

In Defense of PolP in English

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- Rizzi, Luigi (1997) "The Fine Structure of the Left Periphery," *Elements of Grammar*, ed. by Liliane Haegeman, 281–337, Kluwer, Dordrecht.
- Roberts, Ian (1998) "Have/Be Raising, Move F, and Procrastinate," *Linguistic Inquiry*, Vol. 29, 113–125.
- Ross, John (1984) "Inner Islands," *BLS* 10, 258–273.
- Travis, Lisa (1984) *Parameters and Effects of Word Order Variation*, Doctoral dissertation, MIT.
- Watanabe, Akira (1992) "Subjacency and S-Structure Movement of Wh-in-Situ," *Journal of East Asian Linguistics* 1, 255–291.
- Zanuttini, Raffaella (1991) *Syntactic Properties of Sentential Negation: A Comparative Study of Romance Languages*, Doctoral dissertation, University of Pennsylvania.
- Zanuttini, Raffaella (1997) *Negation and Clausal Structure: A Comparative Study of Romance Languages*, Oxford Univ. Press, New York/Oxford.

- Haegeman, Liliane (1995) *The Syntax of Negation*, Cambridge Univ. Press, Cambridge.
- Haegeman, Liliane and Raffaella Zanuttini (1991) "Negative Heads and the Neg-Criterion," *The Linguistic Review* 8, 233-252.
- Jahannessen, J. Bondi (1998) *Coordination*, Oxford Univ. Press, Oxford.
- Johnson, Kyle (2000) "How Far will Quantifiers Go?" *Step by Step*, ed. by Roger Martin, David Michaels and Juan Uriagereka, 187-210, MIT Press, Cambridge, MA.
- Klima, Edward E. (1964) "Negation in English," *The Structure of Language*, ed. by Jerry A. Fodor and Jerrold J. Katz, 246-323, Prentice-Hall Inc., Englewood Cliffs, NJ.
- Laka, M. Itziar (1990) *Negation in Syntax: On the Nature of Functional Categories and Projections*, Doctoral dissertation, MIT.
- Lasnik, Howard (1999) "Verbal Morphology: Syntactic Structures Meets the Minimalist Program," *Minimalist Analysis*, 97-119, Blackwell Publishers, Malden/Oxford.
- Manzini, Maria-Rita (1998) "A Minimalist Theory of Weak Islands," *Syntax and Semantics* 29, ed. by Peter W. Culicover and Louise McNally, 185-209, Academic Press, San Diego.
- Manzini, Maria-Rita and Anna Roussou (2000) "A Minimalist Theory of A-Movement and Control," *Lingua*, 409-447.
- Munn, Alan (1993) *Topics in the Syntax and Semantics of Coordinate Structure*, Doctoral dissertation, University of Maryland.
- Nishioka, Nobuaki (1999) "On Sentential Negation and the Licensing of Negative Polarity Items in English and Japanese: A Minimalist Approach," *English Linguistics* 16:1, 25-54.
- Nishioka, Nobuaki (2000) "NEG-criterion and the Checking Theory," ed. by Tatsuhiko Toda et al, *Gengo Bunka Ronsou: In Honor of Prof. Tetsuo Nawata*, 171-192, Sanseido, Tokyo.
- Oba, Yukio (2000) "Island Phenomena and Search Spaces of a Probe," paper presented at the Fukuoka Linguistic Circle on December 16, 2000, Kyushu University.
- Ouhalla, Jamal (1990) "Sentential Negation, Relativized Minimality, and the Aspectual Status of Auxiliaries," *The Linguistic Review* 7, 183-231.
- Pesetsky, David and Esther Torrego (2000) "T-to-C Movement: Causes and Consequences," to appear in *Ken Hale: A Life in Language*, ed. by Michael Kenstowicz, MIT Press, Cambridge, MA.
- Pollock, Jean-Yves (1989) "Verb Movement, Universal Grammar, and the Structure of IP," *Linguistic Inquiry* 20, 365-424.
- Rizzi, Luigi (1990) *Relativized Minimality*, MIT, Cambridge, MA.

validity to the MP framework itself. Although a close analysis of PolP in the articulated CP structure (Rizzi (1997)) or the nature of QR await further research, the analysis based on PolP seems to offer a new perspective on negative polarity items (NPI) licensing or other negative phenomena in general, which I will pursue in further study.

References

- Authier, J.-Marc (1992) "Iterated CPs and Embedded Topicalization," *Linguistic Inquiry* 23, 329–336.
- Belletti, Adriana (1990) *Generalized Verb Movement*, Rosenberg and Tellier, Turin.
- Bobaljik, Jonathan (1994) "What does Adjacency Do?" The Morphology–Syntax Connection, *MIT Working Papers in Linguistics* 22, 1–32.
- Chomsky, Noam (1977) "On Wh Movement," *Formal Syntax*, ed. by Peter W. Culicover, Thomas Wasow and Adrian Akmajian, 71–132, Academic Press, New York.
- Chomsky, Noam (1995) *The Minimalist Program*, MIT Press, Cambridge, MA.
- Chomsky, Noam (1999) *Derivation by Phase*, *MIT Occasional Papers in Linguistics Number* 18.
- Chomsky, Noam (2000) "Minimalist Inquiries: The Framework," *Step by Step*, ed. by Roger Martin, David Michaels and Juan Uriagereka, 98–155, MIT Press, Cambridge, MA.
- Chomsky, Noam (2001) "Beyond Explanatory Adequacy," *MIT Occasional Papers in Linguistics Number* 20, 1–28.
- Culicover, Peter (1991) "Polarity, Inversion, and Focus in English," *Proceedings of the 8th Eastern States Conference on Linguistics*, 46–68.
- Ernst, Thomas (1992) "The Phrase Structure of English Negation," *The Linguistic Review* 9, 109–144.
- Forget Danielle, Paul Hirschbuhler, France Martineau and Maria-Luisa Rivero (1997) *Negation and Polarity: Syntax and Semantics*, Mohn Benjamins Publishing Company, Amsterdam/Philadelphia.
- Grimshaw, Jane (1979) "Complement Selection and the Lexicon," *Linguistic Inquiry* 10, 279–326.
- Gundel, Janet (1974) *The Role of Topic and Comment in Linguistic Theory*, Doctoral dissertation, University of Texas at Austin.

only if Pol₁ has [uNEG] and Pol₂ [-NEG] as in (64d) would the derivation converge, yielding the interpretation of (65b). If QR does not apply to *no one* in (66), only in the case in which Pol₂ has [uNEG] and Pol₁ [-NEG] as in (64a) will a convergent derivation be yielded, corresponding to the interpretation of (65c). Although the exact nature of QR awaits a further investigation, the present analysis suggests that QR should enter into the cyclic derivation of narrow syntax.³⁵

5. Concluding Remarks

I have presented several arguments in favor of the postulation of PolP above TP in English. Firstly in section 2, I have argued that PolP as originally proposed by Culicover (1991) should be generally extended as a part of a clause structure in English, pointing out that Culicover's arguments to the contrary are not valid and I have demonstrated an alternative analysis. In section 3, I added to the evidence for the claim capitalizing on independent negative conjunctions and the interaction between Inner Islands and *do*-support phenomena. Finally in section 4, I have demonstrated how sentential negation is encoded in a uniform fashion via the application of the independently proposed framework of the MP. This, in turn, lends

35 Technically it would be possible to assume that Pol has an EPP property to be satisfied by covert movement of a quantifier, following Chomsky's (2001) suggestion that an EPP property is satisfied by covert phrasal movement. Then the matrix scope of *no one* in (65a) would parallel the long distance movement of *wh*-phrases, capitalizing on [Spec, PolP] as an escape hatch, although the assignment of the property in this case must be allowed only to Pol which selects infinitival T. See Beghelli and Stowell (1997) for a comprehensive feature-checking analysis of QR.

(65a) is ambiguous in that the negative quantifier *no one* is associated with the matrix clause or the embedded clause as paraphrased in (65b) and (65c) respectively. That is, in the reading of (65b), *no one* in the embedded clause has a matrix scope. How is it possible if (65a) has the structure in (66).

(66) [Pol₁ [TP I will force you [Pol₂ [TP PRO to marry no one]]]]]

I suggest that the quantificational nature of negative quantifiers is responsible for this fact. Note that the so-called quantifier raising (QR) is also clause-bound.

(67) a. I told someone you would visit everyone.

(Johnson (2000:188))

b. A different student said that I had read every book.

(Johnson (2000:198))

The universal quantifier *every(-)* in the embedded clause cannot gain scope over the existential quantifier (*someone/a different student*) in the matrix clause in (67). However, it is not the case when embedded clauses are non-finite.

(68) a. Someone wanted to visit everyone.

(Johnson (2000:188))

b. A different student wanted to read every book.

(Johnson (2000:199))

The embedded quantifier *every(-)* in (68) is able to have the matrix quantifier in its scope. Whatever is responsible for QR can carry the quantificational feature in the embedded clause over into the matrix clause in infinitives. Therefore, *no one* in (66) should be able to be carried over Pol₂ to the matrix domain via QR. In that case,

of the relevant part of the sentences in (62) would be (63). There are four possibilities on the feature values of Pol, as listed in (64).

(63) [_{PolP1} Pol₁ [_{TP} ... [_{CP} that [_{PolP2} Pol₂ [_{TP} Op_{[NEG][uneg]}...]]]]]]

(64) a. Pol_{1[-NEG]} ... Pol_{2[uNEG]}

b. Pol_{1[-NEG]} ... Pol_{2[-NEG]}

c. Pol_{1[uNEG]} ... Pol_{2[uNEG]}

d. Pol_{1[uNEG]} ... Pol_{2[-NEG]}

Among them, in order for the negative elements to have the matrix scope, Agree must apply between Pol₁ and the negative elements. However, only (64a), in which the embedded clause is under the scope of negation, would yield a convergent derivation as sentential negation. (64b) cannot yield a negative sentence because the values of both Poles are [-NEG](=[POS]). In (64c, d) Pol₁ has [uNEG] but Agree cannot apply between Pol₁ and the negative operator in the embedded clause. In (64c) Agree applies between Pol₂ and the negative operator. As a result the [uneg] of the operator is deleted and since the negative operator has become inactive, further Agree between Pol₁ and the negative operator cannot apply as prescribed in (55). In (64d) the application of Agree is blocked by Pol₂, which is inactive, due to DIC (56). Thus the clause-boundedness naturally follows.

However, there is an exception to the clause-bound character of negative expressions.

(65) a. I will force you to marry no one.

b. I won't force you to marry anyone.

c. I will force you not to marry anyone.

(Klima (1964:284,5))

other negative elements, which is consistent with the *do*-support fact as argued in 3.3. All of them, however, successfully enter into Agree with Pol in (60).

The claim that Agree is involved in sentence negation is brought to light by the following answer patterns to a question in English.

(61) Q: Did you buy this book ?

- A: a. (Yes) I did.
 b. *Yes I didn't.
 c. (No) I didn't
 d. *No I did

The ungrammaticality of (61b, d) demonstrates that the agreement relation must be established between *yes/no* and the following elliptical clause, which corresponds to the declarative version of the question. This fact can be straightforwardly accounted for if we assume that *yes/no* is an overt realization of Pol.

This system correctly predicts the clause-boundedness of negative expressions for encoding sentential negation.

- (62) a. *He knew that it had not happened and neither did she.
 b. *He knew that *nothing* had happened and neither did she. (Klima (1964:285))
 c. *He knew that it had never happened and neither did she.

As indicated by the ungrammaticality of the sentences with the *neither*-tag in (62), the matrix clauses cannot be negated by the negative elements in the embedded clauses. The schematic structure

assume that they involve a phonetically null operator (Op) where [NEG] and [uneg] reside.³⁴ Parts of the assumptions in (58) are in parallel with Chomsky's (2000:128) assumptions that C has uninterpretable [Q] ([uQ]) and *wh*-phrases have an uninterpretable [wh] feature ([uwh]) and an interpretable [Q] feature for sentences involving *wh*-movement.

In this system, the negative value of Pol is provided in two ways: by Agree and by lexical specification. The latter way might be also parallel with the case of embedded questions, where C is provided with [Q] by the matrix verb. Recall the discussion in 2.1 and 3.1. The other way by Agree is observable in other negative sentences except those involving negative conjunctions. Here an uninterpretable feature [uNEG] searches as a probe for a matching [NEG] and deletes [uNEG] and [uneg] if the matching succeeds. Thus observe the sentences in (44) (repeated as (59) again).

- (59) a. John does [_{NegP} not eat chocolates].
b. John never/seldom eats chocolates.
c. John ate nothing.
d. No one in my family eats chocolates.

All of these would have the schematic structure (60).

- (60) [_{PolP} Pol_[uNEG] [_{TP} (...) Op_{[NEG][uneg]} (...)]]

Not in (59a) is in NegP inside TP, while NegP is not projected for

34 The assumption of Op in negative elements is required so that [NEG] has a scope over TP in Chomsky's (1999, 2000) framework, where no feature movement is assumed unlike in Chomsky (1995). However, if covert phrasal movement is possible, as argued in Chomsky (2001), the assumption of Op would be unnecessary. Thus although I assume the Op for convenience, the assumption is not crucial for our discussion and it could be easily translated in other ways.

'Active' in (55) means that a relevant uninterpretable feature must be involved. Based on (55), defective intervention constraints (56) are defined.

- (56) Defective Intervention Constraints (DIC): In structure $\alpha > \beta > \gamma$, where $>$ is *c*-command, β and γ match the probe α , but β is inactive so that the effects of matching are blocked. (Chomsky (2000:123))

This is independently necessary to account for the ungrammaticality of sentences involving the structure in (57).

- (57) *XP T-seem that [α it was told friends CP] (Chomsky (2000:129))

In (57), the ϕ features of T in the matrix clause serve as a probe but the intervening embedded subject *it*, which is inactive because its Case feature is deleted in α , blocks Agree between the T and *friends* and as a result the sentence will be ungrammatical.

In terms of the 'Agree' system, I propose (58).

- (58) a. Pol has an uninterpretable [NEG] feature (represented as [uNEG]) with the EPP property (see footnote 15). Or Pol is provided with [NEG] lexically (through being selected) by negative conjunctions. Otherwise Pol has an interpretable [-NEG] (= [POS]) feature.
- b. Negative elements have an interpretable [NEG] feature and an uninterpretable [neg] feature (represented as [uneg]).

Negative elements in (58b) include *not*, negative quantifiers, and negative adverbs, which contribute to sentential negation and I

to sentences involving *not* such as (44a), whether the analysis is framed in the pre-minimalist notions or in the MP notions.

The phenomenon of Inner Islands that we have observed in 3.2 requires us to postulate a functional head for encoding sentential negation to treat the sentences in (44) in a uniform way. The combined observations in 3.2 and 3.3 strengthen the positing of PolP above TP.

4. The Mechanism of Sentential Negation

In Chomsky's (1999, 2000) framework I explicate the mechanism of sentential negation based on the claim that sentential negation uniformly involves PolP above TP, and offer further support for the supposition of PolP through the demonstration that sentential negation can be accommodated in a uniform fashion in terms of the independently motivated system.

Chomsky (1999, 2000), assuming (54) and (55), proposes 'Agree' as a feature checking mechanism by which an uninterpretable feature (probe:P) searches for matching features (goal:G) and as a result uninterpretable features are deleted.

- (54) a. Matching is feature identity.
b. G must be in D(P) (the domain of P), which is the sister of P (i.e. c-command domain of P).
c. The relation must satisfy the locality condition of "closest c-command".

(adapted from Chomsky (2000:122))

- (55) Probe and goal must both be active for Agree to apply. (Chomsky (1999:4))

- (53) a. John [_T does_i] [_{NegP} not t_i' [_{VP} t_i [_{VP} eat chocolates]]].

|-----|-----|-----|

- b. *John T [_{NegP} not [_{VP} eat(s) chocolates]].

*|-----| (HMC violation)

|-----|---*---| (Greed violation)

In (53b) the intervening Neg head blocks the V-features' direct movement from V to T as an HMC violation and if the V-features move to Neg, the derivation will be against Greed because they cannot enter into a checking relation with Neg. Auxiliaries are assumed to head another VP dominating the main V, and the dummy auxiliary *do* appears in (53a), where no auxiliary is involved. The V-features of the main V are checked by the V-features of the auxiliary and in turn the auxiliary, which has Neg features, moves first to Neg and subsequently to T for checking Neg features and V-features respectively. Thus the derivation successfully converges with no HMC or Greed violations. This analysis entails that NegP cannot be postulated for (44b-d). This is because if NegP is postulated for these sentences as in (44'), these sentences are all predicted as ungrammatical by HMC or Greed just as in (53 b).

- (44') b. John T [_{NegP} ϕ [_{VP} never/seldom eats chocolates]].

c. John T [_{NegP} ϕ [_{VP} ate nothing]].

d. No one in my family T [_{NegP} ϕ [_{VP} eats chocolates]].

The facts on *do*-support in (44) and (45), as I have thus far discussed, suggest that the supposition of NegP should be restricted

overt movement between auxiliaries and main verbs to the difference in the content of features in that the content of auxiliaries is exhausted by formal features while main verbs have inherent lexical contents (e.g., θ -roles). Both auxiliaries and main verbs have (weak) V-features in English, which move to T for checking without pied-piping V. However, all formal features are assumed to raise with V-features as free-riders. Since auxiliaries consist of only formal features, the whole auxiliary is effectively raised and Spell-Out will associate a phonological matrix with the auxiliary in its moved position, whereas main verbs remain in situ because of their lexical contents. The difference between (44a) and (45a) on *do*-support can be explained in terms of general principles such as the Head Movement Constraint (HMC) (or whatever that constraint derives from) to the effect that head-movement cannot skip intervening heads (Travis (1984)) and Greed with the assumption given in (52).³² The relevant structures of (44a) and (45a) are represented in (53).

(44) a. John does [_{NegP} not eat chocolates].

(45) a. *John not eat(s) chocolates.

(52) Auxiliaries have Neg (and Q) features as well as V-features.³³

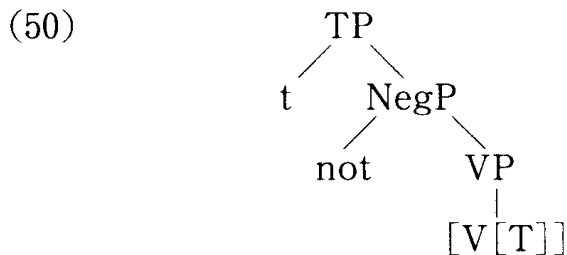
delays movement until the covert, post Spell-Out part, wherever possible. This claim can be seen as a predecessor of Chomsky's (1999, 2000) cyclic derivation based on multiple Spell-Out.

32 Greed is defined as a basic property of Move F as follows.

- (i) a. F is an unchecked feature.
- b. F enter into a checking relation as a result of the movement.

33 As the evidence for (52), the existence of negative auxiliaries like *don't*, *can't*, and *won't* are pointed out by Roberts (1998: 121).

because Neg, a functional head operating on the event, is not c-commanded by Tense at S-structure.



Laka argues that *do* is inserted as in (44a) as the last resort to observe the TCC. This entails that in grammatical sentences without *do*-insertion (44b–d), NegP cannot be projected since otherwise affix hopping cannot apply to these sentences as well as (45a) because of the TCC.

3.3.2. *A Minimalist Analysis*

In the MP framework, where both the ECP and D/S-structure conditions are discarded, Roberts (1998) offers an interesting analysis of *do*-support.³⁰ Adapting the feature-checking analysis of Chomsky (1995), Roberts proposes (51).

- (51) Weak features do not require pied-piping of α , whereas strong features do.

V-features of English T are assumed to be weak and do not require pied-piping of the main verb, although weak features are checked overtly before Spell-Out.³¹ Roberts attributes the difference of the

30 Bobaljik (1994) and Lasnik (1999) argue that *do*-support is a last resort to salvage a PF-adjacency requirement between T and V (Affix Hopping).

However, in this approach, the difference between (44a) and (44b) should be stipulated. See Roberts (1998) for other problems of Lasnik (1999).

31 Roberts (1998) claims that there is no such principle as Procrastinate, which

chocolates]

NegP constitutes a barrier for the antecedent–government of e_i in (47), where a non lexical counterpart of *do* is generated under Agr and moves to T, resulting in an ECP violation. On the other hand, NegP does not constitute a barrier in (46a), where *do*, unlike non lexical ϕ , L–marks NegP, thus voiding its barrierhood. Therefore, the structure of (44b) should be (46b) without NegP because if NegP exists as in (48) (see footnote 26), (44b) is predicted to be ungrammatical in violation of the ECP, contrary to fact.

(48) [_{TP} John [_{Ti} [_{Agr_i} [_{Vi} ϕ] Agr]T] [_{NegP} Op_k Neg [_{AgrP} e_i [_{VP} Adv_k eat chocolates]]]]

Laka (1990) also attempts to explain the difference between (44a) and (45a) with reference to her supposed universal requirement stated in (49).

(49) Tense C–command Condition (TCC)²⁸: Tense must c–command at S–structure all propositional operators of the clause.

Laka assumes Chomsky’s (1989) analysis of affix hopping in English, i.e. Tense and Agr lower to the lexical verb in affirmative sentences where no auxiliary verb is present, and the subsequent raising at LF satisfies the ECP.²⁹ On this assumption and the assumption that *not* projects NegP, if affix hopping applies to sentences like (45a), the following structure would be yielded. This is in violation of TCC

28 The supposition of [uT] on C (or Pol (see footnote 16)) in 2.2.2 can be regarded as a reformulation of this condition in the MP framework.

29 Chomsky (1989) also proposes an account for the ungrammaticality of (45a) based on the ECP at LF. See Lasnik (1999) for the problems of this analysis.

- (44) a. John does [_{NegP} not eat chocolates].
 b. John never/seldom eats chocolates.
 c. John ate nothing.
 d. No one in my family eats chocolates.
- (45) a. *John not eat(s) chocolates.
 b. *John does never/seldom eat chocolates. (without emphatic stress on *does*)
 c. *John did eat nothing. (without emphatic stress on *did*)
 d. *No one in my family does eat chocolates. (without emphatic stress on *does*)

3.3.1. Pre-Minimalist Analyses

Pollock (1989) proposes an ECP-based account for this contrast.²⁷ In his analysis (44a) and (44b) would have the following structures respectively.

- (46) a. [_{TP} John [_{Ti} [_{Agri} [_{Vi} do] Agr] T] [_{NegP} not [_{AgRP} e_i [_{VP} eat chocolates]]]]
 b. [_{TP} John [_{Ti} [_{Agri} [_{Vi} ϕ] Agr] T] [_{AgRP} e_i [_{VP} Adv eat chocolates]]]]

Compare (46a) with (47), which is the structure of the ungrammatical (45a).

- (47) [_{TP} John [_{Ti} [_{Agri} [_{Vi} ϕ] Agr] T] [_{NegP} not [_{AgRP} e_i [_{VP} eat

(i) John [_{NegP} Op_i [_{Neg⁰} 0] ate nothing_i]

However, it is not clear how to explain the difference of *do*-support between (44c) and (44a) as argued in the text. See Nishioka (2000) for other problems of Haegeman's analysis and an alternative proposal in the framework of the MP.

²⁷ See footnote 19 for the relevant definitions.

and *why* in (43a–c) to derive (42a–c) is prohibited by (41). In other words, the attraction scope of the matrix Q'/Q in (43) is closed off by the existence of Q in (43a), Neg in (43b) and F in (43c) respectively, and the matrix Q'/Q cannot attract *wh*-phrases in situ in the lower clauses.^{22, 23} The existence of a functional head with a relevant feature is crucial in this analysis.²⁴

Both the ECP-based analysis and the MP analysis reviewed above suggest the necessity of postulating NegP for negative sentences to accommodate the inner-island phenomenon.

3.3. *Do-Support*

It is generally assumed that *not* involves NegP in sentential negation such as (44a), and the contrast between (44) and (45) on the appearance of *do/does/did* suggests that NegP is not projected in the other sentential negation in (44b–d).^{25, 26}

22 In order to accommodate the fact that argument extraction is exempt from (41), Manzini (1998:206) suggests that argument *wh*-phrases are inserted directly in [Spec, CP], while a zero D correlate is independently merged in θ -Case position, as in (i).

(i) what [do-Q] [you wonder [how to [repair D] t_{how}]]

23 This analysis is extended to the cases involving cleft extraction such as (36)–(40), given that the cleft construction involves the extraction of a null operator (Chomsky (1977)).

24 If NegP cannot be projected in the examples such as (38b, 39b, 40b), as I argue in 3.3, it must be assumed that the attractor feature for the *wh*/null operator movement resides in a functional head above Pol to be compatible with this analysis.

25 Ernst (1992) exceptionally argues against the postulation of NegP even for (44a). The crucial point for the present discussion is how to encode sentential negation without postulating NegP.

26 Haegeman (1995) proposes that sentences such as (44c) also project NegP in which a non-overt expletive negative operator occupies the Spec position, forming a representational CHAIN with a contentive element as shown in (i).

including Inner Islands.²¹ Manzini (1998:200) proposes Minimality as stated in (41) to explain the ungrammaticality of the sentences in (42). Their structures are given in (43).

(41) Minimality: Given an attractor feature F and an attractee feature A_F , F attracts A_F only down to the next attractor F' for A_F .

- (42) a. *How_i do you wonder [what_j to repair t_j t_i] ?
(*wh*-island)
- b. *Why_i don't you believe [they fired him t_i] ?
(inner-island)
- c. *Why_i do you regret [that they fired him t_i] ?
(factive-island)

- (43) a. [do-Q'] [you wonder [what_j Q [to repair t_j how]]]
- b. [do-Q] [you [Neg believe [that they fired him why]]]
- c. [do-Q] [you [F regret [that they fired him why]]]

Assuming that all of Q, Neg, F (Focus head to be assumed to check a Focus feature of a verb which takes a factive complement) attract an indefinite D of *wh*-words, Manzini argues that movement of *how*

21 Oba (2000) independently proposes a structure-based derivational analysis of extraction in the framework of Chomsky (2000). Oba observes that maximal projections XPs constitute an opaque domain for the extraction of a non-argument if they are not directly selected by V, T, C, and proposes (i).

(i) Search Spaces of the probe (N(on) R(eferential) feature):

The search spaces of the probe (NR-feature) are the positions selected by core categories (i.e. V, T, C).

The ungrammaticality of (42b,c) is similarly accounted for by (i) given that the projection of NegP and FocP serve to constitute an opaque domain. The ungrammaticality of (42a) is explained by a different independent principle: Defective Intervention Constraints (see section 4).

sumed to be adjoined to IP (TP in the present analysis in (1)) for the scope reason at LF. This position should not count as an A'-spec position at least for the relativized minimality effect. Haegeman (1995:77) argues, following Rizzi's (1990) suggestion, that the negative subjects are in [Spec, I(Agr)P] and the position optionally counts as an A' specifier. However, this account misses a generalization. Note that inner island effects are also induced in the following sentences.

- (40) a. It is for this reason that John never believes that
Bill was fired.
b. *It is by lethal injection that they never believe
that John was executed.

If (negative) adverbs are generated in a VP adjoined position as generally assumed and remain in situ, they cannot block the long distance interpretation of the clefted adverbial elements because an adjunction site should not count as an A'-spec position for the relativized minimality effect. This requires us to suppose that negative adverbs raise to another A'-spec position for negative encoding. If we can postulate a functional head for encoding sentential negation, the inner-island effects observed in (35)–(40) are captured in a uniform fashion.

3.2.2. *A Minimalist Approach*

The ECP-based analysis of this phenomenon cannot be maintained in the minimalist program (MP) framework in which the notion of government is discarded. Manzini (1998) presents an interesting analysis in the MP framework for weak island phenomena

negation creates a potential A'–binder (an A'–specifier), the trace of an extracted adverbial fails to be antecedent–governed, and an ECP violation will result. Although Rizzi himself does not explicitly argue that negation requires NegP for a negative operator,²⁰ this phenomenon would be straightforwardly accommodated by supposing NegP for negative sentences. Note, however, that inner island effects are not only caused by the presence of *not*, as Rizzi (1990 : 19) points out.

- (38) a. It is for this reason that everyone believes that Bill
was fired.
b. It is for this reason that no one believes that Bill
was fired.
- (39) a. It is by lethal injection that many people believe
that John was executed.
b. *It is by lethal injection that few people believe
that John was executed.

Here, too, the interpretation in which the clefted adverbial is construed with the lower embedded clause is impossible in (38b) and (39b), unlike the affirmative counterparts of (38a) and (39a). This means that the negative subject must be in an A'–spec position. Conversely, non polarity operators such as *every* and *many* are as-

-
- a. Z is a typical potential α –governor for Y,
b. Z c–commands Y and does not c–command X.

20 Rizzi (1990) assumes that a negative operator is in the specifier of the lower inflectional head T in the articulated structure of IP proposed by Pollock (1989). In a footnote (fn. 15 p. 115) Rizzi mentions the alternative view that NegP is systematically available in negative sentences and NegP has an A'–specifier position.

was fired.

(Haegeman (1995:75), from Rizzi (1990:15))

- (37) a. It is in this way that I think that John fixed the car.
b. *It is in this way that I don't think that John fixed the car.

(Rizzi (1990:16))

(35a) and (36a) are ambiguous in that the fronted adverbial can be construed with the matrix clause or with the embedded clause whereas (35b) and (36b) are unambiguous where the adverbial cannot be construed with the embedded clause. (37a) is unambiguously interpreted with the manner adverbial construed with the embedded verb, and (37b) is ungrammatical because this interpretation is blocked by negation. The contrast between (a) and (b) in (35)–(37) demonstrates that the extraction of adverbial elements over a negative operator is blocked. Rizzi (1990) proposes to accommodate this phenomenon in terms of the ECP through relativized minimality¹⁹: if

19 The relevant definitions are as follows. (Rizzi 1990: 6, 32)

- (i) ECP: A nonpronominal empty category must be
- a. properly head-governed (i.e., governed by a head within the immediate projection of the head). N.B. Heads that qualify as proper head governors are A, N, P, V, Agr and T (Formal Licensing).
 - b. antecedent-governed or Theta-governed (i.e., governed by a Theta-marking head) (Identification).
- (ii) Antecedent Government: X antecedent governs Y iff
- a. X and Y are coindexed
 - b. X c-commands Y
 - c. no barrier intervenes
 - d. Relativized Minimality is respected.
- (ii) Relativized Minimality: In the configuration [...X...Z...Y...], X α -govern (i.e., head-governs or antecedent-governs) Y only if there is no Z such that

head of a functional projection, which is represented by B.¹⁸ Pol involves both [uNEG] and [uFoc] and consequently [uT] with the EPP property, which is satisfied by the overt movement of T to Pol (recall the discussion on (27b)).

3.2. Inner Islands and *Do*-Support

The interaction between the facts on Inner Islands and *do*-support also sustains the claim that polarity encoding should involve PolP above TP.

3.2.1. Inner Islands and an ECP Based Analysis

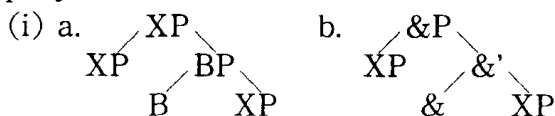
Intervening negation blocks the extraction of adverbial elements, which is called Inner Islands (Ross 1984).

- (35) a. How strongly do you believe that inflation will rebound?
 b. How strongly do you not believe that inflation will rebound?

(Haegeman (1995:75) from Rizzi (1990:16))

- (36) a. It is for this reason that I believe that John was fired.
 b. It is for this reason that I don't believe that John

18 Munn (1993) argues that the conjunction phrase (BP in his term) adjoins to another conjunct as in (ia) whereas Johanessen (1998) argues that another conjunct is in the Spec of the conjunction phrase (&P in his term) as in (ib). The difference is irrelevant to the present discussion and I represent the projection as BP.



and let us term it PolP.

- (31) a. [CP/PolP unless_[NEG] [TP it rains tomorrow]]]
 b. [CP/PolP lest_[NEG] [TP you (should) be late]]]

The sentence in (32a) also demonstrates that polarity encoding involves a functional head above TP. Although the exact syntactic structure of (32a) requires a further investigation, its partial structure would be reasonably assumed as in (32b), where negation is clearly encoded outside TP. (ϕ represents the elliptical parts or phonetically null pro-sentence referring to the following TP.)

- (32) a. Whether or not it's sunny,.....
 b. [CP whether C [PolP Pol_[-NEG] ϕ] or [PolP not_[NEG] [TP it's sunny]]],.....

Moreover, sentences involving *nor* and *neither* such as (33) also indicate the existence of PolP above TP. The structures of the relevant parts of the sentences in (33) are given in (34) with the feature specifications speculated in 2.2.2.

- (33) a. I don't know her, (and) *nor* do [TP I want to].
 (=..., and I don't want to either.)
 b. Bob can't go, (and) *neither* can I.
 (=..., and I can't either.)
- (34) a. [BP ϕ /and [PolP nor [Pol<sub>[uNEG][uFoc][uT]] + do_i] [TP I t_i [VP want to [VP ϕ]]]]]
 b. ... [BP ϕ /and [PolP neither [Pol_{[uNEG][uFoc][uT]] + can_i] [TP I t_i [VP ϕ]]]]]}</sub>

Here I follow recent proposals on coordinate structures by Munn (1993) and Jahannessen (1998) that coordinate conjunction is the

We have seen in this subsection that the two arguments for not supposing PolP when no overt elements appear in the Spec or adjoined positions of PolP are not valid arguments and I suggest that PolP can (and should) be posited in every clause. In this light, I will adduce further evidence for positing PolP above TP in every clause in the following section.

3. Additional Arguments for PolP

3.1. Negative Conjunctions

The examples involving negative conjunction such as (29) constitute evidence for the claim that a functional head above TP is involved in encoding sentential negation.

- (29) a. *Unless* [_{TP} it rains tomorrow], (=If it does not rain tomorrow,)
 b. Make haste *lest* [_{TP} you (should) be late]. (=Make haste so that you should not be late.)

Negative conjunctions *unless* and *lest* provide TP with negative force. This would be captured by assuming that negative conjunctions select Pol with negative value as indicated in (30).

- (30) a. [_{CP} unless [_{PolP} Pol_[NEG] [_{TP} it rains tomorrow]]]
 b. [_{CP} lest [_{PolP} Pol_[NEG] [_{TP} you (should) be late]]]

Alternatively, it might be possible to assume that negative conjunctions have [NEG] in themselves as in (31). If so, PolP would not be projected, or alternatively negative conjunctions would project PolP as its head. I will leave a thorough investigation of this matter for further research. Suffice to say that there is a functional head above TP, which is responsible for sentential negation in English

(through Agree in Chomsky (1999, 2000) or Move after Spell-Out in Chomsky (2001)) or the null operator associated with it (Move before Spell-Out) as in Watanabe (1992), depending on the assumption that covert phrasal/feature movement is a possible operation in grammar (see section 4).¹⁶ In sum, the fact concerning Subject–Aux Inversion in (25) and (21) is thus ascribed to (28).

- (28) a. A functional head that involves [uT] with the EPP property triggers Subject–Aux Inversion (movement of T) unless some feature of the head triggers movement of the subject.
- b. When both [uFoc] and [uNeg] exist, Pol has [uT] with the EPP property. On the other hand, [uWh] in the matrix C accompanies [uT] with the EPP property.

Why the existence of [uT] with the EPP property is related to the existence of the two features ([uFoc] and [uNeg]) as stated in (28 b) is left to be explicated. It is, though, suggestive that [uWh], which seems to be inherently related to focus, plays the same role as the two features in allowing [uT] with the EPP feature.¹⁷

16 Actually, if Pesetsky and Torrego (2000) are correct in assuming the principles (i) and (ii), Pol of all the sentences in (27) must involve [uT] to make the domain below the complement of T accessible to Pol. The difference between (27a, c) and (27b) on overt movement of T is ascribed to whether the [uT] in Pol has the EPP property.

(i) Attract Closest X (ACX): If a head K attracts X, no constituent Y is closer to K than X.

(ii) Principle of Minimal Compliance: Once an instance of movement to α has obeyed a constraint on the distance between source and target, other instances of movement to α need not obey this constraint.

17 Rizzi (1997) argues that *wh*-fronting involves movement to [Spec, FocP] in his articulated CP structure.

- d. * $[_{CP} \text{ who}_i C_{\{uWh\}\{uT\}} + \text{did}_j [_{TP} t_i t_j T \text{ left}]]]$

The structures in (26) correspond to the sentences in (25). In (26a), [uWh] and [uT] are checked and deleted by two separate operations: the overt movement of *what* and the overt movement of T. In (26b), [uT] remains unchecked, which causes the derivation to crash. Both in (26c) and (26d), [uWh] and [uT] are checked but the way in (26d) is less economical than that in (26c). This is excluded as a violation of (24); although the subject *who*, whose [uT] is marked for deletion at [Spec, TP] but is still available, can check both [uWh] and [uT] at the same time as in (26c), two separate operations are performed for the job in (26d). In the light of this analysis, we can derive the sentences in (21) by assuming that [uT] with the EPP property co-occurs only with both [uNeg] and [uFoc] and not with one, though [uFoc] itself has the EPP property. Then the structures of (21) would be represented as in (27).

- (21) a. ROBIN I really dislike/DISLIKE. (= (4c))
 b. No race could Lewis win. (Haegeman (2000:26))
 c. Lewis could win no race.
- (27) a. $[_{PolP} \text{ ROBIN}_i \text{ Pol}_{\{uFoc\}} [_{TP} \text{ I really dislike } t_i]]]$
 b. $[_{PolP} [\text{no race}]_i \text{ Pol}_{\{uFoc\}\{uNeg\}\{uT\}} + \text{could}_j [_{TP} \text{ Lewis } t_j \text{ win } t_i]]]$
 c. $[_{PolP} \text{ Pol}_{\{uNeg\}} [_{TP} \text{ Lewis could win no race}]]]$

In (27a), [uFoc] is checked by the overtly moved focus ROBIN. In (27b), [uFoc] and [uNeg] are checked through the overt movement of the negative element *no race* and [uT] through the overt movement of T. In (27c), [uNeg] is checked by the negative element

propose (23) for English matrix interrogative and embedded declarative clauses.^{13, 14}

- (23) C bears an uninterpretable T feature (henceforth uT) with the EPP property.¹⁵

The grammaticality of sentences in (25) is derived from (24) by assuming (23) with three extra assumptions (i) that C also bears an uninterpretable Wh (uWh) in interrogative clauses, (ii) that nominative case is uT on D and (iii) that features marked for deletion are accessible to further operations at least until CP has been fully built (Chomsky's (1999, 2000) notion of phase).

- (24) Economy Condition: A head H triggers the minimum number of operations necessary to satisfy the property (including EPP) of its uninterpretable features.

- (25) a. What did John buy at the store? (=4b)
b. *What John bought at the store?
c. Who left? (=17a)
d. *Who did leave? (=17b)

- (26) a. [_{CP} what_i C_{uWh, uT} + did_j [_{TP} John t_j buy t_i at the store]]]
b. * [_{CP} what_i C_{uWh, uT} [_{TP} John T buy t_i at the store]]]
c. [_{CP} who_i C_{uWh, uT} [_{TP} t_i T left]]]

13 Embedded interrogative clauses are assumed to have uT without EPP property.

14 Although Pesetsky and Torrego (2000) assume that [uWh] and [uT] reside in C, their argument will not be affected if they reside in Pol. See also footnote 5.

15 Pesetsky and Torrego (2000) assume that the EPP is a property of a feature of a head.

even if it is a matter of narrow syntax, it would be possible to accommodate the fact without resorting to the clitic property. Suppose, for example, that Neg, Wh, Foc are not morphemes but a set of features which are licensed through checking with relevant elements. Then the descriptive generalization would be obtained concerning Subject–Aux Inversion by hypothesizing that the combination of [Neg] and [Foc] trigger the Inversion whereas only one of them does not. Witness the following examples.

- (21) a. ROBIN I really dislike/DISLIKE. (= (4c))
 b. No race could Lewis win. (Haegeman (2000:26))
 c. Lewis could win no race.
- (22) a. [_{PolP} ROBIN_i Pol_[Foc] [_{TP} I really dislike t_i]]
 b. [_{PolP} [no race]_i Pol_{[Foc][Neg]} + could_j [_{TP} Lewis t_j win t_i]]
 c. [_{PolP} Pol_[Neg] [_{TP} Lewis could win no race]]

Each structure of the sentences in (21) is represented in (22) with the supposed features. If the existence of [Foc] is responsible for preposing an overt element to the Spec of PolP, the difference between (21a, b) and (21c) follows. Note that Pol lacks [Foc] in (22c), where such preposing does not occur, although negative encoding involves Pol. I will argue in section 3.2 that sentences such as (21c) cannot involve NegP inside TP. Thus without the postulation of Pol, it would not be clear how sentential negation is formally encoded in (21c). In (22b), since Pol involves both [Foc] and [Neg], both the negative element and Aux are preposed. This situation could be accommodated by the extension of the analysis of T-to-C movement proposed by Pesetsky and Torrego (2000). They

- (16) a. Mary can+n't_i [_{NegP} t_i [_{VP} eat chocolates]]
b. They+'ll_i t_i [_{VP} come to the party]
c. I+'ve_i t_i [got to go]

Moreover, Culicover (1991:57) assumes that PolP may be a complement of T to explain the *wh* or negative subject cases.

- (17) a. who left.
b. *who did leave
(18) a. no one left.
b. *no one did leave.

If PolP is projected above TP and the *wh*/negative subject occupies the Spec of PolP as in (19), (b) sentences are predicted to be grammatical and (a) sentences ungrammatical in (17) and (18), contrary to fact.

- (19) [_{PolP} who/no one_i [_{Pol} Wh/Neg][_{TP} t_i left]

Therefore, Culicover assumes the structure in (20) for these cases. Here the clitic property of Wh/Neg is satisfied by the raising of themselves to T, rather than triggering the movement of another head.

- (20) [_{TP} who/no one [_T Past] +Wh/Neg [_{PolP} Spec t
[_{VP}...]]]

However, this arbitrariness on the supposition of the clitic Wh/Neg makes us doubt the validity of the argument.

The above discussion strongly suggests that other mechanisms work for Subject–Aux Inversion than the account based on the clitic property of Wh/Neg. Chomsky (1999:30) suggests that head-raising may fall within the phonological component. If he is correct, this matter is outside the concern of narrow syntax. Alternatively,

Wh] should be justified even when no overt element occupies the Spec of PolP to account for the grammaticality of (14a), whose structure is shown in (14b).¹⁰

- (14) a. Will [she come to the party] ?
 b. [_{PolP} Op [_{Pol} Wh +will_i] [_{TP} she t_i come to the party]]

This fact suggests not only the difference between Wh and Neg but also the dubiousness of the account based on the cliticization of Wh and Neg.¹¹

Second, it is not clear why the Inversion occurs if Neg/Wh is a morpheme that must cliticize to another head. Generally a clitic property is satisfied by clitic movement rather than triggering movement of another head. Contracted forms *n't*, *'ll*, *'ve* may well be considered clitics in English. These items, though, do not trigger the movement of another head to be licensed. Instead they themselves move.

- (15) a. Mary can't eat chocolates.
 b. They'll come to the party.
 c. I've got to go.

The relevant structure of sentences in (15) would be the ones in (16) respectively.¹²

10 If another morpheme that must cliticize to a head is postulated for *yes-no* questions, the difference between it and Wh should be stipulated.

11 It might be argued that the existence of Op in the Spec of PolP justifies [_{Pol} Wh]. Then the question remains open why Op cannot be postulated in (12b) in a similar way to Haegeman's (1995) proposal of the representational CHAIN.

(i) [_{PolP} Op_i [_{Pol} Neg + would_j] [_{TP} she t_j agree to visit Robin [at no time]_i]]

12 Whether auxiliaries are base-generated in T or moved from a lower position is immaterial here.

would run for any public office.

- b. ...who_i [I said [CP that [PolP [at no time] [Pol would]_j][TP t_i t_j run for any public office]]]]

The relevant structure of (9a) is provided in (9b). Here Pol is occupied by the auxiliary verb *would* and it is not clear how the nonempty Pol head-governs and licenses the subject trace (t_i). Note that similar configurations involving interrogatives are ill-formed.⁸

- (10) a. *who_i did_j [TP t_i t_j sleep] (from Koopman (1983))
 b. *[is_j [TP t_i t_j intelligent]][every man in the room]_i

The possibility that the negative adverbial in (9a) does not trigger Negative Inversion is excluded because only negative phrases which trigger inversion can license a negative polarity item (*any*) when they appear in the clause initial position as the contrast in (11) shows, and *any* is properly licensed in (9a).

- (11) a. At no time would Leslie run for any public office.
 b. *At no time(,) Leslie would run for any public office.

Therefore, the grammaticality of (9a) suggests the suspension of the *that-t* effect in (6) cannot be attributable to the presence of an empty functional category adjacent to the subject. In other words, this phenomenon does not constitute evidence either for the existence of Pol or for the nonexistence of Pol when no overt elements appear in the Spec or adjoined position of PolP. PolP will be assumed even for (7) given some independent account for the un-

⁸ Culicover (1993:101) attributes these examples to Rizzi (1990). I adapt the label of IP into TP.

my shovel.

- c. *I asked what_i Leslie said that t_i had made Robin give a book to Lee.
- d. *Lee forgot which dishes_i Leslie had said that t_i should be put on the table.

- (8)
- a. Robin met the man {that Op_i/who_i} Leslie said [e_i] t_i was the mayor of the city.
 - b. This is the tree that Op_i I said [e_i] t_i had resisted my shovel.
 - c. I asked what_i Leslie said [e_i] t_i had made Robin give a book to Lee.
 - d. Lee forgot which dishes_i Leslie had said [e_i] t_i should be put on the table.

The examples in (6) show that the *that-t* effect observed in (7) is suspended by the existence of adverbials between C and TP. Supposing that these adverbials are PolP–adjuncts, Culicover (1991) argues that empty Pol receives the index of the moved subject through the Spec–head agreement and properly head–governs and licenses the subject trace (t_i) just like the empty C in (8). This is an argument for the supposition of PolP. At the same time it is an argument against supposing PolP when no overt elements occur between C and TP, because if it were allowed, the *that-t* effect in (7) would never occur.

However, as Culicover (1993) points out, the examples involving Negative Inversion such as (9a) easily counter–exemplify the argument.

- (9) a. Leslie is the person who I said that at no time

2.2. Two Apparent Arguments against Projecting PolP without Overt Elements

Culicover (1991:51) claims, based on two arguments for supposing PolP, that PolP is pruned from the structure or is otherwise not permitted to appear when Pol and [Spec, PolP] are empty and when nothing adjoins to PolP.

2.2.1. *That-t Effect*

One argument concerns the suspension of the *that-t* ECP effect observed in (6).⁷

- (6) a. Robin met the man {that Op_i/who_i} Leslie said that for all intents and purposes t_i was the mayor of the city.
 b. This is the tree that Op_i I said that just yesterday t_i had resisted my shovel.
 c. I asked what_i Leslie said that in her opinion t_i had made Robin give a book to Lee.
 d. Lee forgot which dishes_i Leslie had said that under normal circumstances t_i should be put on the table.
- (7) a. *Robin met the man {that Op_i/who_i} Leslie said that t_i was the mayor of the city.
 b. *This is the tree that Op_i I said that t_i had resisted

⁷ The relevant definition of the ECP is as below. See also footnote 19 for a comprehensive definition of the ECP. (Rizzi 1990)

(i) ECP: A non-pronominal empty category must be properly head-governed (i.e., governed by a head within the immediate projection of the head). N.B. Heads that qualify as proper head governors are A, N, P, V, Agr and T (Formal Licensing).

- (3) a. [PolP [Spec XP[Neg]] [Pol Neg] [TP... T...]]
b. [PolP [Spec XP[Wh]] [Pol Wh] [TP... T...]]
c. [PolP [Spec XP[FOCUS]] [Pol FOCUS] [TP... T...]]

(3a) represents sentences involving Negative Inversion such as (2) or (4a), (3b) a direct question such as (4b) and (3c) focus Topicalization (Gundel 1974) such as (4c).

- (4) a. At no time would she agree to visit Robin.
b. What did John buy at the store?
c. ROBIN I really dislike/DISLIKE. (The capital letters here represent the location of the primary stress)

Subject–Aux Inversion occurs in (4a, b) but not in (4c). Culicover argues that this is because Neg and Wh unlike Focus are morphemes that must cliticize to another head. On the other hand, following Grimshaw's (1979) observation that the interrogative character of an embedded question is selected by the matrix verb, Culicover (p. 52) argues that since the head that licenses *wh* movement cannot be [Pol wh] but complementizer Q, Inversion does not occur in embedded questions such as (5).

- (5) I wonder what [c Q] John bought at the store.

-
- (i) So many people did John insult that he did not dare return home.
I omit the examples involving So because the *so*-Inversion is less acceptable in the embedded clause for an unclear reason as Culicover (p. 64) demonstrates.
- (ii) a. Mary says that she will read this book with so much attention that she won't hear the phone ring.
b. *?This is the book that Mary says that with so much attention will she read that she won't hear the phone ring.

2. PolP above TP

2.1. Culicover (1991)

Culicover (1991) proposes the necessity to postulate PolP above I/TP.³ The immediate evidence for his argument is the following kind of sentence.

- (2) a. Lee said [_{CP} that [at no time would [_{TP} she agree to visit Robin]]]
- b. It is apparent [_{CP} that [only on Fridays will [_{TP} the traffic be too heavy to get there in time]]]
- c. The fact [_{CP} that [on not a single hat was [_{TP} there a propeller indicates how far the beanie has fallen in modern times]]]

(Culicover (1991:48))⁴

The above examples show that a functional projection must exist between C (*that*) and TP to hold the negative elements and the inverted auxiliary verb (T). Culicover names this PolP and argues that the head of PolP in (2) is Neg, which agrees with a negative in [Spec, PolP] under the Spec-head agreement.⁵ Culicover claims that Pol covers not only Neg but Wh, and Focus, for which he gives the following representations respectively.⁶

3 Culicover (1991) argues for the structure in (i). I adapt IP to TP throughout this paper.

(i) [_{CP} Spec C [_{PolP} Spec Pol [_{IP}...]]]

4 Brackets with labels are my addition.

5 The fact in (2) would be compatible with the CP recursion analysis (Authier (1992)) as long as the occurrence of *that* at the top position is somehow guaranteed. In which case, the naming of PolP serves for an expository purpose only.

6 Culicover includes So as an item covered by Pol to accommodate *so*-Inversion such as (i).

as a variant of NegP in English. Following Culicover (1991) in that English negative sentences require the projection of a functional category for encoding polarity above IP, I argue that the basic clause structure in English involves the structure exemplified in (1). Here I assume an Agr-less structure based on Chomsky's (1995) proposal that semantically vacuous functional projection should be rejected.²

(1) [_{CP} C [_{PolP} Pol [_{TP} T ([_{NegP} Neg) [_{VP} V] ()]]]]

Although Culicover assumes PolP only when an overt element occupies the Spec of PolP or adjoins to PolP, I argue that PolP is required even without such an overt element, and that NegP inside TP is not obligatory to encode sentential negation. The aim of this paper is to provide empirical and conceptual support for this argument.

The paper is organized as follows. In the next section, I lay out Culicover's (1991) arguments for PolP and reveal the groundlessness of his argument that PolP exists only when an overt element occupies the Spec of PolP or adjoins to PolP. In section 3, I adduce independent arguments in support of the postulation of PolP above TP. In section 4 I explicate the mechanism of sentential negation in English in Chomsky's (1999, 2000) framework of the Minimalist Program (MP) and corroborate the claim in my paper by demonstrating how PolP is capitalized on. Section 5 summarizes and concludes the discussion.

2 I ignore AspectP because it is tangential to the arguments given below.

In Defense of PolP in English*

Nobuaki Nishioka

1. Introduction

The positing of NegP for sentential negation has been generally assumed among researchers of generative grammar since Pollock (1989) (Laka (1990), Ouhalla (1990), Zanuttini (1991), Haegeman and Zanuttini (1991, 1997), Chomsky (1989, 1993) Haegeman (1995), Forget et al. (1997) and many others). However, the position of NegP in a clause structure is varied cross-linguistically. Laka (1990) postulates it (in her term Σ P)¹ between IP and VP for English, and above IP for Basque and some Romance languages. Zanuttini (1997) argues for various positions of NegP above, and below IP for Romance languages. Even in English, the position of NegP is variously assumed. For instance, Pollock (1989) assumes NegP between TP and AgrP, which immediately dominates VP; Belletti (1990) between AgrP and TP, which immediately dominates VP; and Ouhalla (1990) between AspectP and VP. Furthermore, Culicover (1991) argues for the necessity of PolP between CP and IP

*I thank David Taylor for suggesting stylistic improvements. All remaining inadequacies are, of course, my own.

1 Laka (1990) argues that NegP is an instantiation of Σ P. Another instantiation of it is Affirmative Phrase.