Eliminating modules in Minimalism

Anastasia Giannakidou and Jason Merchant
University of Groningen and University Chicago
{giannaki, merchant}@uchicago.edu

1 Introduction: Modules and filters


1. Binding Theory
2. Control
3. Theta-theory
4. Case theory
5. Quantification
6. Ellipsis
7. Polarity

≈ Filters on representations; often post-derivational output filters on LF structures

(1) T-model:

\[
\begin{array}{c}
T_0 \\
1 \downarrow \\
T_S \\
2 \downarrow \quad 3 \\
T_{PF} \quad T_{LF}
\end{array}
\]

(2) J-model:

\[
\begin{array}{c}
T_0 \\
1 \downarrow \\
T_S = T_{LF} \\
2 \downarrow \\
T_{PF}
\end{array}
\]

- Wide consensus that Theta-theory and Case do not form modules (see Hornstein 2001)

Goal here: Get rid of the last ‘modules’ as well
Approaches to quantification:

Non-movement: HPSG, CCG, LFG (Cooper storage, type-shifting)
Chain-based: Brody 1995
Movement: GB, some Minimalism (QR)
Scope-movement: Beghelli and Stowell 1996

QR is not Minimalist: Can we do without it?
Yes: Hornstein, Johnson, Brody, Kitahara, and others

2 Doing without QR

Two motivations for QR: 1. scoping
2. antecedent-contained deletion

2.1 Quantification

Can we do quantification in a Minimalist theory with no covert movement at all? (Pushing a Chomsky 2000, 2001a,b type theory?)


(3) A student snoozed.

Syntax: \[ XP \ X[Q:a] [ [a student] snoozed ] ] \]
Semantics: \[ a \lambda f [ snoozed(f(student))] = \exists f [ snoozed(f(student))] \]

Extended to all quantifiers (Sauerland 1998), but with Q features instead of movement + reconstruction

(4) A student read every book.
(5) a. \[ XP \]
\[ X[Q:a] YP \]
\[ Y[Q:every] ZP \]
\[ a \text{ student read every book} \]

b. Application of AGREE to the pairs \( Q:a, \text{a student} \) and \( Q: \text{every, every book} \)
Application of AGREE between the probe (Q feature on a higher head) and the goal (matching valued Det in DP) alters the goal. (uQ uninterpretable on Det)

Essentially, we're scoping just the quantificational determiner (cf. Kitahara 1996, Sauerland 1998, de Mey 1999)

Interpreting these structures is straightforward: x and y are variables over choice functions

\[ a \, \lambda f[ \text{every} \, \lambda g[ f(\text{student}) \text{ read } g(\text{book}) ] ] \]

where

\[ [[Q]](S) = 1 \text{ iff Q-many of } \min(\text{domain}(S)) \text{ are in } \{ f \mid S(f) = 1 \} \]  (Sauerland 1998:253)

\[ \text{e.g.} \]

\[ a. \, [[\text{two}]](S) = 1 \text{ iff two elements of } \min(\text{domain}(S)) \text{ are in } \{ f \mid S(f) = 1 \} \]
\[ b. \, [[\text{every}]](S) = 1 \text{ iff every element of } \min(\text{domain}(S)) \text{ is in } \{ f \mid S(f) = 1 \} \]
\[ c. \, [[\text{most}]](S) = 1 \text{ iff most elements of } \min(\text{domain}(S)) \text{ are in } \{ f \mid S(f) = 1 \} \]

\[ \min(C) = \{ f \in C \mid \forall g \in C: \text{domain}(g) \subset \text{domain}(f) \} \]

cf. Carpenter 1997:80ff (for type \( \tau \) and for \( P \in \text{Dom}_{c-t} \))

\[ [[\text{every}, i]](P) = 1 \text{ iff } P(a) = 1 \text{ for every } a \in \text{Dom}_i \]

Some freedom must be allowed with regard to which heads the Q features can appear on, and in which order:

\[ a. \]

\[ \text{a student read every book} \]

\[ \text{every} \, \lambda g[ a \, \lambda f[ f(\text{student}) \text{ read } g(\text{book}) ] ] \]
Locality effects

- Follow from locality of Agree
- Existential closure can still apply freely: \([ [ a ] ] = \lambda P.P\) (e.g. in (3))

Scope-marking features on functional heads:

“other devices might be employed to indicate scope and discourse-related properties: say, extra features on heads. But such devices have no independent motivation” (Chomsky 2001b: 8)

2.1.1 Positive independent morphosyntactic evidence for scope marking:

Scope-marking morphology:

German: *was* (cf. Romany, Hindi, Bangla, Japanese, Hungarian, etc.)
(see Lutz et al. 2000 for recent discussion)

(13) Was hat er geglaubt, mit wem sie gesprochen hat?
'With whom did he think she spoke?'

West Greenlandic Eskimo: (*tar-* for A-quantification, *(s)ii-* for D-quantification)
(Bittner 1995; our "SM" [Scope Marker] for her "TAR"/"AP" glosses)

(14) a. siurna Jaaku unammi-gaannga-t
   last.year Jaaku-ABS_{2} compete-when.iter-3sOBV_{2}
   Anna-p tama-tigut ajugaa-nirar-tar-p-a-a = (15a, *b)
   Anna-ERG_{1} all-QA_{3} win-say-SM_{3}-IND-[+tr]-3s_{1},3s_{2}

b. siurna Jaaku unammi-gaannga-t
   last.year Jaaku-ABS_{2} compete-when.iter-3sOBV_{2}
   Anna-p tama-tigut ajugaa-sar-nirar-p-a-a = (15a, b)
   Anna-ERG_{1} all-QA_{3} win-SM_{3}-say-IND-[+tr]-3s_{1},3s_{2}

(15) Scenarios:
   a. Last year, whenever Jaaku participated in a competition, Anna always said: "He has won."
   b. Last year, Anna said (once): "Whenever Jaaku participates in a competition, he always wins."

(16) Context: "Last year, Jaaku ordered five books. Yesterday when I talked to [his_{1} mother]..."
   a. ... suli atuakka-mik ataansi-mik
      yet [book-INS one-INS]
      tassumunnga tig-si-sima-nngi-nirar-p-a-a = (17*a, *b, c)
      him-DAT_{1} get-SM_{2}-PERF-NEG-say-IND-[+tr]-3s_{2},3s_{1}
   b. ... suli atuakka-mik ataansi-mik
      yet [book-INS one-INS]
      tassumunnga tig-sima-nngi-nira-i-v-u-q = (17a, b, *c)
      him-DAT_{1} get-PERF-NEG-say-SM_{2}-IND-[+tr]-3s_{3}
(17) **Scenarios**

a. Jaaku’s mother said: "He has already received four books. He's still waiting for *Tulluartoq* by Ole Brandt."

b. Jaaku’s mother said: "He has already received four books. He's still waiting for one book; I don't know which one."

c. Jaaku’s mother said: "No book has arrived yet. He's still waiting for all of them."

Greek clitic-doubling:

(18) [Enas giatros] eksetase to kathe paidhaki. a. = \(\forall \exists\)  
\(\begin{align*} 
\quad a \quad & \text{doctor examined the every child} \\
\quad b. \quad & = \exists \forall 
\end{align*}\)

(19) Enas giatros to eksetase to kathe paidhaki. a. =\(\exists \forall \)  
\(\begin{align*} 
\quad a \quad & \text{doctor it examined the every child} \\
\quad b. \quad & = \forall \exists 
\end{align*}\)

Discourse-related morphology (topic markers in Japanese, Aymara, etc.; focus markers in Finnish [-ko/kö], Hungarian, etc.)

2.1.2 **Negative morphosyntactic evidence against covert A′-movement à la QR**

Languages that register A′-movements in the morphosyntax (Irish, Chamorro and others) have not been reported to show this morphology in quantificational structures.

Cf. Chamorro: shows wh-agreement morphology for XPs adjoined to IP (Chung 1998:257)

(20) In-li′i’ [i palao’an [Oi, ni [lahi-ña j, j pāra binisita-mu j]].  
\(\begin{align*} 
\quad \text{agr-seethe woman Comp son-agr Fut WH[obj].visit-agr} \\
\quad \text{'We met the woman whose son you're going to visit.'} 
\end{align*}\)

Also for covert A′-movement, as in internally-headed relatives (Chung 1991:228)

(21) i [kine-ne-ña [guihan] i rai]  
\(\begin{align*} 
\quad \text{the WH.obj.catch-3s fish the king} \\
\quad \text{'the fish that the king caught'} 
\end{align*}\)

But not for regular in situ quantified DPs: (Chung 1998:113)

(22) a. Mang-ákati käda patgun.  
\(\begin{align*} 
\quad \text{agr-cry.Prog each child} \\
\quad \text{'Each child is crying'} 
\end{align*}\)

cf. focused, fronted DPs:

b. Kāda patgun [kum-ákati t ]  
\(\begin{align*} 
\quad \text{each child WH[nom].agr.cry.Prog} 
\end{align*}\)

**Consequences:**

- Feature movement is eliminated (see Chomsky 2001b)
- No "Modified Lexical Items"
2.3 Antecedent-contained deletion (ACD)

(23) **Argument:** I read every book you did.
(24) **Adjunct:** Tim likes to perform in the same clubs that Bill does.
(25) **NP-contained:** Beck read a report on every suspect Kollberg did.


(26) **The argument for QR from ACD** (from Kennedy 1997:664):

a. VP-deletion is licensed by an identity relation that holds at LF
b. Only QR generates a well-formed LF representation that licenses ACD.
   \[ \therefore \text{If ACD, then QR.} \]

Linkage to QR is natural given the scope-ellipsis parallelism pointed out by Sag:

(27) John refused to visit every city Mary did.
   matrix ellipsis resolution \(\rightarrow\) matrix scope (If elided VP = \(<\text{refused to visit}>\), then
   [every city…] must have scope outside \(\text{refuse}\))

As Jacobson notes, this follows as well from any theory that requires unitary semantic
antecedents to license the ellipsis:

(28) a. \(\forall x[\text{city}(x) \& \text{refuse}(\text{to visit }x)(\text{Mary})] \rightarrow \text{refuse}(\text{to visit }x)(\text{John})\)
b.* \(\text{refuse}(\forall x[\text{city}(x) \& \text{refuse}(\text{to visit }x)(\text{Mary})] \rightarrow (\text{to visit }x)(\text{John})\)

If the premise (26a) is false, the syllogism fails.

1.3.1 Problems for the LF-identity condition on ellipsis

Rooth 1992, Fiengo and May 1994:

(29) redundancy relation 2 semantic (Rooth’s ‘\(~\)’)

\[
\begin{array}{c}
\text{XP}_A \quad \text{XP}_E \\
... \text{VP}_A ... \\
\end{array}
\]

redundancy relation 1 syntactic (Fiengo & May’s ‘reconstruction’)

Rooth’s hypothesis is as follows:

“ellipsis should be possible exactly in configurations where
1. a verb phrase can be syntactically reconstructed, and
2. some phrase identical with or dominating the reconstructed phrase can be
related by the \(~\) relation to some phrase identical with or dominating the
reconstruction antecedent … .” Rooth 1992:18
XP_A \sim XP_E$, in Rooth’s terms.

(30) Abby was reading the book while BEN was reading.
(31) Abby called Chuck an idiot after BEN insulted him.

(32) [[ Abby was reading the book ]] \rightarrow [[ Abby was reading ]]' and
     [[ Abby was reading ]]' \in [[ BEN was reading ]]'

Ellipsis is unambiguous:
(33) Abby was reading the book while BEN was.
(34) Abby called Chuck an idiot after BEN did.

Fiengo and May 1994’s ’reconstruction’:
(35) **Isomorphism condition on ellipsis**
    Let E be a(n LF) phrase marker. Then, E can be deleted only if there is a(n LF) phrase marker A, A \neq E, such that A and E are structurally isomorphic.

(36) a. Abby was reading, but I don’t know what.
    b. Ben called — guess when!

(37) \begin{alignedat}{2}
    &\text{IP}_A &\quad &\text{CP} \\
    &\text{Abby} & &\text{I'} \\
    &\text{I} & &\text{DP}_2 \\
    &\text{VP} & &\text{C'} \\
    &\text{was} & &\text{what} \\
    &\text{reading} & &\text{C} \\
\end{alignedat}

[2] **Deleted infinitives**
(38) Decorating for the holidays is easy if you know how!
    a. \neq * ... how [decorating for the holidays]
    b. = ... how [to decorate for the holidays]

[3] ‘Modality’ switches
(39) I remember meeting him, but I don’t remember when [I met him].
(40) Bill mentioned his plans to do away with someone, but he didn’t mention who [he has plans to do away with]. < Ross 1969:275
(41) John seems to be happy and I can guess why [John is happy]. < Horn 1978:165
Contrast sluices

(42) She has five CATS, but I don’t know how many DOGS.
(43) She has [five CATS]F, but I don’t know how many DOGS [IP she has t].

‘Vehicle change’ in VP-ellipsis and sluicing

Vehicle change = The equivalence between (potentially complex) R-expressions and pronouns under ellipsis as in (44). (Fiengo & May 1994)

(44) a. They arrested Alex3, though he3 thought they wouldn’t.
   b. They arrested Alex3, though he3 didn’t know why.
(45) a. * He3 thought they wouldn’t arrest Alex3.
   b. * He3 didn’t know why they arrested Alex3.

Fiengo and May’s 1994 solution: ‘vehicle change’ which allows the value of the pronominal feature associated with nominals to vary within a ‘reconstruction’ (see also Giannakidou and Merchant 1998, Safir 1999.)

• Vehicle change is the name of a problem, not of a solution.

R-expressions in antecedents can license the deletion of pronouns in ellipsis sites.

(46) a. * [VP arrest Alex3 ]
b. [VP arrest [him]3 ]

Conclusion:

A wide variety of evidence points to the fact that ellipsis is licensed by identity of some kind of semantic representation, not of syntactic (LF) structures.

Probably a majority view on ellipsis, anyhow: Dalrymple, Shieber, Perreira, Hardt, Jacobson, Merchant, Gardent

How ACD looks in a QR-free theory:

(47) John read every book you did.
   a. IP
      John
      I’
      I[Q:every] VP
      read [every book you <read>]
   b. every λf [ read (f(book ∩ λx[book(x) & read(x)(you)]))(john) ]

Assume Fox 2002 is right, modified: the relative clause is adjoined in the binding domain of Q. After Agree, this yields:
3 Eliminating the ellipsis module

Abby was reading something, but I don’t know what {Abby was reading t}. 

Licensing the deletion
Deletion triggered by a feature E on C:
Lobeck 1995: only the null [+wh, -pred] C₀ of interrogatives license a null IP.
(ECP, government approach)
Recast: Featural matching requirements in a head-head relation.
• Call this feature E.

The syntax of E: (traditional licensing)
E[~[+wh], ~[+Q]] (co-opting Frampton and Gutmann’s 1999 notation)

• E must be checked by C[[+wh], [+Q]]

The phonology of E:
[φ_IP] → ∅ / E __

• E instructs PF not to parse its complement: this is PF-‘deletion’

The semantics of E: (traditional identification)
[[E]] = λp : p is e-GIVEN [ p ]

• E gives us a locus to impose the e-GIVENness requirement
(56) Abby was reading, but I don’t know what.
(57) but I don’t know
CP
DP₂
what
C'  
IP
Abby was reading ₜ₂

(58)  
\[ [\text{E}] ([\text{IP}] ) = \lambda p : p \text{ is e-GIVEN} . p ([\text{IP}] ) \]

Computation up the tree proceeds only if IP is e-GIVEN.

**Advantage:** The licensing (the local featural requirements of E) and identification (the semantic condition E imposes on its complement) requirements on ellipsis can be directly linked.

No separate ‘ellipsis module’ of the grammar is needed (i.e., no global, late, well-formedness condition need be imposed just on the structures containing ellipsis)

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4 (Negative) polarity and quantification

4.1 Polarity in grammar

(59) a John saw a student.
    b * John saw any student(s).
    c John didn’t see any students.
    d Did John see any students?
    e John may talk to any student.
    f Any student can solve this problem.

(60) *Ladusaw’s (1979) licensing condition*
  α is a trigger for NPIs in its scope iff α is downward entailing.

  Polarity raises the issue of semantic well-formedness.

Two ways of looking at this:

(A) Semantic filtering in the polarity module (Ladusaw 1986):

(61) **grammatical** (Φ) =_def_ **Syn** (Φ) ∧ **Sem** (Φ),
    where **Syn** is syntactic wff, and **Sem** is semantic wff
(B) Semantic ill-formedness $\rightarrow$ uninterpretability $\rightarrow$ ungrammaticality. There is a meaningful difference between infelicity (e.g. presupposition failure) and ungrammaticality (as in Heim and Kratzer 1998, Giannakidou 1998, 2001)

(62) **DEFINITION 1** (Polarity item). (Giannakidou 1998, 1999, 2001)
A linguistic expression $\alpha$ is a polarity item iff:
(i) The distribution of $\alpha$ is limited by sensitivity to some semantic property $\beta$ of the context of appearance; and
(ii) $\beta$ is (non)veridicality, or a subproperty thereof: $\beta \in \{\text{veridicality, nonveridicality, antiveridicality, modality, intensionality, extensionality, episodicity, downward entailment}\}$

(63) **DEFINITION 2**—*(Non)veridicality for propositional operators*

i. A propositional operator $F$ is veridical iff $Fp$ entails $p$: $Fp \rightarrow p$; otherwise $F$ is nonveridical.

ii. A nonveridical operator $F$ is antiveridical iff $Fp$ entails not $p$: $Fp \rightarrow \neg p$.

(See also Montague 1969, and Zwarts 1995).

(64) *Licensing by nonveridicality*

A polarity item $\alpha$ will be grammatical in a sentence $S$ iff $\alpha$ is in the scope of a nonveridical operator $\beta$ in $S$.

**Goal:**

Get rid of the polarity module and derive the limited distribution of PIs (sensitivity to nonveridicality and syntactic constraints) from independently motivated grammatical operations.

Getting rid of the polarity module means:

- Eliminating licensing and anti-licensing conditions as composition external filters: we have to derive them form the lexical semantics of PIs
- Eliminating negative concord: we don't want to have special 'absorption' rules
- Explaining apparent s-structure c-command
- Understanding the nature of intervention phenomena

**4.2 Establishing licensing conditions first**

Downward entailment (a) does not give empirically adequate licensing conditions; (b) it imposes licensing as a composition external filter.

(65) a No students saw anything.
    b John didn’t see anything.
    c * Some students saw anything.

(66) a Few children saw anything.
    b Everyone who knows anything should report to the police.
but there are many non-DE environments where PIs are fine

(A) Non-monotone quantifiers

(67) a % Exactly three students saw anything. (Linebarger 1980)
    b Neither student saw anything.
    c Nobody but John saw anything.
    d Almost nobody saw anything.

(B) Hardly/barely

(68) John {hardly/barely} talked to anybody.

(69) a John barely studied linguistics -> John barely studied syntax
    (for discussion see Atlas 1996 and Horn 2001)
    b John hardly talked to anybody -> John hardly talked to his mother

(C) Questions: at most non-monotone (Groenendijk and Stokhof 1984, 1997). Ladusaw 1979 admits the problem of questions and appeals to a pragmatic solution (based on anticipation of a negative answer, which is empirically not grounded).

(70) a Heb je ook maar iets gezien? (Dutch)
    ‘Did you see anything?’
    b Idhes {tipota/*otidhipote}? (Greek)
    Did you see anything?

(71) a kanenas (kanas), tipota, etc. (Affective PIs; APIs)
    b opjosdhipote, otidhipote, etc (Free choice items; FCIs)

| Problem: Presumably “strong” PIs (expected to be licensed by antiadditive or antimorphic triggers), are grammatical in non-DE sentences: e.g. questions, and the future/habitual. |

(72) a *Weinig mensen hebben ook maar iets gezien. (Dutch)
    ‘Few people saw anything.’
    b Niemand heeft ook maar iets gezien.
    ‘Nobody saw anything.’

(73) a * Liji anhropi idan tipota. (Greek)
    ‘Few people saw anything.’
    b * To poli pende anthropi idhan tipota.
    At most five people saw anything.
    c Ta pedhia dhen idhan tipota.
    The children didn’t see anything.
(D) The future
Modal context, either non-monotone or UE (Giannakidou 1995, Giannakidou and Zwarts to appear. Pls, let alone alleged 'strong' ones, are not expected to be grammatical there, but they are.

(74) a O Janis tha agoraśi {kanena/opjodhipote} bukali krasī.
    the J. will buy.3sg API- FCI bottle wine
    John will buy a/any bottle of wine.

b De kinderen zullen vertrekken zodra zij ook maar iets ontdekken.
    the children will leave.3pl as soon as they anything discover.3pl
    ‘The children will leave as soon as they will discover anything.’

(75) DEFINITION 3 — (Non)veridicality for temporal/aspectual operators
Giannakidou (to appear)
Let $F$ be a temporal/aspectual operator; $t$ an instant or an interval.
i. $F$ is veridical iff for $Fp$ to be true at a time $t$, $p$ must be true at a (contextually relevant) time $t' \leq t$. Otherwise $Op$ is nonveridical.
ii. A nonveridical operator $F$ is antiveridical iff for $Fp$ to be true at a time $t$, $\neg p$ must be true at a (contextually relevant) time $t' \leq t$.
iii. If $F$ is true of an interval $t$, then $F$ is veridical iff for all (contextually relevant) $t' \subseteq t$, $p$ is true at $t'$. Otherwise, $F$ is nonveridical. If for all (contextually relevant) $t' \subseteq t$, $\neg p$ is true at $t'$, then $F$ is antiveridical.

(76) $[[\textit{FUT } p]]_t = 1$ iff $\exists t', t < t'$, and $[[p]]_t = 1$ at $t'$
(77) $[[\textit{PAST } p]]_t = 1$ iff $\exists t', t' < t$, and $[[p]]_t = 1$ at $t'$

(E) The habitual/generic
Also non-monotone (Krifka et al 1995, and refs therein). Giannakidou 1995, Giannakidou and Zwarts to appear observe PI-licensing in habituials:

(78) a O Janis me idopious mołis eylepe kamia agelia.
    John me warned.impf. as-soon-as saw.impf.3sg any announcement
    'John used to call me as soon as he saw any job announcement.'
    NB: *At 8 pm, John called me as soon as he saw any job announcement."

b De kinderen vertrokken zodra zij ook maar iets ontdekten.
    the children left.3pl as soon as they anything discovered.3spl
    ‘The children left as soon as they discovered anything.’
    OK, as: ‘The children used to leave as soon as they saw anything.’

(F) Modal verbs:
Non-monotone, or worse, UE:

(80) a John may talk to anybody.

b Any minors must be accompanied by their parent.

c The search committee can give the job to any candidate.
(81) John {may/can/must} buy ice cream. -/→ John {may/can/must} buy Italian ice cream.
(82) John {may/can/must} buy Italian ice cream. → John {may/can/must} ice cream.

(G) Imperatives
Same as modal verbs and intensional contexts in general:
(83) Pare {kanena/opjodhipote} milo.
    take.2sg AP-          FC              apple
    ‘Take any apple.’

(H) Protasis of conditionals
Heim 1984 shows that it is not strictly speaking DE.
(84) An kimithis me {kanenan/opjondhipote}, tha se skotoso.
    if sleep.2sg with AP-     FC-person   fut   you kill.1sg
    If you sleep with anybody, I’ll kill you.
(85) a. If you go to Spain you will have a great time -/→
    b. If you go to Spain and get sick you will have a great time.

(I) Directive intensional verbs. Extensive discussion in Giannakidou 1998, 1999:
(86) a  John would like to invite any student.
    b  John asked us to invite any student.
    c  % I hope there is any left. (courtesy Larry Horn)
    d  * John believes that we invited any student.
    e  * John dreamt that we invited any student.
(87) I Ariadne epemine na afiso {opjondhipote/kanenan} na perasi mesa.
    the Ariadne insisted.3sg subj let.1sg FC-person subj come.3sg in
    ‘Ariadne insisted that I allow anyone in.’
(88) a  * O Pavlos pistevi oti akuse {kanenan/opjondhipote} thorivo.
      the Paul believe.3sg that .ind heard.3sg API /  FCI noise
      * Paul believes that he heard any noise.
    b  * Onireftike oti agorasa {kanena/opjodhipote} aftokinito
      dreamt.3sg that .ind bought.1sg API /  FCI car
      * He dreamt that I bought any car.

Giannakidou 1999: epistemic attitudes are veridical, but directive ones are nonveridical.

Approaches like von Fintel's 1999 Strawson's DE predict the good examples to be unacceptable because verbs like would like to and ask have the semantics of want, which is allegedly UE.

(K) Problematic restrictions of universals
Each and both versus every (Horn 1972, Giannakidou 1998, 1999).
(89) {Every student/ the students} who saw anything should report to the police. (But I doubt that there will be any such students).
(90)  a. *Each student who saw anything should report to the police. (But I doubt that there will be any such students).
    b. *Both students who saw anything should report to the police. (But I doubt that there will be any such students).

Nonveridicality extended to determiners: truth meets existence

(75) **DEFINITION 5** — *(Non)veridicality of determiners and quantifiers*

A determiner/quantifier $\delta$ is veridical w.r.t. its NP argument iff it holds that: $[[\delta \text{ NP VP}]] = 1 \rightarrow [[\text{NP}]] \neq \emptyset$; otherwise, $\delta$ is nonveridical.

For a general extension of (non)veridicality to other boolean types, see Bernardi 2002.

<table>
<thead>
<tr>
<th>There are PIs that don't fit the DE-hierarchy at all; e.g. free choice items (FCIs). These PIs are grammatical in the non-DE contexts mentioned previously, but are unacceptable in the scope of DE and negative operators, if episodic.</th>
</tr>
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(91)  c  *Dhen idha opjondhipote.

   *Dhen idha opjondhipote.

   not saw.perf.1sg FC-person

   (‘I didn’t see anybody.’)

d  ??Elaxisti fitites ipan otidhipote.

   ‘Very few students said anything.’

(For recent discussion on FCIs Giannakidou 2001; also Quer 1998, 2000 for Spanish and Catalan; and Horn 2000).

(92)  $\exists!e \phi(e)$ (episodicity)

(93)  *Non expulsaron del partido a cualquiera disidente.

   (not expel.3pl from-the party ACC FC dissident

   (‘They didn’t expel any dissident from the party.’)

(94)  *No li va explicar qualsevol conte de por. (Quer 1998: 220)

   not him aux.3sg to.tell FC tale of horror

   (‘S/He did not tell him any horror tale.’)

So we have to assume that the free choice sensitivity is not of DE- nature.

Conclusion:

DE is not enough. We need extension to nonveridicality in order to account for both DE- and non-DE triggering of PIs. See Zwarts 1995, for illustrating that DE $\subset$ nonveridical.

(95) **Licensing condition for FCIs** (opjosdhipote)

A FCI $\alpha$ is grammatical in a sentence $S$ iff:

(i) $\alpha$ is in the scope of a nonveridical operator $\beta$ in $S$; and
(ii) $S$ is not episodic.
A FCI $\alpha$ is grammatical in a sentence $S$ iff: $\alpha$ is in the scope of a nonveridical operator $\beta$ in $S$.

Anti-licensing condition regulating the distribution of any

i. Any is not grammatical in a sentence $S$ if any is interpreted in the scope of a veridical expression $\beta$ in $S$.

ii. In certain cases, clause i can be voided if $S$ gives rise to a negative implicature.

But we don’t want these conditions as composition-external filters; we want to derive them from the lexical semantics of FCIs (see also Israel 1996, Tovena 1998, Lahiri 1998).

4. 3 Deriving (anti)licensing for lexical semantics: enrich the ontology of variables

Observation:

| Some variables cannot be existentially closed in the ordinary way. |

* Idha {opjondhipote/kanena} fititi.
  saw.1sg FC/ AP student
  ‘*I saw any student.’

* Idha enan fititi.
  saw.1sg a student
  ‘I saw a student.’

(100) a $[[a \text{ student}]] = \text{student}(x)$
    b $\exists x [\text{student}(x) \land \text{saw}(I,x)]$  Existential closure (Heim 1982)

DEFINITION 6 — Dependent Indefinites (cf. Giannakidou 1998: 140)

An indefinite is dependent iff the variable $x_d$ it contributes cannot introduce a discourse referent in the actual world $w_0$.

This derives the need to be c-commanded by a licenser from the semantics. In the absence of a nonveridical licenser, $x_d$ cannot be $\exists$-closed and the structure is uninterpretable.
The Greek items *kanenas* etc are dependent; this is why they need to be embedded under a noveridical operator. In Giannakidou 2001, *any* is argued to be a depedent indefinite too. Den Dikken and Giannakidou 2002 include *wh-the-hell* phrases in this class.

4.3 Welcome result: s-structure c-command

Giannakidou 1998:

| Since they cannot be linked to discourse referents, dependent indefinites: |
| (a) cannot be interpreted outside the scope of negation; |
| (b) cannot be used as topics. |

Proposal:

These theses can be used to explain the mysterious requirement on s-structure c-command that holds under negation.

(103) a *Kanenan*, dhen idha.  
*Anybody, I didn’t see.

b *Kanenas* dhen irthe.  
*Anybody didn’t come.

(104) a Any student can solve this problem.  
b Any doctor will tell you that what you are saying is wrong.

Observation: indefinites in general seem to take scope above negation if they precede negation:

(105) a Dhio fitites dhen irthan.  
Two students didn’t come.

b A student didn’t come.

c Two students, we didn’t invite (them).

d We didn’t invite two students.

e We didn’t invite two American kings.

f # Two American kings, we didn’t invite (them). (see also Reinhart 1997)

(106) a $\exists X \ [ \text{student}(X) \land \text{card}(X)=2 \land \neg \text{came}(X)]$

b Not: $\neg \exists X \ [ \text{student}(X) \land \text{card}(X)=2 \land \text{came}(X)]$

c $\left[ \text{ip two students} \left[ \text{IP didn’t [VP t1 come]} \right] \right]$

c $\left[ \text{topicP dhio fitites} \left[ \text{ip dhen irthan [VP t1]} \right] \right]$

Preverbal subjects in Greek are topicalized (Philippaki 1984, Alexiadou and Anagnostopoulou 1998). In English, subjects undergo movement to a position higher than negation for case. In either case, the movement is not QR, but topicalization or case-driven.

(107) a $\exists X \ [ \text{student}(X) \land \text{card}(X)=2 \land \neg \text{invite} \ (we, X)]$

b $\neg \exists X \ [ \text{american-king}(X) \land \text{card}(X)=2 \land \text{invite} \ (we, X)]$

c $\# \exists X \ [ \text{american-king} \ (X) \land \text{card}(X)=2 \land \neg \text{invite} \ (we, X)]$
And some indefinites must scope above negation regardless of position.

(108) a  Some student didn’t come.
   b  I didn’t see some student.
   c  $\exists x \ [\text{student}(x) \land \neg \text{came} (x)]$
   d  $\exists x \ [\text{student}(x) \land \neg \text{saw} (I, x)]$

Q-binders:
(109) a  GENx [cat (x)] [hunt-mice (x)]
   b  CANw, x [student (x,w)] [solve (x, this problem, w)]

Note that indefinites that cannot scope below negation cannot be bound by Q-binders:
(110) a  Some cat hunts mice. NOT generic.
   b  Some student can solve this problem. NOT bound by the modal.

S-structure c-command explained:
If an indefinite appears above negation, it is topicalized. Dependent indefinites cannot be topicalized, therefore they can never appear preceding negation.

(111) * John didn’t say that any student he saw.

Extension: Specificity effects (Giannakidou 1998) follow:
(112)* I astinomia dhen boruse na vri [DP ton martira] [CP pu itan sigiros oti ixe dhi tipota].
   ‘* The police could not find the witness that was sure he saw anything.’
(113) I astinomia dhen boruse na vri [DP enan martira] [CP pu itan sigiros oti ixe dhi tipota].
   ‘The police could not find a witness that was sure he saw anything.’

(114) * [TopicP [DP ton martira pu itan sigiros oti idhe tipota]1 [TopicP i astinomia [IP dhen boruse [VP [CP na vri [DP t1 ]]]]]]

(115) Enan martira pu na (itan sigiros oti) ixe dhi tipota dhen boruse na vri i astinomia.
   ‘?A witness that (was sure he) saw anything, the police couldn’t find.’

Fronting with a PI is possible only with an indefinite with subjunctive.
4.4 Free choice items as intensional indefinites

Recall the licensing condition for FCIs:

\[(\text{opjospdhopte})\]

A FCI $\alpha$ is grammatical in a sentence $S$ iff:

(i) $\alpha$ is in the scope of a nonveridical operator $\beta$; and

(ii) $S$ is not episodic.

Giannakidou 2001: The difference between FCIs and regular indefinites is a type difference.

FCIs are intensional indefinites. They come with a $w$ variable that must be bound by an operator that can bind such a variable-- a $Q$, modal, or intensional operator. In an episodic context (veridical or not) there is no such operator, and the variable remains unbound, rendering the sentence with the FCI uninterpretable, thus ungrammatical.

Conclusions

1. A theory with Agree can do the work of QR: quantification and ACD resolution
2. Ellipsis module is eliminated by imposing the identity requirement in the lexical semantics of the E feature
3. Polarity module(s) also eliminated: lexical semantics of the items can derive the effects
References


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