The syntax of the semantics of ellipsis

I. The Proposal

1. Phases
   a. Phases can be extended via head movement (Den Dikken 2007).
   b. A phase HP is 'closed' when cannot be further extended via head movement, this is not spell-out.
   c. Phase Closure is via Merger of a head with H, or XP movement to Spec-H.

2. Information structure
   b. [G] can trigger overt XP movement within a phase.
   c. A phase closed via XP movement becomes an argument of ~ operator (Rooth 1992) if an XP is stranded in Spec-H.

3. Ellipsis
   a. Ellipsis is licensed by a [E] feature that suppresses PF info and is located on Phase Heads (Gengel 2007, Boskovic 2014).
   b. [E] is only possible when a phase is 'closed' meaning it cannot be further extended via head movement.
   c. Ellipsis applies to a Givenness marked complement of an H (provided mutual entailment modulo focus).
   d. MaxElide is interplay of two constraints: Maximize Presupposition (Heim 1991) and place [E] on minimal phase containing Given material.

II. Phases

Boundary:
XP is a set, the phase head Hx taking XP as its complement is the boundary of the set XP. A boundary will be defined as a head H whose complement is the set XP and whose Spec is not part of XP.
Intuitively, if you think of a disk, the set of points forming largest circle containing the disk is its boundary. Hence, when a disk expands then so does the boundary.

A pictographic depiction of a boundary = phase. The set of points in the black like is the phase, the interior is the phase complement, the exterior is the Spec.
Head movement expands the complement hence expands the boundary.

Phase extension via head movement allows to expand the complement of a phase.
- Head movement expanding a phase never targets H, it targets the head above H.
- XP movement can target Spec-H, if before head movement expansion, then phase 'closes', H is visible to head movement but no phase expansion.

The above definition does not yield different results to examples of Predicate Inversion (Den Dikken 2007).

1. a. [This book] [lay [on the President's desk]]
   b. [On the President's desk] lay [this book]

In (1b) Head movement of 'lay' extends the phase to T and the PP can raise to Spec-H, closing of the phase. The subject then raises to Spec-TP, whilst 'lay' raises to H.

In the case of 1(a) The subject DP closes of H and proceeds to Spec-TP with light verb head movement to T.

There is also a third possible derivation where H licenses multiple Spec's and two XP's are in Spec-H. This will be argued to be the case in post verbal focused subjects.
III. Post verbal subjects
2. VP movement to Spec-TP marking everything in TP as Given and subject as Focus.

Q. Kto bedzie kupowal książke?
   Who will buy books

'Who will be buying books?'

A. \( [[\text{SPEC-TP [VP Kupowac książke]]}]_1 [[[t bedzie]]] [[\text{MAREK t}]]_2] \)
   buy\(_{\text{inf}}\) books\(_{\text{acc}}\) will\(_{3rd,sg}\) Mark\(_{\text{nom,3rd,sg}}\)

'Mark will be buying books'

Derivation of the Answer:

[\(G\) operator places between H and T. Marks Givenness domain (shaded area)]
1= subject moves to Spec-v, creates predicate triggers phase, which is closed by subject moving to Spec-H (dashed curve).
2. v raises via H to T (triggered by G)
3= vP moves to edge of Spec-H
4= vP moves to Spec-TP (triggered by G)

\[\lambda A. : \text{Given}([[A]])_1:G([[B]])_1([[A]])_2 B \text{ is of type } <a, \beta₃<\iota, \iota>, \text{ for } B \text{ of type } <\iota, \iota>\]

3. G operator propagates via FA until proposition composed. XP movement into G domain possible but phase-based.

-> Phase closure via XP other than subject, for example French Stylistic Inversion, wh- elements can close HP (Alexiadou & Anagnostopoulou 2006)

4. Je me demande quand partira Marie
   I wonder when will leave Mary

Or 'early' case marked DP's other than subject

5. a. Que crois-tu que manquent \textit{un grand nombre d'etudiants}?
   what believe-you that be-absent-from a great number of students

b. Tes cours, a quelle occasion les ont manques \textit{un grand nombre d'etudiants}?
   your course at which occasion them-have been absent-from a great number of students

An XP stranded in Spec-H receives focus interpretation. Only one XP can remain in Spec-H, but many can move through it.

-> Lack of superiority reflex of multiple spec's in H

6. a. Kto kogo sfotografowal
   who whom photographed

b. kogo kto sfotografowal
   whom who photographed

'Who photographed whom'

Beck (2006) intervention effects are alleviated via overt movement

   Minsu-only who-Ass see-Past-Q

   'Who did only Minsu see?'

b. Minsu-num nuku-lul po-ass-ni?
   Minsu-Top who-Ass see-Past-Q

   'Who did Minsu see?'

c. nuku-lul Minsu-man po-ass-ni?
   who-Ass Minsu-only sec-Past-Q

   'Who did only Minsu see?'

-> Holmberg's Generalization Object raises to block v movement extend phase, not adverbs indicate that projection is outside vP (Den Dikken 2007)

7. a. hon gav dem troligen \textit{alla} en kyss (Swedish)
   she gave them probably all a kiss

b. hon gav dem troligen \textit{alla} passierat en kyss
   she gave them probably all really a kiss

c. *hon gav dem troligen \textit{passionerat} \textit{alla} en kyss
   she gave them probably all passionately a kiss

8. This shows it is in some languages possible to move DP instead of VP, in others not. Mirrored in wide or narrow focus of post verbal subjects. Italian vs. Spanish (Zubizaretta 1998, Gallego 2013):

7 Q. -What happened?
- What did Juan do?
- Who ate the apple?
A. Ha comido la manzana Juan
   has eaten the apple Juan
   'Juan has eaten the apple'

8. Q. *What happened?
   *What did Gianni do?
   - Who ate the apple?
   A. Ha mangiato la mela Gianni
   has eaten the apple Gianni
   'Gianni has eaten the apple'

Polish VOS and VOAuxS orders pattern with Italian. They allow only narrow subject focus.

9. Q. *What will happen?
   *What will Jan do?
   - Who will eat the apple?
   A. [ip[vp Jadł jabłko]₁ [będzie] [vp Jan t₁]]
      Eat apple will Jan
      'Jan will eat the apple'

Polish like Italian resists V and Object raising separately, unlike in Spanish.

Other example of VP raising above Su in Polish, lack of WCO is post-verbal subject constructions (Wiland 2009)

10. ?a. [Którego sąsiada], chwaliła [jego, żona]
      which neighbor praise his wife
      'Which neighbor his wife praised'

    ??b. [Którego sąsiada], [jego, żona] chwaliła
      Which neighbor his wife praise
      'Which neighbor his wife praised'

In Polish post verbal Subject is stranded in Spec-H, other elements have raised outside of H via Spec-HP.

### IV. Ellipsis

11. Homomorphism Conditions between the Antecedent and Ellipsis domain.

   A. Domain of comparison. In a given structure S there exists a Parallelism Domain (PD), and an Ellipsis Domain (ED), where ED ⊆ PD. PD is an ordered set <A₁, A₂>, where A₁ is the antecedent and A₂ is the anaphor of A₁. I will assume that anaphoricity is a function of Givenness in that for A₂ to be anaphoric to A₁, A₂ has to be Given because of A₁. ED is also a two membered set <E₁, E₂>, where E₁ ⊆ A₁, and E₂ ⊆ A₂. The relationship between E₁ and E₂ is not only subject to the same restrictions as the one between A₁ and A₂, it is also subject to the following constraints:

   A. Isomorphism conditions for PD Semantic/Pragmatic isomorphism (Merchant 2001)
   The expression /E₂/ corresponding to the syntactic string <E₂> can be elided provided that there is an antecedent expression /E₁/ corresponding to the syntactic string <E₁>, and /A/ and /E/ can undergo the following homomorphism /A/ ≡ Sem /E/ defined as:

   -The Focus Closure of E1 entails the Focus Closure of E2 (FE), FA |= FE
   -The Focus Closure of E2 entails the Focus Closure of E1 (FE), FA |= FE

   Focus Closure (F) is defined as replacing focus marked parts XF in a Given expression /Y/ with existentially bound variables, modulo existential type shifting (Schwarzchild 1999). FY = ∃x∃z. Y.
   For example: Y= saw [Mary]F
   -Existential Type shift (raising the expression to a proposition) Y=∃z z saw [Mary]F -Focus closure, focused element replaced by existentially bound variable: FY = ∃x∃z z saw x

   B. Isomorphism conditions for ED.
   -Fixed Diathesis Effect (Chung 2005, 2013) The numeration of the antecedent <E₁> limits the possibilities in the elided <E₂> string, <E₁>≡L<E₂>, modulo
   -Focus Closure as defined in (A),
   -overt movement out of <E₁>, movement out of E2
   -Syntactic isomorphism (Chung 2013) <E₁> is isomorphic syntactically to the string <E₂>, <E₁> ≡S <E₂> defined as Case assignment identity in <E₁> =Case<E₂>, and Sub categorization identity <E₁> =Subcat<E₂>

   The conditions enumerated in (9) boil down to an intuition that an expression E₂ can be elided if that expression E₂ is syntactically and lexically sufficiently identical to E₁. The parallelism domain requires that there exists an expression A₁ containing, or equal to E₁, and an expression A₂ containing, or equal to E₂, where the presupposed meanings of A₁ and A₂ mutually entail each other.

12. MaxElide. In a construction containing an expression E₁ ⊆ A₁ and an expression E₂ ⊆ A₂ satisfying identity conditions in (11), ellipsis of a constituent E₂ is possible provided that the E feature is placed on the phase head H that exhaustively dominates all the elements in E₂, and there does
not exist a phase head $Y$ that is c-commanded by $X$, where $Y$ exhaustively dominates all the elements in $E_2$.

Instead of

13. MaxElide (Merchant 2001, Takahashi & Fox 2005) the maximum possible elided constituent within a given parallelism domain is preferred.


- within a given Phase Ellipsis marking = Givenness

Polish MaxElide operational:

15. Sluicing vs VP ellipsis

a. Jani będzie czytał jakąś książkę, ale nie wiem którą książkę
   Jan will read some book but not know which book
   [oni/proj będzie czytał] he will read

*b. ’Jan will read some book, but I do not know which book’
   Jani będzie czytał jakąś książkę, ale nie wiem którą książkę
   Jan will read some book but not know which book
   [on/pro, będzie czytał] he will read
   ’Jan will read some book, but I do not know which book he will’

16. VP ellipsis plus wh-evacuation vs Sluicing plus subject remnant, a.

   Jani będzie czytał jakąś książkę, ale nie wiem którą książkę [Maria będzie czytała]
   Jan will read some book but not know which book Mary will read
   ’Jan will read some book, but I do not know which book Mary will’

   ??b. Jani będzie czytał jakąś książkę, ale nie wiem którą książkę, [Maria będzie czytała]
   Jan will read some book but not know which book Mary will read
   ’Jan will read some book, but I do not know which book Mary will’

But ACD has exceptions

VP ellipsis

17. a. Ja będę czytać każdą książkę co ty będziesz
    I can will read every book that you will
    ’I will read every book that you will’

b. Ja bude čítat’ každuju knígu čto ty budeš
    I will read every book that you will
    ’I will read every book that you will’

Re-binding, both sloppy and strict

19 a. Ja będę czytać każdą swoją książkę co ona (będzie)
    I can will read every my book that she will
    ’I will read every book of mine that she will’

Example 18 is derived via deletion of Givenness marked elements in C-Phase as in (2)

Example (17) derived like English

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21
IV. Evidence for VP movement above Su in 18 but not 17. 
Negation (Witkoś 1995, 2008, Zeijlstra 2013) cannot be separated from top aux, inside vP domain (Genitive of negation)

22. a. Jan nie będzie kupował każdą książkę
   I will not buy every book
*b. Ja będę kupował nie każdą książkę
   I will buy not every book
*c. Ja będą kupował każdą książkę
   'I will not buy every book'

23. *a. Jan będzie kupował każdą książkę co ty nie
   Jan will buy every book that you not
b. Jan będzie kupował każdą książkę co you nie
   'Jan will buy every book that you will not'
*c. Jan będzie kupował każdą książkę a Jola nie
   'Jan will buy every book but Jola not
   'Jan will buy every book but Jola will not'
d. Jan nie będą kupowały każdą książkę co ty
   'Jan will buy every book that you will not'

->23(a) is not possible since vP contains NegP and raises above Subject in Spec-H
->23b. Is fine since V->T movement carries Neg, and Subject is in Spec-T
->23c. Shows that negation can be stranded via ellipsis (stripping) and its derivation involves A'-movement of the subject via Spec-H, and subsequent Neg raising to H.
->23d negation can be elided
24. TP>PolP>vPn > vPn-1 > vPn-2 >... > vP1 > VP

Prediction pronouns:
26. a. Ja będę czytać każdą książkę którą ty będziesz e
   I will read every book which you will
   'I will read every book that you will'
b. Ja budu čitat’ každú knigu kotorú ty budeš e
   I will read every book which you will
   'I will read every book that you will'

27. a. Ja będę czytać każdą książkę którą ty e
   I will read every book which you
   'I will read every book which you will'
b. Ja budu čitat’ každú knigu kotorú ty e
   I will read every book which you
   'I will read every book which you will'

Resumptive, expected in 'co' relatives, not possible in ellipsis.

28. a. Jan będzie kupował każdą książkę co ją Jurek napisze
   Jan will buy every book that Jurek write-will
   'Jan will buy every book that Jurek will write'
b. Jan będzie kupował każdą książkę co ją Jurek
   Jan will buy every book that it Jurek
   'Jan will buy every book that Jurek will write'
*c. Jan będzie kupował każdą książkę co ją Jurek będzie
   Jan will buy every book that it Jurek will
   'Jan will buy every book that Jurek will write'

27 and 28b bad because pronouns cannot be moved in and then evacuated from a Givenness domain. Economy dictates they move directly to C. But G movement blocks it.

26 and 28a,c are OK since pronoun movement is out of a G domain (vP) for relativization.

V. Contrastive vs presentational
Krifka (2006) in assuming that a contrastive Topics are Given elements that have a Focus contained in them (To be precise, an aboutness topic can contains a focus, which is a marker indicating the computation of alternatives (Rooth 1992). In the example below (taken from Krifka 2006) case, focus indicates alternative aboutness topics.

29. Q: What do your siblings do?

Both 'my sister' and 'my brother' are Given in A because of the discourse provided by Q. Focus marking on sister evokes a set of alternatives to the topic 'my sister'. The expression 'my brother' is member of that set of alternatives. 
Konieczko and Winkler (2010) in bare argument ellipsis in German Contrastive Topics (CT) can precede certain adverbs and negation as shown
in (30a) A1, but they cannot follow in as shown by the deviance of A'. However, if we change the context as in (30b) triggering the subject remnant in the answer to be contrastively focused, the word order of the subject and adverb is reversed.

30. a: Q: Will both of your siblings go to France?
   A1: Maria wird wohl fahren, aber Hans vermutlich nicht.
   CT Maria will PART go but Hans probably not
   A2: #Maria wird wohl fahren, aber vermutlich nicht Hans.
   CF ... but probably not Hans

b. Q': Will Maria go to France?
   A': Maria wird wohl nicht fahren, aber vermutlich Hans.
   CF Maria will PART not go but probably Hans

The same contrasts hold for Polish as shown in (31). Example (31b) A2 shows that a contrastive focus can be followed by an adverb in Polish, but with an intonational break (indicated by a comma), indicating that probably here is an afterthought.

31. a: Q: Will both of your siblings go to France?
   A1: Maria pojedzie, ale Hans prawdopodobnie nie.
   CT Maria will go but Hans probably not
   A2: #Maria pojedzie, ale prawdopodobnie nie Hans.
   CF ... but probably not Hans

b. Q': Will Maria go to France?
   A': Maria nie pojedzie, tylko prawdopodobnie Hans.
   CF Maria not will go just probably Hans
   A2': Maria nie pojedzie, tylko Hans, prawdopodobnie.
   CF Maria not will go just Hans, probably

Le me use adverb placement as a yardstick to establish the status of the remnant subject as a Contrastive Topic or Focus. Example (32) is stripping as in (23c), but modified to contain an adverb. The subject in (32) behaves like a contrastive topic showing the same restrictions as in German.

Example (33) is IP deletion inside a relative clause as derived in, just modified to contain an adverb and missing negation since it renders the examples ungrammatical. It does not exhibit the same adverb sensitivity as stripping.

Example (34) is VP deletion, but modified to have negation and the adverb. Again, the subject remnant does not exhibit properties of a contrastive topic since there is no adverb sensitivity, just like in (33).

Konietzko and Wilkner (2010) argue that these two discourse roles are encoded in two different syntactic heads. A contrastive topic head will be higher in the structure placing the subject above the adverb, whereas a focus head is lower, below the adverb.

35 Neelman and Titov (2009)
Thus it should be possible to raise subject via Spec-H and leave everything else in complement of H. ‘i’ marker = ‘also’. Compare 36a,b with 27, and 36c with 28b.

In 35, with ‘i’ -> contrastive Topic

36. a. Ja będę czytać każdą książkę którą ty 
    I will read every book which also you
    ‘I will read every book which you will also’

b. ja budu čitat’ každuj knigu kotorui j ty e 
    I will read every book which also you
    ‘I will read every book which you will also’

37. Ja kupie kazda książke co ty wlasnie nie 
    I will-buy every book that you precisely not
    I will buy every book that you precisely will not

The above shows that a derivation along the lines of (Craenenbroeck and A Liptak 2006) is possible (36), but the structures are distinct from ones derived via vP inversion with the subject (38). It also shows that we cannot have an analysis of (38) along the lines of (Szcze giants 2005) since the subject does not behave as a high up group.

38 *a. Ja będę czytać każdą książkę którą ty 
    I will read every book which also you
    ‘I will read every book which you will’

b. Ja będę czytać każdą książkę co ty 
    I read every book that you
    ‘I will read every book which you will’

VI. Why H a boundary

Gribanova (2013) shows that in Russian Verb can ‘evacuate’ ellipsis site. This would be movement to H after subject closed off Spec-H.

Kto-to umril ęto waz
someone dropped SG.M this.ACC vase.ACC
“Someone dropped this vase.”

Tót fakt, ęto nikto ne podnal #(e6), menja očen’
the fact that no-one NEG under-hold SG.M #(it.ACC) me.ACC very
ogorčaet.
upsets.3SG

‘The fact that no one picked #(it) up upsets me.’

Movement to H is also seen in cases of stripping with negation.

A boundary analysis assumes that phase head is boundary triggered via predication in v. It expands with head movement, but can be closed via XP movement. Then it can be moved into.

VII conclusion

- Ellipsis can be fed by G driven movement of vP to Spec-T
- Phases are boundaries
- Spec-H in situ = information structure
- Ellipsis site has syntactic structure, can be moved in, moved out of.


Merchant, J. (2001). The syntax of silence: Sluicing, islands, and identity in ellipsis. UOP.


