There is no scrambling of coherent infinitives in German (Fanselow (1991, 133; 1992), Grewendorf & Sabel (1994, 284ff), Frank, Lee & Rambow (1992, 152), Stechow (1992, 222ff), and Haider (1993, 234ff)).

(1) a. [\_ t₁ Zu lesen], hat das Buch, keiner t₃ versucht to read has the book no-one tried
   b. [\_ t₁ t₂ Zu reparieren], hat der Frank dem Matthias, den Drucker, t₃ to fix has ART Frank ART Matthias₃ the printer₃
      versprochen promised

(2) a. *dass [\_ t₁ zu lesen], das Buch, keiner t₃ versucht hat that to read the book no-one tried has
   b. *dass der Frank [\_ t₁ t₂ zu reparieren], dem Matthias, den Drucker, t₃ that Frank to fix ART Matthias₃ the printer₃
      versprochen hat promised has

(3) a. [\_ Das Buch zu lesen], hat keiner t₃ versucht the book₃ to read has no-one tried
   b. [\_ Dem Matthias den Drucker zu reparieren], hat der Frank, t₃ ART Matthias₃ the printer₃ to fix has ART Frank₃
      versprochen promised

(4) a. dass [\_ das Buch zu lesen], keiner t₃ versucht hat that the book to read no-one tried has
   b. dass [\_ dem Matthias den Drucker zu reparieren], der Frank, t₃ that ART Matthias₃ the printer₃ to fix ART Frank
      versprochen hat promised has

1.1 Remnant Topicalization vs. Remnant Scrambling

1.1.1 Coherent Infinitives

Observation: There is no scrambling of coherent infinitives in German (Fanselow (1991, 133; 1992), Grewendorf & Sabel (1994, 284ff), Frank, Lee & Rambow (1992, 152), Stechow (1992, 222ff), and Haider (1993, 234ff)).

(5) a. [VP t₁ Gelesen], hat das Buch, keiner t₃ read has the book no-one
   b. [VP dem Peter, t₂ gegeben], hat die Claudia, ein Buch, t₃ ART Peter₃ given has ART Claudia₃ a book₃
   c. [VP t₁ t₂ Gegeben], hat die Claudia, dem Peter, ein Buch, t₃ given has ART Claudia₃ ART Peter₃ a book₃
   d. [VP dem Peter, ein Buch, gegeben], hat die Claudia, gestern, t₃ ART Peter₃ a book₃ given has ART Claudia₃ yesterday

(6) a. *dass [VP t₁ gelesen], das Buch, keiner t₃ hat that read the book no-one has
   b. *dass [VP dem Peter, t₂ gegeben], die Claudia, ein Buch, t₃ hat that ART Peter₃ given ART Claudia₃ a book₃ has
   c. *dass [VP t₁ t₂ gegeben], die Claudia, dem Peter, ein Buch, t₃ hat that given ART Claudia₃ ART Peter₃ a book₃ has

(7) ?dass [VP dem Peter, ein Buch, gegeben], die Claudia, gestern, nicht t₃ hat that ART Peter₃ a book₃ given ART Claudia₃ yesterday not has

1.1.2 Remnant VPs

(8) [AP Stolz, t₁], ist der Fritz, gestern, [PP auf sein Kind], nicht t₂ gewesen proud is ART Fritz yesterday of his child not been

(9) a. *dass [AP stolz, t₁], der Fritz [VP auf sein Kind], nicht t₂ gewesen ist that proud ART Fritz of his child not been is
   b. *dass der Fritz [AP stolz, t₁], nicht [PP auf sein Kind], t₂ gewesen ist that Fritz proud of his child not been is

(10) a. *dass [AP stolz, auf sein Kind], der Fritz, nicht t₂ gewesen ist that proud of his child ART Fritz not been is
   b. *dass der Fritz [AP stolz, auf sein Kind], nicht t₂ gewesen ist that Fritz proud of his child not been is

1.1.3 Remnant APs

(11) a. [NP Ein Buch, t₁], hat Antje, [VP über die Liebe], t₂ gelesen a book, has Antje, about the love read
   b. [NP Ein Buch, t₁], hat [VP über die Liebe], niemand t₂ gelesen a book has about the love no-one read

(12) a. dass niemand [NP ein Buch, t₁], gestern [VP über die Liebe], t₂ gelesen hat that no-one a book yesterday about the love read has
   b. *dass [NP ein Buch, t₁], niemand [VP über die Liebe], t₂ gelesen hat that a book no-one about the love read has
(14) dass [NP ein Buch [PP über die Liebe ]] niemand t2 gelesen hat that a book about the love no-one read has
(15) [NP Sono hon-o ] John-ga [CP Mary-ga t1 yonda-to ] itta (koto) that book_{acc} John_{nom} Mary_{nom} read-NP said-FACT said-FACT
(16) a. [CP Mary-ga [NP sono hon-o ] yonda-to ] Bill-ga [CP John-ga t2 Mary_{nom} that book_{acc} read-NP Bill_{nom} John_{nom} itta-to ] omotteiru (koto) said-NP think FACT
b. *[CP Mary-ga t1 yonda-to ] [NP sono hon-o ] John-ga t2 itta (koto) Mary_{nom} read-NP that book_{acc} John_{nom} said-FACT

1.2 Remnant Wh-Movement
(17) a. [NP Was für ein Buch t1 ] hast du [PP über die Liebe ] t2 gelesen ? what for a book have you about the love read
b. ??[NP Welches Buch t1 ] hat [PP über die Liebe ] niemand t2 gelesen ? which book has about the love no-one read
(18) [AP Wie stolz t1 ] ist der Fritz [PP auf sein Kind ] gestern t2 gewesen ? how proud is ART Fritz of his child yesterday been
(19) a. ein Freund [CP4 dem1 t1 ] das Fahrrad zu reparieren der Fritz a friend who_{dat} the bicycle_{acc} to fix ART Fritz_{nom} versprochen hat ] promised has
b. ... [CP4, t2 dem1 t1 ] das Fahrrad zu reparieren C der Fritz t2 versprochen hat ]
... [CP4, dem1 C [n2 t1 ] das Fahrrad zu reparieren ] der Fritz t2 versprochen hat ]
(20) a. *ein Freund [CP dem1 t1 t2 ] zu reparieren das Fahrrad_3 der Fritz a friend who_{dat} to fix the bicycle_{acc} ART Fritz_{nom} versprochen hat ] promised has
b. *[t0 t1 t2 Zu reparieren ] hat der Fritz dem Frank_3 das Fahrrad_2 to fix has ART Fritz_{nom} ART Frank_{dat} the bicycle_{acc} versprochen promised
... [n0 t1 t2 Zu reparieren ] der Fritz dem Frank_3 das Fahrrad_2 that to fix ART Fritz_{nom} ART Frank_{dat} the bicycle_{acc} versprochen promised has

1.3 Remnant Left Dislocation
(21) a. *[VP t1 Gekust ]_1 dat heftet Jan Marie_1 nicht t2 kissed has John_{nom} Marie_{acc} not

1.4 A Preliminary Generalization
(27) Generalization (preliminary): Remnant XPs can undergo topicalization and wh-movement, but not scrambling or left dislocation.
(28) a. dass [NP ein Buch über sich_1 ] niemand t2 gerne lesen würde that a book about REFL no-one happily read would
b. ??dass [AP stolz ] auf sich_1 ] der Fritz t1 nicht t2 gewesen ist that proud of REFL ART Fritz never been is
2. Conflicting Evidence

2.1 Remnant Scrambling is Sometimes Possible

(34) a. *[VP t₁ Zu lesen]₁ [das Buch]₁ keiner t₃ versucht hat
    that to read no-one the book tried has
b. *[VP t₀ Zu lesen]₀ [das Buch]₀ keiner t₃ versucht hat
    that to read the book tried has
(35) a. [α t₀ Zu lesen]₁ es₁ keiner t₃ versucht hat
    that to read it no-one tried has
b. [α t₀ Zu lesen]₁ es₁ keiner t₃ versucht hat
    that to read it no-one tried has
(36) a. *[VP t₁ gelesen]₁ das Buch₁ keiner t₃ hat
    that read the book no-one has
b. ??[VP t₁ gelesen]₁ es₁ keiner t₃ hat
    that read it no-one has
(37) a. *[α t₀ zu lesen]₀ [keiner t₃] versucht hat [NP das letzte Buch [CP das der
    that to read no-one tried has the last book that ART
    Fritz darüber verfasst hat]],
    Fritz about that written has
b. ??[keiner [α t₁ zu lesen]₁] versucht hat [NP das letzte Buch [CP das der
    no-one to read tried has the last book that ART
    Fritz darüber verfasst hat]],
    Fritz about that written has
(38) a. *Erneut hat [VP t₁ gerechnet]₁ [PP damit]₁ keiner t₃
    again has counted therewith no-one
b. ??Erneut hat [VP t₁ gerechnet]₁ keiner t₃ [PP damit]₁
    again has counted no-one therewith
(39) a. *[VP t₁ Gelesen]₁ [das hat das Bucht₁ keiner t]
    that read has the book no-one
b. ??[VP t₁ Gelesen]₁ [das hat es₁ keiner t]
    that has-it no-one
(40) a. *[VP t₁ Gelesen]₁ [das hat den Roman, keiner t]
    read that has the novel no-one
b. [VP t₁ Gelesen]₁ [das hat (?)ihn' n'] keiner t
    read that has him no-one
(41) a. *[α t₁ Zu lesen]₁ [das hat das Buch]₁ keiner t
    that read has the book no-one
b. [α t₁ Zu lesen]₁ [das hat es₁ keiner t
    that read has it no-one
(42) a. *[NP Was für ein Buch t₁ ]₁ hast du [PP über die Liebe]₂ t₂ gelesen?
    what for a book have you about the love read
b. [AP Wie stolz t₁ ]₁ ist der [Fritz [AP auf sein Kind]₁ gestern t₂ gewesen?
    how proud is ART Fritz of his child yesterday been
2.3.2 A Parameter?

(43) a. ??NP Which book about Nixon j1 don't you know \[CP \text{ whether to read } t_2 \] ?
b. ??NP Which picture of John j1 do you wonder \[CP \text{ whether she likes } t_2 \] ?

(44) a. *NP Which picture of \[t_1 j_2 \] don't you know \[CP \text{ who } t_0 \text{ to read } t_1 \] ?
b. *NP Which picture of \[t_1 j_1 \] do you wonder \[CP \text{ who } t_0 \text{ likes } t_2 \] ?

(45) a. [NP Which picture of \[NP whom \] ] does she like ?
b. [NP, Welches Buch von \[NP, welchem Autor \] ] hast du gelesen ? which book by which author have you read

(46) [NP Which book about who \[j_1 \] don't you know \[CP \text{ whether to read } t_1 \] ?

(47) a. ??NP Whose book about John \[j_0 \] don't you know \[CP \text{ whether to read } t_2 \] ?
b. *NP Whose book about \[t_1 j_1 \] don't you know \[CP \text{ who } t_0 \text{ to read } t_2 \] ?

2.3.3 Long-Distance vs. Short Remnant Movement?

(52) [NP Was für ein Buch \[t_1 j_1 \] denkt du \[CP \text{ t}_2 \] dass Antje \[PP \text{ über die Liebe } t_1 t_2 \] what for a book think you what \[Antje \text{ about the love } gelesen hat ] \[CP \text{ read } has \]

(53) a. \[_{α t_1 Zu lesen } j_1, glaubte sie \[CP t_0 j_1 \text{ habe } \text{ keiner } \text{ NP das Buch } j_1 t_1 \text{ to read } believed she \text{ has,subj no-one the book } \]
read has
b. [NP Ein Buch \[t_1 j_2 \] meinte ich \[CP t_0 j_1 \text{ dass der Fritz \[PP \text{ über die Liebe } t_1 t_2 \text{ a book thought I that ART Fritz about the love } \]
gelesen hat ] \[CP \text{ read has } \]

(54) ??NP Was für ein Buch \[t_1 j_1 \] fragst du dich \[CP \text{ ob du } \text{ PP über die Liebe } t_1 \text{ what for a book ask you REFL whether you about the love } \]
\[t_2 \text{ lesen sollst } \] ? \[CP \text{ read should } \]

2.3.4 Remnant Wh-Movement and Extraposition

(55) [NP How many pictures \[t_1 j_1 \] did you see \[CP \text{ that I took yesterday } ] ?

(56) [NP How many pictures \[t_1 j_1 \] do you think \[CP t_0 j_1 \text{ that John gave } t_2 \text{ to Mary } ] \[CP \text{ that } \text{ I took yesterday } ] ?

(57) [NP Which pictures \[t_1 j_1 \] do you think \[CP t_0 j_1 \text{ that no-one gave } t_2 \text{ to Mary } ] \[PP \text{ of any of her friends } ] ?

(58) a. ???NP How many pictures \[t_1 j_1 \] do you wonder \[CP \text{ whether to give } t_2 \text{ to Mary } ] \[CP \text{ that I took yesterday } j_1 ] ?
b. ??I would love to know \[CP \text{ NP how many pictures } t_1 \text{ he wondered } \[CP \text{ whether } \text{ he should show } t_2 \text{ to his mother } ] \[CP \text{ that he took yesterday } j_1 ] ]

2.4 Remnant Topicalization is Sometimes Impossible

(59) *\[_{0 t_1 Zu lesen } j_1, glaubte ich \[TopP \text{ NP dieses Buch, hat keiner } t_2 \text{ versucht } ]\text{ to read think I this book has no-one tried}

(60) a. [NP Dieses Buch \[j_1 \text{, glaubte ich } \text{ TopP } t_0 j_1 \text{ sollte man } t_1 \text{ lesen } ] \[this book think I should one read
b. *\[NP Dieses Buch \[j_1 \text{, glaubte ich } \text{ TopP man } j_0 j_1 \text{ sollte } t_2 t_1 \text{ lesen } ] \[this book think I one should read
2.5 Conclusion

(61) **Müller-Takano Generalization** (final version):
Remnant XPs cannot undergo Y-movement if the antecedent of the unbound trace has also undergone Y-movement.


3. Unambiguous Domination

3.1 The Principle

(62) **Unambiguous Domination:**
An α-trace must not be α-dominated.

(63) a. SpecC: The landing site of wh-movement at S-structure.
b. SpecTop: The landing site of topicalization.
c. XP-Left-Adj: The landing site of scrambling (X = V or I in German) and left dislocation (X = C) (see below).
d. XP-Right-Adj: The landing site of extraposition.
e. SpecF and F-Adj: The landing sites of weak pronoun movement and Wackernagel-cliticization in German (the nature of F is left open).
f. SpecX: The landing site of (Case-driven) A-movement (X = I or V (see below), perhaps AGR, in some languages)

(64) **Unambiguous Domination** (derivational version):
In a structure ...
A ...
B ...
...
A and B may not undergo the same kind of movement.

3.2 Remnant Scrambling

(65) ...
[XP γ ...
... t ...
] [XP ...
...YP1 ...
] ...

(66) a. *dass ...
... tzu lesen] ...
ich nicht weiß ...
[CP [welches Buch] ...
ich t2 versuchen that to read I not know which book I try
sollte]
should

b. *Ich weiß ...
... tzu lesen] ...
[CP [welches Buch] ...
ich t2 versuchen]
I know not to read which book I try
sollte]
should

(67) *dass ich nicht weiß ...
[CP [NP dieses Buch] ...
[CP warum] ...
ich t2 t1 lesen sollte]]
that I not know this book why I read should

3.3 Remnant Wh-Movement

(68) ...
[CP γ ...
... t ...
] [CP ...
...YP1 ...
] ...

3.4 Remnant Topicalization

(69) ...
[TopP ...
... t ...
] [Top ...
...YP1 ...
] ...

(70) a. ??[α Bücher zu lesen] ...
weiß ich nicht ...
[CP warum sie t1 versucht hat]
books to read know I not why she tried has

b. ??[NP Ein Buch über die Liebe] ...
weiß ich nicht ...
[CP wieso Antje t2 gekauft a book about the love know I not why Antje bought]
has

(71) a. ??[α t1 Zu lesen] ...
weiß ich nicht ...
[CP was t1 t2 versucht hat]
to read know I not what she tried has

b. ??[NP Ein Buch t1] ...
weiß ich schon ...
[CP wortüber1 Antje t2 lesen sollte] a book know I PRT about-what Antje read should

(72) *[α A sposare t1] non so proprio ...
[CP [NP quale ragazza] ...
Gianni to marry I really do not know which girl Gianni
sarebbe disposto t2 ]
would be ready

(73) a. *[α Read to marry t1] ...
I wonder ...
[CP who t1 John is t2]

b. ??[NP Give t1 to Mary t1] I really don’t know ...
[CP [NP which book t1] he did t2]

3.5 Remnant Left Dislocation

(74) (dass ich glaube) ...
[CP den Fritz] ...
[CP den t1 hat keiner t1 gesehen]]
that I believe ART Fritz has no-one seen

(75) ...
[CP t2 ...
... t1 ...
] [CP pronoun2 ...
...YP1 ...
... t2 ...
] ...

(76) ...
[α Dieses Buch zu lesen] ...
[CP] das denke ich dass man t versuchen sollte this book to read that think I that one try should

(77) a. *[α t1 Zu lesen] ...
[CP] das denke ich dass man ...
[CP dieses Buch t1] t versuchen]
that to read that think I that one this book try

b. *[α t1 Zu lesen] ...
[CP] das weiß ich nicht warum man ...
[CP dieses Buch t1] t]

(78) ??*[α t1 Zu lesen] ...
[CP] das weiß ich nicht was t1 man t versuchen sollte
to read that know I not what one try should

(79) ??*[α Dieses Buch zu lesen] ...
[CP] das weiß ich nicht warum man t versuchen sollte this book to read that know I not why one try should
4. Trace Types and Unambiguous Domination

4.1 Bound vs. Unbound Traces

(80) a. *dass [NP den Aufsatz ], mal wieder [VP t₁ gelesen ], keiner t₂ hat
    that the article once again read no-one has
b. *dass darüber gestern [NP ein Buch t₁ ], keiner t₂ gelesen hat
    that about that yesterday a book no-one read has

(81) a. *[PP Über die Liebe ], glaube ich [NP ein Buch t₁ ], hat Antje t₂ gelesen
    about the love believe I a book has Antje read
b. *[NP Ein Buch ], denke ich [VP dem Peter t₁ gegeben ] hat die
    a book think I ART Peter given has ART Claudia t₂

Claudia

(82) a. *Worüber hat du gesagt [CP [NP was für Bücher t₁ ] er t₂ gelesen hat ]?
    about what have you said what for books he read has
b. *[PP Über wen ] fragst du dich [NP was für ein Buch t₁ ] du t₂ lesen
    about whom ask you what for a book you read
   solltest should

(83) *dass er [NP das Buch ], sagt [VP t₁ gelesen ], das habe t keiner
    that he the book says read that has not no-one

(84) a. *Worüber hat [IP [NP ein Buch t₁ ] ] [IP keiner t₂ gelesen ]?
    about-what has a book no-one read
b. *[PP Über wen ] denkst du [NP ein Buch t₁ ] sollte man mal t₂ lesen ?
    about whom think you a book should one once read

c. *Darüber fragte sie sich [NP was für ein Buch t₁ ] sie t₂ lesen sollte
    about-asked that she REFLECT for what a book she read should

(85) *dass [NP den Aufsatz ], mal wieder [VP t₁ gelesen ], keiner t₂ hat
    that the article once again read no-one has

(86) a. *D-Structure Representation:
    dass mal wieder keiner [VP [NP den Aufsatz ], gelesen ] t₂ hat
b. *NP₁ Scrambling to VP:
    dass mal wieder keiner [VP [NP den Aufsatz ], [VP t₁ gelesen ] ] t₂ hat
4.3 X0 Traces

4.3.1 VP Topicalization and Unbound V Traces in German

(101) a. *(Ich glaube) [TOP [VP mit dem Ball] [PP ins Gesicht] | [TOP *hät hat] er | I believe with the ball into the face | has he

b. *(Ich glaube) [TOP [NP Kindern] [NP Bonbons] | [TOP *gibt gibt] man besser | I believe children give one better

c. [PP im Mai] [NP jeden Tag] [NP der Anette] [NP einen Brief] | [PP nach in May every day ART Anette a letter to Hamburg] hätte er lieber nicht schicken sollen | Hamburg had he not send should

d. [NP die Borussia] [NP in Führungen] schoss dann Effenberg | Borussia in the lead kicked then Effenberg

e. [Adv Vortrefflich] [NP die Figuren] führte die berühmte französische superbly the pieces led the famous French

Diplomat Charles Maurie Talleynand diplomat Charles Maurie Talleynand

f. [Adv Hilflos] [PP auf dem Platz] irrite Müller umher | helplessly on the field wandered Müller about

(102) [TOP [VP2 [NP Kindern] [NP Bonbons]] | [VP1 gibt | [TOP *gibt *gibt] man besser nicht t2 |

(103) dass [NP Kindern] | [NP Bonbons] | besser keiner | that children better no-one gives

(104) [VP2 [NP Kindern] [NP Bonbons]] | [VP1 gibt | [TOP *gibt *gibt] man besser nicht children better no-one gives

t2 gibt | [TOP | [CP 't2 dass das Buch | keiner t2 hat | read | think | I | that the book has no-one

(105) a. [VP t1 Gelesen] | [CP t2 dass das Buch | keiner t2 hat | read | think | I | that the book has no-one

b. *[t1 las | [CP t2 dass das Buch | keiner t2 | read | think | I | that the book has no-one

(106) *[VP t1 Las | [CP t2 dass | [VP das Buch | [VP keiner t2]] | read | think | I | that the book has no-one

(107) *[VP Keiner das Buch las | [CP t2 dass | [VP das Buch | [VP keiner t2]] | read | think | I | that

4.3.2 VP Topicalization and Unbound V Traces in French

(108) ... et [VP2 t1 sa tire soigneusement] elle énconc | and her part carefully she recited

4.3.3 VP Movement and Unbound V Traces in English

(109) *[VP3 t1 The article carefully] John read1 t2

(110) *[VP3 t2 John (t2) a book] he did not give1

(111) *[VP3 t2 John (t2) a book] he did not give1 t3

(112) *[SC John foolish | I would never consider t1

(113) *[VP3 t1 Into the room nude] walked4 John t2

4.3.4 VP Scrambling and Unbound V Traces in Japanese

(114) Mary-ga [VP, John-ni ringo-o 2-tu t1] to [VP2 Bob-ni banana-o 3-bon t1] Marynom Johncl applemore 2-CL and Bobdat bananaare 3-CL ageta (koto)
gave fact

(115) [VP3 [VP, John-ni ringo-o 2-tu t4] to [VP2 Bob-ni banana-o 3-bon t1] | Johncl applemore 2-CL and Bobdat bananaare 3-CL

Nancy-ga [CP Mary-ga t6 ageta4 to ] omoteiru (koto) Nancynom gave that believe fact

4.3.5 Unbound N Traces in German

(116) a. [NP ein Buch von Fritz über die Liebe] | a book by Fritz about the love

b. [NP ein N] [NP Buch von Fritz über die Liebe] |

c. [NP ein Buch | [NP von Fritz N über die Liebe]]

(117) [NP Von Fritz N über die Liebe] | has er noch [NP kein Buch | t2] gelesen

by Fritz about the love has he yet no book read
4.3.6 Unbound N Traces in French

(118) [NP Une photo t1], en[t1] fut prise t2
a photo of it was taken

4.3.7 Unbound N Traces in Italian

(119) [VP Incontrato t1], non l1 ’ha t2 met (she) not him has

(120) [AP Quanto affezionata t1], gli t1 ela3 ritenevate t3 t2?
how much affectionate himdass her_ace (you) believe
‘How affectionate to him do you believe her to be?’

(121) a. [NP Kolik t1], jich1 t2 spi ve sklepe?
how many of them sleep in cellar
b. [NP Pét t1], jich1 dámě t2 do sklepě five of them we will put to cellar

4.3.8 X^N Traces that Violate Unambiguous Domination

(122) ... [Z Y Z] ... (t_y)
(123) *... Y ... [Z t'_1 Y Z] ... (t_Y)
(124) *... Z ... [Z Y t'_2 Z] ... (t_y)

(125) a. dass er die Tür zumacht
that he the door shut-makes
b. Dann macht1 er die Tür zu t1
then makes he the door shut

(126) a. ?*[pp An], sollte man die Anette lieber nicht mehr t1 rufen
should one ART Anette_ace better not anymore call
b. ?*[vp [np Die Anette an t1], sollte man lieber nicht mehr t2 rufen
ART Anette_ace up should one better not anymore call

(127) a. [pp Zü1], hat er die Tür t1 gemacht
shut has he the door made
b. [vp Die Tür zu t1], hat er t2 gemacht,
the door_ace shut has he made

5. A Local Domain for Unambiguous Domination

(128) a. [NP Wessen Frage [γ, wen1 du t1 gesehen hast ]], hat t2 dich geärgert?
whose question whom you seen have has you annoyed?
b. ?Wieder hat [γ, dass den Fritz1 alle t1 mögen ]], keiner t2 bezweifelt
again has that ART Fritz_ace allnom like no-one doubted
c. [NP Die Behauptung [γ, keiner1 habe t1 davon gesagt ]], ist t2 natürlich
the claim no-one has_subj of-that known is of course falsch
wrong

(129) a. ?[np Welche Behauptung [γ, t1 zu lesen wisse sie nicht mehr was1 sie
which claim to read knows_subj she not anymore what she
versucht habe ]], ist t2 falsch?
tried has_subj is wrong
b. Wieder hat [np die Behauptung [γ, t1 zu lesen habe keiner das Buch1
again has the claim_ace to read has_subj no-one the book
versucht ]], nur Peter t2 geglaubt
tried only Peter_nom believed

(130) Chain Domain:
The chain domain of a trace t is the set of categories (irreflexively) included in
the minimal node that dominates both t and its chain antecedent.

(131) Unambiguous Domination (revised)
In its chain domain, an α-trace must not be α-dominated.

6. Deriving Unambiguous Domination

6.1 The A-Over-A Principle

(132) The A-Over-A Principle:
If, in a structure ... [A ... B ... ] ..., A and B belong to the same category, and
a movement rule γ may affect that category, γ can only apply to A, not to B.

(133) the reports [np, which ] the government prescribes [np2, the height of [np3, the lettering on [np, the covers of t1 ]]]

6.2 The Shortest Path Condition, the Minimal Link Condition, Last Resort, and Superiority

(134) Shortest Path Condition:
If two derivations D1 and D2 are in the same reference set and the movement paths
of D1 are shorter than the movement paths of D2, then D1 is to be preferred over
D2.

(135) ... *β ... [ ... γ ... [ ... α ... ] ... ] ...

(136) Last Resort:
α is raised to a position β only if β is a typical checking position for the lowest-
ranked unchecked morphological feature of α.

(137) Last Resort:
α is raised to a position β only if (a) and (b) hold:

a. β is a typical checking position for the lowest-ranked unchecked morphological
feature F of α.
b. There is no γ with an unchecked F feature that is closer to β.

(138) a. I wonder [cp who1 C [ip t1 bought what2 ]]

15

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6.3 Unambiguous Domination and Last Resort

6.3.1 The Idea

Observation (Kitahara (1994, 185 & 201-205), Fox (1995), Koizumi (1995, 186-187)): The generalization that remnant XPs cannot undergo Y-movement if the antecedent of the unbound trace has also undergone Y-movement can be derived from something like the MLC.

(141) Unambiguous Domination (derivational version):
In a structure ... [A ... B ... ] ... A and B may not undergo the same kind of movement.

(142) ... β [... γ ... α ... ] ...

(143) ... β [... γ ... α ... ] ...

6.3.2 Last Resort and Remnant Scrambling

(144) a. *dass [α t1 zu lesen ]₁ keiner [das Buch ]₁ t₄ versucht hat that to read no-one the bookₙ₄ tried has
b. dass [α t₁ zu lesen ]₁ 's₁ keiner t₃ versucht hat that to read itₙ₃ no-one tried has

(145) ... Xₙ₄ [α₃] ... Yₙ₄ [α₃] ... [αₛ] ... NPₙ₄ [α₄] ... ] ...

(146) ... Xₙ₄ [α₃] ... Yₙ₄ [α₃] ... [α₄] ... NP₄ [α₄] ...

(147) dass [NP dem Fritz ]₁ [NP das Buch ]₁ keiner [1VP t₃ t₂ geben ] wollte that ART Fritzₙ₃ the bookₙ₃ no-oneₙ₄ give wanted to

(148) ... Xₙ₄ [α₃] ... Yₙ₄ [α₃] ... NP₄ [α₄] ... NP₂ [α₄] ...

6.3.3 Last Resort and Remnant Topicalization

(149) a. [α t₁ Zu lesen ]₁, hat [NP das Buch ]₁ keiner t₃ versucht to read has the book no-one tried
b. ??[α t₁ Zu lesen ]₁, weiß ich nicht [CP was]₁ sie t₂ versucht hat ]

(150) a. ... Top₄ [top] ... Yₙ₃ [α₃] ... [α₄] ... NPₙ₃ [α₄] ... ] ...

b. ... Top₄ [top] ... Cₙ₃ [+wh] ... [α₄] ... NP₃ [+wh] ...

(151) *[α t₁ Zu lesen ]₁ glaube ich [Top₄ [NP dieses Buch ]₁ hat keiner t₂ versucht ] to read think I this book has no-one tried

(152) ... Top₄ [top] ... Top₂ [top] ... [α₄] ... NP₄ [top] ...

6.3.4 Last Resort and Remnant Wh-Movement

(153) *[NP Dieses Buch ]₁ glaube ich [Top₄ [α t₁ zu lesen ]₁ hat keiner t₂ versucht ]
this book think I to read has no-one tried

6.4 Problems and Consequences

6.4.1 Locality/Last Resort Interactions

(155) ... Cₙ₃ [+wh] ... Yₙ₃ [α₃] ... [NP₄ [+wh] ... PP₄ [+wh] ... ] ...

(156) a. *[NP Which book about t₁ ]₂ don’t you know [CP who₁ to read t₂ ]?

b. *[NP Was für ein Buch t₁ ]₂ fragst du dich [CP über wen ]₁ du t₂

what for a book ask you REFLL about whom you lesen sollst ] read should

(157) ... C₁ [+wh] ... C₂ [+wh] ... [NP₁ [+wh] ... XP₁ [+wh] ... ] ...

(158) a. ??Who₁ don’t you know [CP [NP which book about t₁ ]₂ to read t₂ ]?

b. *Worüber₁ hast du gesagt [CP [NP was für Bücher t₁ ]₁ er t₂ lesen hat ] about what have you said what for books he read has ?

6.4.2 Locality/Last Resort Interactions

(159) Last Resort:
α is raised to a position β only if (a) and (b) hold:

a. β is a typical checking position for the lowest-ranked unchecked morphological feature F of α.

b. There is no γ with an unchecked F feature that is closer to β.

(160) a. ??[Who₃ do you wonder [CP₁ whether John said [CP₂ t₃ C t₃ solved the problem ]] ]?

b. ??Which book₃ do you wonder [CP₁ [NP who ]₁ t₃ said [CP₂ t₃ that Mary read t₃ ]]?

5.4 Problems and Consequences

(161) C₀ [+wh] ... C₁ [+wh] ... [NP who ]ₑ [+wh] ... C₂ ... [NP which book ]ₚ [+wh]

(162) ... XP₁ [ ... Z ... [ ... XP₂ ... ] ... ] ...

Last Resort must not accidentally force illicit lowering that is then excluded as a violation of the Strict Cycle Condition. To accomplish this result, we have to revise the (b)-requirement as in (ii):

(163) There is no γ with an unchecked F feature that is closer to and c-commanded by β.

(164) a. ??Which car₁ did John tell you [CP how₂ (t₂') to fix t₁ t₂ ]

b. *How₂ did John tell you [CP which car₁ to fix t₁ t₂ ]?
6.4.2 Superiority in German

(165) ... $C_1[$+wh] ... $C_2[$+wh] ... *which car[$+wh] ... how[$+wh] ... *

(166) ??Whom$_1$ don’t you know [CP$_1$] how$_2$ to tell t$_1$ [CP$_1$] t$_2$ to fix the car t$_2$ ?

(167) ... $C_0[$+wh] ... [ $C_1[$+wh] ... whom$_1$ ... [ $C_4$ ... how$_2$ ... ] ... ] ...

6.4.2 Superiority in German

(168) a. (Ich weiß nicht) [CP was$_1$ wer$_2$ t$_1$ behauptet hat ]
   I know not what$_{acc}$ who$_{nom}$ claimed has
b. (Ich weiß nicht) [CP wer$_1$ t$_1$ was$_2$ behauptet hat ]
   I know not who$_{nom}$ what$_{acc}$ claimed has

(169) a. Was$_1$ hast du wen$_2$ überzeugt [CP t$_1$.PRO t$_1$ zu kaufen ]?
   what$_{acc}$ have you whom$_{acc}$ convinced to buy
to buy
b. Wen$_2$ hast du t$_2$ überzeugt [CP.PRO was$_1$ zu kaufen ]?
   whom$_{acc}$ have you convinced what$_{acc}$ to buy

(170) *[NP Was für ein Buch t$_1$ ]$_1$, fragst du dich [CP [PP über wen ]$_1$, du t$_2$ lesen ]
   what for a book ask you REF L about whom you read
   should

(171) a. Wer$_1$ hat t$_1$ geglaubt [CP dass der Fritz wen$_2$ mag ]?
   who$_{nom}$ has believed that ART Fritz$_{nom}$ whom$_{acc}$ likes
to buy
b. *Wen$_2$ hat wer$_1$ geglaubt [CP t$_1$′ dass der Fritz t$_2$ mag ]?
   whom$_{acc}$ has who$_{nom}$ believed that ART Fritz$_{nom}$ likes

(172) [PP über wen ]$_1$, hast du [NP was für ein Buch t$_1$ ]$_1$, gelesen ]
   about whom have you what for a book read

There is conflicting evidence as regards the validity of the Last Resort condition in German: Some data suggest that MLC effects do not show up with wh-movement in German, whereas other data suggest that they do.

(173) a. $C_1[$+wh] ... XP$_3[$+wh] ... XP$_4[$+wh] ...

(174) *[NP [den Aufsatz ]$_1$ mal wieder [VP t$_1$ gelesen ]$_1$, keiner t$_2$ hat]
   that the article$_{acc}$ once again read no-one has

(175) a. D-Structure Representation:
   dass mal wieder keiner [VP [NP den Aufsatz ]$_1$, gelesen ]$_1$, hat
b. NP$_1$ Scrambling to VP:
   dass mal wieder keiner [NP den Aufsatz ]$_1$, [VP t$_1$ gelesen ]$_1$, hat
c. VP$_2$ Scrambling to IP:
   dass mal wieder [VP t$_1$ gelesen ]$_1$, keiner [NP den Aufsatz ]$_1$, t$_2$ hat
d. NP$_1$ Scrambling to IP:
   dass [NP den Aufsatz ]$_1$ mal wieder [VP t$_1$ gelesen ]$_1$, keiner t$_1$, t$_2$ hat

6.4.4 Bi-Directional Adjunction

(176) a. D-Structure Representation:
   – hat der Fritz nicht [VP [PP da$_1$ mit ]$_1$ gerechnet ]$_1$
b. Scrambling of NP$_1$ to VP:
   – hat der Fritz nicht [VP da$_1$ [VP [PP t$_1$ mit ]$_1$ gerechnet ]$_1$ ]$_1$
c. Extraposition of PP$_1$ to VP:
   – hat der Fritz nicht [VP [VP da$_1$ [VP t$_2$ gerechnet ]$_1$ ]$_1$ [PP t$_1$ mit ]$_1$ ]$_1$
d. Scrambling of NP$_1$ to IP:
   – hat da$_1$ der Fritz nicht [VP [VP t$_1$ [VP t$_2$ gerechnet ]$_1$ ]$_1$ [PP t$_1$ mit ]$_1$ ]$_1$
e. Topicalization of VP$_3$:
   [VP [VP t$_1$ [VP t$_2$ gerechnet ]$_1$ ]$_1$ [PP t$_1$ mit ]$_1$ ]$_1$, hat da$_1$ der Fritz nicht t$_2$

(177) Last Resort:
   α is raised to a position β only if (a) and (b) hold:
   a. β is a typical checking position for the lowest-ranked unchecked morphological feature F of α.
b. There is no γ with an unchecked X feature that is closer to β, where X is either identical to F, or X is similar to F and checked in β.

(178) ... [VP [PP$_2$[extr] NP$_1$[exr] P ] V ] ...

7. Conclusion

(179) Müller-Takano Generalization:
   Remnant XPs cannot undergo Y-movement if the antecedent of the unbound trace has also undergone Y-movement.

Bibliography

