

The Distribution of Negative NPs and Some Typological Correlates

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1. The Problem

In English, a negative indefinite pronoun like *nobody* distributes like any other noun phrase, in that it can occur in any position in a sentence where a normal noun phrase or pronoun can occur: as a subject, an object, an object of preposition, a possessive specifier, etc., as illustrated in (1).

- (1) a. Nobody loves her.
 b. She loves nobody.
 c. She has spoken to nobody today.
 d. She depends on nobody's support.

This is also true of other negative NPs like *no president*, *not a single time*, etc., as seen in (2).

- (2) a. She has spoken to not a single soul.
 b. At no time has she spoken to me.
 c. The election of no president will please his opponent.
 d. She has required that no linguistic book be put on the reading list.
 e. She has recommended that we read no linguistic book.

Each of these sentences can be alternatively expressed with the sentential negation *not* and a separate indefinite noun phrase at a distance, either a negative polarity item (NPI) like *anybody*, *any linguistic book*, or 'minimizers' (Horn 1989) like 'a single time'. Let us refer to the following as examples of the 'discontinuous' strategy:

- (3) a. She does not love anybody.
 b. She has recommended that we not read any linguistic book.
 c. She has not spoken to anybody today.
 d. She did not speak to a single soul.

The fact that a negative NP or quantifier behaves like any other NP is, of course, nothing of any special interest, since a negative NP is an NP and is therefore expected to behave as one such. The relevant state of affairs becomes more interesting when we consider other languages. Japanese presents an extreme contrast, where one cannot find a counterpart to *nobody*, *nothing*, *nowhere*, *no president*, etc., in any syntactic position. The sentences in (1) and (2) would have to be rendered in discontinuous forms as in (4):

- (4) a. 'Nobody saw me'
dare-mo boku-o mi-**nak**-atta
 anybody I-Acc see-Not-Past
 [Lit. It did not happen that anybody saw me.]

- b. 'I saw nobody'
 boku-wa **dare-mo** mi-**nak**-atta
 I-Top anybody see-Not-Past
 [Lit. I did not see anybody.]
- c. 'Hanako saw nothing.'
 Hanako-wa **nani-mo** mi-**nak**-atta.
 Hanako-top anything see-Not-Past
 [Lit. Hanako did not see anything.]
- d. 'Hanako read no book.'
 Hanako-wa **dono hon-mo** yoma-**nak**-atta.
 Hanako-Top any book read-Not-Past
 [Lit. I did not read any book.]

In (4a-b), for example, negation is solely expressed by the postverbal particle *nak*, and the indefinite pronoun *dare-mo* would be suitably translated as 'anybody' or 'everybody'. The same is true of (4c-d), where *nani-mo* and *dono hon-mo* would approximate the meanings of 'anything' and 'any book', respectively.

Thus, while English has negative pronouns and NPs, Japanese does not have any. This naturally raises the question how this difference can be stated in an optimal theory of grammar and linguistic typology. An easy 'solution' might be simply to state that these two languages differ in the content of their lexicons: the English lexicon has negative pronouns, but the Japanese lexicon does not; or that English has a negative quantifier that can modify a noun or noun phrase, Japanese does not. This is simply a restatement of the fact but surely not a solution, however, as it would beg the question of why the two languages should differ precisely in this way but not, say, the other way around. This simplistic view also runs into a problem when we consider a language--Mandarin Chinese--that exhibits a distributional pattern of negative pronouns and NPs somewhere between the two extremes represented by English and Japanese. In Mandarin, counterparts of 'nobody' (*meiyou ren*) or 'not a single book' (*meiyou yiben shu*) can appear as subjects of sentences but not as objects:

- (5) a. **meiyou ren** kanjian wo.
 No person saw me.
 Nobody saw me.
- b. *wo kanjian-le **meiyou ren**.
 I saw no person.
 I saw nobody.
- (6) a. **meiyou yiben shu** tidao ta.
 no one book mention he
 Not a single book mentioned him.
- b. *ta tidao **meiyou yiben shu**.
 he mentione not one book

He has mentioned no book.

A negative object is allowed if placed in a preverbal topic or adjunct position (see 7). Or the discontinuous strategy will be needed (8):

- (7) a. **meiyou yiben shu** ta kanguo.
not one book he read
No book has he read.
- b. ta **meiyou yiben shu** kanguo.
he not one book read
He has no book read.
- (8) a. ta **meiyou** kanjian **renhe ren**.
he not see any person
He did not see anybody.
- b. ta **meiyou** tidao **renhe yiben shu**.
he not mention any one book
He has not mention any book.

The same restrictions apply to quantificational temporal expressions that normally appear in postverbal position:

- (9) a. ta xiao-le **yi-zheng tian**.
he laughed one-whole day
He laughed a whole day.
- b. *ta xiao-le **meiyou yi tian**.
He laughed not one day
He laughed for not a day.
- c. ta **meiyou yi-tian** xiaoguo.
ta not one day laughed
He for no day laughed.
- (10) a. ta zhi tiaoguo **yi ci**.
He only danced one time.
He danced only once.
- b. *ta tiaoguo-le **meiyou yi ci**.
He danced not one time
He danced not once.
- c. ta **meiyou** tiaoguo **yi ci**.
he not danced one time

He did not dance once.

- d. ta **meiyou yi ci** tiaoguo.
 he not one time danced
 He not once danced.

In addition, a negative NP cannot occur as the object of a preposition (as in (11)) or as a possessor modifying another NP (as in (12)):¹

- (11) a. *ta ba **meiyou ren** da-si le. vs. ta **meiyou** ba **renhe ren** da-si.
 he BA no person kill asp he not BA any person kill
 He killed nobody. He did not kill anybody.
- b. *ta bei **meiyou ren** qipian le. vs. ta **meiyou** bei **renhe ren** qipian.
 he by no person cheat ta not by any person cheat
 He was cheated by no one. He was not cheated by anyone.
- c. *ta gen **meiyou ren** chuqu wan le. vs. ta **mei** gen **renhe ren** chu-qu wan.
 he with no person go-out play asp he not with any man go-out play
 He went out to have fun with no one. He did not go out with anyone.
- (12) a. *wo tou-le **meiyou ren** de shu. vs. wo **meiyou** tou **renhe ren** de shu.
 I stole no person 's book I not steal any person 's book
 I stole no one's book. I did not steal anyone's book.
- b. *wo zhan-le **meiyou ren** de pianyi. vs. wo **meiyou** zhan **renhe ren** de pianyi.
 I took-asp no person 's advantage I not take any one 's advantage
 I took advantage of no one. I did not take advantage of anyone.
 [Lit. I took no one's advantage.] [Lit. I did not take anyone's advantage.]

Note that the restrictions on negative NPs we are observing clearly do not apply to positive NPs, which can freely occur in postverbal positions:

- (13) ta kanjian-le ren/yi-ge ren/na-ge ren le.
 he see-perf one person
 He saw some people/someone/that person.

The descriptive generalization about Mandarin Chinese is then that negative pronouns or NPs corresponding to *nobody*, *nothing*, *nowhere*, *not a single book*, etc., can occur in the position of a topic, a subject, or a preverbal adjunct; they cannot occur as a postverbal object of the verb, the object of a preposition, a postverbal complement, or as a possessive determiner.

This descriptive generalization about Mandarin seems to apply to some other dialects as well, but appears not to apply when we consider Taiwanese. In the following examples, expressions like 'no book, no money, no job, no wife' appear quite comfortably in postverbal position:

- (14) goa chaikhi thak bo chhe
I morning read no book
'I read no book this morning.'
- (15) i than bo chiN, chhuei bo thaolo, tongjen ma chhua bo boh.
he earn no money, found no job, of-course and marry no wife
'He earned no money, found no job; of course he also married no wife.'
- (16) i ti kong saN, goa long sa bo liao-a mng.
he at say what, I all grasp no cottage door
'Whatever he is talking about, I am grasping no cottage door. (I'm totally lost.)'

The facts we have reviewed so far can be summarized tentatively in the following table:

- (17) Distribution of Negative NP (tentative):

	Preverbal	Postverbal
English	yes	yes
Japanese	no	no
Mandarin	yes	no
Taiwanese	yes	yes

And the problem is what explains this cross-linguistic pattern.

2. The Origin of Negative NPs

2.1. Taiwanese

There is reason to believe that the summary given in (17) about Taiwanese is not correct. In particular, the examples given in (14)-(16) show only that the language has *apparent* cases of postverbal *nobody*, *no job*, etc. It is a fact of Taiwanese that *bo* (literally 'not-have') and the affirmative form *u* 'have' may each be used to form a resultative compound with the preceding verb expressing the successful execution (or lack thereof) of an action or the (non) attainment of a desired result. (The counterparts *meiyou* and *you* in Mandarin and other northern dialects typically do not allow this usage.) Thus in the examples in (14)-(16), and indeed in all examples with apparent postverbal *nobody*, etc., the possibility exists that the negative *bo* 'not-have' forms a resultative compound with the preceding verb, but does not occur in construction with the following bare nominal to form a negative NP. That this is indeed the case in these examples is supported by substantial evidence.² First, the following examples show that the negative *bo* forms a constituent with the preceding verb:

- (18) a. Q: lin chaikhi khuaN wu chhe bo?
you morning read have book no
'Did you guys succeed in reading books?'

- b. A: i khuaN wu, goa khuaN bo.
 he read have I read no
 'He did, I did not.'

- (19) li chiN tan bo, taolo a chhuei bo, biangong boh ma chhua bo.
 you money earn not-have, job also found not-have, needless-say wife and marry not-have
 'You have been unsuccessful in money-making, also in job-hunting, then needless to say you are
 also unsuccessful in [your efforts to] get married.'

Second and more crucially, note that apparent postverbal negative NPs are found only with accomplishment verbs, or activity verbs turned into accomplishments by the addition of the resultative portion *bo* 'not-have' (as in (14)-(16)). They are not acceptable with statives which cannot be turned into accomplishments.

- (20) a. *goa ai bo lang. cf. goa chhuei bo lang.
 I love no person I found no person
 Intended: 'I love no one.' 'I found no one.'
- b. *i bat go-e lang, goa bat bo lang.
 he know 5-CL person, I know no person
 Intended: 'He knows 5 people, but I know none.'

Given these facts, the obvious generalization about Taiwanese is that it patterns with Mandarin Chinese as far as the distribution of negative NPs is concerned, and so the table in (17) should be revised as follows:

(21) Distribution of Negative NPs

	Preverbal	Postverbal
English	yes	yes
Japanese	no	no
Chinese languages	yes	no

2.2. The Syntactic Origin of Negative NPs

I suggest that an explanation of the cross-linguistic pattern (21) is readily available from the analysis of K.-K. Christensen (1991) of negative NPs in Norwegian. Christensen observes that, in a perfective sentence like (22), the positive NP *en bok* 'a book' can occur postverbally (see (22a)), but the negative *ingen bøker* 'no books' cannot (22b). A negative object would have to be preposed as in (22c), or the discontinuous strategy 'not . . . any books' must be used (22d):

- (22) a. Jon har kjøpt **en bok**.
 Jon has bought a book
 'Jon has bought a book.'

- b. *Jon har kjøpt **ingen bøker**.
Jon has bought no books
'Jon has bought no books.'
- c. Jon har **ingen bøker** kjøpt.
John has no books bought
'Jon has no books bought.'
- d. Jon har **ikke** kjøpt **noen bøker**.
John has not bought any books
'John has not bought any books.'

The same restriction is observed with Icelandic *engar bökur* 'no books':

- (23) a. *Jón hefur keypt **engar bökur**.
Jón has bought no books
'Jón has bought no books.'
- b. Jón hefur **engar bökur** keypt.
Jón has no books bought
'Jón has bought no books.'

This pattern is immediately reminiscent of the pattern observed above for Mandarin, again calling for a principled account. But the pattern in these Scandinavian languages is even more intriguing. Thus, although a postverbal negative NP is not permitted in a perfective sentence like (22b) and (23a), it sits comfortably following a simple-past main verb.

- (24) Arne kjøpte ingen bøker
Arne bought no books
'Arne bought no books.'

To make it even more perplexing, when the grammatical (24) is embedded in a complement clause (e.g., under 'John regrets that . . .'), it becomes bad again (25), yielding to the discontinuous form (26):³

- (25) *Jon beklager at Arne kjøpte ingen bøker.
John regrets that Arne bought no books
- (26) Jon beklager at Arne ikke kjøpte noen bøker.
John regrets that Arne not bought any books
'John regrets that Arne did not buy any books.'

The same pattern is illustrated in (27)-(29):

- (27) Arne så ingen.
Arne saw nobody

- (28) *Jon beklager at Arne så ingen.
John regrets that Arne saw nobody
- (29) Jon beklager at Arne ikke så noen.
John regrets that Arne not saw anybody

Similar contrasts obtain between main clauses and relative clauses:

- (30) Jón leser ingen romaner
'John reads no novels.'
- (31) *Dette er en student som leser ingen romaner.
'This is a student that reads no novels.'
- (32) Dette er en student som ikke leser noen romaner.
This is a student who not read any novels.
'This is a student who doesn't read any novels.'

Instead of the discontinuous strategy (e.g., (32)), the preposing strategy can also save the negative NP:

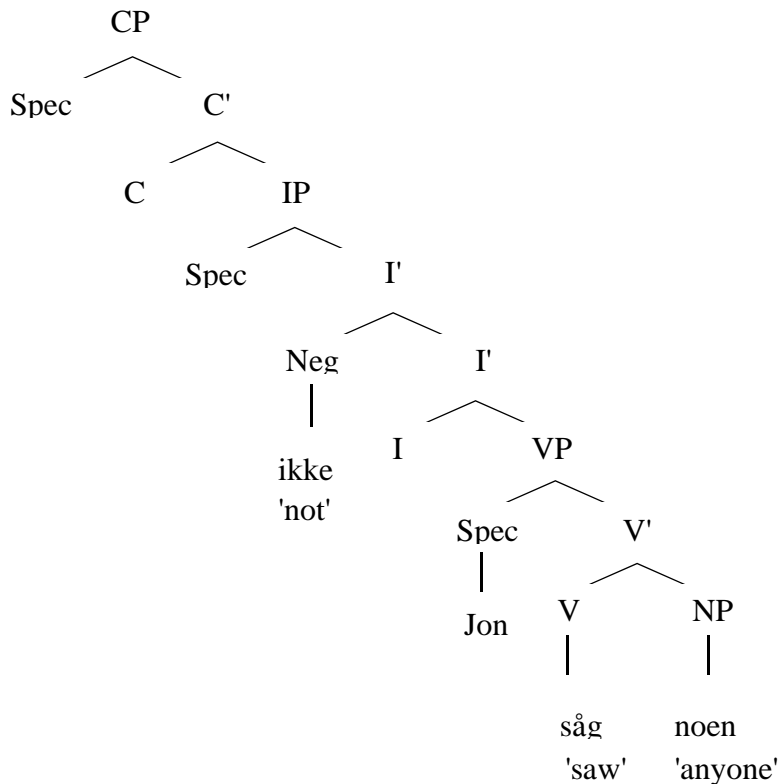
- (33) Dette er en student som ingen romaner leser.
This is a student who no novels reads.
'This is a student who no novels reads.'
- (34) Ingen romaner har Jon lest.
No novels has John read.

The subject position, being preverbal, can of course also host a negative NP:

- (35) Ingen studenter leser romaner.
No students read novels.

That is, postverbal *nobody* is acceptable in a simple tensed root clause, but not when embedded under an aspectual auxiliary or as part of an embedded clause (even without an auxiliary). Christensen's generalization is that postverbal negative NPs are grammatical just in case you have Verb Second, i.e., when the main verb has been moved to C in CP. She accounts for this fact by adopting Klima's (1964) early analysis of English *nobody* as being syntactically derived from the conflation of *not anybody* under adjacency. The distribution of *nobody* in Norwegian simply reflects the range of environments where *not* and *anybody* are brought to be adjacent by syntactic transformations. Specifically, assume the following underlying structure for the grammatical *Jon så ingen* 'John saw nobody':

(36)



The subject *Jon* moves to first position, in Spec, CP and the main verb moves from V to I to C, ending in second position:

(37) $[_{CP} \text{Jon}_i \text{ såg}_v [_{IP} t_i \text{ ikke } t_v [_{VP} t_i t_v \text{ noen}]]]$
 John saw not anybody

This gives rise to a string in which *ikke* and *noen* are phonetically adjacent, and a process of ‘conflation’ turns it into *ingen* ‘nobody’. (Presumably, the string reanalyzes as a constituent, thereby making conflation possible.) The postverbal *ingen bøker* ‘no books’ in (24) is derived in the same way, from the post-syntactic conflation under adjacency of *ikke noen boker* ‘not any books’. This analysis derives Christensen’s generalization that postverbal negative NPs is possible only when the main verb occupies C, i.e., only when it moves out of its lower position will the adverbial *ikke* will be adjacent to the polarity item *noen* for conflation to take place. The analysis correctly rules out postverbal negative NPs when the verb is embedded under an auxiliary (as in (22b), (23a)). The underlying structure for (22b), for example, would be:

(38) $[_{CP} e [_{C'} e [_{IP} \text{ ikke } [_{ASPP} \text{ har } [_{VP} \text{Jon} \text{ kjøpt } \text{ noen } \text{ bøker}]]]]]$.
 not has John bought any books

The relevant (successive) movements place the subject *Jon* in [Spec, CP] and the auxiliary *har* in C:

- (39) [CP Jon [C har [IP ikke [ASPP t_{har} [VP t_{Jon} kjøpt noen bøker]]]]].
 John has not bought any books

The main verb *kjøpt* does not move into C but continues to intervene between *ikke* and *noen bøker* (as it does in (38)), hence preventing conflation from taking place.⁴ The same analysis also explains why postverbal ‘nobody’, ‘no books’ are impossible in subordinate clauses (see (25), (28), and (31)). It is a well known fact that in many V-2 languages the embedded verb does not move into C because C is already filled with an overt complementizer (e.g., *at* in (26) and (29)). The embedded verb is thus stuck between *ikke* and *noen (N)*, again blocking the formation of *ingen (N)*.

We saw that although an object NP of the form *ingen N* is not allowed in postverbal position, it is acceptable if preposed before the verb (see (22c) and (33)-(34)).⁵ According to Christensen’s analysis, such examples are not derived by preposing a postverbal *ingen (N)*, but by preposing the polarity item *noen (N)* and placing it immediately after *ikke*, hence making conflation possible:

- (40) Jon har ikke noen bøker_i kjøpt t_i. → Jon har ingen bøker kjøpt.
 John has not any books bought John has no books bought
 ‘Jon has not any books bought.’

The result of conflation can undergo further movement, as in *Ingen bøker har Jon kjøpt* ‘No books has John bought’ (cf. (34)). Finally, a negative subject NP (as in (35)) is derived by base-generating *noen studenter* in Spec, VP immediately after *ikke*. The result of conflation then moves to Spec, IP.

In short, a negative NP is possible only if there exists an adjacent string consisting of ‘not’ immediately followed by a polarity item that it licenses, at some stage of syntactic derivation. If any material intervenes between the negation and the polarity item, two strategies exist to create adjacency: (a) by vacating the intervening material (e.g., verb movement), or (b) by preposing the polarity item across the intervening material.

3. Distribution of Negative NPs across Languages

It appears that the basic insight of Christensen’s analysis for Norwegian provides an answer to the questions raised above concerning the distribution of Negative NPs across a number of languages. First, the distribution of negative NPs in Chinese essentially mirrors the Norwegian pattern. A postverbal *meiyou ren* ‘nobody’ is always ruled out for the simple reason that, in Chinese, the verb does not move to I and, hence, also not to C.⁶ The result is that a postverbal polarity item ‘any person’ is always separated by the verb from the negative licenser. In other words, the discontinuous strategy is required:

- (41) [IP Zhangsan_i [I' . . . **meiyou** [VP t_i kanjian **renhe ren**]]]
 Zhangsan not see any person

The same account also explains why a negative NP cannot follow *ba*, *bei*, or prepositions like *gen* (see (11)). Since these items (whether analyzed as coverbs or prepositions) do not raise beyond the negative element in the underlying structure any more than verbs do:

- (42) [_{IP} ta [_{I'} . . . **meiyou** [_{VP} ba **renhe ren** [_{VP} da-si]]]].
 he not BA any person kill
 He did not kill anybody.

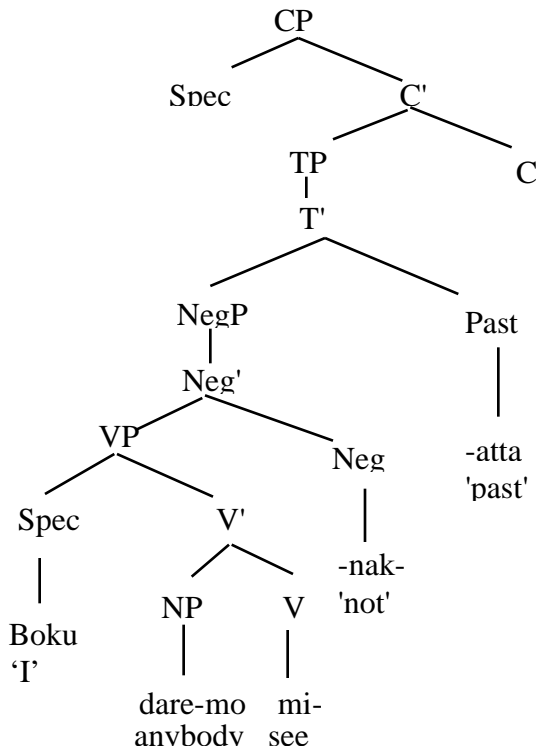
the occasion never arises for *meiyou* and *renhe ren* to conflate, under adjacency, into *meiyou ren* ‘nobody’, hence the ungrammaticality of (11a), etc. The lack of negative possessive phrases is explained in the same way. On the other hand, a negative NP readily occurs in subject position, or in a sentence in which the object is preposed:

- (43) [_{IP} Zhangsan [_{I'} . . . **meiyou** [_{VP} **yiben shu**_i [_{VP} kuan-guo t_i]]]]
 Zhangsan not one book read-exp
 Zhangsan has read not a single book.

In sum, Chinese and Norwegian are the same in that they allow negative NPs only where they could be derived from an adjacent sequence of sentential negation Neg followed by a “minimizing” or polarity QP. The two languages differ in how that sequence may come about: in Norwegian, an adjacent sequence may be created (i) either by vacating the verb between Neg and the polarity QP, (ii) or by fronting the QP to Neg, but in Chinese only the latter strategy is available.⁷

This same account also explains why Japanese does not have negative NPs at all. A typical negative sentence in Japanese has the negative element occurring after VP, as head of NegP:

- (44)



In order to create the equivalent of ‘nobody’, an adjacent string consisting of *dare-mo* ‘anybody’ and *-nak-* must be available, either by V movement or by QP movement. Whether or not Japanese has V to I to C movement is a controversial issue (cf. Fukui and Takano (1998) and Miyagawa (2001), among others). If V does not move, it intervenes between ‘anybody’ and ‘not’. If it does, notice for a fact that the movement is vacuous—the verb does not move around Neg, but simply left-adjoins to it. So again there is no adjacency. What about QP movement? This does not help either, since movement of *daremo* (as XP movement in general in Japanese) is leftward, and simply moves ‘anybody’ further away from Neg. Hence, there is no chance to make a negative NP.

The account for Norwegian, Chinese, and Japanese adopted above does not explain the seemingly free distribution of negative NPs in English. R. Kayne (1996), however, observes that there is a slight difference between (45a-b) and (45c):

- (45) a. Nobody loves me. (Benign)
 b. I don’t love anybody. (Benign)
 c. I love nobody. (Suggests a different register)

Klima (1964) shows that although *no* occurs in construction with *book* as part of an NP, the first sentence of each example below involves sentential negation:

- (46) a. John read no book today, not even a single page.
 b. John read no book today, and Bill didn’t, either.
 c. John read no book today, did he? (*Didn’t he?)
 d. John read no book today, and neither did Bill.

These facts might motivate a similar syntactic account in the terms described above. The following two sentences present no problem:

- (47) a. Nobody loves me.
b. John is nobody.

For (47a), *Neg* is adjacent to the subject in Spec, VP. We can assume that *Neg + anybody* → *nobody* applies and then *nobody* moves to Spec, IP. For (38b), auxiliary *be* vacates itself between *not* and *anybody*, enabling conflation to occur. The situation with (48) is different however:

- (48) John saw nobody.

Unlike auxiliaries *be* and *have*, main verbs do not move to I in English, as is well known since Pollock (1989) (after Emonds 1978). Then how does *neg saw anybody* give rise to *saw nobody*? Based on Kayne (1996, 1998), we can derive (48) as follows. First, from (49a), *anybody* is preposed, leading to (49b), which undergoes contraction, giving rise to (49c). Then the remaining VP containing the verb and the trace of *anybody* is preposed, giving rise to (49c), the representation for (48):

- (49) a. John not [_{VP} saw anybody] (underlying source)
b. John not [anybody_i [_{VP} saw t_i]] (QP-movement)
c. John nobody_i [_{VP} saw t_i] (*not + any* → *no*)
d. John [_{VP} saw t_i] nobody_i t_{VP}. (VP remnant movement)

The hypothesis that Remnant VP movement applies extensively in English also helps to derive the following (50) as in (51):

- (50) John has seen nobody.

- (51) a. John [not [has [_{VP} seen anybody]]]. (Underlying source)
b. John [has [not [t_{has} [_{VP} seen anybody]]]]. (*has* moves to I)
c. John [has [not [t_{has} [anybody_i [_{VP} seen t_i]]]]]. (QP movement)
d. John [has [nobody [_{VP} seen t_i]]]. (*not + any* → *no*)
e. John [has [[_{VP} seen t_i]_{VP} [nobody_i t_{VP}]]] (VP remnant movement)

For a sentence like (52) which is ambiguous as indicated, the two readings can be derived syntactically from different underlying sources as in (53) and (54):

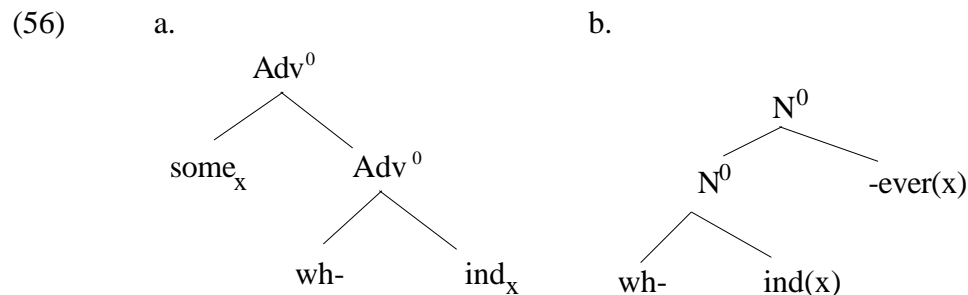
- (52) John has required that you talk to nobody.
a. John has required that No_x (you talk to x).
b. No_x (John has required that you talk to x).

- (53) a. John has required that you not [_{VP} talk to anybody]. (underlying source)
 b. John has required that you not [anybody_i [_{VP} talk to t_i]]. (QP movement)
 c. John has required that you nobody_i [_{VP} talk to t_i]. (*not + any* ←*no*)
 d. John has required that you [[_{VP} talk to t_i]_{VP} nobody_i t_{VP}]. (VP remnant mv't)
- (54) a. John not has [_{VP} required that you talk to anybody]. (underlying source)
 b. John has not t_{has} [_{VP} required that you talk to anybody]. (*has* moves to I)
 c. John has not t_{has} anybody_i [_{VP} required that you talk to t_i]. (QP movement)
 d. John has nobody_i [_{VP} required that you talk to t_i]. (*not + any* ←*no*)
 e. John has [_{VP} [_{VP} required that you talk to t_i]_{VP} nobody_i t_{VP}]. (VP remnant mv't)

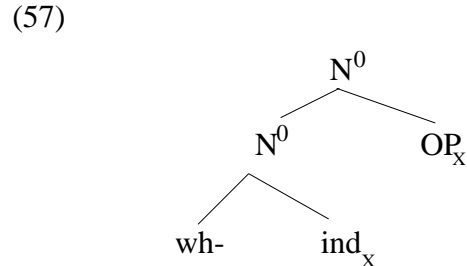
If this is the correct account of English,⁸ what we have seen is that the distribution of negative NPs is determined by (at least) the following factors: (i) V movement, (ii) QP movement, (iii) Remnant VP movement.

languages.¹¹ Syntheticty comes about not only as a result of inflection as a function of V to I movement; the creation of *nobody* itself is a similar phenomenon.

Thirdly, the typology of *nobody* correlates with the typology of *wh*-movement. Tsai (1994) argues convincingly that Huang's (1982) *wh*-movement parameter (between overt and covert *wh*-movement languages) should be viewed as a parameter between languages with *wh*-words that are "operator-variable complete," and those with *wh*-words that are not. For example, a *wh*-word in English (but not in Chinese) may have overt internal structure showing existential or universal quantification, as in *somewhat* and *whatever*. Such words may be analyzed as having an internal structure each containing a variable internally bound by an existential quantifier *some* or a universal quantifier *ever*, as follows:



In view of this, Tsai postulates the following internal structure for interrogative *what*, with a covert word-internal Question Operator binding a variable within the word:



Because of this complete internal structure, *what* in English is inherently interrogative and contains the relevant feature which makes its overt movement to Spec, CP obligatory. On the other hand, in Chinese, a *wh*-word is not inherently interrogative, nor does it show any evidence of any internally complete quantificational structure (unlike *somewhere* and *wherever*). Rather, a *wh*-word is indeterminate, devoid of any quantificational force (without being bound by any word-internal operator). A Chinese *wh*-word, instead, is a variable bound (and licensed) by an external element in the sentence. In the case of a *wh*-word to be used interrogatively, it is bound (and licensed) by a Q-Operator directly base-generated in the relevant Spec, CP. (See also Aoun and Li 1993 and Watanabe 1992.)

Under Tsai's conception, then, the interrogative phrase is continuous/synthetic in English (and other left-side languages) containing both operator and variable within the same word, whereas it is discontinuous/analytic in Chinese (and other right-side languages) with the operator separated from the variable at a distance. In the discontinuous strategy, base-generation of a null operator in Spec, CP precludes (overt) *wh*-movement. Hence the 'continuous languages' have *wh*-

movement, while the ‘discontinuous’ languages do not. Recall that ‘nobody’ is a continuous/synthetic strategy, and ‘not . . . anybody’ a discontinuous/analytic strategy. There is then a correlation between the typology of ‘nobody’ and the typology of *wh*-movement.

Another difference between English-type and Chinese-type languages concerns the distribution of ‘binominal *each*’ (Safir and Stowell 1987), as illustrated in the (b) sentence below:

- (58) a. John and Bill bought three books each.
b. They got two prizes each at the drawing.

These sentences with sequences like *three books each*, *two prizes each* involve the continuous strategy for these expressions. The discontinuous strategy is also commonly used:

- (59) a. John and Bill each bought three books.
b. They each got two prizes at the drawing.

Interestingly, Chinese does not permit ‘binominal *each*’. For the corresponding expressions, only the discontinuous strategy gives licit results:

- (60) a. Zhangsan gen Lisi ge mai-le san-ben shu.
Zhangsan and Lisi each buy-PERF three-CL book
Zhangsan and Lisi bought three books each.

b. tamen ge chou-dao-le liang-ge jiangpin
they each draw-get-PERF two-CL prize
They each drew two prizes.
- (61) a. *Zhangsan gen Lisi mai-le san-ben shu ge
Zhangsan and Lisi buy-PERF three-CL book each

b. *tamen chou-dao-le liang-ge jiangpin ge
they draw-get-PERF two-CL prize each

We can see this difference as yet another correlation to the difference in the distribution of negative NPs. In the spirit of Kayne (1998) we can derive the continuous binominal *each* sentences from their discontinuous counterparts. For example, (58a) may be derived from (59a) by moving the VP to a Spec position before *each*. On the other hand, since VP movement of the sort is not available in Chinese, no grammatical sentences of the form in (61) can be derived.

Finally, the distribution of negative NPs may be correlated to parametric variations in quantifier scope interpretation. It was pointed out in Huang (1982) that although English sentences exhibit quantifier scope ambiguities, Chinese quantificational sentences do not:

- (62) a. Everyone bought a book. (> or >)
b. Someone bought every book. (> or >)

- (63) a. mei-ge ren dou mai-le yi-ben shu

everyone all buy-PERF one-CL book
 Unambiguous: >

- b. (you) yi-ge ren mai-le mei-yi-ben shu
 (have) someone buy-PER every-CL book
 Unambiguous: >

In Huang (1982) it was suggested that the non-ambiguity of the Chinese examples follows from a general Isomorphic Principle (IP) requiring that the relative scope order of quantifiers correspond to their c-command relationship in overt syntactic structure. Thus if QP1 c-commands QP2 then QP1 has scope over QP2. (For the ambiguities in English, it was suggested that this derived from restructuring (or vacuous rightward movement of quantifiers), an option not available for right-side languages.) Aoun and Li (1989) showed that the IP should be modified so as to take into account the existence of movement (see also Kuroda 1965, Hoji 1985) Their modified principle says that QP1 may have scope over QP2 if QP1 c-commands QP2, *or a trace* of QP2. In the spirit of Kayne (1998) we may now attribute the ambiguity of the English sentences to the existence of multiple movements in the overt component, according to which both subjects and objects (as well as VP remnants) are moved away from their base positions. The general lack of quantificational ambiguity in Chinese, again, corresponds to the lack of such multiple movements in the language.

5. Summary

In this paper we have seen that interesting variations exist across languages in the distribution of negative NPs, and that these variations may be accounted for by adopting the view that negative NPs are syntactically derived from underlyingly discontinuous strings of sentential negation and related polarity items or minimizing noun phrases, by a process that reanalyzes the string under adjacency into a nominal constituent. The cross-linguistic differences are then derived from independent differences among languages with respect to whether they have processes that bring to adjacency such sequences for the purported reanalysis to take place. We saw that this view provides a step toward explaining why the observed linguistic variations are what they are, in a way that a simple stipulation of the observed facts does not. The ‘typology of negative NPs’ is directly correlated to the typology of verb-movement, etc.

It has also been shown that the cross-linguistic variations in the distribution of negative NPs is just one facet of a large pattern of variation between syntheticity and analyticity. With respect to word order, the left-side languages have their verbs moved higher than the right side languages. The left-side languages permit a relatively wider distribution of negative NPs than the right-side languages. Only left-side languages have binominal *each*, and only they have have (traditional) *wh*-movement. And in the matter of quantifier scope interpretation, whereas left-side languages exhibit considerable freedom in scope permutation, right-side languages exhibit scope rigidity.

Notes

¹ There is increasing evidence that *ba* and *bei* are higher verbs (or light verbs) but not prepositions. The same point could be made, however, with clear prepositions like *gen* ‘with’, *cong* ‘from’, etc.

² The existence of apparent postverbal negative NPs in Taiwanese was pointed out by Robert Cheng at the IsCLL 5 Conference. The point that such cases are not genuine postverbal NPs was also pointed out by Ting-chi Tang.

³ I am indebted to Eric Drewery and Ingvar Fløysvik, for providing me with important data from Norwegian as used here, and from Nynorsk, where virtually identical patterns obtain. I also thank Lynn Santalmann and Christoph Harbsmeier for sharing related patterns and variations from other Scandinavian languages.

⁴ Movement of the verb instead of the auxiliary *har* into C is ruled out by minimality requirements, i.e., the Head Movement Constraint (Travis 1984).

⁵ These sentences are often felt to be archaic or literary in usage.

⁶ See Huang (1997) for demonstration that while a verb in Mandarin may move to a higher verb position, a verb never moves into I or C.

⁷ Concerning Mandarin, one might reasonably suggest that the language (like Japanese) does not have a negative NP. All the putative negative NPs are simply a sequence of *mei you* ‘not have’ followed by a polarity NP that does not reanalyze into a negative NP constituent. My assumption is that it should be possible to optionally regard such a sequence as having reanalyzed into an NP, based on two considerations. First, native speakers tend to equate *nobody* with *meiyoun ren* (say, in word-for-word translation), even without realizing that *meiyoun ren* does not occur postverbally. Second, it was pointed out to me (by a member of the audience when I presented this material at Havorford College) that postverbal *meiyoun ren* is used by some young speakers, and also in pop song lyrics. For related discussion, see Tsai (1997).

⁸ One well known consequence of Kayne’s theory, in this respect as in general, is that syntactic derivations involve far more movement operations than meet the eye. An alternative would be to assume that while *nobody* may have been derived historically in a post-syntactic fashion, reanalysis has taken place so that it is now a lexical word.

⁹ Assuming that V does not move at all in Japanese, as in Fukui and Takano (1998).

¹⁰ Other things being equal. Recall that English has more occurrences of *nobody* than Norwegian does because of its extensive use of remnant VP movement.

¹¹ Agglutination (a property of head-final languages like Japanese) preserves the analyticity of given strings. In Fukui and Takano (1998) it is argued that functional heads successively cliticize (downward) to the left without altering the linear order among the heads.

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