On Complex DPs in Turkish:
Lessons for Inverse Linking and Scope Rigidity

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1 Overview

- In this study, I investigate the structure of quantified DPs in Turkish that contain a RC\(^1\).
- My focus will be on structures like (1), where the restriction of a Quantifier contains a RC whose subject is a QP.

\[ \text{(1)} \]
\[
\begin{array}{c}
\text{QP}_1 \\
\text{every} \\
\text{question} \\
\text{RC} \\
\text{[QP}_2 \text{ at least 2 ] students answered}
\end{array}
\]

- I will show that in Turkish, the inner QP\(_2\) can overtly raise as in (2).
- This movement will be shown to have LF consequences. For example, it is able to extend the scope of QP\(_2\).

\[ \text{(2)} \]
\[
\begin{array}{c}
\text{QP}_2 \\
\text{at least 2 students} \\
\text{every} \\
\text{question} \\
\text{RC} \\
\text{tQP}_2 \text{ answered}
\end{array}
\]

\(^1\) I am grateful to Sabine Iatridou, Danny Fox, Martin Hackl, and the audience at the Topics in Semantics seminar at MIT for their helpful feedback. All errors are solely my own.
• This is illustrated below:

• Note that the subject of the RC at least two students in (3) appears outside the RC and to the left of the quantifier every.

• In this linear order, the only available reading is [at least 2>every].

(3) En az iki öğrenci-nin her [RC t çöz-ebil-diği] soru kolay-dı.
    at least two student-GEN every solve-ABIL-REL-POS.3 question easy-PST
    Lit: At least two students, every question that t were able to solve was easy.
    ‘Every question [RC that at least 2 students were able to solve] was easy ’
    Interpretation: [at least 2>every], [*every>at least 2]

• Hence, essentially, the structures that we will consider in Turkish are in the shape of (5), where a QP is contained in another QP (modulo directionality).

(5) QP₁
    Q₁
    XP
    ...
    QP₂
    ...

• These cases are very much like the cases called ‘Inverse Linking’ (May, 1977).

• An example in (6):

(6) Tom read [QP₁ one book by [QP₂ every linguist]]
    (Sauerland 2005: 1)

(7) QP₁
    one
    book PP
    by QP₂
    every linguist
• It is generally assumed that QR takes place in (8) to bring about the natural reading of the sentence [May (1977, 1985), Heim & Kratzer (1998), Sauerland (2005), a.o.]

(8) Tom read [QP$_1$ one book by [QP$_2$ every linguist]] 

(9) 

\[
\begin{array}{c}
\text{every} \\
\lambda_1 \\
\ldots \\
\text{QP$_1$}
\end{array}
\]  

\[
\begin{array}{c}
\text{one} \\
\text{book PP}
\end{array}
\]  

\[
\begin{array}{c}
\text{by } t_1
\end{array}
\]  

\[
\begin{array}{c}
\text{QP$_2$}
\end{array}
\]

• I hypothesize that the overt QP-extraction out of DPs in Turkish (e.g. (3)) is an analogue of the QR responsible for Inverse Linking in English (e.g. (9)).

Landing site of QR: inside or outside the DP?

• There has been a disagreement in the literature regarding the landing site of the proposed instance of QR (e.g. (9)) in Inverse Linking cases:
  – May’s (1977) original analysis involved quantifier-raising the inner QP outside the containing QP.
  – Later work proposed that DP is a scope island and the QR in this case involves adjunction to DP. (May 1985, Rooth 1985, Larson 1985, Heim and Kratzer 1998, a.o.)
  – Sauerland (2005), however, presented some arguments in favor of the original analysis that took QR out of DP to be possible. He concluded that DP is not a scope island. (See Charlow (2010) for a criticism of Sauerland’s (2005) arguments.)

• I will argue that the relevant Turkish data support Sauerland’s (2005) (and May’s (1977)) position that QR out of DP is possible and DP is not a scope island (in Turkish).

• Overall, I hope that the current investigation will help us understand
  – the structure of Complex DPs in Turkish
  – whether or not DP is a scope island in Turkish &
  – and some issues regarding the definition of what is called ‘Scope Rigidity’

Roadmap

– Background: ‘Overt QR’ in Turkish
– Complex DPs and QR
– Implications for Scope-Islandhood of DPs and Scope Rigidity
2 Background: ‘Overt QR’ in Turkish

- Clause-internal overt displacement (aka ‘scrambling’) in Turkish is able to
  - rearrange scope (10),
  - create a binder for variable binding (11),
  - fix intervention effects (12)

- Hence, it can have LF-consequences\(^2\). [Kural (1992), Kelepir (2001), Öztürk (2005), a.o]

(10) a. En az iki öğrenci her soru-yu doğru cevapla-di.
   at least two student every question-ACC correct answer-pst
   ‘At least two students answered every question correctly.’ (*∀ > ∃)

   b. [her soru-yu] en az iki öğrenci t doğru cevapla-di.
      every question-ACC at least two student correct answer-pst
      Lit: Every question, at least two students answered correctly.
      ‘Every question was such that at least two students answered it correctly.’ (∀ > ∃)

(11) a. Anne-si her çocu-ğ-u besle-di.
   mother-POS.3 every boy-ACC feed-pst
   ‘His mother fed every boy.’

   b. [her çocu-ğ-u] anne-si t besle-di.
      every boy-ACC mother-POS.3 feed-pst
      ‘His mother fed every boy.’

(12) a. *Herkes hiçbirme-yle konuş-ma-di
    everybody anybody-with talk-NEG-pst

   b. Hiçkimse-yle herkes t konuş-ma-di
      anybody-with everybody talk-NEG-pst
      Lit: Nobody, everybody talked with.
      ‘There is nobody that everybody talked with.’

(13) a. base order: intervention
    \( \neg \forall \exists \text{NCI} \ldots \)

   b. derived order: intervention fixed!
    \( \exists \text{NCI} \forall t \ldots \)

- In the cases above, the object QP needs to linearly precede the subject for the purposes of
  - scope reversal,
  - variable binding,
  - obviation of intervention

\(^2\) The data here show that reconstruction is not obligatory (or that what we see is not PF-scrambling). I leave aside the question whether or not reconstruction is possible.
• A note on ‘scrambling’

- What I have shown you is that in Turkish there is an overt movement that has LF effects.
- Should we call this ‘overt QR’, as I did in the section title?
- Or should we call it ‘scrambling that has LF effects’ (i.e. scrambling that is not followed by obligatory reconstruction)? (see Mahajan 1990, 1994; Saito 1992; Keine, 2016, a.o.)
- Is there a genuine distinction between the two?
- In terms of their common effects, it seems obvious that Scrambling is somehow/can be related to Quantifier Raising. (But how exactly?)
  * Johnson (2000), for example, argues that QR patterns with scrambling (as opposed to, e.g. A’ movement like topicalization).
  * Richards (2017, lecture notes) argues that languages like Japanese do not have any reason not to have QR overtly3, clearly taking scrambling with QR effects to be ‘overt instantiations of QR’.
  * Mayr and Spector (2012), on the other hand, make a clear distinction between scope-shifting covert movement vs scope-shifting overt movement w.r.t. Economy considerations (Fox 1995, 2000)4
- There is clearly a lot more to say on the relationship between QR and scrambling.
- I will henceforth simply use the term QR to refer to all instances of scrambling that is able to
  * change relative scope of scope-bearing elements,
  * create a binder for variable binding,
  * fix intervention
- I will take the necessity of overt displacement for these LF-effects to occur in Turkish to signal that QR is necessarily overt in Turkish. (cf. Scope Rigidity)

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3 While Selectional Contiguity between adjacent heads in a head-initial language would be violated by an overt instance of QR, this is not the case in head-final languages.
4 For them, Quantifier Raising, only when it is defined as a Covert Scope Shifting Operation, is subject to the Generalized Scope Economy Condition:
   “A CSSO is licensed in a sentence S only if there exists a constituent C of S (possibly S itself) such that the CSSO does not make the semantic value of C stronger than or equivalent to what it would be without the CSSO.”.

(i) a. John didn’t meet every student of mine on time. (*∀ > ∼)
   b. The student couldn’t answer every question that was marked with a star. (∀ > ∼) (ex:55-56)
2.1 Locality of QR in Turkish

- Quantifier Raising also exhibits locality effects in Turkish.
- But this effect cannot make reference to finiteness.
- In Turkish, the overwhelming majority of embedded clauses are non-finite & nominalized.
- But we do find an interesting contrast with respect to the clause type:
- Observe the contrast between (14) and (15).

(14) 
\[ \text{Her öğrenci-yi, en az bir öğretmen [ müdür-ün [ över-me-sin-i ] ]} \]

every student-ACC at least one teacher headmaster-GEN praise-MA-3.POS-ACC

istiyor    wants

Lit: Every student, at least one teacher wants the headmaster to praise t.

‘Every student is such that at least one teacher wants the headmaster to praise them.’

(∀ > at least 1)

(15) 
\[ \text{Her öğrenci-yi, en az bir öğretmen [ müdür-ün [ över-düğ-ün-ü ] ]} \]

every student-ACC at least one teacher headmaster-GEN praise-DIK-3.POS-ACC
düşünüyör    thinks

Lit: Every student, at least one teacher thinks that the headmaster praised t.

‘At least one teacher thinks that the headmaster praised every student.’

(*∀ > at least 1)

- The possibility for the embedded object QP to extend its scope above the matrix subject correlates with the type of nominalization used: -MA vs. -DIK.
- Kornfilt (2003, and previous work) independently argues that -MA nominalizations are TP-level nominalizations whereas -DIK nominalizations contain a CP\(^5\) layer.

(16) -MA Nominalization

\[
\text{DP} \quad \text{subject}_\text{genitive} \quad \text{D}^o \quad \text{TP} \quad \text{T}^o \quad \ldots
\]

(17) -DIK Nominalization

\[
\text{DP} \quad \text{subject}_\text{genitive} \quad \text{D}^o \quad \text{CP} \quad \text{C}^o \quad \ldots
\]

- This suggests that the domain of QR in Turkish is CP.

\(^5\) For example, as shown by Kornfilt, only -DIK nominalizations support A’ phenomena like embedded questions, relativization.
2.1.1 What is local enough?

- There is an interesting caveat to the locality of QR in Turkish.
- Notice that the genitive subject in the structure in (18) sits in the edge of the nominalized clause.

\[
\text{(18) -DIK Nominalization} \\
\text{DP} \\
\text{subject}_{\text{genitive}} \quad \text{D}^0 \quad \text{CP} \\
\text{Co} \ldots
\]

- We find that this edge argument, i.e. the genitive subject, is able to extend its scope beyond the clause it originates in.
- We observe that the extraction of the genitive subject is able to rearrange scope (19) or create a binder (21).\(^6\)

\[
\text{(19) a. En az bir öğretmen [her öğrenci-nin smıfta kal-dığ-ın-ı]} \quad \text{söyle-di} \\
\text{at least one teacher every student-GEN class fail-NOML-3.POS-ACC say-PST} \\
\text{‘At least one teacher said that every student failed.’ (∀ > ∃)}
\]

\[
\text{b. Her öğrenci-nin en az bir öğretmen [ t smıfta kal-dığ-ın-ı]} \quad \text{söyle-di} \\
\text{every student-GEN at least one teacher class fail-NOML-3.POS-ACC say-PST} \\
\text{Lit: Every student, at least one teacher said t failed.} \\
\text{‘Every student, at least one teacher said they failed.’ (∀ > ∃)}
\]

\[
\text{(20)} \\
\text{every student} \\
\lambda_1 \\
\text{at least one teacher} \\
\text{DP} \quad \text{said} \\
\text{D}^0 \quad \text{CP} \\
\text{f}_1 \\
\text{...}
\]

\(^6\) Intervention test is non-applicable in this case.
(21) a. Anne-si [her öğrencinin smıfta kal-diğ-in] san-iyor
    mother-3.POS every student-GEN class fail-NOML-3.POS-ACC think-IMPF
    ‘His\textsubscript{i} mother thinks that every student\textsubscript{i} failed.’

    b. Her öğrencinin anne-si [t smıfta kal-diğ-in] san-iyor
        every student-GEN mother-3.POS class fail-NOML-3.POS-ACC think-IMPF
        ‘His\textsubscript{i} mother thinks that every student\textsubscript{i} failed.’

(22)

(23) a. En az bir öğretmen John-un her öğrenci-yi smıfta bırak-tıg-in
    at least one teacher John-GEN every student-ACC class fail-NOML-3.POS-ACC
    söyle-di
    say-PST
    ‘At least one teacher said that John failed every student failed.’ (*∀ > ∃)

    b. Her öğrenci-yi en az bir öğretmen John-un t smıfta bırak-tıg-in
        every student-ACC at least one teacher John-GEN class fail-NOML-3.POS-ACC
        söyle-di
        say-PST
        Lit: ‘every student, at least one teacher said that John failed t.’
        *‘Every student\textsubscript{i} is such that at least one teacher said John failed him\textsubscript{i}.’ (*∀ > ∃)

(24) a. Anne-si John-un her öğrenci-yi smıfta bırak-tıg-in san-iyor
    mother-3.POS John-GEN every student-ACC class fail-NOML-3.POS-ACC think-IMPF
    ‘His\textsubscript{i} mother thinks that John failed every student\textsubscript{i}.’

    b. Her öğrenci-yi anne-si John-un t smıfta bırak-tıg-in
        every student-ACC mother-3.POS John-GEN class fail-NOML-3.POS-ACC
        san-iyor
        think-IMPF
        ‘His\textsubscript{i} mother thinks that John failed every student\textsubscript{i}.’

\footnote{7 This type of movement is capable of inducing LF-effects that concern the clause it originates from, which argues for its successive cyclic nature.}
To summarize:

- The overt displacement of QPs in Turkish can have consequences regarding
  * scope
  * variable binding
  * obviation of intervention
- Under the assumption that these are instances of QR, we can make the claim that QR needs to be overt in Turkish.
- As is well-known for (covert) Quantifier Raising, the effect of QP-movement in Turkish is also locally bound and cannot go beyond the CP it originates in.
- As for the interesting caveat regarding genitive subjects, I assume that the subject in the edge position of a nominalized clause is (also) part of the higher clause w.r.t. the domain of QR.

3 Complex DPs and QR

- Remember that in inverse linking cases, there is a question regarding the landing site of the QR, which bears on the question whether or not DP is a scope island.

(25) Tom read [QP$_1$ one book by [QP$_2$ every linguist]] (Sauerland 2005: 1)

- The same question arises in cases that we will investigate in Turkish.
- The cases that I will consider in Turkish are DPs that contain a full RC. These are admittedly more complex, but I believe they present a good testing ground because:
  - RCs are nominalized -DIK clauses and have an edge argument (i.e. a genitive subject) that should in principle be able to QR
  - QR is overt in Turkish
- RCs are prenominal -DIK nominalizations with a gap in the relativization site$^8$.

(26) a. [RC Mary-nin e yaz-diğ-i] makale-yi oku-du-m
    Mary-gen write-NOML-3.POS article-ACC read-PST-1
    ‘I read the article that Mary wrote.’

b. [Mary-nin makale yaz-diğ-i] doğru
    Mary-gen article write-NOML-3.POS true
    ‘That Mary wrote/writes articles is true.’

---

$^8$I ignore subject relativization cases which exhibit a different morphosyntax altogether. See Kornfilt (2003) and the references therein.
• Relative scope within the Complex DP can be altered via word order permutations:

\[(27)\]

(a) \textbf{En az iki \ö grenci-nin } çöz-ebil-diğ-i \textbf{ her } soru kolay-di.

\textit{at least two student-GEN solve-ABIL-REL-POS.3 every question easy-PST}

\textit{‘Every question that at least two students were able to solve was easy.’}

\textit{(*at least 2 > ∀)}

(b) \textbf{En az iki \ö grenci-nin } \textbf{ her } çöz-ebil-diğ-i \textbf{ soru kolay-di.}

\textit{at least two student-GEN every solve-ABIL-REL-POS.3 question easy-PST}

\textit{Lit: At least two students, every question that \textit{t} were able solve was easy.}

\textit{‘At least two students were such that every question they were able to solve was easy.’}

\textit{(at least 2 > ∀)}

• What is puzzling is that the relative linear order of [at least 2] and [every] is constant across (27a) and (27b).

• In (27a), the order is [RC D N] but we presumably interpret (27a) as [D [RC N]], where the RC restricts the D.

• In (27b) however, it looks as though D is inside the RC!

• In the following section, I show that the seemingly crazy word order is not crazy at all.

\section*{3.1 Structure of Complex DPs}

• I argue that complex DPs that contain a RC always start out as in (28).

\[(28)\]

\begin{center}
\begin{tikzpicture}
  \node (D) {D} ;
  \node (RC) [below of=D] {RC} ;
  \node (N) [below of=RC] {N} ;
  \node (NP) [above of=D] {\textbf{DP}} ;
  \draw (NP) -- (D) ;
  \draw (D) -- (RC) ;
  \draw (RC) -- (N) ;
\end{tikzpicture}
\end{center}

• For simplicity, I assume that the internal composition of the RC involves \textbf{null-OP movement} responsible for the predicate abstraction (Chomsky, 1977; Heim & Kratzer, 1998). \textit{[This is also the derivation that Özsoy (1996), Meral (2010), and Baturay Meral & Meral (2016) adopt\textsuperscript{9}].}

• I assume that there is a constraint that regulates how much material can intervene between D and N\textsuperscript{10}. In particular, D cannot easily precede a genitive constituent:

\[(29)\]

(a) \textbf{?*Her } Mary’nin makale-si

\textit{every Mary-GEN article-POS.3}

\textit{Intended: ‘Every article of Mary’s’}

(b) \textbf{Mary’nin } her \textbf{ t makale-si}

\textit{Mary-GEN every article-POS.3}

\textit{‘Every article of Mary’s’}

\textsuperscript{9} See Kornfilt (2000, 2005), Gökgöz (2004), and Özçelik (2016) for Kayne’s (1994) head-raising analysis of Turkish RCs. As far as I can see, the findings I report in this study would extend to a head-raising analysis of Turkish RCs.

\textsuperscript{10} Özçelik (2016) argues that the RC-preposing is ‘focus-movement at PF’ that serves as the ‘remnant IP-movement’ in a head-raising analysis of RCs.
• Similarly, a full RC with an overt genitive subject is barely tolerated in its original position\textsuperscript{11}.

\begin{align*}
\text{(30)} & \quad \text{?*Her } [\text{RC Deniz'ın yaz-diğ-i} ] \text{ makale-yi okudum.} \\
& \quad \text{every Deniz-GEN write-REL-POS.3 article-acc read-PST-1} \\
& \quad \text{‘I read every article that Deniz wrote.’}
\end{align*}

\begin{align*}
\text{(31)} & \quad \text{Her } [\text{RC pro}_{2\text{sg}} yaz-diğ-in} ] \text{ makale-yi okudum.} \\
& \quad \text{every write-REL-POS.2 article-acc read-PST-1} \\
& \quad \text{‘I read every article that you wrote.’}
\end{align*}

• Preposing the RC is able to fix the problem:

\begin{align*}
\text{(32)} & \quad [\text{RC Deniz'ın yaz-diğ-i} ] \quad \text{her } t_{\text{RC}} \text{ makale-yi okudum.} \\
& \quad \text{Deniz-GEN write-REL-POS.3 every article-acc read-PST-1} \\
& \quad \text{‘I read every article that Deniz wrote.’}
\end{align*}

\begin{align*}
\text{(33)} & \quad \text{DP} \\
& \quad \text{RC}_{1} \quad \text{every } t_{1} \quad \text{article}
\end{align*}

• A second option is to leave the RC in its original position but extract out of it:

\begin{align*}
\text{(34)} & \quad [\text{Deniz-in her } [\text{RC t yaz-diğ-i} ] ] \text{ makale-yi okudum.} \\
& \quad \text{Deniz-GEN every write-REL-POS.3 article-acc read-PST-1} \\
& \quad \text{‘I read every article that Deniz wrote.’}
\end{align*}

\begin{align*}
\text{(35)} & \quad \text{Deniz-GEN}_{1} \quad \text{...}
\quad \text{every} \\
& \quad \text{RC} \quad \text{article} \\
& \quad t_{1} \quad \text{...}
\end{align*}

• There is evidence that
  
  – The RC can be interpreted below the DET when it is preposed BUT
  
  – The material extracted out of the RC cannot reconstruct below the DET!

\textsuperscript{11} Kornfilt (1997) claims that “Heaviness or length of a constituent does not play any role in Turkish in triggering movement processes” (p.206). I believe RC-preposing might constitute an exception to this claim.
3.2 Motivating the structure of Complex DPs

- In this section, I will try to motivate the following PF-LF pairings.

(36) a. **PF:** RC > D > N
b. **LF:**

\[
\text{DP} \\
\text{D}^\circ \quad \text{RC} \quad \text{N}
\]

(37) a. **PF:** XP\(_1\) D > [RC \(t_1\) ... ] > N
b. **LF:**

\[
\text{XP}_1 \quad \lambda_1 \quad ... \\
\text{D}^\circ \quad \text{RC} \quad \text{N}
\]

3.2.1 Local NCI Licensing

- ‘Kimse’, a NCI, is no longer licensed when extracted out of the RC that contains its licensor.
- This suggests that reconstruction is impossible.

(38) a. \([\text{RC} \text{Kimse-nin gör-me-diğ-i}] \quad \text{her} \quad t \quad \text{resm-i gör-dü-m} \quad \text{anybody-gen see-NEG-REL-3.POS every picture-ACC see-PST-1} \quad \text{‘I saw every picture that nobody saw.’} \)

b. *\([\text{RC} t \text{gör-me-diğ-i}] \quad \text{resm-i gör-dü-m} \quad \text{anybody-gen every see-NEG-REL-3.POS picture-ACC see-PST-1} \quad \text{Intended: ‘I saw every picture that nobody saw.’} \)

c. John-un her \([\text{RC} t \text{gör-me-diğ-i}] \quad \text{resm-i gör-dü-m} \quad \text{John-gen every see-NEG-REL-3.POS picture-ACC see-PST-1} \quad \text{‘I saw every picture that John didn’t see.’} \)
3.2.2 ‘Long-distance’ NCI Licensing

- A NCI extracted out of a RC can be licensed by high negation.

(39) a. *\([RC \text{ Kimse-nin } \text{ oku-duğı-u}] \text{ her } t \text{ kitap uzun değil} \)  
    anybody-GEN read-REL-3.POS every book long NEG  
    Intended: ‘There is no person x such that every book that x read is long.’

   b. \(\text{Kimse-nin } \text{ her } [RC t \text{ oku-duğı-u}] \text{ kitap uzun değil} \) 
   anybody-GEN every read-REL-3.POS book long NEG 
   Lit: Nobody, every book that t read is not long.  
   ‘There is no person x such that every book that x read is long.’

(40) \[
\begin{array}{c}
\text{NCI}_1 \\
\text{every} \\
\text{RC} \\
\text{t}_1
\end{array}
\]

3.2.3 Quantifier Scope

(41) a. \([RC \text{ En az iki öğrenci-nin çöz-ebil-diğ-i} \text{ her } t \text{ soru kolay-di.}] \) 
    at least two student-GEN solve-ABIL-REL-POS.3 every question easy-PST 
    ‘Every question that at least two students were able to solve was easy.’ 
    (*at least 2 > ∀)

   b. \(\text{En az iki öğrenci-nin her [RC t çöz-ebil-diğ-i] soru kolay-di.} \) 
   at least two student-GEN every solve-ABIL-REL-POS.3 question easy-PST 
   Lit: At least two students, every question that t were able solve was easy. 
   ‘At least two students were such that every question they were able to solve was easy.’ 
   (at least 2 > ∀)

(42) 
\[
\begin{array}{c}
\text{at least two students-GEN}_1 \\
\text{every} \\
\text{RC} \\
\text{question} \\
\text{t}_1
\end{array}
\]

\[12\] Unacceptable iff the RC is one prosodic unit
3.2.4 Intervention Effects

- We can induce the intervention configuration (* $\neg \forall \exists_{NCI}$) by overt extraction of the genitive subject of the RC.

- This again suggests that there is no reconstruction possibility in (43b):

(43) a. $[\text{RC} \text{ Her } \text{oğrenci-nin } \text{cevapla-yabil-diğ-i }] \text{ hiçbir } t \text{ soru } \text{zor } \text{değil-di}$
   every student-GEN answer-ABIL-REL-3.POS any question difficult NEG-PST
   ‘No question that every student was able to answer was difficult.’

   b. *$\text{Her } \text{oğrenci-nin } \text{hiçbir } [\text{RC } t \text{ cevapla-yabil-diğ-i }] \text{ soru } \text{zor } \text{değil-di}$
      every student-GEN any answer-ABIL-REL-3.POS question difficult NEG-PST
      Intended: ‘No question that every student was able to answer was difficult.’

(44)

- Baseline cases are in (12).

3.2.5 A Note: Locality of QR out of Complex DPs

- QR out of Complex DPs respects the before-mentioned locality condition on QR.

- In particular, only the extraction of the edge argument of a RC can function as QR.

(45) a. $[\text{RC } \text{en } \text{az } \text{bir } \text{oğrenci-ye } \text{göster-diğ-in}] \text{ her } t \text{ resm-i } \text{beğen-di-m}$
   at least one student-DAT show-REL-2.POS every picture-ACC like-PST-1
   ‘(I) liked every picture that (you) showed to at least 1 student.’ (*at least $n > \forall$)

   b. *$\text{En az } \text{bir } \text{oğrenci-ye } \text{her } [\text{RC } t \text{ göster-diğ-in}] \text{ resm-i } \text{beğen-di-m}$
      at least one student-DAT every show-REL-2.POS picture-ACC like-PST-1
      Lit: To at least one student, (I) liked every picture that (you) showed $t$.
      Intended: ‘At least one student is such that I liked every picture that you showed
      to that student.’ (*at least $n > \forall$)

- The extraction in (45b) is bad due to the fact that the object QP fails to extend its scope
  beyond the CP embedded in the RC.
• Long-distance NCI licensing is also impossible for a non-edge argument: (cf. (47))

(46) *Hçıkmıse-ye her \[\text{RC } t \text{ göster-diğ-im} \] kitap uzun değil
anybody-DAT every show-REL-1.POS book long NEG
‘There is no x such that every book that I sent to x is long.’

(47) Hçıkmıse-nın her \[\text{RC } t \text{ oku-duğ-u} \] kitap uzun değil
anybody-GEN every read-REL-3.POS book long NEG
‘There is no x such that the book that x read is long.’

3.3 Interim Summary

• I have argued that the RC D N order in Turkish is derived by preposing the RC. In this linear order, the RC is still interpreted below the D.

(48) a. **PF:** RC \(>\) D \(>\) N  
b. **LF:**

\[
\begin{array}{c}
\text{DP} \\
\text{D} \\
\text{RC} \\
\text{N}
\end{array}
\]

• For cases of extraction out of RCs, I have shown that

  – their genitive subjects are local enough to QR and adjoin to a position higher than the D

(49)

\[
\begin{array}{c}
\text{XP} \\
\text{λ} \\
\text{...} \\
\text{D} \\
\text{RC} \\
\text{N} \\
\text{t} \text{...}
\end{array}
\]

  – lower arguments in the RC cannot QR.

(50) *

\[
\begin{array}{c}
\text{XP} \\
\text{λ} \\
\text{...} \\
\text{D} \\
\text{DP}_{\text{RC}} \\
\text{N} \\
\text{(DP\text{genitive})} \\
\text{D} \\
\text{C} \\
\text{t} \text{...}
\end{array}
\]
4 Further Questions

4.1 What is the landing site of QR out of Complex DPs?

- We have seen evidence that certain overt word order permutations inside a complex DP can have LF consequences.

- In particular, I have argued that the derived scope in (51) involves QR, on a par with how the inverse scope in the inverse linking case in (52) is attained.

\[(51) \quad \text{En az iki öğrencilerin her soru kolaydı.} \quad \text{Lit: At least two student-GEN every question easy-PST}\]

‘At least two students were such that every question they were able to solve was easy.’ (at least 2 > ∀)

\[(52) \quad \text{An apple in every basket is rotten. (Heim&Kratzer, 1998:230)} \quad \text{‘for every basket x, there is at least one apple y in x such that y is rotten.’}\]

- We can ask the same question regarding the landing site of the QR in these cases.

- **Does QR necessarily adjoin to DP or can QR target a node outside DP?**

\[(53) \quad \text{QR out of DP}\]

\[(54) \quad \text{QR adjoins to DP}\]

- (Note that the LF in (54) additionally requires type-shifting (Heim & Krazter, 1998).)
There is some data that suggests that the option in (55) is available.

Hence, QR can target a node outside the DP in Turkish.

I will present two test cases:
**· Test Case#1: Scope wrt Sentential Negation**

(57) \[RC \text{En az iki öğrenci-nin çöz-ebil-diğ-i] her t soru kolay değil-di.} \]
\[\text{at least two student-GEN solve-ABIL-REL-POS.3 every question easy NEG-PST} \]
Lit: Every question that at least two students were able to solve was not easy.
‘Not every question that at least two students were able to solve was easy.’
\((- > \forall > \text{at least n }) \)

(58)

\[
\begin{array}{c}
\neg \\
\end{array}
\]
\[
\begin{array}{c}
\text{DP} \\
\text{easy} \\
\end{array}
\]
\[
\begin{array}{c}
\text{every} \\
\end{array}
\]
\[
\begin{array}{c}
\text{RC} \\
\text{question} \\
\end{array}
\]
\[
\begin{array}{c}
\text{at least two students solved} \\
\end{array}
\]

(59) \[\text{En az iki öğrenci-nin her [RC t çöz-ebil-diğ-i] soru kolay değil-di.} \]
\[\text{at least two student-GEN every solve-ABIL-REL-POS.3 question easy NEG-PST} \]
Lit: At least two students, every question that they were able to solve was not easy.
‘At least two students are such that not every question they were able to solve was easy.’
\((\text{at least n } \neg > \forall ) \)

(60)

\[
\begin{array}{c}
\text{at least two students}_1 \\
\end{array}
\]
\[
\begin{array}{c}
\lambda_1 \\
\end{array}
\]
\[
\begin{array}{c}
\text{IP} \\
\end{array}
\]
\[
\begin{array}{c}
\neg \\
\end{array}
\]
\[
\begin{array}{c}
\text{DP} \\
\text{easy} \\
\end{array}
\]
\[
\begin{array}{c}
\text{every} \\
\end{array}
\]
\[
\begin{array}{c}
\text{RC} \\
\text{question} \\
\end{array}
\]
\[
\begin{array}{c}
t_1 \\
\text{solved} \\
\end{array}
\]

• If adjunction to DP were the only option, we would not be able to generate the split scope where negation intervenes between the two QPs.
• Test Case#2: Scope wrt Matrix QP

(61) En az iki öğretmen [RC her öğrenci-nin sor-duğ-u] birçok t soru-yu
At least two teacher every student-GEN ask-REL-3.POS many question-ACC
cevaplama-dı.
answer-PST
‘At least two teachers answered many of the questions that every student asked.’
(at least n > many > ∀)

(62)  

IP

at least two teachers

DP

answered

many

RC

question

every student-GEN asked

• Can we get the reading where the subject of RC (every student) takes scope above the matrix
subject while the object QP still takes scope below the matrix subject?

(63)  

every student-GEN

λ₁

IP

at least two teachers

DP

answered

many

RC

question

t₁ asked
• Only 2 out of the 5 speakers I have consulted find (64) acceptable under the intended reading.

\[(64) \%\text{Her } \text{öğrenci-nin en az } \text{iki } \text{öğretmen birçok [RC } \text{t sor-duğu-u] soru-yu}
\]

\text{every student-GEN at least two teacher many ask-REL-3.POS question-ACC}

\text{cevapla-dı.}

\text{Lit: Every student, at least two teachers answered many of the questions that } t \text{ asked.}

\text{‘Every student is such that at least two teachers answered many of the questions that they asked.’}

\[ (\forall > \text{at least n} > \text{many}) \]

• I should also note that this kind of split-scope cases have been reported to be impossible in English Inverse Linking.

\[(65) \text{Three men danced with a woman from every city. } (\forall > 3 > \exists) \]

\text{(Charlow, 2010: ex.5)}

• The absence of split-scope in Inverse Linking is taken to support the view that DP is a scope island (Larson, 1987).

• Sauerland (2005), however, argues that this conclusion is not justified and attempts to derive the absence of split-scope in Inverse Linking by resorting to the superiority of QR (Bruening, 2001).\(^\text{13}\).

• Further investigation is required to understand whether similar restrictions apply to Turkish.

4.2 If not precedence, then what?

• As we have observed, Turkish exhibits Scope Rigidity (Kural, 1992; Kelepir, 2001).

• Özyıldız (2017: 187-189) presents the following pair to illustrate how linear order determines relative scope of two QPs.

• As Özyıldız puts it, “linear order determines the relative scope of two quantifier phrases, regardless of what specific type of arguments the quantifier phrases are” (p.929).

\[(66) \text{Çoğu editör her } \text{kitab-ı } \text{oku-du}
\]

\text{Most editor every book-ACC read-PST.3S}

\text{‘Most of the editors were such that they read every book.’}

\text{‘*Every book was such that it was read by most of the editors.’}

\[(67) \text{Çoğu } \text{kitab-ı } \text{her } \text{editör } \text{t } \text{oku-du}
\]

\text{Most book-ACC every editor read-PST.3S}

\text{‘Most of the books are such that they were read by every editor.’}

\text{‘*Every editor is such that s/he read most of the books.’}

\(^{13}\text{See Charlow (2010) for a criticism of Sauerland’s account of Larson’s empirical claim.}\)
• We have seen that a formulation of scope rigidity as in (68) is indeed good enough in most cases, but not all.

(68) \(\alpha\) has scope over \(\beta\) if \(\alpha\) precedes \(\beta\)

• Notice that the contrast between (69) and (69b) is not due to the relative order of [every] and [at least \(n\)].

• In the two sentences, QPs have the same relative order.

(69) a. \([RC\ En\ az\ iki\ \˘ogrenci-nin\ çöz-ebil-di˘g-i\ \ her\ t\ soru\ kolay-dı.\]  
   at least two student-GEN solve-ABIL-REL-POS.3 every question easy-PST  
   ‘Every question that at least two students were able to solve was easy.’  
   (*at least 2 > \(\forall\))

   b. \(En\ az\ iki\ \˘ogrenci-nin\ her\ [RC\ t\ çöz-ebil-di˘g-i]\\)  
   at least two student-GEN every solve-ABIL-REL-POS.3 question easy-PST  
   Lit: At least two students, every question that \(t\) were able solve was easy.  
   ‘At least two students were such that every question they were able to solve was easy.’  
   (at least 2 > \(\forall\))

• Remember that the following LF-PF pairings gave us the relevant scope contrast:

(70) a. \(\text{PF: } RC > D > N\)  
   b. \(\text{LF:}\)

\[\begin{array}{c}
\text{DP} \\
\text{D}^\circ \text{RC} \quad \text{N}
\end{array}\]

(71) a. \(\text{PF: } XP_1 \ D > [RC\ t_1 \ldots ] > N\)
   b. \(\text{LF:}\)

\[\begin{array}{c}
\text{XP}_1 \\
\text{\(\lambda\) } t_1 \\
\text{...}
\end{array}\]

\[\begin{array}{c}
\text{D}^\circ \\
\text{RC} \quad \text{N}
\end{array}\]

• In our particular case, RC-preposing on its own does not yield an LF in which the embedded subject can scope above the DET (i.e. due to lack of c-command).

• There is however, a way for speakers to signal that QR has happened even when the RC is preposed.

• This is done by breaking the prosodic phrasing of the RC:

(72) \(En\ az\ iki\ \˘ogrenci-nin\ \|\ [RC\ t_{subj}\ çöz-ebil-di˘g-i]\ \ her\ t_{RC}\ soru\ kolay-dı.\)  
   at least two student-GEN solve-ABIL-REL-POS.3 every question easy-PST  
   Lit: At least two students, every question that \(t\) were able solve was easy.  
   ‘At least two students were such that every question they were able to solve was easy.’  
   (at least 2 > \(\forall\), \(*\forall > \text{at least 2}\)
• Prosodic break seems to be a general strategy to signal QR when there is no overt Determiner.

everybody-GEN answer-ABIL-REL-POS.3 question easy-PST
‘The unique question q such that everybody was able to answer q was easy.’
(unique-question reading, *distributive reading)

b. 
```
IP
   DP
      was.easy
        t
    RC question
       everybody answered
```

(74) a. Herkes-in || cevapla-yabil-diği soru kolaydı.
everybody-GEN answer-ABIL-REL-POS.3 question easy-PST
‘For ∀y, the unique question q that y was able to answer was easy.’
(distributive reading, *unique-question reading)

b. 
```
everybody₁
    λ₁
      IP
        DP
           was.easy
              t
            RC question
               t₁ answered
```

• What matters, then, is that QR, when it has taken place, must be detectable at PF.
5 References

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