Island repairs under ellipsis

1   Reminder: Ellipsis licensing (Merchant 2001)

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

(2)   Sally called Steve an idiot after Susan *insulted Steve*.   deaccenting

Question: Why can't we elide the VP in (1a)?
Answer: Only **given** materials (i.e. introduced in prior discourse) can be elided. New information cannot be elided. Here: *Ellipsis* is not licensed, but *deaccenting* is. We need to define **givenness**.

(3)   **GIVEN, informal definition (Schwarzschild, 1999):**
An utterance U counts as GIVEN iff it is entailed by prior discourse.

Entailment holds between *propositions*:

(4)   [a boy walked into the room] entails [someone walked into the room].

But we want to apply the term 'given' to expressions of any type.

(5)   **Definition: Existential type shifting (∃-type shifting)**
A type shifting operation that raises expressions to the type of propositions, by existentially binding any unfilled arguments.

(6)   A: John ate a green apple.
    B: No, John ate a RED apple.

We want to worry about the relationship between 'green apple' and 'apple.' We can think of them both as predicates: (green-apple(x)) and (apple(x)).

(7) $\exists x$ (green-apple(x)) $\Rightarrow \exists x$ (apple(x)).   ∃-type shifting
[a green apple] entails [an apple], so [an apple] is **given**.

Non-F-marked constituents are **given**.

Question: Does *John ate a green apple* entail *John ate a RED apple*?
Answer: No. Yet they still seem to be related to one another.

(8)   **F-closure (Merchant, 2001, p. 14)**:
The F-closure of α, written F-clo(α), is the result of replacing F(ocus)-marked parts of α with ∃-bound variables of the appropriate type.

The general form of (6B), replacing F-marked elements with variables:

(6B′)   John ate a Y apple   replacing F-marked elements with F-variables

Now, apply ∃-type shifting to this F-variable.

(6B″)   ∃Y[John ate a Y apple]   the **F-closure** of (6B).

(9)   **GIVEN, formal definition (Schwarzschild, 1999):**
An utterance U counts as GIVEN iff it has a salient antecedent A and A entails the F-closure of U, modulo ∃-type shifting.

Question: Given these definitions, is (6B) **given**?

Merchant (2001): Ellipsis can occur when the **givenness** relationship is established between the two conjuncts (call this **ellipsis-GIVENness**).

(10)   **e-GIVENness (Merchant, 2001, p. 31)**
An expression E counts as **e-given** iff E has a salient antecedent A & modulo ∃-type shifting,
(i) A entails F-clo(E), and
(ii) E entails F-clo(A)

(11)   JOHN called Bill an idiot, and MARY did ~~call Bill an idiot~~, too.

To verify that ellipsis is licensed in (11), we need to show that both the (i) and (ii) clauses of (10) hold. So, we must identify A, E, F-clo(A), and F-clo(E):
   a.   Antecedent: JOHN called Bill an idiot
   b.   F-clo(A) = $\exists x.$ x called Bill an idiot.   ∃-type shifting for the focused item
   c.   Ellipsis: MARY called Bill an idiot
   d.   F-clo(E) = $\exists x.$ x called Bill an idiot.   ∃-type shifting for the focused item
   ☞   A entails F-clo(E) & E entail F-clo(A). e-GIVENness is satisfied, so ellipsis is licensed.

Exercise: Walk through the computation and show why (12a) is licensed but (12b) is not:

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

(That is, for each of (12a-b), identify/answer the following:

- Antecedent:

- F-clo(A):

- Ellipsis:

- F-clo(E):

- F-clo(A) $\Rightarrow$ F-clo(E)?

- F-clo(E) $\Rightarrow$ F-clo(A)?

(*Do this for both (12a) and (12b)*)

Question: What about deaccenting?

Deaccenting has a weaker licensing condition: it only requires that (i) hold. Therefore if an antecedent entails the deaccented clause, deaccenting is licensed, regardless of the other way around.

Exercise: Given the calculations for (12), do we correctly predict that (13) should be licensed?

(13)   Sally called Steve an idiot after Susan *insulted Steve*.

2 Ellipsis in the wild

(14) **What is *not* doing here?**
    a. Pseudogapping is like gapping, except it's not.
    b. Second, the object noun phrase is the phrase structure sister of the verb, while the subject is not.   (Mark Baker, *Noun incorporation and the nature of linguistic representation*

(15) **What form of ellipsis is this?**
    A: It doesn't surprise me.
    B: Really? It does me.

(16) **Is a non-constituent elided here?**
    Our group will meet at 6, and Kate's at 6:30.

(17) **What's elided? How does the pronoun get its reference?**
    A: I'm definitely liking Audrey$_1$'s character more and more.
    B: Why her$_1$'s?

(18) **More cross-speaker ellipsis:**
    A: I love you.
    B: And I, you.

(19) **Even more cross-speaker ellipsis:**
    A: Ben's filming today.
    B: Yeah, he is, he is.

(20) **What is the content of the elided comparative clause?**
    a. Yet there is something unsettling about the way the public gleefully ridicules the psychotic behavior of people like Gary Busey, Scott Stapp, and Randy Quaid. It says a lot more about us than it does about them.
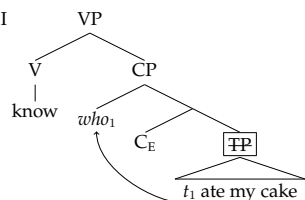   b. I gave more books to Mary than to John

3 Islands and ellipsis

3.1 Reminder: sluicing

Sluicing: S-losing (or: TP-ellipsis), Ross (1969).

(21) Someone ate my cake and I think I know who.

Merchant's (2001): there is a **full copy** of the elided material in the gap site.

(22) ... and I think I

This is a theory of **PF-deletion**: The E-feature instructs PF not to pronounce its complement.

The E-feature is licensed in a structure only if its sister is **e-given**.

3.2 The classic paradigm (Ross 1969)

It would appear that sluicing is able to "repair" island violations (data from Ross 1969; Chung et al. 1995; Merchant 2008).

(23) I believe that he bit someone, but they don't know who ~~I believe that he bit~~.

(24) a. * I believe the claim that he bit someone, but they don't know who I believe the claim that he bit.   [Complex NP Constraint, noun complement]
    b. (?) I believe the claim that he bit someone, but they don't know who.

(25) a. * She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends she kissed a man who bit.   [Complex NP Constraint, relative clause]
    b. (?) She kissed a man who bit one of my friends, but Tom doesn't realize which one (of my friends).

(26) a. * Bob ate dinner and saw a movie that night, but he didn't say which movie he ate dinner and saw that night.   [Coordinate Structure Constraint]
    b. (?) Bob ate dinner and saw a movie that night, but he didn't say which.

(27) a. * That he'll hire someone is possible, but I won't divulge who that he'll hire is possible.   [Sentential Subject Constraint]
    b. (?) That he'll hire someone is possible, but I won't divulge who.

(28) a. * She bought a big car, but I don't know how big she bought a car.   [Left-branch extraction (attributive adjective)]
    b. (?) She bought a big car, but I don't know how big.

(29) a. * A biography of one of the Marx brothers is going to be published this year — guess which Marx brother a biography of is going to be published this year!   [Derived position islands (subjects, topicalizations)]
    b. (?) A biography of one of the Marx brothers is going to be published this year — guess which!

(30) a. * Ben will be mad if Abby talks to one of the teachers, but she couldn't remember which one of the teachers Ben will be mad if she talks to.   [Adjunct]
    b. (?) Ben will be mad if Abby talks to one of the teachers, but she couldn't remember which one (of the teachers)

(31) a. * Sandy was trying to work out which students would be able to solve a certain problem, but she wouldn't tell us which one she was trying to work out which students would be able to solve.   [Embedded question]
    b. (?) Sandy was trying to work out which students would be able to solve a certain problem, but she wouldn't tell us which one.
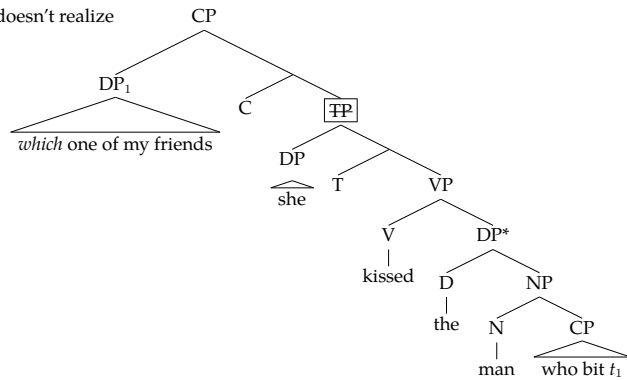
3.3 The classic analysis (Chomsky (1972)

Ross (1967, 1969): the phenomenon of island violation repair provides "evidence of the strongest sort that the theoretical power of [global] derivational constraints is needed in linguistic theory..."

If a node is moved out of its island, we will have an ungrammatical sentence. If the island-forming node does not appear in surface structure, violations of lesser severity will ensue (Ross, 1969, p.277).

(32) She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends ~~she kissed a man who bit~~.

(33) ... Tom doesn't realize

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                    CP
             ┌───────┴───────┐
           DP₁              ┌─┴──┐
      ┌─────┴─────┐         C   TP
  which one of my friends      ┌─┴──┐
                              DP    ┌─┴──┐
                              │     T   VP
                             she       ┌─┴──┐
                                       V   DP*
                                       │  ┌──┴──┐
                                    kissed D   NP
                                           │  ┌─┴─┐
                                          the N  CP
                                              │   │
                                             man who bit t₁
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Chomsky (1972) (and others): * is assigned to an island when it is crossed by a movement operation. There is an output condition forbidding * in surface structures.

☞ If a later operation (e.g. Sluicing) deletes a category containing the *-marked item, the derivation is salvaged: This is the *** as the feature of island nodes** approach.

3.4 Failures of island violation repair

Merchant (2008): A problem for Chomsky's approach:

(34) a. * They want to hire someone who speaks a Balkan language, but I don't know which they do ~~want to hire someone who speaks t~~.
 b. They want to hire someone who speaks a Balkan language, but I don't know which (Balkan language) ~~they want to hire someone who speaks t~~. (Merchant, 2001)

This is a general phenomenon:

(35) * I believe the claim that he bit someone, but they don't know who I do.
 [Complex NP Constraint, noun complement]

(36) * She kissed a man who bit one of my friends, but Tom doesn't realize which (one of my friends) she did. [Complex NP Constraint, relative clause]

(37) * Bob ate dinner and saw a movie that night, but he didn't say which he did.
 [Coordinate Structure Constraint]

(38) * That he'll hire someone is possible, but I won't divulge who is.
 [Sentential Subject Constraint]

(39) * She bought a big car, but I don't know how big she did.
 [Left-branch extraction (attributive adjective)]

(40) * He said a biography of one of the Marx brothers is going to be published this year — guess which he did! [Derived position islands (subjects, topicalizations)]

(41) * Ben will be mad if Abby talks to one of the teachers, but she couldn't remember which one of the teachers he will. [Adjunct]

(42) * Sandy was trying to work out which students would be able to solve a certain problem, but she wouldn't tell us which one she was. [Embedded question]

Question: What is the difference between the bad examples in (34)?

3.5 Today's common wisdom (Merchant 2008)

We can't just say that say that extraction out of VP-ellipsis is impossible.

(43) a. I know what I LIKE and what I DON'T.
 b. I know which books she READ, and which she DIDN'T.

(44) a. GREEK, you should take; DUTCH, you shouldn't.
 b. I know which books ABBY read, and which ones BEN did.
 c. I think YOU should ride the TALLEST camel, but I don't know which one PHIL should. (Schuyler 2001: (48))
 d. I think you SHOULD adopt one of these puppies, but I can't predict which one you actually WILL. (Schuyler 2001: (49))
 e. We know that Abby DOES speak [Greek, Albanian, and Serbian]_F – we need to find out which languages she DOESN'T ~~speak t~~! (Merchant 2001: 115 fn. 5 (ii))
 f. ABBY attended a lecture on KEATS, but I don't know what poet BEN did.

"Perhaps, as Merchant (2001) and Lasnik (2001) suggest, there is a ban on eliding less than possible under wh-extraction (whose ultimate source remains obscure)."

(45) **Definition: MaxElide**
 Let XP be an elided constituent containing an $\overline{\text{A}}$-trace. Let YP be a possible target for deletion. YP must not properly contain XP (XP $\not\sqsubset$ YP).

MaxElide can explain why e.g. (46) is ungrammatical:

(46) a. * They want to hire someone who speaks a Balkan language, but I don't know which they do [_VP_ ~~want to hire someone who speaks t~~].
 b. They want to hire someone who speaks a Balkan language, but I don't know which (Balkan language) [_TP_ ~~they want to hire someone who speaks t~~]. (Merchant, 2001)

The elided VP in (46a) "want to hire someone who speaks t" is properly contained in the TP "they want to hire someone who speaks t." Therefore MaxElide requires that TP be targeted for deletion.

Exercise: How does MaxElide explain the patterns in (47) and (48)?

(47) a. Ben knows who she invited, but Charlie doesn't.
 b. ?? Ben knows who she invited, but Charlie doesn't know who.
 c. ?? Ben knows who she invited, but Charlie doesn't know who she did.
 d. Ben knows who she invited, but Charlie doesn't know who she invited.

(48) a. John knows how to do something, but I don't what.
 b. * John knows how to do something, but I don't what he knows how.

Exercise: Why are (49a–b) grammatical?

(49) a. Ben knows that Carmen invited Klaus, but her father doesn't.
 b. Ben knows that Carmen invited Klaus, but her father doesn't know that she did.

Prediction (not borne out): If MaxElide is satisfied, and there is something focused in TP but out-side of VP, VP-ellipsis should help island violations:[1]
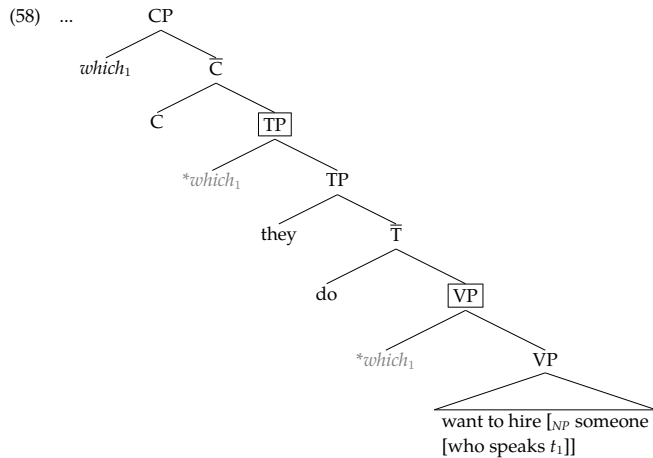
Question: Why do we make this prediction?

(50) * Abby DOES want to hire someone who speaks GREEK, but I don't remember what lan-guage she DOESN'T.

(51) * ABBY bought a big car, but I don't know how big BEN did.

(52) * ABBY asked if I was going to fail Syntax One, but I can't remember who BEN did.

(53) * They got the president and thirty-seven Democratic Senators to agree to revise the budget, but I can't remember how many Republican ones they DIDN'T.

(54) * BEN left the party because some guest insulted him, but God only knows which guest ABBY did.

(55) * Sandy was trying to work out how many students would be able to solve problem #4/a certain problem, but she wouldn't tell us which problem she WASN'T.

(56) **Proposal: The * as a feature of traces approach.**
   a. Let intermediate traces of island-escaping XPs be marked with the * feature.
   b. Subsequent traces of movement of XP will also carry the * feature.
   c. The * feature on the highest copy can be checked in C.[2]
   d. A derivation is only licit if it contains no * features.

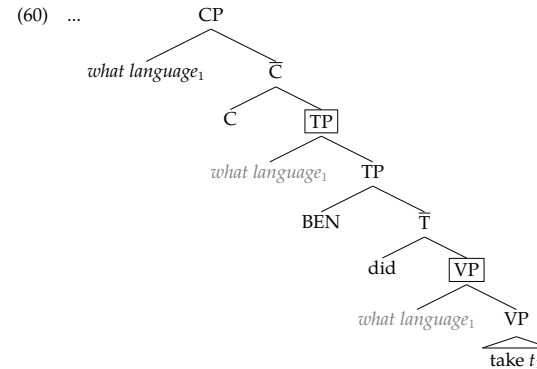(57) They want to hire someone who speaks a Balkan language, but I don't remember which.

(58) ...

MaxElide requires TP to be the target for deletion. The surviving material contains no * features.

(59) ABBY took GREEK, but I don't know what language BEN did.

(60) ...

TP can't be targeted for deletion because it contains focused material – BEN, which is not **given**. MaxElide tells us that VP must be targeted for deletion. We are not moving out of an island, so there are no * features in the derivation.

(61) * Abby DOES want to hire someone who speaks GREEK, but I don't remember what lan-guage she DOESN'T.

(62) ...
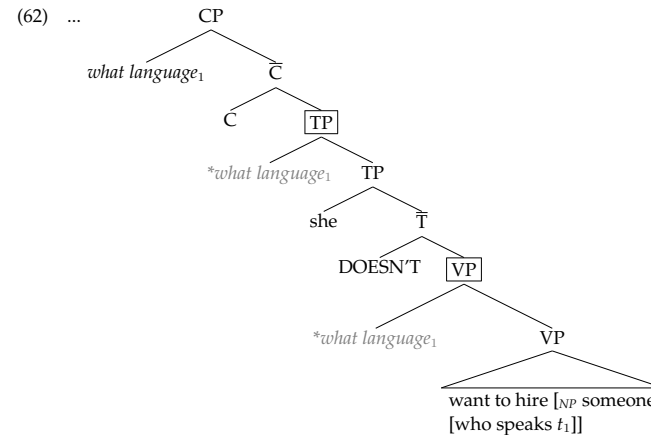
TP can't be targeted for deletion because it contains focused material – DOESN'T, which is not **given**. MaxElide tells us that VP must be targeted for deletion. But we are moving out of an island here, so we are left with a * feature on an intermediate trace of movement that is not deleted.

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[1]Exercise for the reader: which island does each example use?
[2]Either under locality, in Spec,CP, by the interrogative C, or alternatively by the E-feature itself.

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