LIN 393
Topics in Polarity and *Wh*-constructions
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The Postal / Szabolcsi Approach to NPI / PPI-licensing

1 The Traditional Approach

A commonly assumed approach to NPI-licensing:

(1) NPIs are expressions that are unacceptable unless they occur in a licensing environments.

The background assumption within the standard approach is that NPIs, existentials quantifiers, PPIs, negative quantifies (e.g. *anyone, someone, someone, no one*, respectively). are distinct lexical items at the point at which they enter the syntactic derivation.

The ungrammaticality of (2) is taken to follow from there being no licensor for *any thing*.

(2) *John saw any thing.

2 Postal (2000a, b) and Szabolcsi (2003) on NPIs

• Expressions corresponding to NPIs and Negative Quantifiers have the same underlying form.
• In this underlying form, they contain a number of semantically significant negations.
• Depending upon whether those negations stay in place or are removed (in a meaning preserving fashion), the expression is pronounced as *some, any*, or *no*.

→ this proposal is couched within a system that involves Late Insertion. The syntax itself manipulates features and the morphology spells out the output of syntax.

→ For Postal, the system is completely a part of the morphosyntax. For Szabolcsi, the process by which the negations are moved around is a semantic process which has particular morphological reflexes.

→ The semantic process Szabolcsi has in mind is 'the absorption of the licensor negation and the pertinent negative component of the NPI into a binary resumptive quantifier.'

Since the semantic mechanism is not outlined explicitly, Postal's morphosyntactic mechanism will be focused upon.

2.1 The Ambiguity of Any and No

A traditional assumption about the semantics of *any* and *no*:

(3) a. $[\![\text{any}]\!] = \lambda P \lambda Q \exists x [P(x) \wedge Q(x)]$
$= \lambda P \lambda Q \exists x \neg\neg [P(x) \wedge Q(x)]$
b. $[\![\text{no}]\!] = \lambda P \lambda Q \neg \exists x [P(x) \wedge Q(x)]$

Based on their behavior with exceptives, Postal (2000a, b) concludes that *any* and *no* are ambiguous. He proposes that they have the following semantic representations also.

(4) a. $[\![\text{any}]\!] = \lambda P \lambda Q \neg \exists x [P(x) \wedge Q(x)]$
b. $[\![\text{no}]\!] = \lambda P \lambda Q \neg\neg \exists x [P(x) \wedge Q(x)]$
$= \lambda P \lambda Q \exists x [P(x) \wedge Q(x)]$

2.1.1 The Ambiguity of NPI's

Exceptives generally appear only on universal and negative quantifiers.

(5) I met everyone / no one / *someone but John.

However, exceptives can appear on NPIs in certain environments.

(6) a. No one said anything but hello.
b. *At most five people said anything but hello.

Given the semantic equivalence of $\neg\exists x.P(x)$ (there is no x for which P holds) and $\forall x.\neg P(x)$ (P does not hold for all x), we can connect the acceptability of exceptives with negative quantifiers to the presence of a $\forall$ in the semantic interpretation.

Taking this line of reasoning further, Postal proposes that *anything* when it permits exceptives must also have a $\neg\exists$ representation.

The following contrast shows that only NPI's licensed by an anti-additive operator permit exceptives.

(7) a. No one / At most five people said anything.
b. No one / *At most five people said anything but hello.

NPI's that permit exceptives (because of the presence of an anti-additive licensor) allow for embedded (Negative) Inversion (cf. 8a).

(8) a. I don't think that **any gorilla (but King Kong)** would they try to train.
b. *At most five people think that **any gorilla** would they try to train.
(compare with: I think that **no gorilla (but King Kong)** would they try to train.)

If an anti-additive licensor is absent, embedded inversion is impossible (cf. 8b).

2.1.2 The ambiguity of Negative Quantifiers

The above discussion has tried to motivate the ambiguity of *any one*. To motivate the ambiguity of *no one*, Postal notes that *no one* cannot host exceptives when in the immediate scope of an anti-additive operator.

(9) a. I said nothing but hello.
b. *I didn't say NOthing but hello.

This is not a problem of Double Negation because that is in fact possible here.

(10) I didn't say NOthing (although I didn't say much). (= 'I said something')

2.1.3 The Two Representations

To sum up, Postal concludes that *any/no* are ambiguous between the following two semantic representations.

(11) a. Can host exceptives: $\lambda P \lambda Q \exists x \neg [P(x) \wedge Q(x)]$
b. Cannot host exceptives: $\lambda P \lambda Q \neg \neg \exists x [P(x) \wedge Q(x)]$

Perhaps a better way of thinking about this ambiguity is to think of there being two underlying feature bundles with the semantics in (11a, b) respectively. Depending upon where they are inserted and how their negations are manipulated, they can be pronounced as *any*, *no*, and as we shall soon see, *some*.

2.2 Pronunciation Rules: Part 1

For this discussion, it is best to think of negations as morpho-syntactic features.

(12) a. Negations come in two kinds: a strong kind and a weak kind.
b. A strong negation can only be deleted by an anti-additive operator.
c. A weak negation can be deleted by a Strawson-decreasing operator.
d. One negation can only delete one negation.

(13) a. The negation in the 'can host exceptives' representation is a strong negation.
b. The negations in the 'cannot host exceptives' representation are weak negations.

(14) a. Pronounce $\neg\exists$ as **no**
b. Pronounce $\exists$ as **any**

2.3 Some Derivations: Part 1

Exceptive NPI: $\neg\exists$

(15) No one said anything but hello.
a. Insert $\neg\exists$ in object position (for exceptive licensing)
b. Insert $\neg\exists$ in subject position
c. NEG in subject position is an anti-additive operator. Therefore it can delete the strong negation in object position.
Pronunciation: subject has one NEG $\rightarrow$ **no**, object has no NEG $\rightarrow$ **any**.

Note: *No one said anything* has a derivation identical to the above.

(16) *At most five people said anything but hello.
a. Insert $\neg\exists$ in object position (for exceptive licensing)
b. Insert Strawson-decreasing, but not anti-additive, *at most five people* in subject position
c. A Strawson-decreasing operator cannot delete a strong negation.
Pronunciation: object has one NEG $\rightarrow$ **no**
Output: At most five people said nothing but hello.

Note: The above derivation is substantially indetical to the derivation of *I said nothing but hello.*
Note: what are the judgements for *Few people said anything but hello*?
Non-Exceptive NPI: $\neg\neg\exists$

(17) No one / At most five people said anything.
a. Insert $\neg\exists$ in object position (for exceptive licensing)
b. Insert $\neg\exists$ / at most five people in subject position
c. The higher negation in object position deletes the lower negation.
d. This higher negation is a weak negation.
e. A Strawson-decreasing operator in subject position and can delete the higher negation in object position.
Pronunciation: the object has no NEG $\rightarrow$ **any**.

(18) *I said anything.

a. Option 1: insert $\neg\exists$ in object position. The NEG survives because there is no other NEG to delete it.

b. Option 2: insert $\neg\neg\exists$ in object position. The higher NEG deletes the lower negation. We are left with one NEG.

Pronunciation: in either option, the object has one NEG $\rightarrow$ **no**
Output: I said nothing.

Note that the ungrammatical sentences are not ungrammatical in the sense that they are first generated and then ruled out. They are ungrammatical because the system just does not generate them.

3 Bringing in PPIs

(19) $[\![\text{some}]\!] = \lambda P \lambda Q \neg\neg\exists x[P(x) \wedge Q(x)]$

The higher negation in the representation of a PPI is a strong negation which can only be deleted by an anti-additive operator.

We already have the following representations for NPIs and Negative Quantifiers:

(20) no, any:

a. Exceptive licensing: $\neg\exists$ (NEG is strong)

b. Non-Exceptive licensing: $\neg\neg\exists$ (NEG's are not strong)

Szabolcsi points out that the pronunciation rules of Postal's system have two gaps.

(21) Spelling out underlying $\neg\neg\exists$:

a. One NEG deleted DP-internally, other NEG stays in place:
$\rightarrow$ **no** (e.g. I didn't say NOthing.)

b. One NEG deleted DP-internally, other NEG deleted DP-externally:
$\rightarrow$ **any** (e.g. I didn't say anything.)

c. Both NEG's stay in place: ???

d. Both NEG's deleted DP-externally: ???

She proposes that these gaps correspond to PPI *some*:

(22) Spelling out underlying $\neg\neg\exists$ as *some*:

a. Both NEG's stay in place:
I said something.

b. Both NEG's deleted DP-externally:
Few people didn't say something.

(23) Few people didn't say something.

a. Insert $\neg\neg\exists$ in object position

b. The higher NEG in the PPI is a strong negation.

c. Verbal negation is anti-additive and deletes the higher NEG.

d. The lower NEG in the PPI is a weak negation.

e. *Few people*, a Strawson-decreasing operator, deletes the lower NEG.

Pronunciation: both NEG's are deleted DP-externally $\rightarrow$ **some**

(24) Modified Pronunciation Rules

a. One NEG $\rightarrow$ **no**

b. Two NEG's $\rightarrow$ **some**

c. No NEG's:

i. two NEG's licensed DP-externally $\rightarrow$ **some**

ii. Elsewhere $\rightarrow$ **any**

Note: the *elsewhere* clause takes care of the exceptive NPI also, which starts off with just one NEG.
Note: there is no underlying $\exists$.

3.1 The Activation Data

Cases to block:

(25) a. *No one said something.

b. *He didn't say something.

Note: * when *something* has scope under AA-Op. Ok if scoped higher.

Two options that can be easily ruled out:

(26) a. *AA-Op deletes one NPI-feature of the PPI, the other is left in place.
$\rightarrow$ object would be pronounced as **nothing**

b. *Both NPI-features of the PPI are licensed by the same AA-Op.
$\rightarrow$ We could stipulate that one negation / AA-Op can only delete one negation. But this stipulation is not necessary because in the semantic mechanism Szabolcsi has in mind, the result of a single AA-Op deleting both the negations of a DP is indistinguishable from the higher negation deleting the lower negation and being itself deleted by the AA-Op.
This would be pronounced then as **anything**.

An option that requires more work:

(27) *Both NPI-features of the PPI are left in place in the context of AA-Op

If this was possible, we would be able to generate (25).

3.2 Avoiding Double Negation

Szabolcsi introduces the following principle that indicates that Double Negation is dispreferred.

(28) **Activation Requirement**: When a strong-NPI feature occurs in **the immediate scope of a local antiadditive**, it cannot remain unlicensed (unless the antiadditive expresses denial). Resumption (Deletion) is obligatory in this configuration.

This principle also blocks the option in (27).

Support for Szabolcsi's principle in (28) comes from the unacceptability of certain instances of double negation.

(29) a. *No one didn't laugh. [unless denial]
b. Few people didn't laugh.

Double Negatives are, however, not ruled out across-the-board:

(30) a. No one said NOthing.
b. *No one said NOthing but hello. [unless denial]
c. No one said NOthing but hello. [$\surd$ as denial of 'Someone said NOthing but hello']

(31) a. I didn't say NOthing.
b. *I didn't say NOthing but hello. [unless denial]
c. I didn't say NOthing but hello. [$\surd$ as denial of 'I said NOthing but hello']

The basic cases:

(32) a. No one didn't laugh. [unless denial]
The AA-Op obligatorily deletes the verbal negation. The resulting structure would be pronounced 'No one laughed.'
b. Few people didn't laugh.
few people is not an AA-Op.

c. No one said NOthing.
The subject AA-Op deletes one of the negations in the object, yielding **NOthing**.
d. I didn't say NOthing.
Verbal negation, an AA-Op, deletes one of the negations in the object, yielding **NOthing**.

The case of the exceptives:

(33) *NOthing* must be underlyingly $\neg\exists$ to license the exceptive.
a. *No one said NOthing but hello.
b. *I didn't say NOthing but hello.
The higher AA-Op will delete the NEG on *Nothing*. The resulting structure would be pronounced *No one said anything but hello* / *I didn't say anything but hello*.

3.3 Returning to PPIs

We can now explain the ungrammaticality of (34).

(34) a. No one said something.
(*not $>$ some, unless denial)
b. I didn't say something.
(*not $>$ some, unless denial)

something would be introduced into the derivation as $\neg\neg\exists$. The condition against Double Negation would force deletion of the higher NEG by the AA-Op.
Consequently the object could not be pronounced as *something*.

It could be pronounced as *nothing* (if the lower negation was not deleted), or as *anything* (if the lower negation was deleted).

The first option of pronouncing the object as *nothing* is an odd one, because it does not preserve the intended meaning.

No one said nothing $\neq$ *No one said anything*

4 The Full System

To make sure that the deletion of negations preserves meaning, Szabolcsi proposes the following condition:

(35) The evenness condition on neg-deletion:
Only an analysis with an even number of chained neg-deletions is well-formed.

This proposal blocks the derivation of *No one said nothing* in (34). Such a derivation would involve an odd number of deletions.

The derivation leading to *No one said anything* would not have this problem. It would involve two deletions: the deletion of the inner NEG by the higher DP-internal NEG and the deletion of that NEG by the higher Strawson-decreasing operator.

4.1 Further Covert Negations

Adopting the evenness condition in (35) leads to the positing of some covert (i.e. unpronounced) negations.

(36) No one said anything (but hello).
- a. NEG_3-∃ NEG_2-V NEG_1-∃
($\rightarrow$ NEG_1 is deleted by NEG_2)
- b. NEG_3-∃ NEG_2-V ∃
($\rightarrow$ NEG_2 is deleted by NEG_3)
- c. NEG_3-∃ V ∃
- d. Pronunciation: no V any

Note: without (35), we did not need to postulate NEG_2.

4.2 Dispensing with the Exceptive Stipulation

The evenness condition allows us to dispense with the stipulation that the negation on an NPI that permits an exceptive is a strong negation. This stipulation handled the following contrast:

(37) a. No one said anything (but hello).
b. *At most five people said anything (but hello).

To derive (37b), we'd need something like the following:

(38) a. At-most-5 NEG_2-V NEG_1-∃
($\rightarrow$ NEG_1 is deleted by NEG_2)
b. At-most-5 NEG_2-V ∃
(** At-most-5 cannot delete the AA-Op NEG_2 **)
c. Illegitimate Derivation: odd number of deletions!

Also consider the closely related (39).

(39) I didn't say anything but hello.
- a. NEG_3-did NEG_2-say NEG_1-∃
($\rightarrow$ NEG_1 is deleted by NEG_2)
- b. NEG_3-did NEG_2-say ∃
($\rightarrow$ NEG_2 is deleted by NEG_3)
- c. NEG_3-did say ∃
- d. Pronunciation: I didn't say anything.

Note: this derivation requires postulation of a covert negation on *say* to satisfy the evennes condition.

4.3 Some Additional Derivations

(40) No one saw NO dog.
- a. NEG_4-∃ NEG_3-V NEG_2-NEG_1-∃
- b. NEG_4-∃ NEG_3-V NEG_2-∃
- c. NEG_4-∃ V NEG_2-∃
- d. Pronunciation: No one saw NO dog.

(41) John / Few people didn't say anything.
- a. John / Few people NEG_3-V NEG_2-NEG_1-∃
- b. John / Few people NEG_3-V NEG_2-∃
- c. John / Few people NEG_3-V ∃

(42) Few people said anything.
- a. Few people V NEG_2-NEG_1-∃
- b. Few people V NEG_2-∃
- c. Few people V ∃

Note: *few people*, a Strawson-decreasing operator can delete NEG_2 but would not have been able to delete a verbal negation (had there been one), which would have been an AA-Op.

(43) *No one said something.

a. Potential Initial Representation 1:
NEG_3-∃ V NEG_2-NEG_1-∃
No way to derive delete two DP-internal negations DP-externally i.e. no way to derive *no one said something*.

b. Potential Initial Representation 2:
NEG_4-∃ NEG_3-V NEG_2-NEG_1-∃
NEG_4-∃ NEG_3-V NEG_1-∃
NEG_4-∃ V NEG_1-∃
NEG_4-∃ V ∃
(** Derives the target, but has three deletions, hence illegal **)

(44) Few people didn't say something.

a. Few people NEG_3-V NEG_2-NEG_1-∃
(NEG_2 deletes NEG_1)

b. Few people NEG_3-V NEG_2-∃
(*Few People* deletes NEG_2)

(45) Underlying and Final Representations:

a. No one / Few people / At most 5 people said anything.
Underlying: NEG_3-∃ V NEG_2-NEG_1-∃
Final: NEG_3-∃ V ∃
Deletions: (NEG_3-NEG_2, NEG_2-NEG_1)

b. No one said anything (but hello).
Underlying: NEG_3-∃ NEG_2-V NEG_1-∃
Final: NEG_3-∃ V ∃
Deletions: (NEG_3-NEG_2, NEG_2-NEG_1)

c. No one said NOthing.
Underlying: NEG_4-∃ NEG_3-V NEG_2-NEG_1-∃
Final: NEG_4-∃ V NEG_2-∃
Deletions: (NEG_4-NEG_3, NEG_2-NEG_1)

4.4 Dispensing with strength altogether

To handle the fact that only anti-additive operators (and not merely Strawson-Decreasing operators) 'trigger' PPIs, Szabolcsi states that the outer negation in PPI *some* is a **strong** negation, one that can only be deleted by an anti-additive operator.

It seems that once we have the evenness condition, we can dispense with the notion of strength altogether.

We already have a quantifier: ¬¬∃

(46) a. Every teacher gave few students some book.
SDE_2 SDE_1 Neg_2-Neg_1-∃
SDE_2 SDE_1 Neg_1-∃
SDE_2 SDE_1 ∃

b. *No teacher gave John some book.
Neg_4-∃ Neg_3-V Neg_2-Neg_1-∃
Neg_4-∃ Neg_3-V Neg_1-∃
Neg_4-∃ Neg_3-V ∃
Neg_4-∃ V ∃
Illegitimate Derivation: Three Deletions!

An alternate derivation where no deletions take place is blocked by modifying the Activation Requirement in (28) to require that when the outermost negation in a quantifier can be deleted, it must be deleted.

c. Few teachers gave no student some book.
SDE Neg_3-∃ Neg_2-Neg_1-∃
SDE Neg_3-∃ Neg_1-∃
SDE Neg_3-∃ ∃

5 Two Phrasal Polarity Items from Hindi

5.1 Compound Verbs as PPIs

Compound verbs are drawn from a small class of verbs such as *jaa* 'go', *le* 'take', *ḍaal* 'put', *de* 'give', *baiṭh* 'sit' and a few others.

(47) (from Hook (1979), pg. 63)

a. *jaa* 'go':

ham steshan pahũch gaye
we station reach GO-Pfv.MPl

'We got to the station.'

b. *le* 'take':

mẼ kabaab khaa lũ:gaa
I kabab eat TAKE-Fut.1MSg

'I'll eat up the kababs.'

c. *de* 'give':

is-ne sabkuchh bataa di-yaa
s / he-Erg eveything tell GIVE-Pfv

'S / he told all.'

When used in the compound verb construction, the above verbs do not contribute their lexical meaning. Instead the semantic contribution concerns aspect, manner, and for *le* 'take', modality.

Complex verb construction behave like positive polarity items. They cannot co-occur with a surface negation, unless that negation is in some sense (that needs to be made precise) cancelled.

(48) (from Hook (1974), pg. 221)

a. lagaan ghaṭaa di-yaa gayaa
land-tax.m reduce GIVE-Pfv.MSg Pass-Pfv.MSg

'The land tax was reduced.'

b. #lagaan ghaṭaa nahĩ: di-yaa gayaa
land-tax.m reduce Neg GIVE-Pfv.MSg Pass-Pfv.MSg

c. 'Double Negation':

koi vajah nahĩ: ki lagaan ghaṭaa nahĩ: di-yaa jaa-e
some reason Neg that land-tax.m reduce Neg GIVE-Pfv.MSg Pass-Sbjv.MSg

'There is no reason that the land tax should not be reduced.'

5.2 Inabilitative Passives

In addition to the standard passive meaning, passive constructions in many Indo-Aryan languages have an additional modal meaning.

(49) (from Pandharipande (1979):96)

mujh-se kuchh-bhii kah-aa nahĩ: gayaa
I.Obl-Instr something-'even' say-Pfv Neg Pass-Pfv

'I couldn't say anything.'

Other names:
- capabilitative passive (cf. Balachandran (1973))
- passive of 'incapacity' (cf. Hook (1979))
- 'inability' passive (cf. Davison (1982))
- capacity passive (CP) (cf. Rosen and Wali (1989))

An overt modal *sak* 'able / possible' can appear in the inabilitative without particularly changing the meaning.

(50) mujh-se kuchh-bhii kah-aa nahĩ: jaa **sak**-aa
I.Obl-Instr something-'even' say-Pfv Neg Pass Able-Pfv

'I couldn't say anything.'

For most speakers, the inabilitative construction can only appear in affective environments.

(51) Negation

a. ???Saira-se peṛ ukhaaṛ-e jaa-te hẼ
Saira-Instr tree.m uproot.Pfv.MPl Neg Pass-Hab.MPl be.Prs.Pl

'?Trees are uprooted with Saira.'

b. Saira-se peṛ ukhaaṛ-e nahĩ: jaa-te
Saira-Instr tree.m uproot.Pfv.MPl Neg Pass-Hab.MPl

'Saira is unable (to bring herself) to uproot trees.'

c. mujh-se Dilli nahĩ: jaa-yaa gayaa
I-Instr Delhi Neg go-Pfv Pass.Pfv

'I couldn't (bring myself to) go to Delhi.'

In all of the following examples, removal of the affective environment causes the modal reading to disappear, and the structure as a whole is degraded.

(52) *only*

Vikram-se sirf ek peṛ kaaṭ-aa gayaa
Vikram-Instr only one tree cut-Pfv Pass.Pfv

'Vikram could only cut one tree.'

(53) Question with expectation of a negative answer (from Hook (1979):154)

bas ek-hii din-mẽ tum-se itnaa kaam ki-yaa jaa-egaa
just one-only day-in you-Instr this-much work do-Pfv Pass-Fut

'Will you be able to do so much work in a single day?'

(54) Conditional (modified from Hook (1979):154)

[agar aap-se bayaan ki-yaa jaa-e] [to hum-bhii sun-ẽ]
if you-Instr narration do-Pfv Pass-Sbjv then we-also listen-Sbjv.1Pl

'If you can bear to describe it, we'd like to listen, too.'

(55) Adverbial conveying difficulty / unlikelihood

Dilli itnii duur thii ki mushkil-se-hii vahã: pahũch-aa
Delhi.f this-much.f far be.Pst.f that difficulty-Instr-only there reach-Pfv
jaa-taa thaa
Pass-Hab be.Pst

'Delhi was so far that only with difficulty could one get there.'

(56) ‘Neg-Raising’

mujhe nahĩ: lag-taa ki [Hindustan-ke raajaaõ-se apne puraane haq jaldii
me.Dat Neg feel-Hab that India-Gen.Obl kings-Instr self’s old rights soon
tyaag ki-ye jaa-ẽge
sacrifice do-Pfv.Pl Pass-Fut.MPl

‘It doesn’t seem to me that India’s royalty will be able quickly to relinquish their ancient prerogatives.’

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