Eliminating modules in Minimalism

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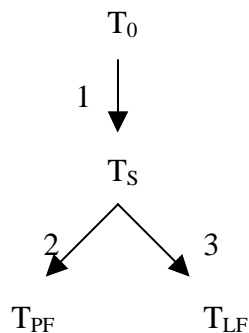
1 Introduction: Modules and filters

Some 'modules' in the sense of Chomsky 1981 et seq. ('I-modularity' of Hornstein 2001;
             some resemblance to modules as in Sadock 1991, Jackendoff 2002)
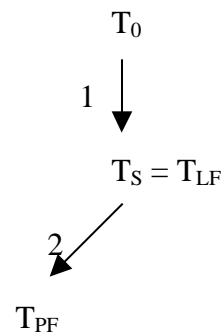
1. Binding Theory
2. Control
3. Theta-theory
4. Case theory
5. Quantification
6. Ellipsis
7. Polarity

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

(1)   T-model: (2)   J-model

- Recent work on eliminating 1 & 2 as modules: Hornstein 1999, 2001, Manzini and Roussou 1999 (cf. Bach and Partee 1984, etc)

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

Goal here: Gid 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)
	Piggyback: A-movement (Hornstein 1995, 1999, Kitahara 1996); scrambling (Johnson 2000)
	Scope-movement: Beghelli and Stowell 1996
	Interleaving: Groat and O'Neil 1996 et alii, Kayne 1998

QR is not Minimalist: Can we do without it?

Yes: Hornstein, Johnson, Brody, Kitahara, and others

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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?)
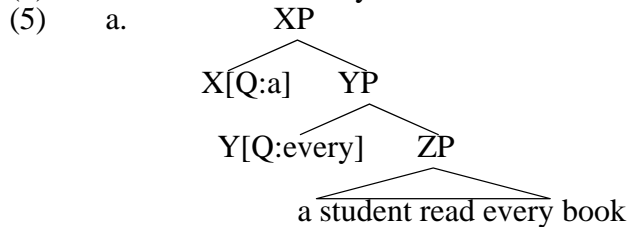
Here's how: Using choice functions (Reinhart 1997, Winter 1998)

(3)   A student snoozed.

Syntax: [$_{XP}$ X[Q:a] [[a student] snoozed]]]
Semantics: **a** f [snoozed(f(student))]   =
                  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

       b.   Application of AGREE to the pairs <Q:a, a student> and <Q:every, every book>

2

```
                    XP
                 ┌──────┴──────┐
              X[Q:a]          YP
                         ┌─────┴─────┐
                     Y[Q:every]      ZP
                                ┌─────┴─────┐
                          [x,student] read [y,book]
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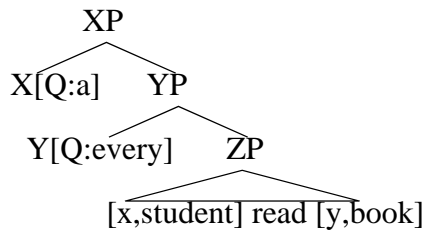
Application of AGREE between the probe (Q feature on a higher head) and the goal (matching valued Det in DP) alters the goal. (uQ uninterpretable on Det)

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

(6)   **a** f[**every** g[f(student) read g(book)]]

where
(7)   [[**Q**]](S) = 1 iff Q-many of min(domain(S)) are in { f | $S(f)$ = 1 } (Sauerland 1998:253)

e.g.
(8)   a. [[**two**]](S) = 1 iff two elements of min(domain(S)) are in { f | $S(f)$ = 1 }
        b. [[**every**]](S) = 1 iff every element of min(domain(S)) is in { f | $S(f)$ = 1 }
        c. [[**most**]](S) = 1 iff most elements of min(domain(S)) are in { f | $S(f)$ = 1 }

(9)   min(C) = { f ∈ C | ∄ g ∈ C: domain(g) ⊂ domain(f) }

cf. Carpenter 1997:80ff (for type and for P ∈ **Dom**$_t$)
(10)   [[**every**]](P) = 1 iff $P(a)$ = 1 for every a ∈ **Dom**

Some freedom must be allowed with regard to which heads the Q features can appear on, and in which order:
(11)   a.
```
                        XP
                   ┌──────┴──────┐
               X[Q:every]        YP
                            ┌─────┴─────┐
                        Y[Q:a]          ZP
                                   ┌─────┴─────┐
                            a student read every book
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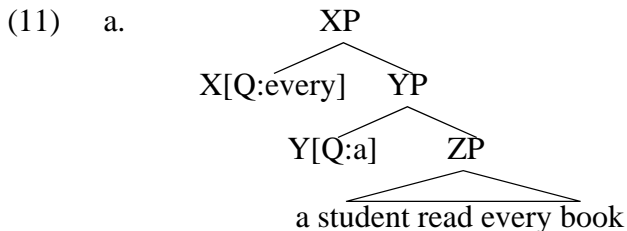
(12)   **every** g[**a** f[f(student) read g(book)]]

Locality effects

- Follow from locality of Agree
- Existential closure can still apply freely: $[[\mathbf{a}]] = P.P$ (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?
WH has he thought with whom she spoken has
'With whom did he think she spoke?'

West Greenlandic Eskimo: (*tar-* for A-quantification, *(s)i-* 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$_1$ ordered five books. Yesterday when I talked to [his$_1$ mother]$_3$…"
      a. … suli atuakka-mik   ataatsi-mik
            yet [book-INS   one-INS]
          tassumunnga   tigu-**si**-sima-nngi-nirar-p-a-a   = (17*a, *b, c)
          him-DAT$_1$ get-SM$_2$-PERF-NEG-say-IND-[+tr]-3s$_3$.3s$_1$
      b. … suli atuakka-mik   ataatsi-mik
            yet [book-INS   one-INS]
          tassumunnga   tigu-sima-nngi-nira-**i**-v-u-q   = (17a, b, *c)
          him-DAT$_1$ get-PERF-NEG-say-SM$_2$-IND-[-tr]-3s$_3$

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(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. =
        a   doctor examined the every child   b. =
(19)   Enas giatros to eksetase to kathe paidhaki.   a. =
        a   doctor it examined the every child   b. *

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 [Op_i ni   [lahi-ña t_i]$_j$ pära   b*in*isita-mu t_j]].
        agr-seethe   woman   Comp son-agr   Fut   WH[obj].visit-agr
        'We met the woman whose son you're going to visit.'

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

(21)   i   [k*in*enne'-ña   [guihan]   i   rai]
        the   WH.obj.catch-3s   fish   the   king
        'the fish that the king caught'

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

(22)   a.   Mang-ákati   käda   patgun.
            agr-cry.Prog   each   child
            'Each child is crying'
cf. focused, fronted DPs:
      b.   Käda   patgun [k*um*ákati *t*]
            each   child   WH[nom].agr.cry.Prog

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.

Approaches: 1.   QR [Sag 1976, May 1985, Kennedy 1997, Fox 2002, etc.]
               2.   A-movement [Hornstein 1995, Lasnik 1993]
               3.   Other [Jacobson 1998, Brody 1995, vanden Wyngaerd and Zwart 1994]

(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.
                 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 = <refused to visit>, then
        [every city…] must have scope outside *refuse*)

As Jacobson notes, this follows as well from any theory that requires unitary semantic
antecedents to license the ellipsis:
(28)   a.   x[[city(x) & <u>refuse(to visit x)</u>(Mary)] $\rightarrow$ *refuse(to visit x)*(John)]
        b.*   *refuse*(x[city(x) & <u>refuse(to visit x)</u>(Mary)] $\rightarrow$ *(to visit x)*)(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 '~')

                    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$_A$ ~ 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]]$^\rho$ [[Abby was reading]]$^\rho$ and
       [[Abby was reading]]$^\rho$ [[BEN$_F$ was reading]]^f

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 ≠ E, such that
       A and E are structurally isomorphic.

[1] Implicit correlates in sluicing (Chung et al.'s (1995) solution: 'sprouting')
(36)   a.   Abby was reading, but I don't know what.
       b.   Ben called — guess when!
(37)
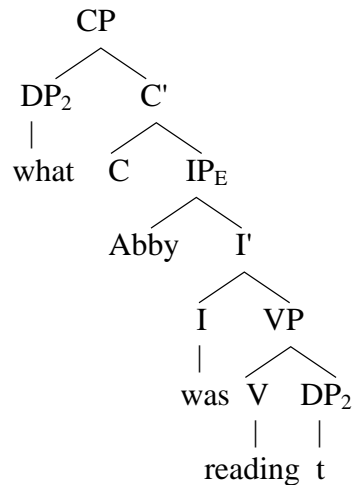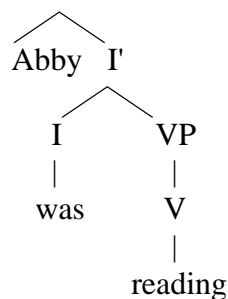
[2] Deleted infinitives
(38)   Decorating for the holidays is easy if you know how!
       a.   * ... how [decorating for the holidays]
       b.   = ... how [to decorate for the holidays]

[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

[4] 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].

[5]   '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 Alex$_3$, though he$_3$ thought they wouldn't.
        b.   They arrested Alex$_3$, though he$_3$ didn't know why.
(45)   a.   * He$_3$ thought they wouldn't arrest Alex$_3$.
        b.   * He$_3$ didn't know why they arrested Alex$_3$.

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 Alex~~$_3$]
   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
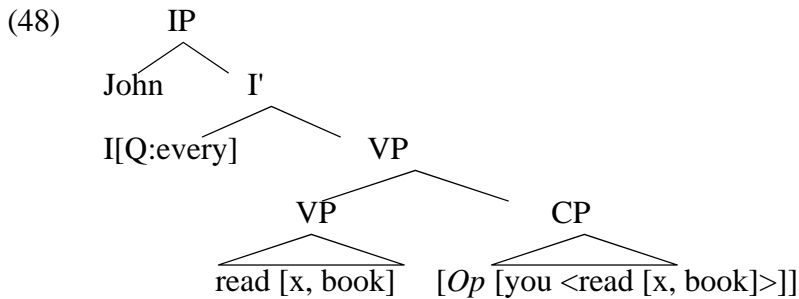   read [every book you <read>]
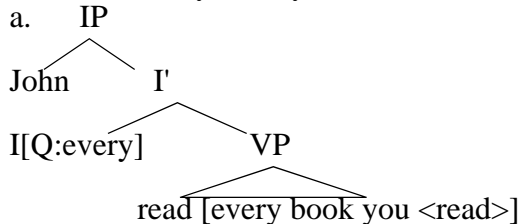
        b. **every** f [read (f(book   x[book(x) & read(x)(you)]))(john)]

Assume Fox 2002 is right, modified: the relative clause is adjoined in the binding domain of Q. After Agree, this yields:
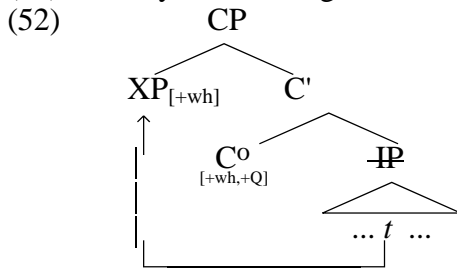
(48)

IP
├── John
└── I'
    ├── I[Q:every]
    └── VP
        ├── VP
        │   └── read [x, book]
        └── CP
            └── [*Op* [you <read [x, book]>]]

(49)   [[**Q**]](S) = 1 iff   Q-many (pointwise different choice functions) of
                                    min(domain(S))   { f | $R(f)$ = 1} are in { f | $S(f)$ = 1 }

(50)   [[CP]] = f[read(f(book))(you)]   (Relative clauses as predicates of choice functions)

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3   Eliminating the ellipsis module

(51)   Abby was reading something, but I don't know what ~~[Abby was reading *t*]~~.

(52)

CP
├── XP[+wh]
└── C'
    ├── C°
    │   [+wh,+Q]
    └── ~~IP~~
        └── ... *t* ...

LICENSING THE DELETION
Deletion triggered by a feature E on C:

        Lobeck 1995: only the null [+wh, -pred] C° 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*)
(53)   **E**[~[+wh], ~[+Q]])   (co-opting Frampton and Gutmann's 1999 notation)

    •   **E** must be checked by C[[+wh], [+Q]]

The PHONOLOGY of **E**:
(54)   [IP] →   / **E** __

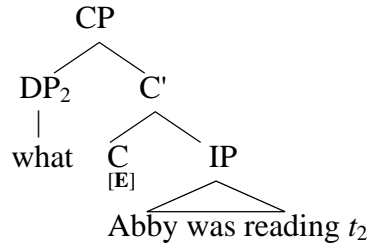   •   **E** instructs PF not to parse its complement: this is PF-'deletion'

The SEMANTICS of **E**: (traditional *identification*)
(55)   [[**E**]] = p : 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

```
                        CP
                       /  \
                    DP₂    C'
                     |    /  \
                   what  C    IP
                       [E]    /\
                         Abby was reading t₂
```

(58)   ⟦ **E** ⟧(⟦IP⟧)
        = p : p is e-GIVEN . p (⟦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*
            is a trigger for NPIs in its scope iff   is downward entailing.
        (Hoeksema 1983, Zwarts 1986, 1993, 1996, van der Wouden 1994, Dowty 1994)

        > 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** ( ) =def **Syn** ( )   **Sem** ( ),
        where **Syn** is syntactic wff, and **Sem** is semantic wff

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☞ (B) Semantic ill-formedness → uninterpretability → ungrammaticality. There is a meaningful difference between infelicity (e.g. presuppostion failure) and ungrammaticality (as in Heim and Kratzer 1998, Giannakidou 1998, 2001)

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

(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 *anti*veridical iff Fp entails *not p*: $Fp \Rightarrow \neg p$.

(See also Montague 1969, and Zwarts 1995).

(64)   *Licensing by nonveridicality*
   A polarity item α will be grammatical in a sentence S iff α is in the scope of a nonveridical operator β 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 compostion 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: <u>at most non-monotone</u> (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)
         have.2sg you anything   seen
         'Did you see anything?'
      b Idhes   {tipota/*otidhipote}?   (Greek)
         saw.perf.2sg API/FCI
         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   have.3pl anything   seen
         'Few people saw anything.'
      b **Niemand** heeft   **ook maar iets** gezien.
         nobody have.3sg anything   seen
         'Nobody saw anything.'

(73) a * **Liji anhropi** idan   **tipota.**   (Greek)
         few   people saw.3pl   anything
         '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. PIs, let alone alleged 'strong' ones, are not expected to be grammatical there, but they are.

(74)   a   O Janis **tha** agorasi {**kanena/opjodhipote**} **bukali krasi.**
              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) $[[\,\text{FUT}\,p\,]]_t = 1$ iff t', $t < t'$, and $[[p]] = 1$ at t'
(77) $[[\,\text{PAST}\,p\,]]_t = 1$ iff t', $t' < t$, and $[[p]] = 1$ 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 habituals:

(78)   a   O Janis me **idopiouse**   molis   **evlepe**   **kamia agelia**.
              *John   me   **warned.impf.** as-soon-as **saw.impf.3sg** any anouncement*
              'John used to call   me as soon as he saw **any job anouncement**.
              NB: *At 8 pm, John called me as soon as he saw **any job anouncement**.
      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.'
(79)   Any cat hunts mice.

(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: <u>truth meets existence</u>
(75)   **DEFINITION 5** — *(Non)veridicality of determiners and quantifiers*
A determiner/quantifier   is veridical w.r.t. its NP argument iff it holds that: [[NP VP]] = 1   [[NP]]   ; otherwise,   is nonveridical.

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

> 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.

(91)   c   ***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)   !e (e)   (episodicity)
(93)   * **Non** expulsaron del partido   a   **cualquier** 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 nonveridical.

(95)   *Licensing condition for FCIs*   (**opjosdhipote**)
A FCI   is grammatical in a sentence S iff:
(i)   is in the scope of a nonveridical operator   in S; and
(ii) S is not episodic.

(96)   *Licensing condition for APIs*   (**kanenas**)
        A FCI   is grammatical in a sentence S iff:
           is in the scope of a nonveridical operator   in S.

(97)   *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 β 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.

(98)   * Idha {**opjondhipote/kanena**} fititi.
        saw.1sg   *FC/   AP   student*
        '*I saw any student.'
(99)   Idha   **enan** fititi.
        saw.1sg a   student
        'I saw a student.'

(100) a   [[a student]] = **student**(x)
       b   x [**student**(x)   **saw** (I,x)]   Existential closure (Heim 1982)

☞ Giannakidou 1998, 2001: we need to identify certain PIs as a novel kind of variable: a
dependent one

(101)   Ontology of variables

Type	Independent	Dependent
e	x	x_d
s	w	w_d
Examples:	*a student (x)*	*kanenas fititis (x_d)*
	it is raining (w)	*opjodhipote fititis (x, w_d)*

(102) **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   -closed and the structure is
uninterpretable.

16

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 intepreted 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 Americal kings, we didn't invite (them). (see also Reinhart 1997)

(106) a $X [$ **student**(X) **card**$(X)= 2$ ¬ **came** $(X)]$
       b Not: ¬ $X [$ student(X) card$(X)= 2$ came $(X)]$
       c $[_{IP}$ two students$_1$ $[_{I'}$ didn't $[_{VP}$ t$_1$ come$]]]$
       c $[_{TopicP}$ dhio fitites$_1$ $[_{IP}$ dhen irthan $[_{VP}$ t$_1$ $]]$

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. <u>In either case, the movement is not QR, but topicalization or case-driven.</u>

(107) a $X [$ **student**(X) **card**$(X)= 2$ ¬ **invite** (we, X)]
       b ¬ $X [$ **american-king**(X) **card**$(X)= 2$ **invite** (we, X)]
       c # $X [$ **american-king** (X) **card**$(X)= 2$ ¬ **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   x [**student**(x) ¬ **came** (x)]
      d   x [**student**(x) ¬ **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 indefintes 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**   [CPpu itan
     the   police   not could.3sg subj find.3sg the witness   that was.3sg
     siguros oti ixe   dhi **tipota**]].
     sure   that have.3sg seen anything
     '* The police could not find the witness that was sure he saw anything.'
(113) I astinomia **dhen** boruse   na   vri [DP **enan martira** [CPpu
     the police not could.3sg subj find.3sg a   witness   that
     na itan   siguros oti ixe   dhi **tipota**]].
     subj was.3sg sure   that have.3sg seen anything
     'The police could not find a witness that was sure he saw anything.'

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

(115) Enan martira pu **na** (itan siguros 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.

(116) a **Enas jatros pu na** iksere **tipota** ja velonismo **dhen** itan diathesimos.
       'A doctor who knew anything about acupuncture was not available.'
   b * **Enas jatros pu** iksere tipota ja velonismo **dhen** itan diathesismos.

(117) [$_{TopicP}$ [Enas jatros pu na iksere tipota ja velonismo]$_1$ [$_{IP}$ dhen [$_{IP}$ itan [$_{VP}$ enas jatros pu na iksere tipota sxetika me velonismo$_1$ [$_{AP}$ diathesimos]]]]]

(118) * [$_{TopicP}$ [Enas jatros pu na iksere tipota ja velonismo]$_1$ [$_{IP}$ dhen [$_{IP}$ itan [$_{VP}$ [$_{AP}$ t$_1$ diathesimos]]]]]

4.4   Free choice items as intensional indefinites
Recall the licensing condition for FCIs:

(119) *Licensing condition for FCIs*   (**opjosdhipote**)
     A FCI   is grammatical in a sentence S iff:
     (i)   is in the scope of a nonveridical operator ; and
     (ii) S is not episodic.

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

(120) [[DET$_{FC <<e,t>, <s, <e,t>>n>}$]] =   P$_{<e,t>}$. w$_d$. x[P(x)(w$_d$)]
(121) [[opjosdhipote fititis]] = **student**(x)(w$_d$)

> 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.

(122) *Idha opjondipote ston   kipo.
     not saw.1sg anybody   in-the garden
(123) *Dhen idha opjondipote ston   kipo.
     not saw.1sg anybody   in-the garden

(124) #   !e   x [**person** (x, w)   **saw** (I, x, e)   **in-the-garden** (e)] [affirmative episodic]
(125) # ¬   !e   x [**person** (x, w)   **saw** (I, x, e)   **in-the-garden** (e)]   [negation]

Here the world variable is unbound and FCIs are ruled out.

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

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