Nominal Ellipsis

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- This handout lives here: `https://keybase.pub/patrl/egg2018/npe.pdf`

1 The phenomenon

- Nominal ellipsis/NP Ellipsis (NPE) is ellipsis of part of a noun phrase.

(1) a. John bought three apples. I have eaten [$_{DP}$ two Δ].

b. John and Mary bought an apple. I ate [$_{DP}$ John's Δ].

c. John and Mary bought some apples. [$_{DP}$ Each Δ] was rotten.

- There is some controversy in the literature on NPE about how to answer the *structure question*. Extant approaches can be divided into two broad camps:
  - Approaches according to which NPE involves unpronounced linguistic material, e.g., via deletion at PF/non-insertion of phonological material. see, e.g., Saab & Lipták (2016)
  - Approaches according to which NPE involves a silent pronominal. Lobeck (1995) is the *locus classicus*.
- The *licensing question* has received a great deal of attention in the literature on NPE – notably more than in the literature on *sluicing*, for example.
- Lobeck (1995) famously observed that NPE appears to require some kind of overt agreement, inflection, or a specific feature to be present on the *stranded* material, in order to be licensed.
- In German, certain colour-adjectives, such as *lila*, allow for either strong or null adjectival inflection, i.e. *lilanes/lila*, as illustrated in (2a).
- This optionality disappears when NP ellipsis takes place – only strong inflection is possible, as illustrated in (2b) and (2c)

(2) a. *ein* { *lila* | *lilanes* } *Kleid.* German
a { lila | lila.SG.NEUT.NOM } dress

b. **ein* *lila* *Δ*
a lila

a lila one

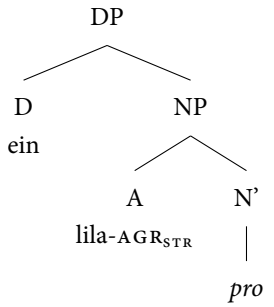
c. *ein* *lilanes* *Δ*
a lila.SG.NEUT.NOM

a lila one

- LOBECK'S ANSWER TO THE LICENSING QUESTION
- Lobeck's theory is framed in terms of *Government & Binding theory*.[1]

[1] The notion of *government* has since been dispensed with as a primitive in contemporary minimalism.

(3) *Licensing and identification of pro*
An empty, non-arbitrary pronominal must be properly head-governed, and governed by an X^0 specified for strong agreement.



- There are many languages which seem to counter-exemplify Lobeck's licensing condition, consider for example the following example from Chinese, a language with minimal inflectional morphology:

(4) *woxihuān hóng-sè de xié, tā xihuān huáng-sè de Δ* — Chinese
1s.like red-color DE shoe 3s like yellow-color DE

I like red shoes, he likes yellow ones.

- Lobeck's solution:

(5) *The ellipsis identificational parameter*
The number of strong agreement features in DET or NUM that is required to identify an empty, pronominal NP is proportional to the number of possible strong features in the agreement system of noun phrases in the language.

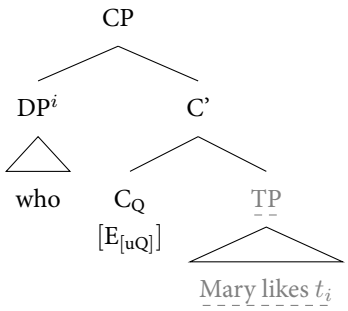
- This doesn't account for variation *within* a given language with respect to NPE licensing however.

(6) a. The women came in and [$_{DP}$ each [$_{NP}$ woman]] sat down.

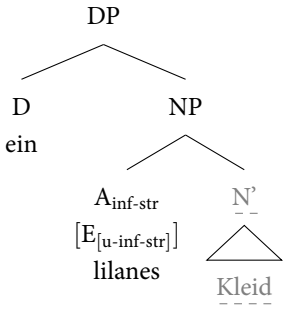
b. * The women came in and [$_{DP}$ every [$_{NP}$ woman]] sat down.

- Since there is no obvious difference in surface agreement, Lobeck has to stipulate that *each* strongly agrees with its complement, whereas *every* does not.

- Licensing via the E-feature
- Merchant (2001) gave an influential account of ellipsis licensing in terms of an E-feature, specifically for sluicing.
- The idea, in a nutshell, is that there is an E-feature in the lexicon which bears an uninterpretable Q feature.
- If the interrogative complementizer C_Q bears the E-feature, its uninterpretable Q feature gets checked, and ellipsis of its complement is licensed.



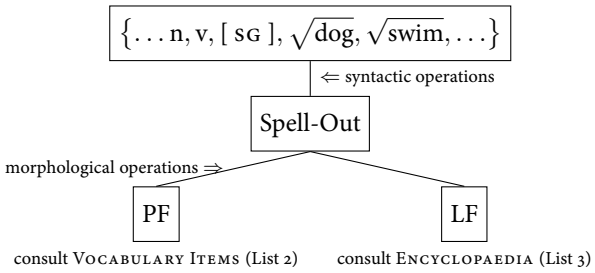
- We can recast Lobeck's account in terms of an E-feature which carries an uninterpretable strong inflectional feature, thus dispensing with the notion of government:



- A common criticism of the E-feature based account is that it seems to merely amount to a *description of the facts*, rather than an insightful explanation of the tight link between strong inflection and NPE in the languages which have them.
- An alternative analysis has been developed which re-locates certain elliptical operations from the narrow syntax to the morphological component, which arguably provides a more satisfying explanation for the link between inflection and ellipsis.
- We turn to this account in the next section.

2 *Licensing beyond the E-feature: NPE and the pieces of inflection*

- Saab & Lipták (2016) develop an alternative account of the role of inflectional morphology in NPE licensing.
- Primer on Distributed Morphology
- Distributed Morphology (DM) builds on a classic, so-called Y-model of the grammar, according to which the narrow syntax feeds two interfaces: PF and LF. The basic units of syntactic computation are bundles of syntactic features, and *roots*, which are assembled into hierarchical structures via successive applications of the operation Merge (Halle & Marantz 1993, Halle 2000, Embick 2010, Nevins 2016).
- At some point over the course of the derivation, the resulting syntactic representation is sent off to PF and LF in an operation known as *Spell-Out*.
- On the PF side, morphological operations may re-arrange the terminal nodes in various ways, and subsequently the list of Vocabulary Items is accessed in an operation known as *Vocabulary Insertion*.
- Vocabulary items are correspondence rules for relating syntactic representations (feature bundles and roots) to phonological representations in context.
- One of the core properties of DM which distinguishes it from other architectures (specifically lexicalist architectures) is *Late Insertion*. In DM, it is assumed that the phonological realisation of syntactic terminals as *Vocabulary Items* does not take place until the output of the narrow syntax is shipped off to PF; the atomic units of syntactic computation are abstract, and have no inherent phonological realization.



- Insertion can be conditioned by the local environment. The following example is due to Marantz (2013)

(7) a. This *house* is for Sally.

b. Sally is *housed* here.

(8) $\sqrt{\text{house}} \leftrightarrow$ /haus/ / [n ___]
$\leftrightarrow$ /hauz/ / [v ___]

(9) $\sqrt{\text{house}} \leftrightarrow x$. house(x) / [n ___]
$\leftrightarrow e$. contain(e) / [v ___]

- DM stands in opposition to *lexicalism*, in which phonological distinctions are visible in the narrow syntax. We saw an example of a solution to an ellipsis puzzle yesterday that was crucially premised on lexicalism – namely, *Warner's puzzle*.

(10) *Mary was at the party, and her sister will be at the party too.

- It's challenging to account for this in a theory such as DM, but there is evidence that the lexicalist solution can't be right from code-switching (Merchant 2016).[2]

[2] Merchant refers to this data as the "mind-blower".

(11) *I Maria tha ine sto parti, and her sister will be,*
the Maria FUT be.NONPAST.3S at.the party
too.

Maria will be at the party...

(12) *I Maria itan sto parti, and her sister will *be too.*
the Maria be.PAST.3S at.the party

Maria was at the party...

- My impression is that the correct analysis of Warner's puzzle is still up for grabs.
- Putting potential challenges to DM to one side, one of the morphological operations that plays a prominent role in DM is *Morphological Merger* – an operation that alters syntactic nodes, motivated by well-formedness conditions at PF. It comes in two guises:
  - *Lowering:* licensed under *immediate locality*, i.e., between a head and the head of its complement. Lowering is used to account for, e.g., T-to-v lowering in English, where the relation between the affix and the verbal base can be interrupted by adverbs.[3]

[3] Classically described as *affix-hopping*.

(13) John [$_{\text{TP}}$ t [$_{v\text{P}}$ completely destroy-ed the opposition]]

  - *Local Dislocation:* licensed under *strict adjacency*. Consider, e.g., comparative/superlative formation in English:

(14) a. Mary is the [$_{degP}$ mo-st [$_{AP}$ [$_{Adv}$ amazingly] smart]] person.

b. *Mary is the [$_{degP}$ *t* [$_{AP}$ [$_{Adv}$ amazingly] smart-est]] person.

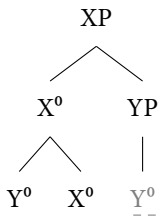
- The two kinds of morphological merger differ in that *lowering* is *structure-sensitive*, and *local dislocation* is *linear-order sensitive.* This is taken to follow from how the operations are ordered with respect to *linearization* – as soon as information about linear order is introduced into the representation, it becomes a relevant conditioning factor.

  Lowering > Linearization > Local Dislocation > Vocabulary Insertion > PF

- From a DM perspective, it is natural to think of *ellipsis* as an operation that marks a head or phrase as *not* subject to Vocabulary Insertion.
- Just like morphological merger operations, *ellipsis* could conceivably be ordered either before or after *linearization.* We might expect to find two kinds of ellipsis:
  - *Syntactic ellipsis* marks a syntactic constituent as not subject to Vocabulary Insertion.
  - *Morphological ellipsis* takes place on the PF branch, and marks a Morphological Word (MW) as not subject to Vocabulary Insertion.
- Saab & Lipták's proposal:

(15) *Morphological ellipsis:*
At PF, a morphosyntactic word (MWd) X^0 can be elided only if X^0 has an identical antecedent contained in a MWd Y^0 adjacent or immediately local to X^0.

- Head movement as morphological ellipsis conditioned by immediate locality:[4]



- Verb-stranding VP Ellipsis (VPE) is an example of *syntactic* ellipsis – famously, V-stranding VPE requires identity of the remnant verbal roots, therefore head/morphological ellipsis cannot feed it.

[4] Saab & Lipták (2016) *don't* explain why morphological ellipsis as the reflex of head-movement should be obligatory; ellipsis operations tend to be optional.

(16) a. *(Ha'im) Miryam hevi'a et Dvora la-xanut?* Hebrew
(Did) Miryam bring-PAST-3SG-F ACC Dvora to-the-store

Did Miryam bring Dvora to the store?

b. *Ken, hi hevi'a.*
yes she bring-PAST-3SG-F

Yes, she brought Dora to the store

c. **Ken, hi lakxa.*
yes she take-PAST-3SG-F

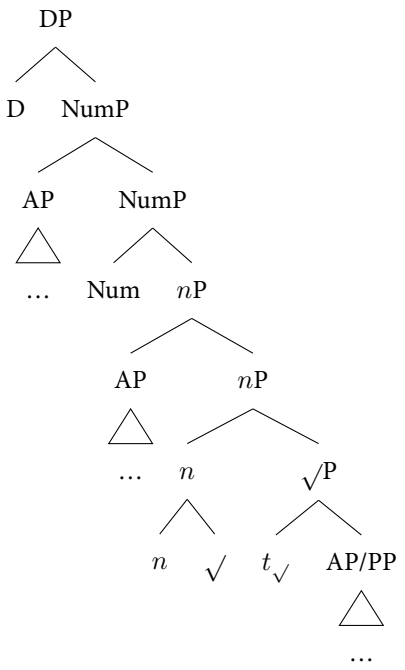
Yes, she took Dora to the store

**Ken, hi lakxa.*
yes she take-PAST-3SG-F

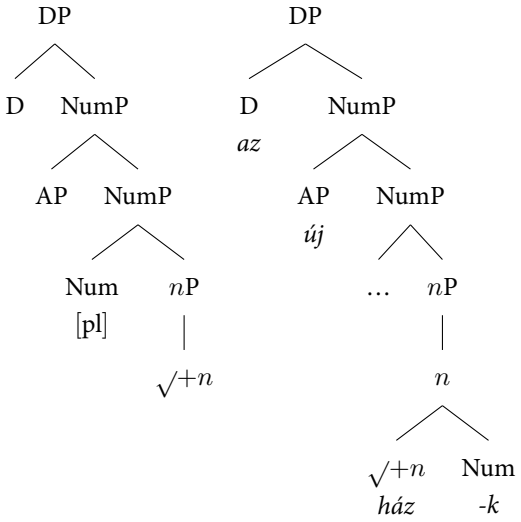
- Note that, if we conceive of ellipsis as phonological non-insertion, we predict the following generalization:

(17) *Ellipsis-Morphology* (Elmo) Generalization:
For every morphological operation MO that affects the domain of X, where X contains the target of MO, MO cannot apply in X if X is subject to ellipsis.

- NP ELLIPSIS IN HUNGARIAN
- The basic structure that Saab & Lipták (2016) assume for the nominal domain is as follows:



- Saab & Lipták (2016) assume that, in Hungarian, *Num* is *lowered* onto the nominalised root.



- Under NPE in Hungarian, the number specification on the elliptical DP need not be identical to the antecedent DP.

(18)

(19) *Mary a régi ház-ak-at látta. Én az új-Δ*
Mari the old use-PL-ACC saw I the new-SG-ACC

Mari saw the old small houses. I saw the new one.

- This suggests that what is elided is nP, not NumP – if what was elided was NumP, we'd expect the number specification of the elliptical DP must be identical to that of the antecedent DP.
- when the noun is elided in Hungarian, case and number are obligatorily spelled out on the linearly *last remnant* preceding the elliptical gap.

(20) *Mari a régi kis ház-ak-at látta. Én az új nagy-Δok-at.*
Mari the old all house-PL-ACC saw I the new big-PL-ACC

Mary saw the old small houses. I saw the new big ones.

(21) *Mari a régi kis ház-ak-at látta. * Én az z'uj-ak-at nagy*
Mari the old all house-PL-ACC saw. I the new-PL-ACC big
Δ

Mary saw the old small houses. I saw the new small ones.

- The Elmo generalization correctly predicts that the lowering of Num onto n should be blocked by ellipsis of nP.
- This results in a *stranded affix configuration*.
- Saab & Lipták (2016) claim that the stranded affix is hosted by the material that precedes the elliptical noun in the DP, via local dislocation to the left.
- Note that Saab & Lipták's approach to NPE in Hungarian is parallel to traditional accounts of *do*-support under VPE in English.

(22) John likes sushi and Mary does like sushi too.

- Ellipsis bleeds post-syntactic lowering, and therefore *do* is inserted to provide a host for the stranded tense affix.
- In summary, according to Saab & Lipták (2016) and the realisation of inflection is *not* due to licensing, contra Lobeck (1995), but rather due to the fact that morphological ellipsis *bleeds* morphological operations.
- NPE in German (Murphy 2017)

- Starting-point: *ein*-words in German lack overt inflection in the masculine nominative, neuter nominative, and accusative.

(23) a. *Ein Brief ist für dich angekommen.*
a letter.MASC is for you arrived.

A letter arrived for you

b. *Hans hat ein Auto bekommen.*
Hans has a car.NEUT received.

Hans got a car

c. *Das ist ein Gebot*
that is a commandment.NEUT

That is a commandment

- The pronominal forms of the above DPs however must bear overt inflection:

(24) a. *und ein-er für much auch.*
and one-MASC.NOM for me too.

and one for me too

b. *und Maria will nun auch ein-es.*
and Maria wants now also one-NEUT.ACC

and now Maria wants one too

c. *und zwar ein-es der wichtig-st-en*
and in.fact one-NEUT.NOM the.GEN.PL important-SPRL-GEN.PL

in fact one of the most important ones

- It's possible of course to simply treat the indefinite articles and pronominal forms as inhabiting distinct paradigms, but this leads to significant redundancy.
- The alternative is to treat the pronominal forms as the reflex of NPE.

(25) und Maria will nun ein*(-es) Auto

- The puzzle on this view is why the indefinite determiner must surface with an inflectional ending which is impossible in the pronounced source:

(26) *Ich have ein(*-es) Auto*
I have a-NEUT.ACC car.NEUT

- Murphy's analysis: the inflection we find in NPE contexts is stranded adjectival inflection.

(27) a. $[_{DP}$ ein $[_{\phi P}$ $[_{\phi P}$ -es] $[_{nP}$ neu $[_{nP}$ n Auto]]]] NP ellipsis

b. * $[_{DP}$ ein $[_{\phi P}$ t] $[_{nP}$ neu-es $[_{nP}$ n Auto]]] ✗lowering

c. $[_{DP}$ ein-es $[_{\phi P}$ $[_{\phi}$ t] $[_{nP}$ neu- $[_{nP}$ n Auto]]]] local dislocation

3 *Evidence for silent structure in NPE: E-site external agreement controllers*

- The following examples are from Merchant (2018).
- Certain pluralia tantum such as *nupitals* trigger plural agreement on the verb (unlike its synonym *wedding*).

(28) a. Beth's wedding was in Bond Chapel, and Rachel's wedding was in Rockefeller Chapel.

b. Beth's nupitals were in Bond Chapel, and Rachel's nupitals were in Rockefeller Chapel.

- NPE anteceded by *wedding* requires singular agreement on the verb, whereas NPE anteceded by nupitals requires plural agreement on the verb.

(29) a. Beth's wedding was in Bond Chapel, and Rachel's Δ { was | *were } in Rockefeller chapel.

b. Beth's nupitals were in Bond Chapel, and Rachel's Δ { * was | were } in Rockefeller chapel.

- This is unsurprising if NPE involves unpronounced linguistic structure.

4 *One and NPE: deep anaphora vs. surface anaphora*

- *One* anaphora are elements of DPs that stand in an anaphoric relation with some other material.
- They are possible both alone, as in (30a), or embedded within a DP as in (30b).

(30) a. Andy has a hairdryer, and I want <u>one</u> too. *one* = a hairdryer

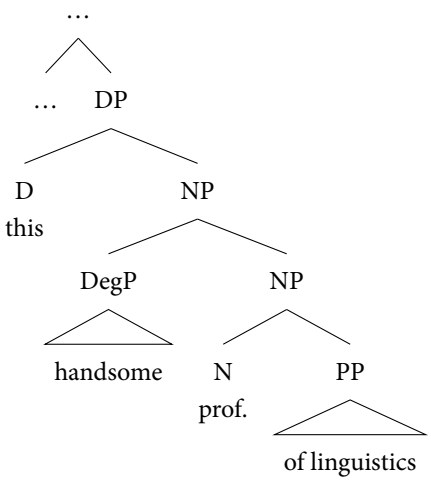
b. Andy has a hairdryer, and I want a powerful <u>one</u>. *one* = hairdryer

- Interaction with modifiers vs. arguments shows that *one* may substitute something bigger than N and as big as NP.

(31) a. This handsome professor of linguistics is Yasu, and that <u>one</u> is Daniele. *one* = [$_{NP}$ handsome [$_{NP}$ professor of linguistics]] ✓

b. This handsome professor of linguistics is Yasu, and that tall <u>one</u> is Nathan. *one* = [$_{NP}$ professor of linguistics] ✓

c. *This handsome professor of linguistics is Yasu, and this one of philosophy is Daniel. *one* = [$_{N}$ professor] ✗



- The antecedent for anaphoric *one* must also be smaller than a DP.[5]

[5] How does the existential reading of anaphoric *one* come about if it lacks a determiner?

(32) a. This suitcase is pretty tiny. I have <u>one</u> at home that's much bigger.
<u>one</u> = ✓ a suitcase; ✗ this suitcase

b. This suitcase is pretty tiny. I have a huge <u>one</u> at home.
<u>one</u> = ✓ suitcase

4.1 Elbourne (2001)

- Elbourne, for independent reasons, claims that the pronominal *it* is the spellout of the definite determiner followed by NPE.

- He argues that we can find a parallel with the indefinite determiner – according to Elbourne, *one* is the spellout of the indefinite determiner followed by NPE.
- This is claimed to be conceptually appealing, as it fills in a paradigm gap – determiners tend to license ellipsis of their complements, and the indefinite determiner looks like an exception to this generalisation.
- Apparent NPE licensed by the indefinite determiner is apparently possible cross-linguistically.

(33) a. *Köpte du en blå bil?* Swedish
bought you a blue car

Did you buy a new car?

b. *Ja, jag köpte en.*
Yes I bought one

Yeah, I bought one.

(34) a. *¿Compraste una casa nueva?* Spanish
bought.2nd a house new

Did you buy a house?

b. *Sí, compré una.*
yes bought.1st one

Yeah, I bought one.

4.2 La Cara (2011) – against one *anaphora as NPE*

- Hankamer & Sag (1976) famously argued for a distinction between *deep anaphora* and *surface anaphora*.
  - *Surface anaphora* correspond, in more contemporary terms, to elliptical constructions, where diagnostics reveal the presence of silent syntactic structure.
  - *Deep anaphora*, on the other hand, correspond to pronominals, where evidence suggests that there is no silent syntactic structure.
  - La Cara uses Hankamer & Sag's diagnostics – which provide a way of probing the answer to the *structure question* – in order to argue that *one* anaphora does not constitute ellipsis.
- Asymmetries between *one*-anaphora and NPE:

- MISSING ANTECEDENTS:

(35) a. Caroline has never seen a yeti^{y}, but Rob has seen a yeti^{x}, and it$_{x}$ was terrifying.

b. #Caroline has never seen a yeti^{y}, and it$_{y}$ was terrifying.

(36) *Harry didn't sink a boat carrying a gorilla, but George sank one (= *a boat carrying a gorilla*^{x}), and it$_{x}$ drowned.

- Chisholm (2001) shows that NPE *does* license missing antecedents.

(37) I believed no one's claim that he had ridden a camel, except for John's claim that he had ridden a camel^{x}. He said it$_{x}$ was the two-humped variety.

- EXTRACTION:

- Generally speaking, A-movement and A'-movement is allowed from out of ellipsis sites.

(38) a. A'-extraction
Nobody doubts that Jan can eat a lot of cake,
but it's not clear how much^{i} she actually will eat t_i

b. A-extraction
The ship^{i} sank t_i quickly, but the barge^{k} won't sink t_k quickly.

- Anaphoric *one* does *not* allow extraction:

(39) a. Who^{i} did John take a picture of t_i.

b. *Who did Mary take a picture of, and who^{i} did John take one.

- Note that it's difficult to test whether extraction is possible with NPE, since the determiners that license NPE typically block extraction independently.

(40) a. *You saw my picture of Ted, but who^{i} did you see Mary's picture of t_i?

b. *Who^{i} did you see Mary's picture of t_i?

- CONTEXTUAL CONTROL:

- *One*-anaphora does not seem to require a linguistic antecedent:

(41) *Bill is in a room waiting for me to arrive. I walk into the room holding a plate of cookies, and Bill didn't know that I was going to bring them. Bill asks:*

a. Oh, can I have one? *= a cookie*

b. Oh, can I have a big one? *= cookie*

c. # Oh, can I have yours? *yours = your cookies*

d. # Oh, can I have one of yours? *yours = your cookies*

- Conclusion:
  - NPE genuinely involves unpronounced linguistic structure, i.e. *ellipsis* – this corresponds to Hankamer & Sag's notion of *surface anaphora*.
  - *One*-anaphora involves an anaphoric dependency on an antecedent, *not* unpronounced linguistic structure (ellipsis). This corresponds to Hankamer & Sag's notion of *deep anaphora*.

5 *Summing up*

- Over the course of this class, we've examined several different *elliptical constructions*:
  - Sluicing
  - VP Ellipsis
  - Gapping
  - ...and finally, NP ellipsis
- In the first class, I talked about how we can fruitfully frame the study of ellipsis in terms of three questions:
  - The structure question
  - The identity question
  - The licensing question
- Ellipsis poses such a rich and challenging set of problems because it involves the study of something *unobservable* – we need a rich array of syntactic probes and diagnostics in order to figure out what's on.
- In our class on sluicing, we saw evidence for silent structure subject to strict syntactic identity from effects such as *case matching*.

- On the flip side, we saw a great deal of evidence *against* identical syntactic structure due to the absence of locality effects.
- Reconciling these apparently contradictory datasets is still a topic of ongoing research, and my impression is that nobody yet has a good solution that can capture all of the facts.
- In our class on VP ellipsis, Andy outlined a number of puzzles involving *binding and extraction*. Yasu and I will talk more about VP ellipsis and binding in our class next week.
- In our class on gapping, Andy talked through work that treats an apparently elliptical phenomenon in terms of *movement* and *low coordination*. In the end, there was evidence to believe that gapping isn't really an elliptical phenomenon at all.
- In today's class, on nominal ellipsis, I've focused primarily on the interaction between ellipsis and morphology, and how this relates to the licensing question. We've also learned some useful diagnostics for distinguishing between ellipsis and anaphora.
- In the study of ellipsis, an issue that is raised again and again is whether or not it's desirable to posit a fully general mechanism in order to account for deletion phenomena. According to the evidence we've outlined in this class, such a theory ends up looking rather implausible. At the same time, we want to try to avoid positing construction-specific rules to distinguish between e.g., sluicing and VPE.
- As things stand, the identity conditions governing sluicing vs. VPE look distinct – VPE looks more sensitive to surface syntax than sluicing.
- Can we develop a unified theory of ellipsis, where the difference between elliptical phenomena can be derived from the variable size of the ellipsis site? I think everyone agrees that this would be nice!

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