

Remnant Movement Asymmetries
(Die Müller-Takano-Generalisierung)
Kapitel 5 von "Incomplete Category Fronting"

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1. The Phenomenon

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)).

- (1) a. [_α t₁ Zu lesen]₃ hat [_{NP} das Buch]₁ keiner t₃ versucht
to read has the book no-one tried
b. [_α t₁ t₂ Zu reparieren]₃ hat der Frank dem Matthias₁ den Drucker₂ t₃
to fix has ART Frank ART Matthias_{dat} the printer_{acc}
versprochen
promised
- (2) a. *dass [_α t₁ zu lesen]₃ [_{NP} das Buch]₁ keiner t₃ versucht hat
that to read the book_{acc} no-one tried has
b. *dass der Frank [_α t₁ t₂ zu reparieren]₃ dem Matthias₁ den Drucker₂ t₃
that ART Frank to fix ART Matthias_{dat} the printer_{acc}
versprochen hat
promised has
- (3) a. [_α Das Buch zu lesen]₃ hat keiner t₃ versucht
the book_{acc} to read has no-one tried
b. [_α Dem Matthias den Drucker zu reparieren]₃ hat der Frank t₃
ART Matthias_{dat} the printer_{acc} to fix has ART Frank_{nom}
versprochen
promised
- (4) a. dass [_α das Buch zu lesen]₃ keiner t₃ versucht hat
that the book to read no-one tried has
b. dass [_α dem Matthias den Drucker zu reparieren]₃ der Frank t₃
that ART Matthias_{dat} the printer_{acc} to fix ART Frank
versprochen hat
promised has

1.1.2 Remnant VPs

- (5) a. [_{VP} t₁ Gelesen]₃ hat das Buch₁ keiner t₃
read has the book no-one
b. [_{VP} Dem Peter t₂ gegeben]₃ hat die Claudia ein Buch₂ t₃
ART Peter_{dat} given has ART Claudia_{nom} a book_{acc}
c. [_{VP} t₁ t₂ Gegeben]₃ hat die Claudia dem Peter₁ ein Buch₂ t₃
given has ART Claudia_{nom} ART Peter_{dat} a book_{acc}
d. [_{VP} Dem Peter ein Buch gegeben]₃ hat die Claudia gestern t₃
ART Peter_{dat} a book_{acc} given has ART Claudia yesterday
- (6) a. *dass [_{VP} t₁ gelesen]₃ das Buch₁ keiner t₃ hat
that read the book no-one has
b. *dass [_{VP} dem Peter t₂ gegeben]₃ die Claudia ein Buch₂ t₃ hat
that ART Peter_{dat} given ART Claudia a book_{acc} has
c. *dass [_{VP} t₁ t₂ gegeben]₃ die Claudia dem Peter₁ ein Buch₂ t₃ hat
that given ART Claudia ART Peter_{dat} a book_{acc} has
- (7) ??dass [_{VP} dem Peter ein Buch gegeben]₃ die Claudia gestern nicht t₃ hat
that ART Peter_{dat} a book_{acc} given ART Claudia yesterday not has

1.1.3 Remnant APs

- (8) [_{AP} Stolz t₁]₂ ist der Fritz gestern [_{PP} auf sein Kind]₁ nicht t₂ gewesen
proud is ART Fritz yesterday of his child not been
- (9) a. *dass [_{AP} stolz t₁]₂ der Fritz [_{PP} auf sein Kind]₁ nicht t₂ gewesen ist
that proud ART Fritz of his child not been is
b. *dass der Fritz [_{AP} stolz t₁]₂ nicht [_{PP} auf sein Kind]₁ t₂ gewesen ist
that ART Fritz proud not of his child been is
- (10) a. ?dass [_{AP} stolz auf sein Kind]₂ 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]₂ nicht t₂ gewesen ist
that ART Fritz proud of his child not been is

1.1.4 Remnant NPs

- (11) a. [_{NP} Ein Buch t₁]₂ hat Antje [_{PP} über die Liebe]₁ t₂ gelesen
a book has Antje about the love read
b. [_{NP} Ein Buch t₁]₂ hat [_{PP} über die Liebe]₁ niemand t₂ gelesen
a book has about the love no-one read
- (12) *dass niemand [_{NP} ein Buch t₁]₂ gestern [_{PP} über die Liebe]₁ t₂ gelesen hat
that no-one a book yesterday about the love read has
- (13) *dass [_{NP} ein Buch t₁]₂ niemand [_{PP} über die Liebe]₁ t₂ gelesen hat
that a book no-one about the love read has

- (14) dass [NP ein Buch [PP über die Liebe]]₂ niemand t₂ gelesen hat
that a book about the love no-one read has
- (15) [NP Sono hon-o]₁ John-ga [CP Mary-ga t₁ yonda-to]₂ itta (koto)
that book_{acc} John_{nom} Mary_{nom} read-COMP said fact
- (16) a. [CP Mary-ga [NP sono hon-o]₁ yonda-to]₂ Bill-ga [CP John-ga t₂
Mary_{nom} that book_{acc} read-COMP Bill_{nom} John_{nom}
itta-to] omotteiru (koto)
said-COMP think fact
b. *[CP Mary-ga t₁ yonda-to]₂ [NP sono hon-o]₁ John-ga t₂ itta (koto)
Mary_{nom} read-COMP that book_{acc} John_{nom} said fact

1.2 Remnant Wh-Movement

- (17) a. [NP Was für ein Buch t₁]₂ hast du [PP über die Liebe]₁ t₂ gelesen ?
what for a book have you about the love read
b. ?[NP Welches Buch t₁]₂ hat [PP über die Liebe]₁ niemand t₂ gelesen ?
which book has about the love no-one read
- (18) [AP Wie stolz t₁]₂ ist der Fritz [PP auf sein Kind]₁ 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 [α₂ dem₁ t₁ das Fahrrad zu reparieren] C der Fritz t₂ versprochen hat]
c. ... [CP₄ dem₁ C [α₂ t₁ das Fahrrad zu reparieren] der Fritz t₂ versprochen hat]
- (20) a. *ein Freund [CP dem₁ t₁ t₃ zu reparieren das Fahrrad₃ der Fritz
a friend who_{dat} to fix the bicycle_{acc} ART Fritz_{nom}
versprochen hat]
promised has
b. [α t₁ t₂ Zu reparieren] hat der Fritz dem Frank₁ das Fahrrad₂
to fix has ART Fritz_{nom} ART Frank_{dat} the bicycle_{acc}
versprochen
promised
c. *dass [α t₁ t₂ zu reparieren] der Fritz dem Frank₁ das Fahrrad₂
that to fix ART Fritz_{nom} ART Frank_{dat} the bicycle_{acc}
versprochen hat
promised has

1.3 Remnant Left Dislocation

- (21) a. [VP t₁ Gekust]₂ heeft Jan Marie₁ niet t₂
kissed has John_{nom} Marie_{acc} not

- b. [VP t₁ Gekust]₂ dat heeft Jan Marie₁ niet t₂
kissed that has John_{nom} Marie_{acc} not
- (22) a. *[VP t₁ Gelesen], das hat das Buch₁ keiner t
read that has the book no-one
b. *[VP Dem Peter t₂ gegeben], das hat die Claudia ein Buch₂ t
ART Peter_{dat} given that has ART Claudia_{nom} a book_{acc}
c. *[VP t₁ t₂ Gegeben], das hat die Claudia dem Peter₁ ein Buch₂ t
given that has ART Claudia_{nom} ART Peter_{dat} a book_{acc}
- (23) [VP Dem Peter ein Buch gegeben], das hat die Claudia gestern t
ART Peter_{dat} a book_{acc} given that has ART Claudia yesterday
- (24) a. [VP (t'₁) Ein Buch (t₁) gegeben]₃ hat die Claudia dem Peter₁ t₃
a book_{acc} given has ART Claudia ART Peter_{dat}
b. ??dass [VP (t'₁) ein Buch (t₁) gegeben]₃ die Claudia dem Peter₁ nicht t₃
that a book_{acc} given ART Claudia ART Peter_{dat} not
hat
has
c. [VP (t'₁) Ein Buch (t₁) gegeben], das hat die Claudia dem Peter₁ nicht t
a book_{acc} given that has ART Claudia ART Peter_{dat} not
- (25) a. *[NP Ein Buch t₁], das hat Antje [PP über die Liebe]₁ t gelesen
a book that has Antje about the love read
b. ?*[AP Stolz t₁], das ist der Fritz gestern [PP auf sein Kind]₁ nicht t gewesen
proud that is ART Fritz yesterday of his child not been
c. *[α t₁ Zu lesen], das hat [das Buch]₁ keiner t versucht
to read that has the book no-one tried
- (26) a. [NP Ein Buch über die Liebe], das hat Antje t gelesen
a book about the love that has Antje read
b. [AP Stolz auf sein Kind], das ist der Fritz gestern nicht t gewesen
proud of his child that is ART Fritz yesterday not been
c. [α Das Buch zu lesen], das hat keiner t versucht
the book to read that has no-one tried

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 sich₁]₂ niemand₁ t₂ gerne lesen würde
that a book about REFL no-one happily read would
b. ?dass [AP stolz auf sich₁]₂ der Fritz₁ nie t₂ gewesen ist
that proud of REFL ART Fritz never been is

- c. dass [_α sich₁ zu waschen]₂ keiner₁ mehr t₂ versucht hat
that REFL to wash no-one anymore tried has
- d. ??dass [_{VP} sich₁ dem Peter gezeigt]₂ letzte Woche die Claudia₁ t₂ hat
that REFL ART Peter_{dat} shown last week ART Claudia_{nom} has
- (29) a. [_{NP} Ein Buch über sich₁], das hat der Fritz₁ t gelesen
a book about REFL that has ART Fritz read
- b. [_{AP} Stolz auf sich₁], das ist Antje₁ jetzt endlich t
proud of REFL that is Antje now finally
- c. [_α Sich₁ zu waschen], das hat dann keiner₁ mehr t versucht
REFL to wash that has then no-one anymore tried
- d. [_{VP} Sich₁ dem Peter gezeigt], das hat letzte Woche die Claudia₁ t
REFL ART Peter_{dat} shown that has last week ART Claudia

1.5 Movement Type Asymmetries and Predicate-Internal Subjects

- (30) [_{VP} t₁ Kicked the dog]₂ John₁ never has t₂
- (31) [_{VP} Criticized t₂ by his boss]₁ John₂ has never been t₁
- (32) a. *dass [_{VP} t₂ t₁ gelesen]₃ das Buch₁ keiner₂ t₃ hat
that read the book no-one has
- b. ??dass [_{VP} t₂ das Buch₁ gelesen]₃ keiner₂ t₃ hat
that the book read no-one has
- (33) a. *[_{VP} t₂ t₁ Gelesen], das hat das Buch₁ keiner₂ t
read that has the book no-one
- b. [_{VP} t₂ Das Buch gelesen], das hat keiner₂ t
the book read that has no-one

2. Conflicting Evidence

2.1 Remnant Scrambling is Sometimes Possible

- (34) a. *dass [_α t₁ zu lesen]₃ keiner [das Buch]₁ t₃ versucht hat
that to read no-one the book_{acc} tried has
- b. *dass [_α t₁ zu lesen]₃ [das Buch]₁ keiner t₃ versucht hat
that to read the book_{acc} no-one tried has
- (35) a. dass [_α t₁ zu lesen]₃ es₁ keiner t₃ versucht hat
that to read it_{acc} no-one tried has
- b. dass [_α t₁ zu lesen]₃ 's₁ keiner t₃ versucht hat
that to read it_{acc} no-one tried has
- (36) a. *dass [_{VP} t₁ gelesen]₃ das Buch₁ keiner t₃ hat
that read the book no-one has
- b. ??dass [_{VP} t₁ gelesen]₃ es₁ keiner t₃ hat
that read it no-one has

- c. ??dass [_{VP} t₁ gelesen]₃ 's₁ keiner t₃ hat
that read it no-one has
- (37) a. ??dass [_α t₁ zu lesen]₃ 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]]₁
Fritz about that written has
- b. ??dass keiner [_α t₁ zu lesen]₃ versucht hat [_{NP} das letzte Buch [_{CP} das der
that no-one to read tried has the last book that ART
Fritz darüber verfasst hat]]₁
Fritz about that written has
- (38) a. *Erneut hat [_{VP} t₁ gerechnet]₃ [_{PP} damit]₁ keiner t₃
again has counted therewith no-one
- b. ??Erneut hat [_{VP} t₁ gerechnet]₃ keiner t₃ [_{PP} damit]₁
again has counted no-one therewith
- c. ??dass [_{VP} t₁ gerechnet]₃ keiner t₃ hat [_{PP} damit]₁
that gerechnet no-one hat therewith

2.2 Remnant Left Dislocation is Sometimes Possible

- (39) a. *[_{VP} t₁ Gelesen], das hat das Buch₁ keiner t
read that has the book no-one
- b. (?) [_{VP} t₁ Gelesen], das hat es₁ keiner t
read that has it no-one
- c. [_{VP} t₁ Gelesen], das hat 's₁ keiner t
read that has-it no-one
- (40) a. *[_{VP} t₁ Gelesen], das hat den Roman₁ keiner t
read that has the novel no-one
- b. [_{VP} t₁ Gelesen], das hat (?)ihn/'n₁ keiner t
read that has him no-one
- (41) a. *[_α t₁ Zu lesen], das hat [das Buch]₁ keiner t versucht
to read that has the book no-one tried
- b. [_α t₁ Zu lesen], das hat es₁ keiner t versucht
to read that has it no-one tried
- c. [_α t₁ Zu lesen], das hat 's keiner t versucht
to read that has-it no-one tried

2.3 Wh-Movement of Remnants is Sometimes Impossible

2.3.1 Some English Data

- (42) a. [_{NP} Was für ein Buch t₁]₂ hast du [_{PP} über die Liebe]₁ t₂ gelesen ?
what for a book have you about the love read
- b. [_{AP} Wie stolz t₁]₂ ist der Fritz [_{PP} auf sein Kind]₁ gestern t₂ gewesen ?
how proud is ART Fritz of his child yesterday been

- (43) a. ??<sub>[NP Which book about Nixon]₂ don't you know _[CP whether to read t₂] ?
 b. ?*_{[NP Which picture of John]₂ do you wonder _[CP whether she likes t₂] ?}</sub>
- (44) a. *<sub>[NP Which book about t₁]₂ don't you know _[CP who₁ to read t₂] ?
 b. *_{[NP Which picture of t₁]₂ do you wonder _[CP who₁ she likes t₂] ?}</sub>
- (45) a. <sub>[NP Which picture of _[NP whom]] does she like ?
 b. <sub>[NP₁ Welches Buch von _[NP₂ welchem Autor]] hast du gelesen ?
 which book by which author have you read</sub></sub>
- (46) _{[NP Which book about who]₂ don't you know _[CP whether to read t₂] ?}
- (47) a. ??<sub>[NP Whose book about John]₂ don't you know _[CP whether to read t₂] ?
 b. *_{[NP Whose book about t₁]₂ don't you know _[CP who₁ to read t₂] ?}</sub>

2.3.2 A Parameter?

- (48) a. *<sub>[NP Welches Buch über Benjamin]₁ weißt du nicht _[CP ob PRO t₁ zu lesen] ?
 which book about Benjamin know you not whether to read
 b. *<sub>[NP Welches Buch t₂]₁ weißt du nicht <sub>[CP _[PP über wen]₂ PRO t₁ zu lesen] ?
 which book know you not about whom to read
 c. *Ich weiß nicht <sub>[CP <sub>[PP über wen]₂ PRO _[NP ein Buch t₂]₁ zu lesen]]
 I know not about whom a book to read</sub></sub></sub></sub></sub>
- (49) a. ?*<sub>[NP Welches Buch über die Liebe]₂ fragst du dich _[CP ob du t₂ lesen sollst] ?
 which book about the love ask you REFL whether you read should
 b. ?*<sub>[NP Was für ein Buch über die Liebe]₂ weißt du nicht _[CP wann₁ du t₁ t₂ lesen sollst] ?
 what for a book about the love know you not when you read should</sub></sub>
- (50) *<sub>[NP Was für ein Buch t₁]₂ fragst du dich <sub>[CP _[PP über wen]₁ du t₂ lesen sollst] ?
 should</sub></sub>
- (51) a. ?<sub>[NP Hvad for en bog om kaerlighed]₂ ved du ikke _[CP om du skal laese t₂] ?
 what for a book about love know you not whether you should read
 b. *<sub>[NP Hvad for en bog om t₁]₂ ved du ikke <sub>[CP _[NP hvad]₁ du skal] ?
 what for a book about know you not what you should</sub></sub></sub>

laese t₂] ?
 read

2.3.3 Long-Distance vs. Short Remnant Movement?

- (52) <sub>[NP Was für ein Buch t₁]₂ denkst du <sub>[CP t'₂ dass Antje _[PP über die Liebe]₁ t₂ gelesen hat] ?
 what for a book think you that Antje about the love read has</sub></sub>
- (53) a. [_α t₁ Zu lesen]₃ glaubte sie <sub>[CP t'₃ habe keiner _[NP das Buch]₁ t₃ versucht] ?
 to read believed she has_{subj} no-one the book tried
 b. <sub>[NP Ein Buch t₁]₂ meinte ich <sub>[CP t'₂ dass der Fritz _[PP über die Liebe]₁ t₂ gelesen hat] ?
 a book thought I that ART Fritz about the love read has
 c. <sub>[VP t₂ Gerechnet]₃ denke ich <sub>[CP t'₃ dass _[PP damit]₂ keiner t₃ hat] ?
 counted think I that therewith no-one has</sub></sub></sub></sub></sub>
- (54) ?*<sub>[NP Was für ein Buch t₁]₂ fragst du dich <sub>[CP ob du _[PP über die Liebe]₁ t₂ lesen sollst] ?
 what for a book ask you REFL whether you about the love read should</sub></sub>

2.3.4 Remnant Wh-Movement and Extraposition

- (55) _{[NP How many pictures t₁]₂ did you see t₂ _[CP₁ that I took yesterday] ?}
- (56) _{[NP How many pictures t₁]₂ do you think _{[CP t'₂ that John gave t₂ to Mary] _[CP₁ that I took yesterday] ?}}
- (57) _{[NP Which pictures t₁]₂ do you think _{[CP t'₂ that no-one gave t₂ to Mary _[PP₁ of any of her friends]] ?}}
- (58) a. ??<sub>[NP How many pictures t₁]₂ do you wonder <sub>[CP whether to give t₂ to Mary _[CP that I took yesterday]₁] ?
 b. ?*I would love to know _{[CP _{[NP how many pictures t₁]₂ he wondered _{[CP whether he should show t₂ to his mother _[CP that he took yesterday]₁]]} ?}}</sub></sub>

2.4 Remnant Topicalization is Sometimes Impossible

- (59) *<sub>[α t₁ Zu lesen]₂ glaube ich <sub>[TOPP _[NP dieses Buch]₁ hat keiner t₂ versucht]]
 to read think I this book has no-one tried</sub></sub>
- (60) a. <sub>[NP Dieses Buch]₁ glaube ich _[TOPP t'₁ sollte man t₁ lesen] ?
 this book think I should one read
 b. *<sub>[NP Dieses Buch]₁ glaube ich _[TOPP man₂ sollte t₂ t₁ lesen] ?
 this book think I one should read</sub></sub>

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.

Lit.:

Pesetsky (2012); based on Müller (1993), Takano (1994).

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_O 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 ... t₁ ...] [XP ... YP₁ ...]] ...
- (66) a. *dass [α t₁ zu lesen]₂ ich nicht weiß [CP [welches Buch]₁ ich t₂ versuchen
that to read I not know which book I try
sollte]
should
b. *Ich weiß nicht [CP [α t₁ zu lesen]₂ [CP [welches Buch]₁ ich t₂ versuchen
I know not to read which book I try
sollte]]
should
- (67) *dass ich nicht weiß [CP [NP dieses Buch]₁ [CP warum₂ [IP ich t₂ t₁ lesen sollte]]]
that I not know this book_{acc} why I read should

3.3 Remnant Wh-Movement

- (68) ... [CP [γ ... t₁ ...] [C' ... YP₁ ...]] ...

3.4 Remnant Topicalization

- (69) ... [TopP [γ ... t₁ ...] [Top' ... YP₁ ...]] ...
- (70) a. ??[α Bücher zu lesen]₁ 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]₂ weiß ich nicht [CP wieso Antje t₂ gekauft
a book about the love know I not why Antje bought
hat]
has
- (71) a. ??[α t₁ Zu lesen]₂ weiß ich nicht [CP was₁ sie t₂ versucht hat]
to read know I not what she tried has
b. ??[_{NP} Ein Buch t₁]₂ weiß ich schon [CP worüber₁ Antje t₂ lesen sollte]
a book know I PRT about-what Antje read should
- (72) *[α A sposare t₁]₂ non so proprio [CP [_{NP} quale ragazza]₁ Gianni
to marry I really do not know which girl Gianni
sarebbe disposto t₂]
would be ready
- (73) a. *[α Ready to marry t₁]₂ I wonder [CP who₁ John is t₂]
b. ??[α Give t₁ to Mary]₂ I really don't know [CP [_{NP} which book]₁ he did t₂]

3.5 Remnant Left Dislocation

- (74) (dass ich glaube) [CP den Fritz₁ [CP den₁ hat keiner t₁ gesehen]]
that I believe ART Fritz him has no-one seen
- (75) ... [CP [γ_2 ... t₁ ...] [CP pronoun₂ ... YP₁ ... t₂ ...]] ...
- (76) [α Dieses Buch zu lesen], 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], das denke ich dass man [_{NP} dieses Buch]₁ t versuchen
to read that think I that one this book try
sollte
should
b. *[α t₁ Zu lesen], das weiß ich nicht warum man [_{NP} dieses Buch]₁ t
to read that know I not why one this book
versuchen sollte
try should
- (78) ?*[α t₁ Zu lesen], das weiß ich nicht was₁ man t versuchen sollte
to read that know I not what one try should
- (79) ?*[α Dieses Buch zu lesen], das weiß ich nicht warum man t versuchen sollte
this book to read that know I not why one try should

3.6 Conclusion

1. Does the Unambiguous Domination requirement apply to all kinds of traces (unbound and bound, variables, anaphors, and X⁰ traces)?
2. In which local domain does the Unambiguous Domination requirement hold?
3. Why does the Unambiguous Domination requirement hold?

4. Trace Types and Unambiguous Domination

4.1 Bound vs. Unbound Traces

- (80) a. *dass [NP den Aufsatz]₁ mal wieder [VP t₁ gelesen]₂ keiner t₂ hat
that the article_{acc} once again read no-one has
b. *dass darüber₁ gestern [NP ein Buch t₁]₂ keiner t₂ gelesen hat
that about that yesterday a book_{acc} no-one read has
- (81) a. *[PP Über die Liebe]₁ glaube ich [NP ein Buch t₁]₂ hat Antje t₂ gelesen
about the love believe I a book has Antje read
b. *[NP Ein Buch]₁ denke ich [VP dem Peter t₁ gegeben]₂ hat die
a book_{acc} think I ART Peter_{dat} given has ART
Claudia t₂
Claudia_{nom}
- (82) a. *Worüber₁ hast du gesagt [CP [NP was für Bücher t₁]₂ er t₂ gelesen hat] ?
about what have you said what for books he read has
b. *[PP Über wen]₁ fragst du dich [NP was für ein Buch t₁]₂ du t₂ lesen
about whom ask you REFL what for a book you read
solltest ?
should
- (83) *dass er [NP das Buch]₁ sagt [VP t₁ gelesen], das habe t keiner
that he the book_{acc} says read that has_{subj} no-one
- (84) a. *Worüber₁ hat [IP [NP ein Buch t₁]₂ [IP keiner t₂ gelesen]] ?
about-what has a book_{acc} no-one read
b. *[PP Über wen]₁ denkst du [NP ein Buch t₁]₂ sollte man mal t₂ lesen ?
about whom think you a book should one once read
c. *Darüber₁ fragte sie sich [NP was für ein Buch t₁]₂ sie t₂ lesen sollte
about-that asked she REFL what for a book she read should
- (85) *dass [NP den Aufsatz]₁ mal wieder [VP t₁ gelesen]₂ keiner t₂ hat
that the article_{acc} once again read no-one has
- (86) a. *D-Structure Representation:*
dass mal wieder keiner [VP [NP den Aufsatz]₁ gelesen]₂ hat
b. *NP₁ Scrambling to VP:*
dass mal wieder keiner [NP den Aufsatz]₁ [VP t₁ gelesen]₂ hat

- c. *VP₂ Scrambling to IP:*
dass mal wieder [VP t₁ gelesen]₂ keiner [NP den Aufsatz]₁ t₂ hat
- d. *NP₁ Scrambling to IP:*
dass [NP den Aufsatz]₁ mal wieder [VP t₁ gelesen]₂ keiner t'₁ t₂ hat
- (87) a. *D-Structure Representation:*
dass mal wieder keiner [VP [NP den Aufsatz]₁ gelesen]₂ hat
b. *VP₂ Scrambling to IP:*
dass mal wieder [VP [NP den Aufsatz]₁ gelesen]₂ keiner t₂ hat
c. *NP₁ Scrambling to VP:*
dass mal wieder [VP [NP den Aufsatz]₁ [VP t₁ gelesen]]₂ keiner t₂ hat
d. *NP₁ Scrambling to IP:*
dass [NP den Aufsatz]₁ mal wieder [VP t'₁ [VP t₁ gelesen]]₂ keiner t₂ hat

4.2 Anaphors vs. Variables

4.2.1 Case-Driven Movement to SpecI

- (88) [VP Criticized t₂ by his boss]₁ John₂ has never been t₁
- (89) [VP t₁ Kicked the dog]₂ John₁ never has t₂
- (90) [AP How likely t₁ to win the game]₂ is Mary₁ t₂ ?
- (91) ?[Wie t₁ dumm vorgekommen] ist sich der Fritz₁ ?
how stupid struck-as is REFL ART Fritz_{nom}
- (92) a. [Sich t₁ dumm vorkommen] sollte der Fritz₁ sicherlich nicht
REFL stupid strike-as should ART Fritz_{nom} certainly not
b. [Wie t₁ dumm] ist sich der Fritz₁ vorgekommen ?
how stupid is REFL ART Fritz_{nom} struck-as
- (93) ??dass [sich so richtig t₁ dumm vorgekommen] der Fritz₁ noch nicht ist
that REFL so really stupid struck-as ART Fritz_{nom} not yet is
- (94) [VP t₁ Geschlafen]₂ hat der Fritz₁ nicht t₂
slept has ART Fritz_{nom} not
- (95) ??dass [VP t₂ das Buch₁ gelesen]₃ keiner₂ t₃ hat
that the book read no-one has
- (96) a. [VP Ein Au"benseiter gewonnen]₂ hat da noch nie
an outsider_{nom} won has there yet never
b. [VP Ein Außenseiter t₁ gewonnen]₂ hat das₁ da noch nie
an outsider_{nom} won has that_{acc} there yet never
- (97) *[IP [γ ... t₁ ...]₂ ... [IP YP₁ [Γ ... t₂ ...
- 4.2.2 Dative Movement
- (98) a. ??dass [VP (t'₁) ein Buch (t₁) gegeben]₃ die Claudia dem Peter₁ (nicht) t₃
that a book_{acc} given ART Claudia ART Peter_{dat} not

- hat
has
- b. [_{VP} (t'₁) Ein Buch (t₁) gegeben], das hat die Claudia dem Peter₁
a book_{acc} given that has ART Claudia ART Peter_{dat}
(nicht) t
not
- (99) a. *dass [_{VP} dem Peter t₂ gegeben]₃ die Claudia ein Buch₂ t₃ hat
that ART Peter_{dat} given ART Claudia a book_{acc} has
b. * [_{VP} Dem Peter t₂ gegeben], das hat die Claudia ein Buch₂ t
ART Peter_{dat} given that has ART Claudia_{nom} a book_{acc}
- (100) ... [_{VP₂} DO t₁ V]₃ ... [_{VP₁} IO₁ [_{VP₂} Neg [_{VP₂} t₃] [V -]]] ...
- ### 4.3 X⁰ Traces
- #### 4.3.1 VP Topicalization and Unbound V Traces in German
- (101) a. (Ich glaube) [_{TopP} [_{PP} mit dem Ball] [_{PP} ins Gesicht] [_{Top} hat er
I believe with the ball into the face has he_{nom}
ihr geworfen]]
her_{dat} thrown
b. (Ich glaube) [_{TopP} [_{NP} Kindern] [_{NP} Bonbons] [_{Top} gibt man besser
I believe children_{dat} sweets_{acc} gives one_{nom} better
nicht]]
not
c. [_{PP} Im Mai] [_{NP} jeden Tag] [_{NP} der Anette] [_{NP} einen Brief] [_{PP} nach
in May every day ART Anette_{dat} a letter_{acc} to
Hamburg] hätte er lieber nicht schicken sollen
Hamburg had he_{nom} better not send should
d. [_{NP} Die Borussia] [_{PP} in Führung] schoss dann Effenberg
the Borussia in the lead kicked then Effenberg
e. [_{Adv} Vortrefflich] [_{NP} die Figuren] führte der berühmte französische
superbly the pieces led the famous French
Diplomat Charles Maurice Talleyrand
diplomat Charles Maurice Talleyrand
f. [_{Adv} Hilflös] [_{PP} auf dem Platz] irrte Möller umher
helplessly on the field wandered Möller about
- (102) [_{TopP} [_{VP₂} [_{NP} Kindern] [_{NP} Bonbons] t₁] [_{Top} gibt₁] man besser nicht t₂]
- (103) dass [_{NP} Kindern]₁ [_{NP} Bonbons]₂ besser keiner gibt
that children_{dat} sweets_{acc} better no-one_{nom} gives
- (104) [_{VP₂} [_{NP} Kindern] [_{NP} Bonbons] t₁] denke ich [_{CP} t'₂ dass man besser nicht
children_{dat} sweets think I that one_{nom} better not

- t₂ gibt₁]
gives
- (105) a. [_{VP} t₁ Gelesen]₂ denke ich [_{CP} t'₂ dass das Buch₁ keiner t₂ hat]
read think I that the book_{acc} no-one_{nom} has
b. * [_α Las]₂ denke ich [_{CP} t'₂ dass das Buch₁ keiner t₂]
read think I that the book_{acc} no-one_{nom}
- (106) * [_{IP} t₃ t₁ Las]₂ denke ich [_{CP} t'₂ dass [_{IP} das Buch₁ [_{IP} keiner₃ t₂]]]
read think I that the book_{acc} no-one_{nom}
- (107) * [_{IP} Keiner das Buch las]₁ denke ich [_{CP} t'₁ dass t₁]
no-one_{nom} the book_{acc} read think I that
- #### 4.3.2 VP Topicalization and Unbound V Traces in French
- (108) ... et [_{VP₂} t₁ sa tirade soigneusement] elle énonça₁ t₂
and her part carefully she recited
- #### 4.3.3 VP Movement and Unbound V Traces in English
- (109) * [_{VP₂} t₁ The article carefully] John read₁ t₂
(110) * [_{VP₂} t₁ John (t_V) a book] he did not give₁
(111) * [_{VP₃} John (t_V) a book] he did not [_{VP₂} give₁ t₃]
(112) * [_{SC} John foolish]₁ I would never consider t₁
(113) [_{VP₂} t₁ Into the room nude] walked₁ John t₂
- #### 4.3.4 VP Scrambling and Unbound V Traces in Japanese
- (114) Mary-ga [_{VP₁} John-ni ringo-o 2-tu t₄] to [_{VP₂} Bob-ni banana-o 3-bon t₄]
Mary_{nom} John_{dat} apple_{acc} 2-CL and Bob_{dat} banana_{acc} 3-CL
ageta₄ (koto)
gave fact
(115) [_{VP_&} [_{VP₁} John-ni ringo-o 2-tu t₄] to [_{VP₂} Bob-ni banana-o 3-bon t₄]]
John_{dat} apple_{acc} 2-CL and Bob_{dat} banana_{acc} 3-CL
Nancy-ga [_{CP} Mary-ga t_& ageta₄ to] omotteiru (koto)
Nancy_{nom} Mary_{nom} 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'} [_{N'} Buch von Fritz] über die Liebe]]
c. [_{NP} ein Buch₁ [_{NP} von Fritz [_{N'} t₁ über die Liebe]]]
(117) [_{NP} Von Fritz [_{N'} t₁ über die Liebe]]₂ hat er noch [_{NP} kein Buch₁ 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]₂ en₁ fut prise t₂
 a photo of it was taken

4.3.7 Unbound N Traces in Italian

- (119) [_{VP} Incontrato t₁]₂ non l₁'ha t₂
 met (she) not him has

- (120) [_{AP} Quanto affezionata t₁]₂ gli₁ ela₃ ritenevate t₃ t₂ ?
 how much affectionate him_{dat} her_{acc} (you) believe
 'How affectionate to him do you believe her to be?'

- (121) a. [_{NP} Kolik t₁]₂ jich₁ t₂ spi ve sklepě ?
 how many of them sleep in cellar
 b. [_{NP} Pět t₁]₂ jich₁ dáme t₂ do sklepa
 five of them we will put to cellar

4.3.8 X⁰ Traces that Violate Unambiguous Domination

- (122) ... [Z Y Z] ... (t_Y)

- (123) *... Y ... [Z t'_Y Z] ... (t_Y)

- (124) *... Z ... [Z Y t_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]₁ sollte man die Anette lieber nicht mehr t₁ rufen
 up should one ART Anette_{acc} better not anymore call
 b. *[_{VP} [_{NP} Die Anette an t₁]₂ sollte man lieber nicht mehr t₂ rufen₁
 ART Anette_{acc} up should one better not anymore call

- (127) a. [_{PP} Zu]₁ hat er die Tür t₁ gemacht
 shut has he the door_{acc} made
 b. [_{VP} Die Tür zu t₁]₂ hat er t₂ gemacht₁
 the door_{acc} shut has he made

5. A Local Domain for Unambiguous Domination

- (128) a. [_{NP} Wessen Frage [_γ wen₁ du t₁ gesehen hast]]₂ hat t₂ dich geärgert ?
 whose question whom you seen have has you annoyed
 b. ?Wieder hat [_γ dass den Fritz₁ alle t₁ mögen]₂ keiner t₂ bezweifelt
 again has that ART Fritz_{acc} all_{nom} like no-one doubted
 c. [_{NP} Die Behauptung [_γ keiner₁ habe t₁ davon gewusst]]₂ 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]]₂ 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_{acc} to read has_{subj} no-one the book
 versucht]]₂ 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 [_{NP₁} which] the government prescribes [_{NP₂} the height of [_{NP₃} the lettering on [_{NP₄} 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]]

- (139) b. *I wonder [_{CP} what₂ C [_{IP} who₁ bought t₂]]
 a. Whom₁ did John persuade t₁ [_{CP} to visit whom₂] ?
 b. *Whom₂ did John persuade whom₁ [_{CP} t'₂ to visit t₂] ?
- (140) I wonder [_{CP} what₂ [_{CP} who₁ C [_{IP} t₁ bought t₂]]]

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]₃ keiner [das Buch]₁ t₃ versucht hat
 that to read no-one the book_{acc} tried has
 b. dass [_α t₁ zu lesen]₃ 's₁ keiner t₃ versucht hat
 that to read it_{acc} no-one tried has
- (145) ... X_[scr] ... Y_[scr] ... [α_[scr] ... NP_[scr] ...] ...
- (146) ... X_[scr] ... Y_[cl] ... [α_[scr] ... NP_[cl] ...] ...
- (147) dass [_{NP} dem Fritz]₁ [_{NP} das Buch]₂ keiner [_{VP} t₁ t₂ geben] wollte
 that ART Fritz_{dat} the book_{acc} no-one_{nom} give wanted to
- (148) ... X_[scr] ... Y_[scr] ... NP_{1[scr]} ... NP_{2[scr]} ...

6.3.3 Last Resort and Remnant Topicalization

- (149) a. [_α t₁ Zu lesen]₃ hat [_{NP} das Buch]₁ keiner t₃ versucht
 to read has the book no-one tried
 b. ??[_α t₁ Zu lesen]₂ weiß ich nicht [_{CP} was₁ sie t₂ versucht hat]
 to read know I not what she tried has
- (150) a. ... Top_[top] ... Y_[scr] ... [α_[top] ... NP_[scr] ...] ...
 b. ... Top_[top] ... C_[+wh] ... [α_[top] ... NP_[+wh] ...] ...
- (151) *[_α t₁ Zu lesen]₂ glaube ich [_{TopP} [_{NP} dieses Buch]₁ hat keiner t₂ versucht]
 to read think I this book has no-one tried
- (152) ... Top_{1[top]} ... Top_{2[top]} ... [α_[top] ... NP_[top] ...] ...

- (153) *[_{NP} Dieses Buch]₁ glaube ich [_{TopP} [_α t₁ zu lesen]₂ hat keiner t₂ versucht]
 this book think I to read has no-one tried

6.3.4 Last Resort and Remnant Wh-Movement

- (154) [_{NP} Was für ein Buch t₁]₂ hast du [_{PP} über die Liebe]₁ t₂ gelesen ?
 what for a book have you about the love read
- (155) ... C_[+wh] ... Y_[scr] ... [NP_[+wh] ... PP_[scr] ...] ...
- (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} [_{PP} über wen]₁ du t₂ gelesen hat]
 what for a book ask you REFL about whom you lesen sollst] ?
 read should
- (157) ... C_{1[+wh]} ... C_{2[+wh]} ... [NP_[+wh] ... XP_[+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]₂ er t₂ gelesen hat]
 about what have you said what for books he read has ?

6.4 Problems and Consequences

6.4.1 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 [_{CP}₁ whether John said [_{CP}₂ t'₃ C t₃ solved the problem]] ?
 b. ??Which book₃ do you wonder [_{CP}₁ [_{NP} who]₄ t₄ said [_{CP}₂ t'₃ that Mary read t₃]] ?
- (161) C_{0[+wh]} ... C_{1[+wh]} ... [NP who]_{4[+wh]} ... C₂ ... [NP which book]_{3[+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 (t'₁) to fix t₁ t₂] ?
 b. *How₂ did John tell you [_{CP} which car₁ to fix t₁ t₂] ?

- (165) ... C_{1[+wh]} ... C_{2[+wh]} ... *which car*_[+wh] ... *how*_[+wh]
 (166) ??Whom₁ don't you know [CP₃ how₂ to tell t₁ [CP₄ t'₂ to fix the car t₂]] ?
 (167) ... C_{0[+wh]} ... [C_{3[+wh]} ... whom₁ ... [C₄ ... how₂ ...] ...] ...

6.4.2 Superiority in German

- (168) a. (Ich weiß nicht) [CP was₁ wer₂ t₁ behauptet hat]
 I know not what_{acc} who_{nom} claimed has
 b. (Ich weiß nicht) [CP wer₁ t₁ was₂ behauptet hat]
 I know not who_{nom} what_{acc} claimed has
 (169) a. Was₁ hast du wen₂ überzeugt [CP t'₁ PRO t₁ zu kaufen] ?
 what_{acc} have you whom_{acc} convinced to buy
 b. Wen₂ hast du t₂ überzeugt [CP PRO was₁ zu kaufen] ?
 whom_{acc} have you convinced what_{acc} to buy
 (170) *[NP Was für ein Buch t₁]₂ fragst du dich [CP [PP über wen]₁ du t₂ lesen
 what for a book ask you REFL about whom you read
 sollst] ?
 should
 (171) a. Wer₁ hat t₁ geglaubt [CP dass der Fritz wen₂ mag] ?
 who_{nom} has believed that ART Fritz_{nom} whom_{acc} likes
 b. ?*Wen₂ hat wer₁ geglaubt [CP t'₂ dass der Fritz t₂ mag] ?
 whom_{acc} has who_{nom} believed that ART Fritz_{nom} likes
 (172) [PP Über wen]₁ hast du [NP was für ein Buch t₁]₂ 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]} ...
 b. C_{1[+wh]} ... C_{2[+wh]} ... [XP_{3[+wh]} ... XP_{4[+wh]} ...] ...

6.4.3 Bound Scrambling Traces

- (174) *dass [NP den Aufsatz]₁ mal wieder [VP t₁ gelesen]₂ keiner t₂ 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]₂ hat
 b. *NP₁ Scrambling to VP*:
 dass mal wieder keiner [NP den Aufsatz]₁ [VP t₁ gelesen]₂ hat
 c. *VP₂ Scrambling to IP*:
 dass mal wieder [VP t₁ gelesen]₂ keiner [NP den Aufsatz]₁ t₂ hat
 d. *NP₁ Scrambling to IP*:

dass [NP den Aufsatz]₁ mal wieder [VP t₁ gelesen]₂ keiner t'₁ t₂ hat

6.4.4 Bi-Directional Adjunction

- (176) a. *D-Structure Representation*:
 – hat der Fritz nicht [VP [PP da₁ mit]₂ gerechnet]₃
 b. *Scrambling of NP₁ to VP*:
 – hat der Fritz nicht [VP da₁ [VP [PP t₁ mit]₂ gerechnet]₃]₃
 c. *Extraposition of PP₂ to VP*:
 – hat der Fritz nicht [VP [VP da₁ [VP t₂ gerechnet]₃]₃ [PP t₁ mit]₂]₃
 d. *Scrambling of NP₁ to IP*:
 – hat da₁ der Fritz nicht [VP [VP t'₁ [VP t₂ gerechnet]₃]₃ [PP t₁ mit]₂]₃
 e. *Topicalization of VP₃*:
 [VP [VP t'₁ [VP t₂ gerechnet]₃]₃ [PP t₁ mit]₂]₃ hat da₁ der Fritz nicht t₃
 (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[scr]} 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.

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