. He claims, combining the insights of Jelinek (1984) and Marantz (1984), that theta relations hold within word-internally in polysynthetic languages. The details of his proposal are beyond the scope of the present discussion. The important point for us, however, is that the causative in these languages may be an instance of VP complementation. If these languages employ VP complementation, the impossibility of embedding transitive predicates is the expected result, since the embedded object cannot successfully reach the position, Spec of the matrix Agr-oP, where it

can check Case, due to Relativized Minimality. There is simply no licit output for the causative embedding a transitive predicate, whereas embedding of intransitive predicates faces no such problem.

If VP complementation is the right way to analyze the causative of these languages, (7.7) has to be modified. One might say that it is loosened up in polysynthetic languages due to the nature of incorporation in this type of languages. Specifically, following the spirit of Baker (in preparation), one might say that incorporation in this type of languages directly embodies a theta relation. If theta relations hold word-internally at the same time, only lexical heads can be incorporated, because incorporation of a functional category together with a lexical head in a successive fashion would disrupt the one-to-one relation between a theta-marking head and its argument. To the extent that the requirement of word-internal theta relations forces incorporation in the case of the causative, AgrP complementation will be banned in polysynthetic languages.[2] In general, then, a characteristic of polysynthetic languages would be that (7.7) does not hold. In non-polysynthetic languages, on the other hand, incorporation presumably does not have to encode a theta relation directly, allowing AgrP complementation.

This is all sketchy and speculative. We have to wait for future research to incorporate the insight of Baker (1993, in preparation) into the Agr-based Case theory. For the moment, we can claim that (7.7) holds in non-polysynthetic languages.

7.2. Excorporation

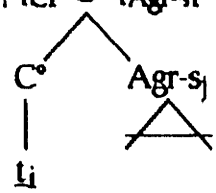
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[2] If this is so, Li's (1990a, b) generalization, which prohibits intervention of functional categories in incorporation, holds only in polysynthetic languages.

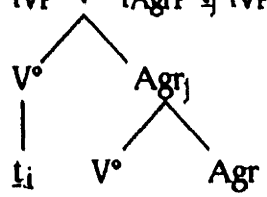
In the Appendix to Chapter 2, we have seen the need of allowing excorporation in the sense of Roberts (1991) as an option of UG. In this section, we will take a closer look at its mechanism and some open questions.

Recall that we have discussed three cases of excorporation. They are listed in (7.8).

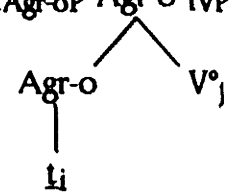
(7.8) a. $[_{CP}\ C^{\circ}_i\ [_{CP}\ C^{\circ}\ [_{Agr\text{-}sP}\ t_j\ [_{TP}\ \ldots$



b. $\ldots[_{Agr\text{-}oP}\ Agr\text{-}o\ [_{VP}\ V^{\circ}\ [_{AgrP}\ t_j\ [_{VP}\ldots$



c. $\ldots[_{TP}\ T^{\circ}\ [_{Agr\text{-}oP}\ Agr\text{-}o\ [_{VP}\ t_j\ \ldots$

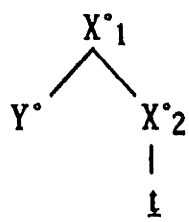


(7.8a) arises when I°-to-C° movement takes place in the context of CP recursion. (7.8b) is a case where the lower verb is raised to the higher verb together with the inflectional elements of the lower clause. One such instance is the Italian causative. (7.8c) arises in the Irish infinitival clauses, where the infinitival verb lacks the Tense feature. As we have mentioned, excorporation occurs when no more dragging along is necessary. All the

cases in (7.8) exemplify such cases. In (7.8a), there is no need to carry along Agr-s when C° undergoes Larsonian movement, since C° is the end point of feature checking. In (7.8b), the higher verb does not have to take the lower verb with it, since the lower verb does not undergo feature checking in the domain of the higher clause inflectional system. In (7.8c), the verb is stranded at Agr-o because Irish infinitival verbs lack the Tense feature (and the Agr-s feature as well).

Let us first consider some technical points of excorporation. We have been assuming the segment theory of adjunction (Chomsky 1986b, May 1985). It would not do to assume otherwise, namely, that adjunction creates a new category, in order to avoid the technical complications involved in excorporation. According to this counter-proposal, X°_1 and X°_2 are two distinct categories in (7.9). When Y° is left behind, this counter-proposal would say that the category X°_2 is moved.

(7.9)



That way, a thorny technical complications of excorporation would be avoided.

The serious problem of this counter-proposal is that it would create two chains out of a single he.·ı X° which exists before adjunction of Y°. This consequence seems to be far more serious than the technical complications arising from excorporation, to which we now turn.

To make sense of the mechanism of excorporation, let us say that in the adjunction structure (7.9), two segments X°_1 and X°_2 excluding the adjoined category form a skeletal category. The entire adjunction structure consisting of the skeletal category X° and the adjoined category Y° forms a full-fledged category. Suppose that chain formation operation applying to the category X° moves either the skeletal category or the full-fledged category. If the full-fledged category is moved, it is the standard kind of head movement. If, on the other hand, the skeletal category is moved, it is excorporation. Excorporation results in the configuration that would result from adjunction to a trace of a head, as in (7.9).[3]

As was suggested in the Appendix, this complication in the options allowed does not lead to arbitrary choices in head movement. A desirable result. The key constraint is the Economy consideration, which dictates that unnecessary operations are prohibited. Thus, in all the three cases that we have considered, movement of the full-fledged category is prohibited since it

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[3] It is not clear, though, whether we need adjunction to a trace. One potential instance is the participial perfective discussed in Chapter 4. There, we have adopted the Freeze-Kayne hypothesis that have is a form of be when a particle is incorporated. In the case of the perfective, the particle, which we have named H°, checks off the [F] feature that arises from Accusative Case checking. Consider the relevant structure in (i).

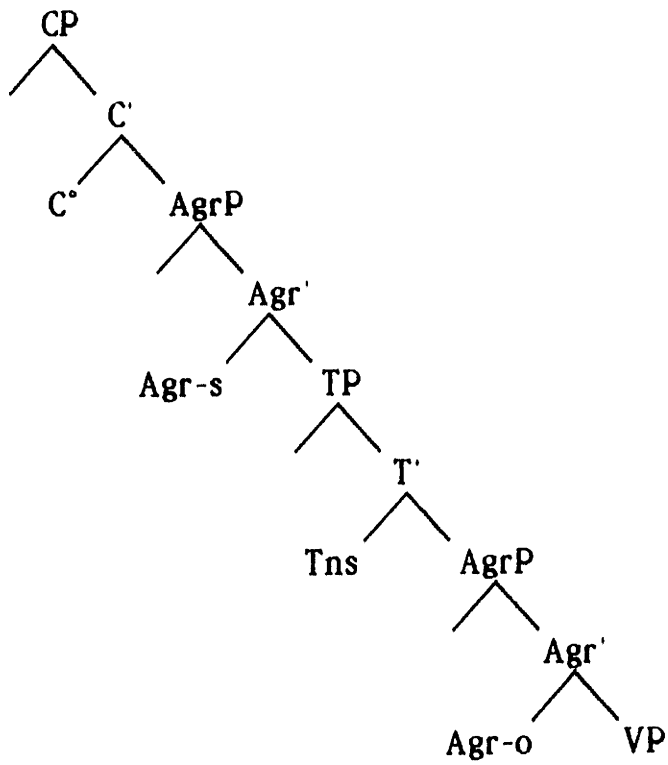
(i) $[_{VP}$ have $[_{HP}$ H° $[_{AgrP}$ DP Agr $[_{VP}$ t_{Subj} V° t_{Obj}]]]]

If H° is already incorporated into have-be before SPELL-OUT, LF raising of Agr will result in adjunction to a trace. Overt raising of Agr can avoid adjunction to a trace, on the additional assumption that overt V-to-Agr takes place and Agr excorporates. Alternatively, if H° incorporates at LF, there is a technical trouble of avoiding the Relativized Minimality violation in languages where have and be undergo overt raising. At this point, it is not clear which of these options or some other option is on the right track.

is not needed. Instead, the option of moving the skeletal category is chosen, since this operation is necessary.

Now, let us consider in some detail how this Economy consideration affects cases where the option of excorporation exists in principle. Given that the full clause has invariably the hierarchical structure in (7.10), the cases to consider are movement of V°, of Agr-o, of T°, of Agr-s, and of C°.

(7.10)



Let us start with V°. When some embedded element is adjoined to V°, the question is whether the adjoined element has to be carried along when V° moves. In the case of the Italian causative, the answer is in the negative, hence the movement of the skeletal category, leaving behind the adjoined element. What if, however, the causative verb is a bound morpheme, as in the majority of cases discussed by Baker (1988), such as the Turkish causative? In that case, movement of the full-fledged category is forced by

the morphological requirement of the causative verb. Guasti (1991, 1992) illustrates this case by looking at the Chichewa causative, though under a different set of assumptions. Her analysis of Chichewa can easily be translated into the current framework.

Next, let us take a look at the movement of Agr-o. Excorporation in this case was illustrated by the Irish infinitive clause. There, the infinitival verb does not have to be carried along because it does not have the Tense and Agr-s features to be checked off. Infinitival verb raising in Italian and Icelandic must be due to a factor other than the Tense preventing excorporation. Since finite clauses, on the other hand, need the Tense feature, it is predicted that excorporation at the point of Agr-o will be limited to infinitival clauses, which do not have truly independent temporal reference.[4]

It should be pointed out that excorporation of Agr-o may be wide-spread. In Bambara, we find the following word order:

(7.11) Subj INFL Obj V XP* cf. Koopman (1992)

INFL contains an auxiliary, expressing tense/aspect information. We assume that the HP which we posited in Chapter 4 as complement to aspectual auxiliaries exists in Bambara, too. Now consider the following example of imperfective:

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[4] This point should be distinguished from the claim by Stowell (1982) and Martin (1992) discussed in Chapter 2, which says that control clauses have future reading. In the text here, we are talking about absolute tense value, which is missing in infinitives.

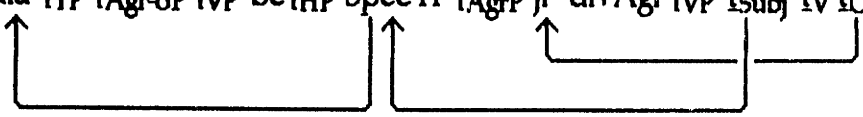
(7.12) Bala bè ji di den ma.

Bala Aux water give child to

'Bala is giving water to the child.' Koopman (1992, 558)

Suppose that the preverbal object is derived by movement to Spec of Agr-oP, resulting in the structure (7.13).

(7.13) [Agr-sP Bala [TP [Agr-oP [VP bè [HP Spec H° [AgrP ji di+Agr [VP tSubj tV tObj PP



Here, we are not concerned with the exact position of the aux bè in overt syntax. The crucial part is the position of the main verb. It must be raised to Agr to enable the object to move over the subject in the first place. Agr to which the main verb is adjoined must also be adjoined to H°, if we try to avoid the Minimality violation which can be caused by the movement of the subject over the object in Spec of AgrP. The word order dictates, however, that the main verb should not be higher than AgrP. Consequently, we must assume excorporation of Agr. The Ewe progressive construction presents the same situation, according to C. Collins (personal communication). Cf. also Collins (1993b).

What we do not expect to find, then is the word order (7.14), with the verb showing the finite morphology.

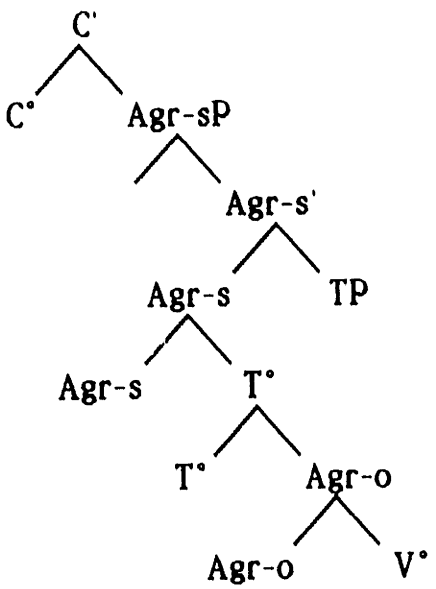
(7.14) Subj Obj V_f XP*

To my knowledge, no such order is attested, but it is a task of future research to confirm this prediction.

The excorporation possibility at Tns° hinges on whether the verb possesses the Agr-s feature or not. If it does, the skeletal category movement becomes impossible, leaving the full-fledged category as the only candidate subject to the operation.

So far, the account is straightforward, requiring no additional stipulative move. A tricky question arises in the case of movement of Agr-s, however. Consider the configuration in question.

(7.15)



Here, the whole verb-infl complex is sitting at Agr-s. In Chapter 2, we have argued that Agr-s has to raise to C° to check off the [F] feature that arises from Case checking. At that point, the question whether T° can be left behind did not arise because we have not introduced the question of excorporation yet. Under the assumption that UG does not have the option of excorporation, the entire adjunction structure at Agr-s has to be raised in

(7.15). Now that we have adopted the idea that UG provides an option of moving the skeletal category or the full-fledged category, the question does arise. The cases of overt movement to C° of the verb-infl complex discussed in Chapter 2 indicate that there are cases where excorporation at Agr-s is impossible. The problem then is that the system assumed so far does not provide the means to guarantee the impossibility of excorporation in these cases. If the verb does not have a feature to be matched with that of C°, there is no need to raise the full-fledged category in (7.15). In other words, the system set up so far predicts that excorporation is the only possibility.

An obvious move to make is to say that the verb indeed has a feature to be checked off by C°. Then, movement of the full-fledged category becomes necessary. In fact, there is a related question concerning V-to-I-to-C movement. In Chapter 2, we have argued that V-to-I-to-C movement has an independent parameter of taking place in overt syntax or at LF, just as in the case of V-to-I movement. But it entails that C° also has a V-feature, which is strong or weak. If C° has a V-feature, however, the verb also has to have a feature to be checked by C°. Thus, there is an independent reason within our system to expand the inventory of features so that the verb has to include one for C°.

Turning to the last case, it is predicted that when CP recursion takes place, excorporation will be the only possibility. This is because the verb-infl complex never needs to undergo further movement for checking purposes. C° is the absolute end point of a series of checking processes.

We have not discussed the original cases that motivated excorporation in Roberts (1991). One of them is clitic climbing, whose status depends on the analysis of clitics in the first place. We will put that aside here. The other

one is Verb Raising found in Dutch and German. Roberts (1991) observes[5] that excorporation interacts with V2. He claims that the example (7.16) involves the derivation in (7.17).[6]

(7.16) Gisteren had ik [mijn vriendin op t] willen bellen. Dutch
yesterday had I my girlfriend up want call
'Yesterday, I wanted to call my girlfriend up.

(7.17) a. ik [[[mijn vriendin op-bellen] willen] heb] I°
b. ik [[[mijn vriendin op t] willen-bellen] heb] I°
c. ik [[[mijn vriendin op t] t] [V° heb-[V° willen-bellen]]] I°
d. ik [[[mijn vriendin op t] t] [V° t [V° willen-bellen]]] [I° heb][7]

Following the step in (7.17d), the auxiliary verb undergoes movement to C°, deriving the V2 configuration together with Topicalization.

To the extent that the lower verb (complex) is left behind at the V° position of heb, it resembles the Italian causative. The significant question is whether movement to a higher verb is allowed from a control complement in the first place. It apparently is, judging from the order in (7.16). A natural inference here is that this movement is possible because Verb Raising in Dutch and German is reminiscent of the phenomenon of restructuring verbs

5 He attributes the original observation to Jean Rutten (personal communication).
6 For an interesting suggestion that overt reordering of verbs is a PF phenomenon, see Baker (1988b).
7 Roberts (1991) assumes that [V° willen-bellen] will be adjoined to [I° heb] after (7.17d). It is not clear why the whole complex [V° heb-[V° willen-bellen]] will not be moved to I°.

in Romance languages. Restructuring verbs pose a challenge to the current framework in that they maintain the control property while allowing an embedded object to behave like a matrix object. Thus, it allows clitic climbing and passivization,[8] as in (7.18).

(7.18) a. Mario lo vuole leggere.
it wants read
'Mario wants to read it.'

b. Questi libri si volevano proprio leggere.
these books SI wanted really read
'We really wanted to read these books.' Burzio (1986, 322)

It is not clear how to accommodate Verb Raising in Dutch and German until we have an adequate analysis of restructuring verbs. See Burzio (1986), Choe (1988), Picallo (1990), Rizzi (1982), Roberts (1993c), Watanabe (1993c), and Zushi (in preparation), among others, for Romance restructuring verbs. This is another topic for future research.

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[8] The participial passive is impossible, according to Burzio (1986, 374).

(i) *Questo libro e stato voluto leggere (da Giovanni).
this book has been wanted read by

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