Introduction to Unbounded Dependencies

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(1) **The Pretheoretical Term 'Overt Movement'**

- Here, by **overt movement**, we mean the class of phenomena that have been discussed over the past half-century under such rubrics as **extraction** and **Ā-movement**.

- Thus it refers to phenomena such as those discussed by Chomsky (1977) 'On wh-movement' or by Levine and Hukari 2006 (*The Unity of Unbounded Dependency Constructions*).

- So phenomena that have been discussed under the rubrics of **head movement** (e.g. verb inflection, subject-auxiliary inversion) and NP**-movement**/A**-movement** (e.g. passive, raising to subject) are excluded.

- In English, there are both finite and infinitive overt movement constructions, but for expository simplicity, here we consider only the finite constructions.

(2) **Some Examples of Overt Movement**

a. JOHN$_i$, Fido bit t$_i$. [Topicalization]

b. I wonder [who$_i$ Fido bit t$_i$]. [Indirect Question]

c. Who$_i$ did Fido bite t$_i$? [Direct Question]

d. The neighbor [who$_i$ Fido bit t$_i$] was John. [Relative Clause]

e. Felix bit [who(ever)$_i$ Fido bit t$_i$]. [Free Relative]

f. It was John [who$_i$ Fido bit t$_i$]. [Cleft]

g. [Who$_i$ Fido bit t$_i$] was John. [Plain Pseudocleft]

h. [Who$_i$ Fido bit t$_i$] was he bit John. [Amalgamated Pseudocleft]

i. [[The more cats]$_i$ Fido bit t_i], [[the more dogs]$_j$ Felix scratched t$_j$]. [Left and right sides of Correlative Comparatives]

In all these examples, the expression on the left periphery that is coindexed with the trace is called the **filler**, or **extractee**, or **dislocated expression**.

(3) **The Category T of Topicalized Sentences**

    a. ∗ Kim wondered whether BAGELS, Kim liked.

    b. ∗ The fact that BAGELS, Kim likes is inexplicable.

    c. ∗ Our town was so snooty that CROISSANTS, the cops ate.

Conclusion: T $\neq$ S.

(4) **Topicalization is Unbounded**

    a. BAGELS, she likes.

    b. BAGELS, I think she likes.

    c. BAGELS, I don't think he even suggested she likes.

(5) **Topicalization Requires a Gap**

    a. ∗ Bagels, Kim likes muffins.

    b. ∗ Bagels, Kim likes the pumpernickel ones from Cup o' Joe.

Note: gapless constructions that superficially resemble topicalization—**left dislocation constructions**—have a different discourse function (of establishing a new topic).

(6) **Topicalization can Involve Multiple Gaps**

    a. Bagels$_i$, we devour t$_i$ without bothering to toast t$_i$.

    b. [These reports]$_i$, we can file t$_i$ immediately after photocopying t$_i$.

    c. [Kim and Sandy]$_i$, we should ask some former students of t$_i$ to nominate t$_i$ for a teaching award.

    d. [Kim and Sandy]$_i$, some former students of t$_i$ nominated t$_i$ for a teaching award.

(7) **If One Conjunct has a Gap, they all do**

    a. Nixon$_i$, we collect photos of t$_i$ and books about t$_i$.

    b. ∗ Nixon$_i$, we collect photos of t$_i$ and books about Agnew.

    c. ∗ Nixon$_i$, we collect photos of Agnew and books about t$_i$.

(8) **Topicalization is Category-Sensitive**

    a. SHE/∗ HER, I firmly believe would make an excellent candidate.

    b. HER/∗ SHE, I would never vote for t$_i$.

    c. On/∗ About/∗ To FIDO, you can depend.

(9) **Topicalization Gap can be a Subject (modulo '*that*-trace effect'**

    a. Bagels, I believe Kim said were too salty for her diet.

    b. ∗ Bagels, I believe Kim said that were too salty for her diet.

    c. ? Bagels, I believe Kim said that, unless they came from Trader Joe's, were too salty for her diet.

    d. ∗ Fido, I wonder whether bit Felix.

(10) **Topicalization Gap can be a Complement**

    a. Bagels, Kim likes.

    b. That filthy carpet, not even a cockroach would sleep under.

    c. Fido, you can depend on.

    d. On Fido, you can depend.

    e. That snow is white, no sane person would dispute.

(11) **Topicalization Gap can be a VP Right Modifier**

    a. On Tuesday, I don't think we should meet.

    b. While the prospectives are in town , I don't think we should meet.

    c. Without an agenda, I don't think we should meet.

    d. To handle such a trivial matter, I don't think we should meet.

(12) **Topicalized Phrase cannot be a Dummy**

    a.   ∗ It, Kim thinks is obvious that snow is white.

    b.   ∗ It, I don't believe for a minute will rain.

    c.   ∗ There, Sandy claimed was a unicorn in the vestibule.

(13) **Where Topicalization Gaps Cannot be (1/2)**

    a.   ∗ All$_i$, I never claimed Kim likes t$_i$ cats. [Det of NP]

    b.   ∗ Six feet$_i$, Kim isn't t$_i$ tall. [Deg of AP]

    c.   ∗ Cats$_i$, I never claimed Kim likes all t$_i$. [N of NP]

    d.   ∗ Tall$_i$, Kim isn't six feet t$_i$. [Head of AP]

    e.   ∗ Whether$_i$, I wonder t$_i$ snow is white. [Complementizer]

    f.   ∗ That$_i$, I realize t$_i$ snow is white. [Complementizer]

    g.   ∗ [Snow is white]$_i$, I wonder whether t$_i$. [Sister of Complementizer]

    h.   ∗ [Snow is white]$_i$, I realize that t$_i$. [Sister of Complemntizer]

(14) **Where Topicalization Gaps Cannot be (2/2)**

    a.   ∗ Aardvarks$_i$, we collect t$_i$ and books about t$_i$. [Conjunct]

    b.   ∗ Aardvarks$_i$, we collect books about t$_i$ and t$_i$. [Conjunct]

    c.   ∗ Probably$_i$, I believe Kim will t$_i$ come. [Left modifier of VP]

    d.   ∗ Yellow$_i$, I like t$_i$ cats, [Left modifer of N]

    e.   ∗ [That purr audibly]$_i$, I like cats t$_i$. [Right modifier of N]

    f.   ∗ Cats$_i$, I like yellow t$_i$. [Modified head]

    g.   ∗ Cats$_i$, I like t$_i$ that purr audibly. [Modified head]

    h.   ∗ Left$_i$, I think Kim probably t$_i$. [Modified]

    i.   ∗ Meet$_i$, I prefer that we t$_i$ next Friday. [Modified head]

    j.   ∗ Left$_i$, I believe Kim t$_i$. [Functor of Subject]

    k.   ∗ Invite$_i$, I think we should t$_i$ Sandy. [Functor of Complement]

(15) **Where English Topicalization Gaps Can Be**

- subjects
- complements
- right modifiers of VPs
- and those are the only options.

(16) **The *That*-Trace Effect**

a. Fido, Mary thinks John likes t.
b. Fido, Mary thinks that John likes t.
c. Fido, Mary thinks t likes John.
d. *Fido, Mary thinks that t likes John.

(17) ***Tough*-Movement is Unbounded**

a. Kim$_i$ is easy to like t$_i$.
b. Kim$_i$ is easy to get people to like t$_i$.
c. Kim$_i$ will be easy to persuade people to vote for t$_i$.
d. ? Kim$_i$ will be easy to persuade students to get their parents to vote for t$_i$.

(18) ***Tough*-Movement Balks at Finite Clause Boundaries**

a. *Kim$_i$ was easy to persuade me (that) I should vote for t$_i$.
b. *Dick$_i$ will be hard to prove t$_i$ authorized Valerie's outing.

(19) ***Tough*-Movement Requires a Gap**

a. ∗ Kim is easy to like Sandy.
b. ∗ Kim will be easy to persuade people to vote for Sandy.

(20) ***Tough*-Movement can Involve Multiple Gaps**

a. Kim$_i$ is easy to detest t$_i$ after talking to t$_i$ for five minutes.
b. Kim$_i$ will be hard to persuade former students of t$_i$ to nominate t$_i$.

(21) **If One Conjunct has a Gap, they all do**

a. Kim$_i$ was easy to accomodate t$_i$ and entertain t$_i$.
b. ∗ Kim$_i$ was easy to accomodate t$_i$ and entertain her ferret.
c. ∗ Kim$_i$ was easy to accomodate her ferret and entertain t$_i$.

(22) **_Tough_-Movement 'Moves' Complements**

    a.   Felix is easy to like.

    b.   Felix is easy to depend on.

    c.   Fido is hard to sleep near.

    d.   That snow is white is hard to prove.

    e.   Whether snow is white is hard to settle definitively.

(23) PP**s do not _Tough_-Move (except maybe referential ones)**

    a.   ? After the recession is hard to imagine.

    b.   ∗ On Felix is easy to depend.

    c.   ∗ Near Fido is hard to sleep.

(24) **_Tough_-Gap cannot be a VP Right Modifier**

    a.   ∗ On Tuesday is hard to meet.

    b.   ∗ While the prospectives are in town is hard to meet.

    c.   ∗ Without an agenda is hard to meet.

(25) **_Tough_-Moved Expresssion cannot be a Dummy**

    a.   ∗ It is easy to be obvious that snow is white.

    b.   ∗ It is easy to rain.

    c.   ∗ There is easy to be a unicorn the vestibule.

(26) **Where _Tough_-Gaps Cannot be (1/2)**

    a.   ∗ All$_i$ is easy to like t$_i$ cats. [Det of NP]

    b.   ∗ Six feet$_i$ is easy to be t$_i$ tall. [Deg of AP]

    c.   ∗ Cats$_i$ are easy to like all t$_i$. [N of NP]

    d.   ∗ Tall$_i$ is easy to be six feet t$_i$. [Head of AP]

    e.   ∗ Whether$_i$ is easy to wonder t$_i$ snow is white. [Complementizer]

    f.   ∗ That$_i$ is easy to realize t$_i$ snow is white. [Complementizer]

    g.   ∗ [Snow is white]$_i$ is easy to prove that/settle whether t$_i$. [Sister of Complementizer]

(27) **Where *Tough*-Gaps Cannot be (2/2)**

    a.   * Aardvarks$_i$ are hard to collect t$_i$ and books about t$_i$. [Conjunct]

    b.   * Aardvarks$_i$ are hard to collect books about t$_i$ and t$_i$. [Conjunct]

    c.   * Yellow$_i$ is hard to like t$_i$ cats, [Left modifer of N]

    d.   * [That bite]$_i$ is hard to like cats t$_i$. [Right modifer of N]

    e.   * Cats$_i$ are hard to like yellow t$_i$. [Modified head]

    f.   * Meet$_i$ is hard to prefer to t$_i$ next Friday. [Modified head]

    g.   * Left$_i$ is hard to believe that Kim t$_i$. [Functor of Subject]

    h.   * Like$_i$ is hard to t$_i$ Sandy. [Functor of Complement]

(28) **Violins and Sonatas**

    a.   [This violin]$_i$, even [the most challenging sonatas]$_j$ are easy to play t$_j$ on t$_i$.

    b.   * [This sonata]$_j$, even [the most exquisitely crafted violin]$_i$ is hard t$_j$ to play on t$_i$.

(29) **Problems and People**

    a.   [Which problems]$_i$ don't you know who$_j$ to talk to t$_j$ about t$_i$?

    b.   * [Which people]$_j$ don't you know what$_i$ to talk to t$_j$ about t$_i$?

(So whatever is going on in (28) is not specific to *tough*.)

(30) **Nested Dependencies Constraint (NDC)**

    a.   [This violin]$_i$, even [the most challenging sonatas]$_j$ are easy to play t$_j$ on t$_i$.

    b.   * [This sonata]$_j$, even [the most exquisitely crafted violin]$_i$ is hard t$_j$ to play on t$_i$.

    c.   [Which problems]$_i$ don't you know who$_j$ to talk to t$_j$ about t$_i$?

    d.   * [Which people]$_j$ don't you know what$_i$ to talk to t$_j$ about t$_i$?

(31) **(So-Called) Parasitic Gaps (1/2)**

- In the 1970's and 1980's it was falsely believed that overt movement from within a non-complement was ungrammatical.
  - a. Here's a guidebook you shouldn't go to London without reading t.
  - b. Norwegians are one ethnic group that jokes about t don't seem to upset anyone.
- However, it is true that sentences with such gaps seem better if they contain a 'coindexed' gap that **is** in a complement:
  - a. Here's a guidebook you shouldn't just throw away t without reading t.
  - b. Norwegians are one ethnic group that jokes about t don't seem to offend t.

(32) **Parasitic Gaps (2/2)**

- A related belief, also false, was that, except for across-the-board (ATB) extraction from coordinate structures, **all** cases of 'coindexed' gaps in the same sentence were of the kind in (31), where one gap (the 'host') is 'normal', and the other gap (the 'parasite') is only possible because the coindexed host gap 'licenses' it.
- Hence the name 'parasitic gap'.
- The following relative clauses show this belief was false:
  - a. who we sent pictures of t to t
  - b. who we consider t smarter than most contemporaries of t
  - c. who we advised t that the FBI was about to arrest t
  - d. who we advised t t was about to be be fired
  - e. who we regaled t with lewd songs about t
  - f. who we bribed former allies of t to betray t

(33) **Across-the-Board (ATB) Extraction**

With well-known pragmatically marked exceptions, etxraction out of a coordinate structure is possible only if 'the same thing' is extracted from each conjunct:

a.   Kim$_i$ was easy to accomodate t$_i$ and entertain t$_i$.

b.   ∗ Kim$_i$ was easy to accomodate t$_i$ and entertain her ferret.

c.   ∗ Kim$_i$ was easy to accomodate her ferret and entertain t$_i$.

d.   Nixon$_i$, we collect photos of t$_i$ and books about t$_i$.

e.   ∗ Nixon$_i$, we collect photos of t$_i$ and books about Agnew.

f.   ∗ Nixon$_i$, we collect photos of Agnew and books about t$_i$.