Subjacency [chs. 1.7 *Course on GB Syntax* & 3.6 *Course on Minimalist Syntax*]

1. Constraints on Transformations (on Variables in Syntax) [Ross 1967]

(1) SD: X A Y
SC: A X Y

(2) No SC can take place involving A and B in SD (i):
(i) Y A X B Z
Where a substring of X and B are dominated by W, an 'island'.

(3) a. [*you heard* [$_{NP}$ *the claim* [*that Bill likes dogs*]]]

b. * [*What did* [*you hear* **[**$_{NP}$ *the claim* [*that Bill likes* __]**]**]]?

(4) a. [[$_{S}$ *That Bill likes dogs*] *impresses people*]

b. * [*What did* [**[**$_{S}$ *that Bill likes* __ **]** *impress people*]]?

(5) a. [[$_{NP}$ *Your interest in Bill*] *seemed to me strange* [LSLT p. 437]

b. * [*Whom did* [$_{NP}$ [*your interest in* __] *seem to you strange*]]?

(6) a. [*you saw* [$_{NP}$ *Bill's picture of his dog*]] [NOT UNIVERSAL]

b. * [Whose did [you see [$_{NP}$ __ [picture of his dog]]]]

(7) a. *Bill* [*likes his dog*] *and* [*hates his cat*]

b. * *What/who does Bill* **[**[*like* __] *and* [*hates his cat*]**]**

(8) a. [*What did* [*you say* [*that* [*Bill did* __]]]]

b. * [*What did* [*you wonder* **[***how* [*Bill did* __]]]**]**

(9) a. Ross's constraints: (3)/(4)/(5)/(7)

b. Chomsky's constraint [*Current Issues p.43*]: (8), starting with:

(10) * *Who what saw*? [ALSO NOT UNIVERSAL]

2. Subjacency (Conditions on Transformations)

(11) No rule involves X, Y, X superior to Y, **if Y not subjacent to X.**

(12) "... if X is superior to Y in a phrase marker P, then Y is 'subjacent' to X if there is **at most one cyclic category C** ...Y such that C contains Y and C does not contain X."[p. 247]

(13) a. Cyclic Categories: **NP and S** [p. 77] [Question: Why those?]
b. But bear in mind that for Chomsky at the time: **S → Comp S'**

(14) * [$_S$ *What did* [*you hear* **[$_{NP}$** *the claim* **[$_S$** X *that* [*Bill likes* __ **]]**]]]

(15) To predict (14), **X cannot be visited** by Wh-movement and **there cannot be an 'escape hatch' in NP,** which also predicts:

(16) * [$_S$ *Who did* [*you hear* **[$_{NP}$** *a claim about* **[$_{NP}$** *a critic of* __ **]]**]]

(17) Whether (18) is ungrammatical depends both on the position marked X *and* the **structure of the sentential subject** [already in Ross]:

(18) * [*What did* [**[$_{NP?}$** *the fact?***[$_S$** X *that Bill likes* __**]** **]** *impress people*]

(19) Although that approach doesn't extend to sub-extraction (5b)!

(20) Moreover, **Wh-movement must be 'successive-cyclic'** (though (21a) doesn't show that; suspiciously, you need (22b) to make the point!):

(21) a. [$_S$ *What did* [*you say* **[$_S$** X *that* [*Bill likes* __]**]**]]
^_ _ _ _ _ _ _ _/^_ _ _ _ _ _ _ _ _ _/

b. [$_S$ *What did* [*you say* **[$_S$** X *that* [*you think* **[$_S$** X *that* [*Bill likes* _]**]]]**]]
^_ _ _ _ _ _ _ _/^_ _ _ _ _ _ _ _ _ _/^_ _ _ _ _ _ _ _ _/

(22) met wie hetjy now weer gese met wie het Sarie gedog
with who did.you now again said with who did Sarie thought

met wie gaan Jan trou? [Du Plessis 1977 – and cf. (21)]
with who go Jan marry

"Whom did you say (again) Sarie thought Jan is going to marry?"

(23) Note, also, that in the (1973) version (24) doesn't violate the Subjacency Condition, since only one cyclic category is crossed!

(24) * [$_S$ *What did* [*you wonder* [$_S$ *why* [*Bill likes* __]]]]

(25) Then again, one could argue that (24) violates both the TSC and the SSC, if those constrain all types of movement. Plus…:

(26) a. * [*What did* [*you wonder* [*how* [*Bill did* __]]]]

b. ? [*What did* [*you wonder* [*how* [Ø ***to*** *do* __]]]]

Although one wonders whether it is worth going there given (21a)!

3. Subjacency (On Wh-movement)

(27) By 1977, although Chomsky claims [p. 84] that “the framework assumed here is that of Chomsky 1973”, a crucial difference has taken place--without much warning [R2,(65) p. 91]: **S’ → COMP S**

(28) Chomsky assumed “the cyclic nodes were. . . NP and S’” [p.111], then says: “Suppose that we were to **add S to the category of cyclic nodes”**, a move he considers “far-reaching in the case of Subjacency”.

(29) The first thing Chomsky notes [p. 112] is that this predicts (5b): “The Subject Condition follows at once from Subjacency”.

(30) Chomsky also notes that the constraint also impedes (31).

(31) [*Who did* [$_{S}$ *you see* [$_{NP}$ *a picture of* __]]]

(32) He also gives us an interesting clue: “It was for this reason that Subjacency was not extended to S in Chomksy 1973”. He wants to reason things out in such a way that (31) is “the special case”.

(33) Chomsky then goes into Bach & Horn’s (1976) analysis, which he modifies transformationally to propose it for (31); basically:

(34) *I saw a picture yesterday of Billy the Kid*.

(35) [$_{S}$ *I* [$_{VP}$ [$_{VP}$ *saw* [$_{NP}$ *a picture* __] *yesterday*] [$_{PP}$ *of Billy the Kid*]]]
_ _ _ _ _ _ _^

(36) [[*Of whom*] *did* **[$_{S}$** *you* [$_{VP}$ [$_{VP}$ *see* **[$_{NP}$** *a picture* **__]**] __] **]**]
^ _ _ _^/
|_ _/

(37) The clever analysis is not without complications:

(38) [[*who*] *did* **[$_{S}$** *you* [$_{VP}$ [$_{VP}$ *see* **[$_{NP}$** *a picture* **__]**][*of* __]] **]**]
^ _ _ _^ /
|_ _/

(39) * *Who did you see a picture yesterday of* __

(40) [[*who*] *did* [*you* [[*see* [*a picture-of* __]] __ __]]]
^_ _ _ _/

(41) But it doesn’t extend to unwanted subject sub-extractions:

(42) * [*of what did* [$_{S}$ [$_{NP}$ *Bill's picture* __] *impress people*] __]
^ _ _ _ _ _ _ _ _ _ _^/
|_ _/

(43) * *Bill's picture impressed people yesterday of his dog*.

(44) Chomsky concludes [p. 116] that "it is **no longer clear that S'** must be taken as a cyclic node for Subjacency".

(45) Aside from predicting Ross's Sentential Subject Condition (extending it to Chomsky's Subject Condition), the **new Subjacency Condition directly predicts Wh-island violations** too:

(46) a. [$_S$ *What did* **[$_S$** *you say* [X *that* **[$_S$** *Bill likes* __**]]]]**
^_ _ _ _ _ _ _ _ _/^_ _ _ _ _ _ _ _ _ _/

b. [$_S$ *What did* **[$_S$** *you wonder* [*why* **[$_S$** *Bill likes* __**]]]]**
^_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _/

(47) Note that now **even a simple movement as in (46b) requires 'successive cyclicity'** [cf. Du Plessis's data in (22)],

4. Subjacency Questions that Remain…

(48) We continue to make assumptions about **the X 'bridge'** site…

(49) a. *You regret* *(*that*) *Bill likes dogs*.

b. *You whispered* *(*that*) *Bill likes dogs*.

(50) a. *[*What do* [*you regret that Bill likes* __]]

b. *[*What did* [*you whisper that Bill likes* __]]

(51) * [*What did* [$_S$ [*that* [$_S$ *Bill likes* __] *impress people*]

(52) a. [*Bill claimed* [(*that*) [*he likes dogs*]]]

b. [[*(*that*) [*he likes dogs*] *was claimed by Bill*]]] [**No NP needed!**]

(53) New Subjacency might also predict Coordinate Structure constraint **if conjunction always involves 'reduction'** (cf. Schein's 2015 book):

(54) a. *Bill* [*likes his dog*] *and* [*hates his cat*]

b. **[$_S$ [$_S$** *Bill likes his dog*] *and* **[$_S$** *Bill hates his cat***]]**

(55) Although 'Across the Board Extraction' is still problematic:

(56) a. * *What does* **[$_S$** *Bill* **[$_S$** *like* __ **]** *and* **[$_S$** *Mary hates her cat***]]**
b. *What does* **[$_S$** *Bill* **[$_S$** *like* __ **]** *and* **[$_S$** *Mary hates her cat***]]**

(57) **Left-branch extractions** from NPs are now **Subjacency** violations:

(58) * [*Whose did* **[**$_{S}$ *you see* **[**$_{NP}$ __ [*picture of his dog*]**]]**]

(58) The **extraposition gambit does not work** here:

(59) * *I saw pictures of his dog John's*.

(60) Though Ross already noted that these are **possible in many languages.** Are those situations in which they are possible different from (59)--and do they, then, also invoke an extraposition step?

(61) That move seems **possible in Latin (*hyperbaton*)**, but it remains to be seen whether it extends to languages where the phenomenon is possible (generally with weak or no D elements…).

(62) And what to make of (26) now? Why is **a tenseless S less of a bounding node** than a tensed one? Does the **subject** matter?

(63) Also, Rizzi (1978) returned to point (44) above--relativizing it!

(64) a. *Tuo fratello*,
your brother,

[$_{S'}$ *a cui* [$_{S}$ *mi domando* **[**$_{S'}$ [*che storie*] [$_{S}$ *abbiano raccontato* __]**]]]**,…
to whom me demand what stories have.they-SUBJ told

"Your brother, to whom I wonder which stories they told,…"

b. *La macchina*
the car

[$_{S'}$ *che* [$_{S}$ *mi domando* **[**$_{S'}$ *se* [$_{S}$ *Mario potrà utilizzare* __ *nel week-end*]**]]]…**
that me demand if Mario may.FUT use in-the week-end

"The car that I wonder if M. will be allowed to use in the weekend…"

(63) Rizzi used relative clauses and not questions because, according to him, **double questions are independently deviant** in Italian:

(65) ?? *A chi non ti ricordi quanti soldi hai dato?*
"To whom don't you remember how much money you gave."

(66) While relative clauses avoid whatever difficulty may arise in (65) – as do 'heavier' phrases, as he points out on fn. 5, a topic he chooses not to pursue – it is also the case that **relative operator movement seems generally less immune to Subjacency** conditions for some reason (see e.g. the English gloss to (64b) and Grimshaw 1986)).

(67) Still, clearly these are **Subjacency violations according to the *On Wh-movement* statement**--not the *Conditions on Transformations* one.

(68) So Rizzi reasoned that a parameter must be a stake, in such a way that while **S' (= CP) is the cyclic node for Subjacency in Italian,** in contrast **S (= IP) is the cyclic node for Subjacency in English.**

(69) Rizzi also predicted that, were we to construct examples where ***two* CP cyclic nodes are skipped,** a Subjacency violation would ensue:

(70) a. (*) …

[$_{S'}$ *a cui* [$_{S}$ *mi domando* [$_{S'}$ [*che storie*] [$_{S}$ *pensassi* [$_{S'}$ [$_{S}$ *abbiano raccontato* __]]]]]],
to whom me demand what stories thought.you.SUBJ have.they-SUBJ told

"… to whom I wonder which stories you thought they told,…"

b.(*) …

[$_{S'}$ *che* [$_{S}$ *mi domando* [$_{S'}$ *se* [$_{S}$ *Mario creda* [$_{S'}$ *che* [$_{S}$ *potra utilizzare* __]]]]]]
that me demand if Mario believe.he.SUBJ that may.FUT use

"…that I wonder whether Mario believes that he will be allowed to use…"

(69) The examples in (70) are starred in brackets (*) because **judgments apparently vary** (Gibson (1988)). Rizzi himself (e.g. 2011, 2015) has essentially given up the view that parameters as he originally stated could be part of UG. See also Lightfoot 1989 on the implausibility of learners being able to acquire the S/S'-cycle parameter based on deeply embedded (extremely exotic) data.

(70) But the logic is clear: Rizzi was correct in (1978) in that, if the Subjacency Condition holds, and the cycles are as originally postulated, sentences as in (64) (in any language) should be good, while sentences as in (70) should be bad--also in any language.

(71) So what are we to make of these facts?

5. The trouble with Subjects (cf. the SSC)

(72) One posible way to go about (some of the) Rizzi data is in terms of **intervening Subjects**--a form of the SSC. Look at (64a) in detail:

(73) **[**$_{S'}$ *a cui* [$_{S}$ *mi domando* **[**$_{S'}$ [*che storie*] [$_{S}$ **Ø** *abbiano raccontato* __ **]]]**
to whom me demand what stories have.they-SUBJ told

(74) Could **the null subject specifying S** be an issue?

(75) Uriagereka 1988 worried about just this issue given Spanish data:

(76) a. *[$_{S'}$[*Por qué*]$_{I}$ [$_{S}$ *Juan dice* [$_{S'}$ *que* [$_{S}$ **Ø** *beberemos cerveza* t_i]]]]
for what Juan says that drink.we-FUT beer

b. [$_{S'}$[*Por qué*]$_{I}$ [$_{S}$ **Ø** *dice* [$_{S'}$ *que* [$_{S}$ **Ø** *beberemos cerveza* t_i]]]]
for what says that drink.we-FUT beer
"Why is s/he saying that we will drink beer?"

(77) Similar data obtain in other languages in which subjects can be dropped. Descriptively: **an IP specified by a full subject** like *Juan* appears to be a **stronger 'barrier'** than one with a null specifier ø.

(78) **Relativizing the strenght of a 'barrier' to its morphological weight** became a topic of study in the *Barriers* framework, which also allowed researchers to account for issues as follows:

(79) a. [$_{S'}$ [*A quién*]$_i$ *no sabes* [$_{S'}$ *cuánto* [$_{S}$ **Ø** *aprecia* t_i *Bill*]]]
to whom not know.you how.much appreciates Bill
"Who do you wonder how much Bill likes?"

b. * [$_{S'}$ [*A quién*]$_i$ *no sabes* [$_{S'}$ *cuánto* [$_{S}$ *Bill aprecia* t_i]]]
to whom not know.you how.much Bill appreciates

(80) It is difficult to elucidate whether structures as in (79a) employ **'subject inversion'** (Kayne 1975, Rizzi 1982,…), or **'verb preposing'** (Den Besten 1983, Torrego 1984, Ortiz de Urbina 1986…).

(81) Actually each of those strategies (which in principle are also not incompatible!) implies a different way to deal with the 'barrierhood' of IP: **'underspecifying IP'**. vs. **'beheading IP'**.

(82) Fukui & Speas (1986) proposed that only functional projections **with a specifier** are even maximal projections.

(83) If 'cyclic nodes' must at least be **maximal projections,** you can **build the SSC into the picture** either radically (demanding that **Ø** be nothing at all) or conservatively (if you find defective a category with a morphologically null specifier).

(84) You can also pursue a strategy that aims at 'beheading your barrier', which you can again execute radically (demanding that the head of the barrier be nothing at all--a form of pruning at the limit) or conservatively (if you find defective a category with a morphologically null head). The conservative 'beheading' itself may be of two sorts: either involving a morphologically defective head, or displacing a normal head and leaving a trace--which recalls Baker's (1988) **Government Transparency Corollary**.

(85) These are the questions that Uriagereka (1988) explored, as the system was **transitioning from *Barriers* to the *Minimalist Program*.**

(86) The **'beheading' strategy bears on TSC considerations,** if infinitival IPs present *no* temporal projection or are in some sense defective. It is interesting to note that Kempchinsky 1986 also proposed that **infinitival/subjunctive Infl displaces to Comp,** for reasons having to do with temporal dependency and extended binding domains. That of course would be a form of 'Infl+verb preposing'.

(87) One further twist to Rizzi's original Italian data: The crucial verbs (in the way of displaced Wh-elements) in (64)/(70) are: *abbiano* 'have.they-SUBJ', *pensassi* 'thought.you.SUBJ', or *creda* believe.he.SUBJ. **These are subjunctive.** In (64b) we have *potrà utilizzare*, in which this modal future form can also be analyzed as falling into the same 'tense-dependent' form as the subjunctives.

(89) a. Mi domando chi Gianni **abbia** incontrato.
me ask.I who Gianni had.subjunctive found

b. *Mi domando chi Gianni **a** incontrato.
me ask.I who Gianni has.indicative found

(90) a. A chi pensi che Gianni **abbia** dato un libro?
to whom think.you that Gianni has.subj given a book
"Who do you think that Gianni has given a book?"

b. *A chi pensi che Gianni **a** dato un libro?
to whom think.you that Gianni has.ind given a book

(91) These data from Lasnik & Uriagereka (2005), attempting to test the very issue of the role subjunctive is playing in these dependencies, confirm the idea that 'tense dependency' plays a role.

(92) The data relate to facts in Pesetsky (1982), later pursued in Torrego & Uriagereka (1992): **extraction from indicative** (tense independent) **vs. subjunctive** (tense dependent) domains. In some languages (e.g. Slavic variants) only the latter are possible.

(93) The issue may also relate to 'bridge' complementizers, which according to Stowell 1981 correlate with null complementizers in situations in which those elements are 'governed'.

(94) Uriagereka 1988 argues that such null complementizers are actually **incorporated to the governing V**--generally so in TSC conditions (which leads to their overall transparency).

(95) So old intuitions expressed in terms of the SSC (specified subject) and the TSC (tense dependent) clauses remain live--and **still not unified!**--particularly since, although many of these paradigms have been largely forgotten, they have not been resolved to date.