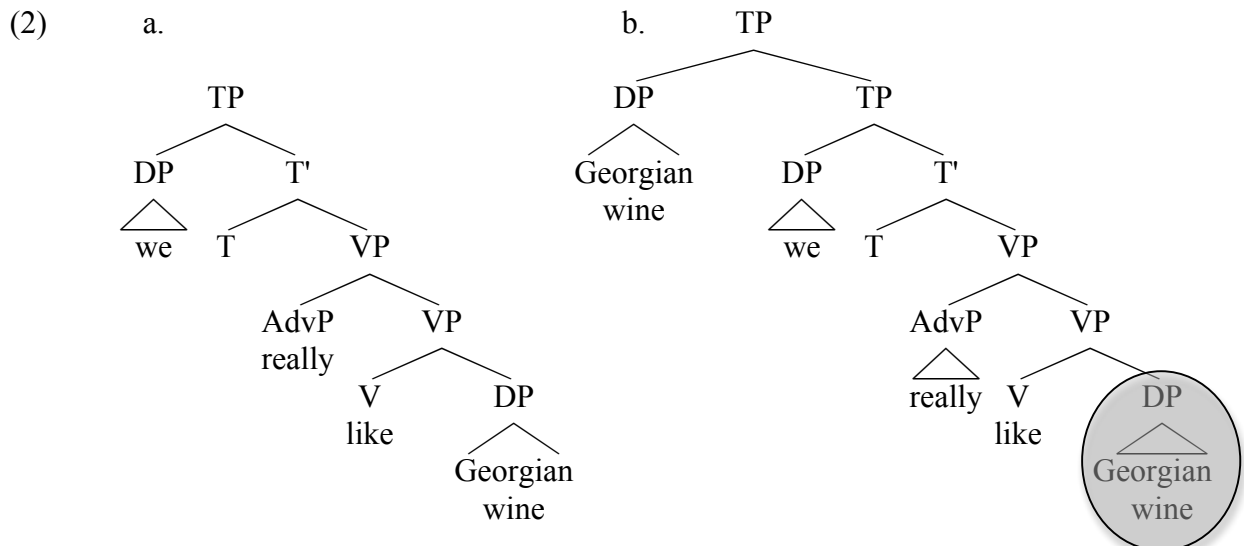# Movement

A. Introduction

- Most languages have an identifiable basic word order
  - English: SVO, or *agent-predicate-patient*
  - Georgian: SVO and SOV, different distribution in speech and writing

- See the World Atlas of Language Structures Online (WALS) on dominant word order (http://wals.info/chapter/81)

- All languages have means for displacing constituents to non-canonical positions (positions different from where they are logically interpreted), typically to the front or the back of the sentence

- In generative syntax, these displacements are modeled with a mechanism called MOVEMENT

- Movement takes a constituent in a tree and puts it somewhere else, creating a new tree. The original tree and the new tree constitute a DERIVATION.

- Moved constituents leaving behind a COPY of the moved element in the original position

- Typically only the topmost copy is pronounced. The other, unpronounced copies, also called TRACES, are deleted (indicated in grey below).

(1) a. We really like Georgian wine.
    b. Georgian wine we really like ~~Georgian wine~~.

(2)   a.   b.   TP

- Analyzing movement
  - What is moving?
  - Where is it moving to?
  - Under what conditions does the movement take place?

- Basic constraints on movement
  - o Only constituents (nodes) can move

(3)   *Recoverability*
      Movement does not cause information to be lost
      Constituents move to unoccupied positions: adjoined positions or empty specifiers

(4)   *Structure Preservation*
      Movement creates structures that obey X' Theory
      Derived trees look "familiar", movement doesn't create "wacky" looking trees

(5)   *Proper Binding Condition*
      Movement proceeds "up" the tree

(6)   *Inclusiveness*
      Movement doesn't introduce new elements

- A survey of movement constructions
  - o wh-movement
  - o topicalization
  - o scrambling
  - o passive
  - o unaccusative advancement
  - o subject-to-subject raising

B.   Russian Topicalization

(7) a.   Oni   kupili   mašinu
        they.NOM   bought   car.ACC
        'They bought a car.'
    b.   Mašinu   oni   kupili   ~~mašinu~~
        car.ACC   they.NOM   bought
        'A car, they bought.'

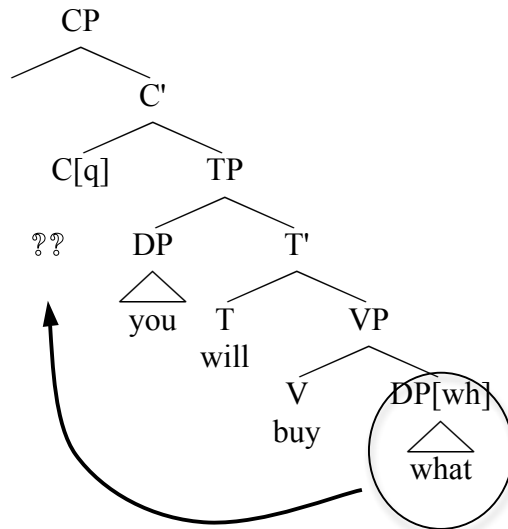## C.   Locality

- Topicalization is unbounded: it can operate over a very long distance
(8) a.   Mašinu   oni   kupili   ~~mašinu~~
        car.ACC   they.NOM   bought
    b.   Mašinu   ja   dumaju   [čto   oni   kupili   ~~mašinu]~~
        car.ACC   I.NOM   think   that   they.NOM   bought
    c.   Mašinu   ja   somnevajus'   [čto   ty   znaeš
        car.ACC   I.NOM   doubt   that   you.NOM   know
        [čto   oni   kupili   ~~mašinu~~]]
        that   they.NOM   bought
    d.   etc.

- Topicalization is nonetheless subject to islands, syntactic configurations out of which movement is impossible

- an archipelago of islands (Ross 1967 and others)
  - o embedded questions
  - o relative clauses
  - o clausal adjuncts
  - o subjects
  - o conjunctions
  - o many more!

o Complex Noun Phrase Constraint: no element may be moved out of a complex NP (a noun phrase with a relative clause or complement clause attached)

(9) a.   Ja   videl   [sosedej   [kotorye   kupili   mašinu]]
          I.NOM   saw   neighbors.ACC   which.NOM   bought   car.ACC
          'I saw the neighbors who bought a car.'

    b.   *Mašinu   ja   videl   [sosedej   [kotorye   kupili   ~~mašinu~~]]
          car.ACC   I.NOM   saw   neighbors.ACC   which.NOM   bought
          ('*A car, I saw the neighbors who bought.')

o Adjunct Island Condition: no element may be moved out of a clausal adjunct

(10) a.   Ja   radujus'   [potomu čto   oni   kupili   mašinu].
           I.NOM   rejoice   because   they.NOM   bought   car.ACC
           'I rejoiced because they bought a car.'

     b.   *Mašinu   ja   radujus'   [potomu čto   oni   kupili   ~~mašinu~~].
           car.ACC   I.NOM   rejoice   because   they.NOM   bought
           ('*A car, I rejoiced because they bought.')

o Coordinate Structure Constraint: no element may be moved out of a coordination

(11) a.   Oni   kupili   [daču   i   mašinu]
           they.NOM   bought   country.house.ACC   and   car.ACC
           'They bought a country house and a car.'

     b.   *Mašinu   oni   kupili   [daču   i   ~~mašinu~~]
           car.ACC   they.NOM   bought   country.house.ACC   and
           ('*A car they bought a country house and.')

- There is a great deal of empirical and theoretical research on islands
  o What configurations are islands?
  o Why do islands block movement?
  o Are islands universal?

D.   English *Wh*-Movement

- What are the generalizations about how content (*wh-*) questions are formed in English?

(12) a.   What will you buy?
     b.   Who might the teacher give a failing grade to?
     c.   Where did the students have dinner last night?
     d.   Who stole my bicycle?
     e.   What did each tourist buy where?
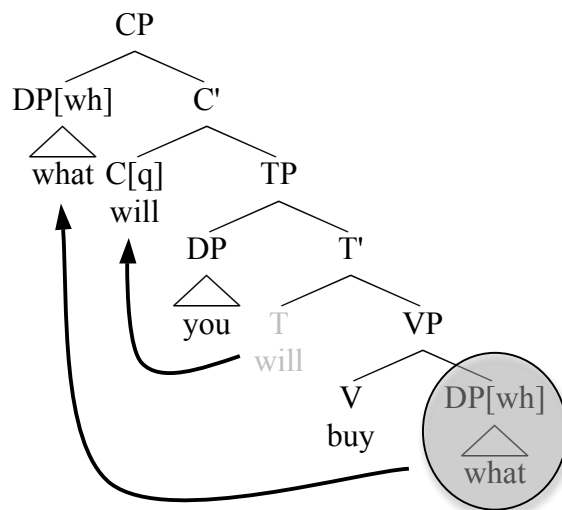   (compare *What where did each tourist buy?*)

(13)

```
                        CP
                        |
                        C'
                    ┌───┴───┐
                  C[q]      TP
                        ┌────┴────┐
                  ??    DP        T'
                        △     ┌───┴───┐
                       you    T       VP
                              |    ┌──┴──┐
                            will   V    DP[wh]
                                  buy     △
                                         what
```

(14)   MIDDLE ENGLISH
   a.   he   wiste wel hymself **what that** he   wolde   answer
        he   knew   well himself what   that   he   would   answer
        'He himself knew well what he would answer.'
   b.   I   wolde fayn   knowe **how   that** ye   understonde thilke wordes
        I   would like   know   how   that   you understood   these   words
        'I would like to know how you understood these same words.'

(15)

```
                         CP
                    ┌────┴────┐
                 DP[wh]       C'
                   △      ┌───┴───┐
                 what    C[q]     TP
                         will  ┌───┴───┐
                               DP      T'
                               △    ┌──┴──┐
                              you   T     VP
                                   will  ┌──┴──┐
                                         V    DP[wh]
                                        buy     △
                                               what
```

- *Wh*-movement
   o What is moving?   *an XP marked [wh]*
   o Where is it moving to?   *the specifier of CP*
   o Under what conditions does the movement take place?   *in main clause questions*

- In non-subject questions, wh-movement is accompanied by Subject-Auxiliary Inversion

- Wh-movement is unbounded
(16) a.   **What** was he reading ~~what~~?
     b.   **What** did he say [that he was reading ~~what~~]?
     c.   **What** does she believe [that he said [that he was reading ~~what~~]]?

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     d.   **What** are they claiming [that she believes [that he said [that he was reading ~~what~~]]]?

     e.   etc.

- Wh-movement is subject to islands

o *Wh*-Island Constraint: no element may be moved out of an embedded question
(17) a.   You wonder [when I told John the news].
     b.   *Who do you wonder [when I told __ the news]?

o Complex Noun Phrase Constraint: no element may be moved out of a complex NP (a noun phrase with a relative clause or complement clause attached)
(18) a.   You visited [the guy who dislikes cats].
     b.   *Who did you visit [the guy who dislikes __]?
(19) a.   They discussed [the rumor that I visited John].
     b.   *Who did they discuss [the rumor that I visited __]?

o Adjunct Island Condition: no element may be moved out of a clausal adjunct
(20) a.   He smiled [because they promoted his wife].
     b.   *Who did he smile [because they promoted __]?

o Subject Island Condition: no element may be moved out of a subject
(21) a.   You think [friends of the mayor] aren't coming.
     b.   *Who do you think [friends of __] aren't coming?
(22) a.   [That they'll hire John] is unlikely.
     b.   *Who is [that they'll hire __] unlikely?

E.   Discussion of Hungarian

Ross, John. R. 1967. Constraints on variables in syntax. MIT PhD dissertation. Published as *Infinite syntax*! Norwood: Ablex.