“Silence is golden”

The syntax of ellipsis

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Yesterday’s class

• Ellipsis is a mismatch between sound and meaning.
  → Important question: what is present in the syntax?
• Three possible analyses:
  1. WYSIWYG: no syntax at all
  2. proform analysis: a null proform
  3. deletion analysis: a full syntactic structure
• One of the most-used arguments for syntactic structure in the ellipsis site is extraction.
• (Islands: ellipsis repair effects)
• Reconciling proform and deletion:
  NCA vs sluicing, VP ellipsis
donkey pronouns (and Danish det).
Overview

Class 1: “If you do not understand my silence, how will you understand my words?”
→ What is ellipsis and why study it?

Class 2: “Silence best speaks the mind.”
→ Analyses for ellipsis

Class 3: “It’s a great thing to know the season for speech and the season for silence.”
→ Conditions on ellipsis

Class 4: “You have the right to remain silent.”
→ The syntactic licensing of ellipsis

Class 5: “Nobody understands the silence of things.”
→ VP ellipsis and other elliptical mysteries
“It’s a great thing to know the season for speech and the season for silence”

Seneca the Elder

EGG 2010
Class 3
Restrictions on ellipsis
Restrictions on ellipsis (1)

Two restrictions on ellipsis

1. Recoverability
2. Syntactic licensing
Restrictions on ellipsis (2)

1. Recoverability

Ellipsis needs an antecedent; otherwise it is impossible for the hearer to interpret the ellipsis site.

(1) [uttered out of the blue]
   *Jasmin has, too.
Restrictions on ellipsis (3)

(2) I found three old coins, and Oliver found two.
   a. I found three old coins, and Oliver found two old coins.
   b. *I found three old coins, and Oliver found two small sculptures.
Restrictions on ellipsis (4)

2 Syntactic licensing

(Semantic) recoverability of the ellipsis site is not enough.

→ The syntactic environment also plays a role.
Restrictions on ellipsis (5)

→ Not all recoverable elements are elidable.

(3) a.*Ryan can make a good cocktail and Jasmin knows \([_{DP} \text{a good cocktail}]\), too.

b.*It was painted, but it was not obvious that \([_{IP} \text{it was painted}]\).
Restrictions on ellipsis (6)

→ Differences between languages in allowing ellipsis.

(4) Snoozy Suzy has danced the cha-cha-cha, but Foxy Freddy hasn’t.  (English)

(5)*Snoozy Suzy heeft de cha-cha-cha gedanst, Snoozy Suzy has the cha-cha-cha danced maar Foxy Freddy heeft niet [_{v_p \; de--cha-cha-cha} but Foxy Freddy has not the cha-cha-cha gedanst].  (Dutch) cha danced
Restrictions on ellipsis (7)

Remember Rizzi (1986)?
Two conditions on empty elements

- **Recovery condition**: how traces, *pro*, ellipsis sites and *PRO* are identified.
- **Formal licensing condition**: Generalized ECP (Chomsky 1981)
Restrictions on ellipsis (8)

1. Recoverability
2. Syntactic licensing
Recoverability (1)

Where can you find an antecedent?

First hunch:
Preceding the ellipsis site, in the same sentence.
Recoverability (2)

! An antecedent can follow the ellipsis site, as long as it c-commands it.

Langacker (1966): Backwards anaphora constraint
An ellipsis can precede, but not c-command, its antecedent.
Recoverability (3)

Sluicing

(6) Although I don’t know who, I can hear someone is snoring.

VP ellipsis

(7) Although Gonzo doesn’t, Lola likes peas a lot.
Recoverability (4)

! An antecedent does not have to be contained in the same sentence as the ellipsis site: ellipsis can cross sentence (and speaker) boundaries.

(8) A: Do you take this woman to be your wedded wife, in sickness and in health, until death do you part?  
B: I do.
Recoverability (5)

How do we know what ellipsis means?

1. Syntactically identical antecedent? (generally LF)
2. Semantically identical antecedent? (truth conditions)

→ How strict is the recoverability condition?
Recoverability (5)

1. Structural identity
2. Semantic identity
3. Voice mismatches
Recoverability: Structural identity (1)

Syntactic isomorphism condition:

Let $E$ be a(n) LF phrase marker. Then, $E$ can be deleted only if there is a(n) LF phrase marker $A$, $A$ distinct from $E$, such that $A = E$

(Fiengo & May 1994)
Recoverability: Structural identity (2)

(9) Snoozy Suzy can $[A \text{ dance the cha-cha-cha}]$, but Foxy Freddy can’t $[E \text{ dance the cha-cha-cha}]$.

$\rightarrow [A \text{ dance the cha-cha-cha}] = [E \text{ dance the cha-cha-cha}]$

(9’) Snoozy Suzy can $[A \text{ dance the cha-cha-cha}]$, but Foxy Freddy can’t $[E]$.
Recoverability: Structural identity (3)

Arguments

- Sluicing doesn’t allow for Voice mismatches:

  (10)a. \([A \text{ Someone murdered } Joe]\), but we don’t know who \([E t_\text{who } \text{murdered } Joe]\).

  b. \([A \text{ Joe was murdered by someone}]\), but we don’t know by who \([E \text{ Joe was murdered } t_\text{by } \text{who}]\).
Recoverability: Structural identity (4)

→ Active antecedent, passive sluice

(11)a. *[A Someone murdered Joe], but we don’t know by who [E Joe was murdered by who].

→ Passive antecedent, active sluice

b. *[A Joe was murdered by someone], but we don’t know who [E t who murdered Joe].
Recoverability: Structural identity (5)

- VP ellipsis doesn’t allow for argument structure mismatches

\[(12) *\text{Jeff was [reading a book] and Steve was [reading], too.}\]

→ Truth conditionally, if you’re reading a book, you’re reading.

→ Structurally, however, a transitive VP differs from an intransitive one.
Recoverability: Structural identity (6)

Counterarguments

- VP ellipsis **does** allow for Voice mismatches:

  → Active antecedent, passive ellipsis clause

(13) The janitor should \([_A \text{ remove the trash}]\) whenever it’s apparent that it needs to be \([_E \text{ removed}]\).
→ Passive antecedent, active ellipsis clause

(14) This problem was to have been \([_A \text{looked into}]\), but obviously nobody did \([_E \text{look into it}]\).

No structurally identical antecedent!
Recoverability: Structural identity (8)

- Sluicing **does** allow for argument structure mismatches

(15) Jeff was [reading], but I don’t know what [Jeff was reading t_{what}].

→ Antecedent is intransitive, ellipsis clause is transitive.

→ No structural identity
Vehicle change problem

Vehicle change (Fiengo & May 1994: 218)
Nominals can be treated as non-distinct with respect to their pronominal status under ellipsis.

\([-\text{pronominal}] =_e [+\text{pronominal}]\)
(\text{where } =_e \text{ means “forms an equivalent class under ellipsis with”})
Recoverability: Structural identity (10)

(16) a. They [arrested Alex_i], though he_i thought they wouldn’t.

  b. They [arrested Alex_i], though he_i thought they wouldn’t arrest *Alex_i/him_i.

→ Because there are several ways to refer to the same referent, the R-expression in the antecedent can appear as a pronoun in the elided phrase.

→ The referent is just referred to by means of another ‘vehicle’.
Vehicle change was proposed as a solution, as a rescue for syntactic isomorphism.

However, this is not much more than a description of the problem, not really a solution.
Recoverability: Structural identity (12)

- Nonfinite verb forms

(17)a. \([_A \text{Decorating for the holidays}] \) is easy if you know how \([_E \text{to decorate for the holidays}] \).

b.*\([_A \text{Decorating for the holidays}] \) is easy if you know how \([_E \text{decorating for the holidays}] \).

→ Ellipsis:

(18) \([_A \text{Decorating for the holidays}] \) is easy if you know how \([_E \) .\]
Recoverability: Structural identity (13)

- Categorial mismatches

(19) Susan is a great $[^A \text{laugher}]$ and when she does $[^E ]$, she gets cute wrickles around her eyes.

$\rightarrow$ Elided VP takes a noun as its antecedent.
Recoverability (4)

1. Structural identity
2. Semantic identity
3. Voice mismatches
Recoverability: Semantic identity (1)

Semantic identity:

An ellipsis site must be *semantically* recoverable: it does not have to the exact same syntactic structure as its antecedent, but it has to have the same meaning, i.e. truth conditions.
Recoverability: Semantic identity (2)

Interaction between recoverability and syntactic structure in the ellipsis site:

<table>
<thead>
<tr>
<th>Syntactic structure?</th>
<th>Recoverability condition?</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>syntactic</td>
</tr>
<tr>
<td>no</td>
<td>semantic</td>
</tr>
</tbody>
</table>

Fiengo & May

Merchant (2001)

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Hardt (1993)
Recoverability: Semantic identity (3)

Hardt (1993):
A semantic condition on recoverability
No syntactic structure in ellipsis site

Hardt (1993: 45-6):
An elliptical VP is represented as a property variable that is bound in the discourse.
Recoverability: Semantic identity (4)

(20) \{<P, \text{def}>\} \quad (P = \text{property})

Antecedent VP = \textit{indef} (\approx \text{indefinite DP})
\rightarrow \quad \text{It adds the VP meaning to the discourse}

Elided VP = \textit{def} (\approx \text{pronoun})
\rightarrow \quad \text{It selects the relevant meaning from the discourse}
Recoverability: Semantic identity (5)

(21) Harry walked in. Sean did *pro* too.

→ No structure in the ellipsis site, so it cannot be syntactically identical to the antecedent.
Recoverability: Semantic identity (5b)

An elliptical VP is represented as a property variable:

\{<P,\text{def}>\}:P

The semantics for the auxiliary "do" is:

"do" \{ \}: \lambda P.\text{PRESENT}(P)
Recoverability: Semantic identity (5c)

“John walked. Bill did too.”

The semantic representation for the VP “walk” is:

“walk” \{<\text{indef}>\} : \lambda x.\text{walk}(x)

The indef assumption is discharged, adding this object to the discourse model:

\{ \} : \lambda x.\text{walk}(x)

We continue the derivation of the sentence, arriving at:

\text{PAST(\text{walk}(\text{John}))}
The elliptical VP in “Bill did P too.” is represented as:

\[ P \{ < P, \text{def} > \} : P \]

Next, the def assumption is discharged, and P is replaced with the stored property:

\[ P \{ \} : \lambda x.\text{walk}(x) \]

This is combined with the subject:

Bill P \{ \} : \text{walk}(Bill)

This is then combined with “did”:

Bill did P \{ \} : \text{PAST(\text{walk}(Bill))}
Recoverability: Semantic identity (6)

Merchant (2001):
A semantic condition on recoverability
Syntactic structure in ellipsis site

Semantic recoverability based on a focus condition

→ Focus condition on ellipsis:
   An XP $\alpha$ can be elided if $\alpha$ is e-GIVEN.
Recoverability: Semantic identity (7)

**E-GIVENNESS** (Merchant 2001: 31):
An expression $E$ counts as e-given iff $E$ has a salient antecedent $A$ and,
(i) $A$ entails the F-closure of $E$, and
(ii) $E$ entails the F-closure of $A$.

**F-closure** (Merchant 2001: 14):
The F-closure of $\alpha$, written $\text{F-clo}(\alpha)$, is the result of replacing $\text{F(ocus)}$-marked parts of $\alpha$ with $\exists$-bound variables of the appropriate type.
Recoverability: Semantic identity (8)

(22) Sally called Steve an idiot after Susan did.
    a. ...after Susan did call Steve an idiot.
    b. *...after Susan did insult Steve.

(23) \( VP_A' = \exists x. x \text{ called Steve an idiot} \)

(24) a. \( F\text{-clo}(VP_{Ea}) = \exists x. x \text{ called Steve an idiot} \)
    b. \( F\text{-clo} (VP_{Eb}) = \exists x. x \text{ insulted Steve} \)

\( \rightarrow VP_A \text{ entails both } F\text{-clo}(VP_{Ea}) \text{ and } F\text{-clo}(VP_{Eb}) \)
Recoverability: Semantic identity (9)

(25)  a. $VP_{Ea} = \exists x. x \text{ called Steve an idiot}$
     b. $VP_{Eb} = \exists x. x \text{ insulted Steve}$

(26)  $F\text{-}clo(VP_A) = \exists x. x \text{ called Steve an idiot}$

$\rightarrow VP_{Ea} \text{ entails } F\text{-}clo(VP_A)$
$\rightarrow VP_{Eb} \text{ does not entail } F\text{-}clo(VP_A): \text{ insulting someone does not entail that you call them an idiot.}$

Antecedent and ellipsis site have to mutually entail each other.
Recoverability: Semantic identity (10)

Arguments

- VP Voice mismatches
- Sluicing argument structure mismatches
- Vehicle change
- Non-finite verb forms
- Categorial mismatches
Vehicle change

(27) a. They arrested Alex$_i$, though he$_i$ thought they wouldn’t.
    b. ...he$_i$ thought they wouldn’t [arrest him$_i$].

→ [arrested Alex$_i$] mutually entails [arrest him$_i$]
Recoverability: Semantic identity (12)

Counterarguments

- Ban on sluicing Voice mismatches
- Ban on VP argument structure mismatches
Recoverability: Semantic identity (13)

Sluicing Voice mismatches:

(28) *Someone murdered Joe, but I don’t know by who.

→ [x murdered y] mutually entails [y was murdered by x]

→ Semantic identity condition rules this in.
Mismatches: problem for both approaches

Another problem for both syntactic and semantic approach:

Non-linguistic antecedents

(29)  (Jen and Morris are both looking at a man standing on the roof of a high building, ready to jump. Jen shouts:)
Don’t \([e]\).
Recoverability: Semantic identity (15)

Possible solutions:

- Implicit semantics
- Ellipsis of a light verb plus a dummy pronoun: [do it] (Merchant 2004)

→ Fairly ad hoc
→ Controversial data
Recoverability (5)

1. Structural identity
2. Semantic identity
3. Voice mismatches
Recoverability: Voice mismatches (1)

Recall this puzzle:

Sluicing does not allow for Voice mismatches:

(30) *Someone murdered Joe, but I don’t know by who [Joe was murdered by who].

VP ellipsis does allow for Voice mismatches:

(31) The janitor takes out the trash whenever it is apparent that it should be [taken out].
Recoverability: Voice mismatches (2)

Merchant’s solution (Merchant 2007, 2008):
The availability of Voice mismatches depends on the size of the ellipsis site.

Sluicing = high ellipsis

→ Voice head is included and cannot differ from Voice in the antecedent.
Recoverability: Voice mismatches (3)

Someone murdered Joe...

```
TP
  DP   T'
Someone  T  VoiceP
    T  Voice[active]
         vP
       murdered Joe
```
*but I don’t know by who [Joe was murdered by who].

Recoverability: Voice mismatches (4)
Recoverability: Voice mismatches (5)

VP ellipsis = low ellipsis

→ Voice head is not included and can hence differ from Voice in the antecedent.
The janitor takes out the trash...

Recoverability: Voice mismatches (6)
...it should be [taken out].

```
TP
  ────────────
  it           T'
  ────────────
  T            VoiceP
               ────────────
               should      vp
               ────────────
               be          [passive]
               ────────────
               taken out
```
Recoverability: Voice mismatches (8)

This solution implies that the recoverability condition on ellipsis is syntactic.
Restrictions on ellipsis (9)

1. Recoverability
2. Syntactic licensing
Syntactic licensing (1)

Even with a syntactically identical antecedent, not all ellipses are possible.

→ Ellipsis needs to be licensed in the syntactic structure.
Syntactic licensing (2)

Sluicing: only a specific set of IPs can be elided.

(24)a. Someone was singing, but I don’t know who [\(\text{t}_{\text{who}}\) was singing].

b. The cat broke something, but it’s not clear what [\(\text{t}_{\text{what}}\) the cat broke].

c. She was talking to someone, but I couldn’t see (to) who [\(\text{t}_{\text{who}}\) she was talking (to) who].

d. He really wanted to go outside, but it’s a mystery why [\(\text{t}_{\text{why}}\) he really wanted to go outside].
Syntactic licensing (3)

Not without a *wh* element:

(25)a.*It was painted, but it wasn’t obvious that [it was painted].

b.*I wanted her to live, but for [her to live] would be a miracle.

c.*The octopus predicted that Spain would win, but no-one knew for sure yet if/whether [Spain would win].
Syntactic licensing (4)

Not in relative clauses or clefts:

(26)a.*Someone was singing, but I couldn’t find the person who [was singing].
b.*She said Jeff asked for her phone number, but it was Patrick who [asked for her phone number].

→ (English) Sluicing is only allowed in *wh* questions
Syntactic licensing (5)

NP ellipsis:

(27)a. Jeff’s alibi was much more credible than Steve’s [alibi].

b. The bands at this festival are very diverse. Some [bands] play reggae, but many more [bands] play rock. Several [bands] are difficult to class with a musical style.
Syntactic licensing (6)

(28)a.*The alibi that Jeff gave was much more credible than the [alibi] that Steve gave.

b.*The smaller festivals are more fun than the big [festivals].

c.*A small festival is more fun than a big [festival].

d.*This festival is more fun than that [festival].

→ (English) NP ellipsis is only allowed with possessors, quantifiers and plural demonstratives.
Syntactic licensing (7)

VP ellipsis

(29)a. I wear colors and he does [wear colors], too.
   b. I visited Romania and you should [visit Romania], too.
   c. She said she wasn’t sleeping, but she might have been [sleeping].
   d. They’d eaten already, but I hadn’t [eaten].
   e. You shouldn’t play with rifles, because it’s dangerous to [play with rifles].
Syntactic licensing (8)

(30)a.*That student looks rather tired, and those students seem [tired], too.

b.*First fire began pouring out of the building, and then smoke began [pouring out of the building].

c.*You shouldn’t play with rifles, because to [play with rifles] is dangerous.

→ (English) VP ellipsis is only allowed with a finite auxiliary or the infinitival marker to.
Several accounts for syntactic licensing:

• Lobeck (1995)
• Merchant (2001)
• Gengel (2007)/Gallego (2009)
Syntactic licensing (10)

Lobeck (1995) – proform approach:
An empty, non-arbitrary pronominal must be properly head-governed, and governed by an X specified for strong agreement.

→ ECP + strong agreement
      licensing
          identification
Syntactic licensing (11)

An X is specified for strong agreement iff X, or the phrase or head with which X agrees, morphologically realizes agreement in a productive number of cases.

→ Strong agreement in NP: [+poss] or [+plural]
   Strong agreement in INFL: [(+Agr), +tense]
   Strong agreement in COMP: [+WH]
VP ellipsis: licensed by strong agreement in I

→ Auxiliaries, modals, infinitival *to*, dummy *do*
  all sit in I in English: strong agreement

→ English main verbs don’t raise to I: no strong agreement
Syntactic licensing (13)

Problem:
German, Dutch and French (and many other languages) have richer morphological agreement on finite verbs than English, and their main verbs also raise to I (Emonds 1976, 1978; Pollock 1989).

→ Lobeck’s theory predicts these languages to have VP ellipsis with all verbs.
→ In fact, these don’t have VP ellipsis at all!
Syntactic licensing (14)

Merchant (2001):
Minimalist approach to ellipsis licensing

→ No notion of government anymore

→ E(ellipsis)-feature
Syntactic licensing (15)

E-feature for sluicing:

(31)  a. The syntax of \([E]_S\):
      \[ E_{[uwh^*, uQ^*]} \]

      b. The phonology of \([E]\):
          \[ \varphi_{IP} \rightarrow \emptyset / E_\_ \]

      c. The semantics of \([E]\):
          \[ \llbracket E \rrbracket = \lambda p: \text{e-GIVEN}(p) \, [p] \]
Syntactic licensing (16)

The syntax of [E]$_S$: E$_{[u_{wh}^*, u_Q^*]}$

= The [E]-feature for sluicing needs a [wh, Q] head to check its strong uninterpretable features.

= The [E]-feature for sluicing can only occur on the C head we find in constituent questions.

→ Sluicing is only possible in $wh$ questions
Syntactic licensing (17)

The phonology of [E]: \( \varphi_{IP} \rightarrow \emptyset / E_\_ \)

= the phonological representation of the material dominated by the IP node (\( \varphi_{IP} \)) is null when it follows an [E]-feature.

= a familiar kind of morphologically triggered syncope: the morphological trigger is E and the syncopated element is TP.

\( \rightarrow \) The non-pronunciation is entirely controlled by the actual phonology
Syntactic licensing (18)

The semantics of $[E]: [E] = \lambda p: \text{e-GIVEN}(p) [p]

$[E]$ can only occur on a constituent $p$ if $p$ is e-GIVEN.

→ See recoverability condition
Syntactic licensing (19)

(32) Someone was singing, but I don’t know who.

..., but I don’t know

[Diagram of syntactic structure showing a CP node with a C’ node, who, and other nodes labeled with [+-wh, +Q]].
Syntactic licensing (20)

Ellipsis licensing and phases

Ellipsis is licensed by phase heads.

Phase Theory:
A phase head sends off its domain (i.e. its complement) to PF for Spell-Out.
Ellipsis and phases

→ A phase head can send off its domain to PF for pronunciation or for non-pronunciation.
Syntactic licensing (22)

Head-complement relation in ellipsis

→ The ellipsis site is the phasal domain.

Sluicing: IP ellipsis

= ellipsis of the domain of the C phase head

NP ellipsis:

= ellipsis of the domain of the D phase head
Syntactic licensing (23)

VP ellipsis:
   = ellipsis of the domain of the v phase head

! Discussion on whether VP ellipsis deletes the VP or the vP.

→ Consequences for Phase Theory:
   Voice might be the clause-internal Phase head instead of v.
Class 4: counterargument against this approach

- Ellipsis and non-ellipsis behave differently when it comes to extraction possibilities.

- This is unexpected if ellipsis is just non-pronunciation at Spell-out.
Condition on ellipsis: Summing up

- Ellipsis is subject to two restrictions:
  1. recoverability
  2. syntactic licensing

- Recoverability can be syntactic or semantic.
  Syntactic: Fiengo & May (1994)
    + syntactic structure → Merchant (2001)

- Syntactic licensing:
  Lobeck (1995): Strong agreement
  Merchant (2001): [E]-feature
“Silence is golden”

The syntax of ellipsis

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