

Partial *wh*-movement revisited: a microcomparative perspective

Towards a theory of Syntactic Variation
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MAIN GOALS: (i) to propose a unified analysis of doubling – and partial *wh*-movement in particular – in *wh*-questions (*wh*-Qs) and restrictive relative clauses (RCs) in varieties of Dutch, and (ii) to show that not all syntactic variation can be reduced to the lexicon or PF

1 Long-distance *wh*-questions: SAND data/MPQ data¹

- doubling in long-distance (embedded) *wh*-Qs that question a person:

- (1) a. Ze vroeg **wie** jij denkt dat het gedaan heeft.
she asked who you think that it done has
'She asked who you think has done it.'
- b. % Ze vroeg **wie** jij denkt **wie** het gedaan heeft.
she asked who you think who it done has
- c. % Ze vroeg **wie** jij denkt **die** het gedaan heeft.
she asked who you think DEM it done has
- d. % Ze vroeg **wat** jij denkt **wie** het gedaan heeft.
she asked what you think who it done has
- e. % Ze vroeg **wat** jij denkt **die** het gedaan heeft.
she asked what you think DEM it done has
- (2) a. ?* Ze vroeg **wie** jij denkt **wat** het gedaan heeft.
she asked who you think what it done has
- b. * Ze vroeg **die** jij denkt **wie** het gedaan heeft.
she asked DEM you think who it done has
- c. * Ze vroeg **die** jij denkt **wat** het gedaan heeft.
she asked DEM you think what it done has

¹SAND = Syntactic Atlas of the Dutch Dialects (Barbiers et al. 2005, 2008), and MPQ = Meertens Panel Questionnaire (two large scale online questionnaire studies; see Boef 2012b for details).

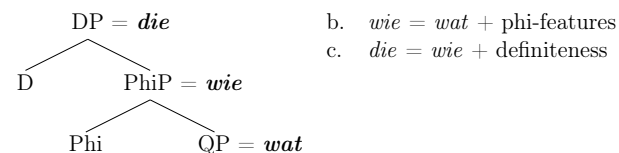
- **identical *wh*-doubling** or ***wh*-copying** in (1b) is often treated as multiple spell out of chain links (cf. Fanselow and Mahajan 2000, Nunes 2004, Felser 2001, 2004, Bruening 2004, 2006, Bošković and Nunes 2007, Barbiers et al. 2009 a.o.)
- ongoing debate about the **non-identical *wh*-doubling** cases in (1c,d,e): single chain or multiple chains (cf. Lutz et al. 2000, Felser 2001, Fanselow 2006 a.o. for an overview of different analyses of **partial *wh*-movement** or ***wh*-scope marking** in (1d))

2 Theoretical background: Barbiers, Koenenman and Lekakou (2009)

- **main claim:** all doubling patterns in (1) (in root *wh*-Qs) are instances of long-distance movement via SpecCP of (part of) the pronoun plus multiple copy spell out

- **assumptions:**

- (3) a. pronouns have internal structure and spell out phrases/non-terminals (XPs) (cf. Weerman and Evers-Vermeul 2002, Neeleman and Szendrői 2007 a.o.)
- b. the Copy Theory of Movement (Chomsky 1995)
- c. syntactic copying can optionally be *partial* (cf. Cheng 2000 a.o.)
- d. PF spell out is all or nothing, i.e. there is no partial spell out at PF
- (4) The structure of Dutch pronouns *die*, *wie* and *wat*



- **full copying** (of DP/PhiP/QP) results in *no doubling* (5), or in *identical doubling* (6) by means of multiple copy spell out (à la Nunes 2004)

- (5) [CP **pronoun**₁ ... [CP ~~pronoun~~_T ... ~~pronoun~~_T ...]] no doubling
- (6) [CP **pronoun**₁ ... [CP **pronoun**₁ ... ~~pronoun~~_T ...]] identical doubling

- **partial copying** may target PhiP (*wie-die*) or QP (*wat-die/wat-wie*):

- (7) a. [CP [PhiP [QP]] ... [CP [DP [PhiP [QP]]] ... ~~[DP [PhiP [QP]]]~~ ...]] = (1c)
- = **wie** = **die**
- b. [CP [QP] ... [CP [DP [PhiP [QP]]] ... ~~[DP [PhiP [QP]]]~~ ...]] = (1e)
- = **wat** = **die**
- c. [CP [QP] ... [CP [PhiP [QP]] ... ~~[PhiP [QP]]~~ ...]] = (1d)
- = **wat** = **wie**

- partial copying (*subextraction*) requires *double spell out* for recoverability reasons

- the ungrammatical constructions in (2) are cases of full copying and adding structure/features, in violation of the *Inclusiveness Condition* (Chomsky 1995:228), according to which outputs do not contain anything beyond their inputs

- (8) a. * [CP [DP [PhiP [QP]]] ... [CP [PhiP [QP]] ... ~~[PhiP [QP]]~~ ...]]
= **die** = **wie** = (2b)
- b. * [CP [DP [PhiP [QP]]] ... [CP [QP] ... ~~[QP]~~ ...]]
= **die** = **wat** = (2c)
- c. * [CP [PhiP [QP]] ... [CP [QP] ... ~~[QP]~~ ...]]
= **wie** = **wat** = (2a)

- a higher chain link can never be more specified than a lower chain link (Barbiers 2006), cf. subject doubling in southern Dutch:

- (9) a. **Ze** heeft **zij** daar niks mee te maken.
she.WEAK has she.STRONG there nothing with to do
‘She’s got nothing to do with it.’
- b. * **Zij** heeft **ze** daar niks mee te maken.
she.STRONG has she.WEAK there nothing with to do
[Barbiers et al. 2009:2-3]

3 Long-distance relative clauses: MPQ data (and SAND data)

- doubling in long-distance RCs with the common gender human antecedent *man* ‘man’:^{2,3}

²Non-identical doubling involving pronoun *wat* in RCs with the common gender human antecedent *man* is not (or only very marginally) attested in Dutch: *?*wat-wie/*wat-die/*wie-wat/*die-wat* (MPQ data). The non-occurrence of such doubling patterns is most likely related to the observation that *wat* as a relative pronoun hardly ever occurs with a common gender human antecedent like *man* in the first place. See section 5 for non-identical doubling involving pronoun *wat* in RCs (with a neuter gender antecedent).

³I abstract away from the so-called *resumptive prolepsis* construction, as illustrated in (i), because this construction behaves differently in a number of respects from the long-distance A-bar movement constructions in (10). The resumptive prolepsis construction arguably does not involve long-distance A-bar movement (see Salzmann 2006 for details).

- (i) a. de man [van **wie** ik denk [dat **hij/die** het gedaan heeft]]
the man of who I think that he/DEM it done has
‘the man who I think has done it’
- b. de man [waarvan ik denk [dat **hij/die** het gedaan heeft]]
the man whereof I think that he/DEM it done has
‘the man who I think has done it’

- (10) a. Dat is de man **die** ik denk dat het gedaan heeft.
that is the man DEM I think that it done has
‘That is the man who I think has done it.’
- b. % Dat is de man **wie** ik denk dat het gedaan heeft.
that is the man who I think that it done has
- c. % Dat is de man **die** ik denk **die** het gedaan heeft.
that is the man DEM I think DEM it done has
- d. % Dat is de man **wie** ik denk **wie** het gedaan heeft.
that is the man who I think who it done has
- e. % Dat is de man **wie** ik denk **die** het gedaan heeft.
that is the man who I think DEM it done has
- f. % Dat is de man **die** ik denk **wie** het gedaan heeft.
that is the man DEM I think who it done has [MPQ data]

- the observation that doubling pattern *die-wie* in (10f) is attested in long-distance RCs is unexpected under Barbiers et al.’s (2009) account of the doubling patterns in *wh*-Qs, as it violates the Inclusive Condition, cf. (8a); two options:

- (i) doubling in *wh*-Qs is different from doubling in RCs and/or the pronouns in the two constructions are different
- (ii) doubling in *wh*-Qs is the same phenomenon as doubling in RCs, and the different doubling patterns should be accounted for in another fashion

- I will argue for option (ii), and propose some modifications to the theory of Barbiers et al. (2009) – particularly, a different structure for the relevant pronouns – that makes it compatible with doubling in both *wh*-Qs and RCs

ASSUMPTIONS

- Head External Analysis** of RCs (cf. Quine 1960, Chomsky 1977, Borsley 1997, Boef 2012a,b a.o.)

$$(11) \quad \dots \text{RC head}_i \text{ [CP [rel.pronoun}_i \text{/operator}_i\text{]}_1 \dots _1 \dots]$$

- all long A-bar dependencies involving a pronoun are derived by successive-cyclic movement via SpecCP (*pace* Koopman and Sportiche 2008, Den Dikken 2009, 2010 a.o.)

$$(12) \quad \begin{matrix} wh\text{-Q:} & \text{[CP}_{[+wh]} \text{ pronoun}_1 \dots \text{ [CP pronoun}_1 \dots \text{ pronoun}_1 \dots]] \\ \text{RC:} & \text{RC head [CP pronoun}_1 \dots \text{ [CP pronoun}_1 \dots \text{ pronoun}_1 \dots]] \end{matrix}$$

4 ‘Identical’ doubling involving only *die* and/or *wie*

PROPOSAL

- doubling involving only *die* and/or *wie*, i.e. (1b,c) and (10c-f) = full long-distance movement via SpecCP + multiple copy spell out
- *wie* and *die* are not in a subset/superset relation (*contra* Barbiers et al. 2009, cf. (4))
- assuming a late insertion model of morphology, the lexical items *die* and *wie* can realize the chain link in SpecCP equally well (in both the higher and the lower clause of long-distance RCs, and in the lower clause of long-distance *wh*-Qs)

- the distribution of pronouns *die* and *wie* in the context of antecedents/referents that differ with respect to the neuter/common (syntactic gender) and the human/non-human (semantic animacy/humanness) distinction:⁴

Table 1: Combinatorial possibilities of Dutch pronouns *die* and *wie*

antecedent/referent	determiner <i>die</i>	relative pronoun <i>die</i>	interrogative pronoun <i>wie</i>	relative pronoun <i>wie</i>
[SG, COMMON, HUMAN] e.g. <i>man</i> ‘man’	+	+	+	%
[SG, COMMON, NON-HUMAN] e.g. <i>fout</i> ‘mistake’	+	+	–	–
[SG, NEUTER, HUMAN] e.g. <i>meisje</i> ‘girl’	–	%	+	%
[SG, NEUTER, NON-HUMAN] e.g. <i>boek</i> ‘book’	–	%	–	–

+ = Standard Dutch, % = colloquial/informal Dutch, – = unattested

- (13) a. *die* = COMMON, HUMAN/NON-HUMAN (!)
 b. *wie* = COMMON/NEUTER, HUMAN
 c. *wat* = COMMON/NEUTER, HUMAN/NON-HUMAN

⁴Table 1 is compiled from several sources: the SAND corpus (Barbiers et al. 2005, 2008), the MPQ data, and several other studies, like Audring (2009) and Van Kampen (2007, 2010) amongst others.

- STANDARD DUTCH: spell out of syntactic gender (neuter/common(=COM)) in RCs

(14) RC head_[COM, HUMAN] [CP **pronoun**<sub>[COM, HUMAN]] ... [CP **pronoun**<sub>[COM, HUMAN]] ...
man die</sub></sub>

(10) a. Dat is de man **die** ik denk dat het gedaan heeft.
 that is the man DEM I think that it done has

- COLLOQUIAL DUTCH: spell out of semantic animacy/humanness in RCs is possible

(15) RC head_[COM, HUMAN] [CP **pronoun**<sub>[COM, HUMAN]] ... [CP **pronoun**<sub>[COM, HUMAN]] ...
man wie</sub></sub>

(10) b. % Dat is de man **wie** ik denk dat het gedaan heeft.
 that is the man who I think that it done has

- more specifically, in case syntactic gender is not spelled out, semantic animacy in accordance with the Individuation Hierarchy as given in (16) can be spelled out (see Audring 2009 for details)

(16) **Individuation Hierarchy**
 (Audring 2009:124; cf. Sasse 1993, Siemund 2008 a.o.)

male human	»	animal	»	bounded	»	specific	»	unspecific
female human				object/abstract		mass		mass/abstract

<i>man.C</i>		<i>kat.C</i>		<i>fout.C</i>		<i>thee.C</i>		<i>apparatuur.C</i>
‘man’/		‘cat’/		‘mistake’/		‘tea’/		‘equipment’/
<i>meisje.N</i>		<i>paard.N</i>		<i>boek.N</i>		<i>brood.N</i>		<i>zand.N</i>
‘girl’		‘horse’		‘book’		‘bread’		‘sand’

«—————»
die

«—————»
wie

=> the lexical items *die* and *wie* are equally suited to spell out the feature [human]

(17) RC head_[COM, HUMAN] [CP **pronoun**<sub>[COM, HUMAN]] ... [CP **pronoun**<sub>[COM, HUMAN]] ...
man <*die/wie*> <*die/wie*></sub></sub>

(10) c. % Dat is de man **die** ik denk **die** het gedaan heeft.

d. % Dat is de man **wie** ik denk **wie** het gedaan heeft.

e. % Dat is de man **wie** ik denk **die** het gedaan heeft.

f. % Dat is de man **die** ik denk **wie** het gedaan heeft.

- colloquial Dutch long-distance embedded *wh*-Q:

(18) [CP[+WH] **pronoun**_[HUMAN] ... [CP **pronoun**_[HUMAN] ...
 < **die/wie* > < *die/wie* >

- (1) b. % Ze vroeg **wie** jij denkt **wie** het gedaan heeft.
 she asked who you think who it done has
 c. % Ze vroeg **wie** jij denkt **die** het gedaan heeft.
 she asked who you think DEM it done has

- following the null hypotheses that (i) pronouns in *wh*-Qs and pronouns in RCs are the same elements with the same properties, and (ii) doubling in *wh*-Qs is the same phenomenon as doubling in RCs, doubling pattern *die-wie* in *wh*-Qs (2b) cannot be ruled out by the grammar as a violation of the Inclusiveness Condition (as argued by Barbiers et al. 2009, cf. (8a)), as this doubling pattern *is* attested in RCs (10f)

- (2) b. * Ze vroeg **die** jij denkt **wie** het gedaan heeft.
 she asked DEM you think who it done has

- (10) f. % de man **die** ik denk **wie** het gedaan heeft
 the man DEM I think who it done has

- rather, pattern *die-wie* is ruled out independently in *wh*-Qs by the *wh*-requirement on the introduction of *wh*-Qs (possibly also due to the [definite] feature on *die*)

Table 2: Summary analysis doubling in long-distance A-bar dependencies, part I

pattern	long restrictive relative clause with antecedent <i>man</i> ‘man’ (common gender)	long embedded <i>wh</i> -question that questions a person (<i>wie</i> ‘who’)
wie-dat (10b), (1a)	full movement + deletion of all but highest copy	
wie-wie (10d), (1b)	full movement + multiple copy spell out	
wie-die (10e), (1c)	full movement + multiple copy spell out	
die-dat (10a)	full movement + deletion of all but highest copy	independently ruled out: <i>die</i> cannot introduce <i>wh</i> -questions
die-die (10c)	full movement + multiple copy spell out	independently ruled out: <i>die</i> cannot introduce <i>wh</i> -questions
die-wie (10f), (2b)	full movement + multiple copy spell out	independently ruled out: <i>die</i> cannot introduce <i>wh</i> -questions

5 Non-identical doubling involving *wat*: partial *wh*-movement

- non-identical doubling involving *wat* in long-distance *wh*-Qs that question a person:

(19) a. % Ze vroeg **wat** jij denkt **wie** het gedaan heeft.
 she asked what you think who it done has = (1d)

b. % Ze vroeg **wat** jij denkt **die** het gedaan heeft.
 she asked what you think DEM it done has = (1e)

c. ?* Ze vroeg **wie** jij denkt **wat** het gedaan heeft.
 she asked who you think what it done has = (2a)

d. * Ze vroeg **die** jij denkt **wat** het gedaan heeft.
 she asked DEM you think what it done has = (2c)

- non-identical doubling involving *wat* in long-distance RCs with the neuter gender human antecedent *meisje* ‘girl’:⁵

(20) a. ?% Dat is het meisje **wat** ik denk **wie** het gedaan heeft.
 that is the girl what I think who it done has

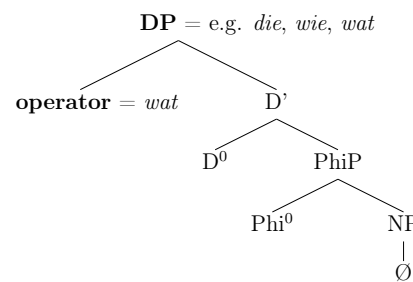
b. % Dat is het meisje **wat** ik denk **die** het gedaan heeft.
 that is the girl what I think DEM it done has

c. ?* Dat is het meisje **wie** ik denk **wat** het gedaan heeft.
 that is the girl who I think what it done has

d. ?* Dat is het meisje **die** ik denk **wat** het gedaan heeft.
 that is the girl! DEM I think what it done has [MPQ data]

PROPOSAL

(21) The structure of A-bar pronouns in Dutch



- similar to Barbiers et al. (2009): A-bar pronouns have internal structure and spell out phrases/non-terminals (cf. Weerman and Evers-Vermeul 2002, Neeleman and Szendrői 2007 a.o.)

- all A-bar pronouns contain an operator in their Spec (the ‘operator position’, cf. Szabolcsi 1994 a.o.); this operator is the driving force behind movement to the left periphery (e.g. it is endowed with an uF feature à la Bošković 2007)

⁵The data in (20) are preliminary and require further empirical research (see Boef 2012b for details).

- evidence in favor of the DP status of *die*: it behaves like an R-expression with respect to binding (cf. Déchaine and Wiltschko 2002)

- (22) a. Jan_i denkt dat waarschijnlijk die_{*i/j} de wedstrijd zal winnen.
 Jan thinks that probably DEM the game will win
 ‘Jan thinks that probably he will win the game.’
 b. Iedere jongen_i denkt dat de vrouw die_{*i/j} aantrekkelijk vindt.
 every boy thinks that that woman DEM attractive finds
 ‘Every boy thinks that that woman finds him attractive.’
 [Standard Dutch, Corver and Van Koppen 2008:10]

- suggestive evidence in favor of the DP status of *w*-pronouns in Dutch comes from the *categorial matching effect* in free relative clauses (cf. Groos and Van Riemsdijk 1981, Van Riemsdijk 2006 a.o.)

- (23) a. Jan is verliefd [PP [PP op wie] Kees verliefd is *t*_{PP}].
 Jan is in love on who Kees in love is
 ‘Jan is in love with who(ever) Kees is in love.’
 b. Jan wil kussen [DP [DP wie] Kees kust *t*_{DP}].
 Jan wants kiss who Kees kisses
 ‘Jan wants to kiss who(ever) Kees kisses.’
 c. * Jan is verliefd [PP [DP wie] Kees kust *t*_{DP}].
 Jan is in love who Kees kisses
 d. ?* Jan wil kussen [DP [PP op wie] Kees verliefd is *t*_{PP}].
 Jan wants kiss on who Kees in love is
- (24) a. Ik eet [DP wat jij eet].
 I eat what you eat
 ‘I eat what(ever) you eat.’
 b. Jan interviewt [DP wie Kees interviewt].
 Jan interviews who Kees interviews
 ‘Jan interviews who(ever) Kees interviews.’

- the operator becomes PF visible when it is subextracted (cf. Barbiers et al. 2009 and references cited therein): it is spelled out as *wat – wat* being the most underspecified A-bar pronoun in Dutch (13c) (cf. Postma 1994, Bennis 1995 a.o.)⁶

⁶Assuming that a single lexical item *wat* may spell out a full DP as well as an operator (cf. (21)), suggests that lexicalization is governed by some sort of *Superset Principle*.

- (i) *The Superset Principle* (Caha 2007:3, based on unpublished work by Michal Starke)
 The phonological exponent of a Vocabulary Item is inserted into a node if the item matches all or a superset of the grammatical features specified in the node. Insertion does not take place if the Vocabulary Item does not contain all features present in the node. Where several Vocabulary Items meet the conditions for insertion, the item containing less features unspecified in the terminal morpheme must be chosen.

- assuming that the operator in SpecDP is the driving force behind movement, either only the operator itself moves from SpecDP in the lower SpecCP to the higher SpecCP (**subextraction**) or the full pronoun DP moves to the higher SpecCP (**pied piping**)

- a. if the DP moves, two possible scenarios arise: **no doubling** or **‘identical’ doubling** (cf. *supra*)
 b. if the operator moves, **non-identical doubling** arises: the operator is spelled out higher up and the DP is spelled out lower down for recoverability reasons

(25)	[_{CP} DP ₁ ... [_{CP} $\bar{D}P_T$... $\bar{D}P_T$...]]	no doubling (=5)
(26)	[_{CP} DP ₁ ... [_{CP} DP ₁ ... $\bar{D}P_T$...]]	‘identical’ doubling (=6)
(27)	[_{CP} operator ₂ ... [_{CP} [_{DP} operator ₂ ...] ₁ ... $\bar{D}P_T$...]]	non-identical doubling/partial <i>wh</i>-movement

- subextraction of the operator from the DP in the embedded SpecCP violates the *Freezing Principle* (Wexler and Culicover 1980; cf. the *Condition on Extraction Domain* (CED), Huang 1982), according to which a phrase that has undergone movement becomes an island for extraction
- by spelling out the copy of the pronoun (in the embedded SpecCP) from which the operator subextracted, a violation of the Freezing Principle/CED is circumvented: **rescue by PF spell out**⁷
- the opposite of **rescue by PF deletion** (Bošković 2011); I take PF deletion to be more economical can PF spell out: only when PF deletion cannot apply due to the lack of recoverability (*recoverability of deletion*), PF spell out can apply
- cf. Van Craenenbroeck and Van Koppen (2008) for first conjunct clitic doubling in southern Dutch dialects: spell out salvages a violation of the Coordinate Structure Constraint (Ross 1967:161)

- (28) ... omda-ge₁ [*(gou₁) en ik] makannern gezien emmen
 because-you_{CLITIC} you_{STRONG} and I each other seen have
 ‘... because you and I saw each other’ [Wambeek Dutch]

⁷Locality of movement thus needs to be partly *representational*, as locality violations may be ameliorated at PF. Put differently, at least some aspects of locality of movement need to be attributed to PF (*PF theory of locality*, cf. Pesetsky 1998 and Bošković 2011 a.o.).

- analogy with the *wat voor* construction in Dutch:⁸

- (29) a. [CP [**Wat voor boeken**] denk je [CP dat hij heeft gelezen]]?
 what for books think you that he has read
 ‘What kind of books do you think that he read?’
 b. % [CP **Wat** denk je [CP [**wat voor boeken**] hij heeft gelezen]]?
 what think you what for books he has read
 ‘What kind of books do you think that he read?’
 c. * [CP **Wat** denk je [CP [**voor boeken**] hij heeft gelezen]]?
 what think you for books he has read
- (30) a. [CP **Wat** denk je [CP dat hij [**voor boeken**] heeft gelezen]]?
 what think you that he for books has read
 ‘What kind of books do you think that he read?’
 b. * [CP **Wat** denk je [CP dat hij [**wat voor boeken**] heeft gelezen]]?
 what think you that he what for books has read

- operator movement and double spell out in long-distance A-bar dependencies:⁹

- (31) [CP[+WH] **operator** ... [CP DP_[HUMAN] ...
wat <*die/wie*>
 colloquial Dutch long-distance embedded *wh*-Q (= (1d,e)/(19a,b))
- (32) RC head_[NEUTER, HUMAN] [CP **operator** ... [CP DP_[NEUTER, HUMAN] ...
meisje *wat* <*die/wie*>
 colloquial Dutch long-distance restrictive RC (= (20a,b))

- the patterns *wie-wat* ((2a)/(19c), (20c)) and *die-wat* ((2c)/(19d), (20d)) are ruled out by the Inclusiveness Condition if *wat* is the spell out of the operator in these cases (cf. Barbiers et al. 2009): (8c) and (8b) respectively
- in addition, *die-wat* in *wh*-Qs (2c)/(19d) is ruled out by the *wh*-requirement on the introduction of *wh*-Qs

⁸It is well known that the *wat voor XP* construction allows subextraction of its specifier (pronoun *wat*, as in (30a)), in violation of the Left Branch Condition (cf. Bennis 1983, 1995, Den Besten 1985, Corver 1991 a.o.). I have no insight to offer as to why this is the case.

⁹The operator movement plus double spell out analysis seems to be only available in RCs with a RC head that independently allows *wat* to introduce the RC (cf. footnote 2), i.e. there is some sort of (surface) matching requirement between the RC head and the element in the left periphery of the RC.

Table 3: Summary analysis doubling in long-distance A-bar dependencies, part II

pattern	long restrictive relative clause with antecedent <i>meisje</i> ‘girl’ (neuter gender)	long embedded <i>wh</i> -question that questions a person (<i>wie</i> ‘who’)
wat-wie (20a), (1d)/(19a)	subextraction of operator + double spell out	
wat-die (20b), (1e)/(19b)	subextraction of operator + double spell out	
wie-wat (20c), (2a)/(19c)	ruled out by Inclusiveness (full movement + adding structure/features)	
die-wat (20d), (2c)/(19d)	ruled out by Inclusiveness (full movement + adding structure/features)	ruled out by Inclusiveness (full movement + adding structure/features), and independently ruled out: <i>die</i> cannot introduce <i>wh</i> -questions

6 Doubling involving a complex *wh*-phrase

- ban on doubling of complex *wh*-phrases (cf. Nunes 2004 a.o.):

- (33) a. **Welke man** denk je dat het gedaan heeft?
 which man think you that it done has
 ‘Which man do you think has done it?’
 b. * **Welke man** denk je **welke man** het gedaan heeft?
 which man think you which man it done has
- (34) a. de man **wiens moeder** jij denkt dat het gedaan heeft
 the man whose mother you think that it done has
 ‘the man whose mother you think has done it’
 b. * de man **wiens moeder** jij denkt **wiens moeder** het gedaan heeft
 the man whose mother you think whose mother it done has

- to account for the ban on doubling of complex *wh*-phrases, similar to Barbiers et al. (2009), I adopt a proposal by Van Craenenbroeck (2004, 2010)

- Van Craenenbroeck (2004, 2010) claims that complex *wh*-phrases (unlike *wh*-pronouns and PPs containing them) are not operators: they are base-generated in the left periphery, whereas a coindexed empty operator moves to the left periphery:

- (35) simplex *wh*: [CP₁ WH (*of*) [CP₂ t_{WH} (*dat*) [IP ... t_{WH} ...]]]
 complex *wh*: [CP₁ WH_i (*of*) [CP₂ OP_i (*dat*) [IP ... t_{OP} ...]]]

- two arguments for the non-operator status of complex *wh*-phrases with *welke* ‘which’:

1. preposition stranding

- (36) a. Die sleutel is te klein [*Op* om het slot *mee* open te doen].
 that key is too small for the lock with open to do
 ‘That key is too small to open the lock with.’
 b. *Op* heb ik al *mee* gewerkt.
 have I already with worked
 ‘I have already worked with that.’ [Van Craenenbroeck 2004:40]
- (37) a. * (*Met*) *wie* wil je niet *mee* samenwerken?
 with who want you not with cooperate
 INTENDED: ‘Who don’t you want to cooperate with?’
 b. ? (*Met*) *welke jongen* wil je niet *mee* samenwerken?
 with which boy want you not with cooperate
 ‘Which boy don’t you want to cooperate with?’ [Van Craenenbroeck 2010:249]

2. Contrastive Left Dislocation

- (38) a. [Die jongens]_i, die_i ken ik niet *t*.
 those boys DEM know I not
 ‘Those boys, I don’t know.’
 b. * Iedereen_i, die_i ken ik niet *t*.
 everybody DEM know I not
 c. ?? [Welke jongen]_i, die_i heb je *t* gezien?
 which boy DEM have you seen
 d. * Wie_i, die_i heb je *t* gezien?
 who DEM have you seen [Van Craenenbroeck 2004:37]

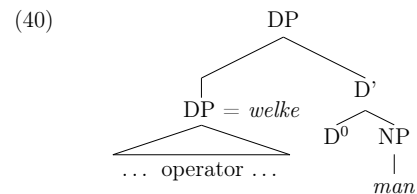
- so, if complex *wh*-phrases indeed do not move, they do not leave any copies of themselves that can be spelled out

- doubling involving a complex *wh*-phrase:¹⁰

- (39) a. % **Wat** denk je **welke man** het gedaan heeft?
 what think you which man it done has
 ‘Which man do you think has done it?’
 b. % **Wie** denk je **welke man** het gedaan heeft?
 who think you which man it done has
 ‘Which man do you think has done it?’ [MPQ data]

¹⁰The reverse doubling patterns of the patterns in (39) are known to exist in child language (Van Kampen 1997, 2010) and are also attested in colloquial Dutch (albeit less frequently than the patterns in (39), cf. MPQ data). Such data fall outside the scope of the proposed analysis as the doubled elements are arguably not part of the same movement chain (see Barbiers et al. 2009:33–37 and Boef 2012b:115–118 for discussion).

- assuming that *welke* – just like e.g. *wie* and *die* (cf. (21)) – is syntactically complex (cf. Leu 2008 a.o., but *contra* e.g. Corver 1990, Longobardi 1994), the complex *wh*-phrase *welke man* looks something like (40)



- subextraction of the A-bar pronoun *welke* constitutes a Left Branch Condition violation (LBC, Ross 1967:207), giving rise to ungrammaticality:¹¹

- (41) * **Welke** denk je **man** het gedaan heeft?
 which think you man it done has
 INTENDED: ‘Which man do you think has done it?’

- the only option is thus to subextract the operator, giving rise to (39a)

- as for (39b), I tentatively propose that the operator in the specifier of *welke* may enter into a **concord** (feature sharing, cf. Den Dikken 2009) relation with some of the features of *welke man*, as a result of which it can get a different spell out than *wat*

- more specifically, the operator may enter into a concord relation with the [human] feature, as a result of which it is spelled out as *wie* in long-distance *wh*-Qs: (39b)

- cf. doubling involving a complex *wh*-phrase in long-distance RCs:

- (42) a. ?* de man **wat** jij denkt **wiens moeder** het gedaan heeft
 the man what you think whose mother it done has
 ‘the man whose mother you think has done it’
 b. % de man <**die/wie**> jij denkt **wiens moeder** het gedaan heeft
 the man DEM/who you think whose mother it done has [MPQ data]

- (43) a. % het meisje **wat** jij denkt **wiens moeder** het gedaan heeft
 the girl what you think whose mother it done has
 ‘the girl whose mother you think has done it’
 b. % het meisje <**die/wie**> jij denkt **wiens moeder** het gedaan heeft
 the girl DEM/who you think whose mother it done has [MPQ data]

¹¹The LBC violation in (41) cannot be ameliorated by PF spell out, because PF deletion of the lower copy of the A-bar pronoun *welke* does not lead to a recoverability problem (cf. *supra*), i.e. ?**welke-welke man* (the exact status of this doubling pattern needs to be explicitly tested in future research).

- cf. doubling involving a prepositional phrase that contains an A-bar pronoun:

- (44) a. % **Wat** denk je **op wie** hij verliefd is?
 what think you on who he in love is
 ‘Who do you think he is in love with?’
 b. % **Wie** denk je **op wie** hij verliefd is?
 who think you on who he in love is
 ‘Who do you think he is in love with?’ [MPQ data]
- (45) % **Op wie** denk je **op wie** hij verliefd is?
 on who think you on who he in love is
 ‘Who do you think he is in love with?’ [MPQ data]

7 Subextraction as a PF phenomenon?

- if the proposed analysis of doubling is on the right track, some variation must be dealt with in syntax (*pace* Chomsky 1995), namely the variation caused by the presence or absence of subextraction or pied piping, cf. Barbiers et al. (2009), Barbiers (2009)
- Q: can the effects of subextraction be reduced to PF? i.e. no subextraction in syntax

- (46) % Ze vroeg **wat** jij denkt <**wie/die**> het gedaan heeft.
 she asked what you think who/DEM it done has
 ‘She asked who you think has done it.’ = (1d,e)

- (46) could be derived by successive-cyclic movement of the whole pronoun DP in syntax, and partial spell out of the higher copy of this pronoun DP at PF (this multiple copy spell out is allowed by the LCA (Kayne 1994) as the operator higher up does not c-command the pronoun lower down, so linearization of the two copies is without problems):

- (47) [CP [DP **operator** ...]₁ ... [CP [DP operator ...]₁ ... $\overline{\text{DP}}_{\text{T}}$...]]
 wat <**wie/die**>

- but what about doubling involving complex *wh*-phrases?

- (48) % **Wat** denk je **welke man** het gedaan heeft?
 what think you which man it done has
 ‘Which man do you think has done it?’ = (39a)

- if complex *wh*-phrases do not move (cf. van Craenenbroeck 2004, 2010 and see *supra*), and if there is no such thing as subextraction in syntax, constructions like the one in (48) would fall outside the scope of the proposed analysis in the sense that the boldfaced elements are not part of the same movement chain

- let us assume for the sake of argument that complex *wh*-phrases do in fact move successive-cyclically to the higher left periphery
- (48) could then be derived by successive-cyclic movement of the complex *wh*-phrase in syntax, and partial spell out of the higher copy of this phrase at PF:

- (49) [CP [DP [DP **operator** ...] NP]₁ ... [CP [DP [DP **operator** ...] NP]₁ ...]]
 wat welke man

- there is no principled reason why only the operator can be spelled out in the higher SpecCP (as long as the element in the higher copy does not c-command the copy lower down – in conformity with the LCA – it can be spelled out)
- an analysis along these lines thus runs the risk of overgeneration
- larger phrases like the pronoun *welke* or even the lexical NP *man* cannot be spelled out in the higher CP domain:

- (50) a. * [CP [DP [DP **operator** ..] NP]₁ ... [CP [DP [DP **operator** ..] NP]₁ ...]]
 welke welke man
 b. * [CP [DP [DP operator ..] NP]₁ ... [CP [DP [DP **operator** ..] NP]₁ ...]]
 man welke man

- (51) a. ?* **Welke** denk je **welke man** het gedaan heeft?
 which think you which man it done has
 b. * **Man** denk je **welke man** het gedaan heeft?
 man think you which man it done has

- a PF analysis of non-identical doubling thus needs to be restricted such as to exclude these cases
- also, how to account for (52)?

- (52) % **Wie** denk je **welke man** het gedaan heeft?
 who think you which man it done has
 ‘Which man do you think has done it?’ = (39b)

- under a PF analysis of non-identical doubling, *wie* would have to be a subpart of *welke* (*man*), which seems implausible: *wie* is inherently [human] whereas *welk(e)* is not

- in sum, at this point, an analysis of non-identical doubling in terms of full movement and spelling out a subpart of the higher copy cannot account for the data in such a straightforward way as the subextraction and double spell out approach can

8 Summary and conclusions

- building on the analysis by Barbiers et al. (2009) regarding doubling in Dutch long-distance root *wh*-Qs, I proposed a unified analysis of doubling – and of partial *wh*-movement in particular – in long-distance *wh*-Qs and RCs in varieties of Dutch
- **PF**: spell out of one chain link vs. spell out of multiple chain links
- **syntax**: full movement (pied piping) vs. partial movement (subextraction of operator)
 - not all variation can be reduced to the lexicon or PF, in contrast to the minimalist assumption about the locus of (micro)variation (Chomsky 1995 *et passim*)
 - the proposal fits in with other proposals that attribute some syntactic variation to the so-called pied piping parameter (cf. Koster 2000, Koopman and Szabolcsi 2000, Barbiers 2009, Barbiers et al. 2009 a.o.)
- the morphological shape of the (doubled) pronouns is determined at **PF** and dependent on
 - the properties of the antecedent/referent
 - spelling out syntactic gender or semantic animacy/humanness (Individuation)
 - the nature of the clause (*wh*-Q vs. RC): *d*-pronouns cannot introduce *wh*-Qs

Table 4: Interaction between syntax and PF (cf. Barbiers et al. 2009:4)

	syntax : full movement (pied piping)	syntax : partial movement (subextraction of operator)
PF : spell out of one (namely highest) chain link	no doubling (Standard Dutch/ colloquial Dutch) die -dat _{<RC/*Q>} wie -dat _{<RC/Q>}	– (independently ruled out for recoverability reasons)
PF : spell out of multiple chain links	‘identical’ doubling (colloquial Dutch) die - die _{<RC/*Q>} wie - wie _{<RC/Q>} wie - die _{<RC/Q>} die - wie _{<RC/*Q>}	non-identical doubling (colloquial Dutch) wat - die _{<RC/Q>} wat - wie _{<RC/Q>}

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Appendix A: on intervention effects

- identical and non-identical doubling in long-distance *wh*-Qs pattern alike with respect to intervening matrix negation:
- (53) a. **Wie** denk je *niet* dat zij uitgenodigd heeft?
 who think you not that she invited has
 ‘Who don’t you think that she invited?’
- b. ***Wie** denk je *niet wie* zij uitgenodigd heeft?
 who think you not who she invited has
- c. ***Wat** denk je *niet wie* zij uitgenodigd heeft?
 what think you not who she invited has [Barbiers et al. 2009:40]
- more or less the same pattern is attested for intervening negation in long-distance RCs:
- (54) a. % Dat is het meisje **wat** ik *niet* denk dat het gedaan heeft.
 that is the girl what I not think that it done has
 ‘That is the girl who I don’t think has done it.’
- b. ?* Dat is het meisje **die** ik *niet* denk **die** het gedaan heeft.
 that is the girl DEM I not think DEM it done has
- c. ?* Dat is het meisje **wat** ik *niet* denk **die** het gedaan heeft.
 that is the girl what I not think DEM it done has [MPQ data]

- (55) Dat is het meisje waarvan ik *niet* denk dat zij het gedaan heeft.
 that is the girl whereof I not think that she it done has
 ‘That is the girl who I don’t think has done it.’ [MPQ data]
- but different pattern in case of an intervening universal quantifier:
- (56) a. **Wie** denkt *iedereen* dat een goede president is geweest?
 who thinks everyone that a good president is been
 ‘Who does everyone think was a good president?’
- b. % **Wie** denkt *iedereen wie* een goede president is geweest?
 who thinks everyone who a good president is been
- c. % **Wat** denkt *iedereen wie* een goede president is geweest?
 what thinks everyone who a good president is been
 [Barbiers et al. 2009:40–41]
- (57) a. % Dat is het meisje **wat** *iedereen* denkt dat het gedaan heeft.
 that is the girl what everyone thinks that it done has
 ‘That is the girl everyone thinks has done it.’
- b. % Dat is het meisje **die** *iedereen* denkt **die** het gedaan heeft.
 that is the girl what everyone thinks what it done has
- c. % Dat is het meisje **wat** *iedereen* denkt **die** het gedaan heeft.
 that is the girl what everyone thinks RP it done has [MPQ data]
- at first sight, (i) identical doubling seems to pattern like non-identical doubling, and (ii) RCs seem to pattern like *wh*-Qs
 - data are preliminary and subject to further systematic empirical investigation (see Barbiers et al. 2009 for some discussion on intervention effects in root *wh*-Qs)

Table 4.1 in Schippers (2012:83): properties of long-distance *wh*-movement (LD), partial *wh*-movement (PM) and *wh*-copying (COP)

feature	LD	PM	COP
matrix negation	+	–	–
factive predicates	+	–	–
volitional predicates	+	–	+/-
complex NP	+	–	+/-
expletive complements	+	–	+/-
de re/de dicto ambiguity	+	–	+
consistent/inconsistent ambiguity	+	–	+
pair list/individual reading ambiguity	+	–	+
cross-clausal quantifier binding	+	–	+
complex <i>wh</i> -phrases	+	+	–

Appendix B: on alternative analyses of (non-identical) doubling

Big XP approach to doubling

- the two elements in a doubling chain originate within a single big XP, and one of them (or both) move(s) out (e.g. Uriagereka 1995, Poletto and Pollock 2004, Belletti 2005)

(58) [XP **wie die**] or [XP **die wie**]

Arguments from Barbiers et al. (2009:23–25):

- the putative big XP never overtly occurs as one constituent (unexpected if subextraction from big XP is parallel to *wat voor* split, cf. (29)-(30))

(59) a. *de man [**wie die**]/ [**die wie**] het gedaan heeft
 the man who DEM DEM who it done has
 b. * [**wie die**]/ [**die wie**] heeft het gedaan?
 who DEM DEM who has it done

- the big XP approach overgenerates:¹² if subextraction from [XP **wat wie/die**] or [XP **wie/die wat**] is possible, (60b) is incorrectly predicted to be grammatical (i.e. additional assumptions are required to block subextraction of **wie/die**)

(60) a. Ze vroeg **wat** jij denkt **wie/die** het gedaan heeft.
 she asked what you think who DEM it done has = (1d,e)
 b. *Ze vroeg **wie/die** jij denkt **wat** het gedaan heeft. = (2a,c)

Indirect dependency approaches (IDAs) to non-identical doubling (i.e. partial *wh*-movement or *wh*-scope marking)

(61) *direct dependency approach*

(cf. Van Riemsdijk 1983, McDaniel 1989, Cheng 2000 a.o., and see *supra*)
 [CP₁ **SM** ... [VP V [CP₂ **wh**₁ ... t₁ ...]]]

(62) *indirect dependency approach – scope marker is syntactic object of matrix V*

(cf. Dayal 1994, 2000 a.o., and see Felser 2001 for a complex predicate analysis)
 [CP₁ **SM** ... [VP t_{SM} V] [CP₂ **wh** ... t_{wh} ...]

(63) *indirect dependency approach – scope marker is CP-expletive, part of matrix object*

(cf. Fanselow and Mahajan 2000, Stepanov and Stateva 2006 a.o.)
 [CP₁ **SM** ... [VP V [DP t_{SM} [CP₂ **wh** ... t_{wh} ...]]]]

¹²The *scattered deletion* approach to doubling (i.e. deletion of complementary material in two copies; cf. Cavar and Fanselow 1997, Nunes 2004) encounters the same overgeneration problem (cf. Barbiers et al. 2009): the higher element can come out as more specified than the lower element, in contrast to what we find (cf. Barbiers 2006).

Some issues:¹³

- IDAs cannot provide a uniform treatment of identical and non-identical doubling: it is hard to analyze identical doubling in terms of an IDA (but see Den Dikken 2009 and Koster 2009 a.o.) – e.g. case on the *wh*-element is retained (cf. Pankau 2011):

(64) **Wessen** glaubst du **wessen** sie sich sicher ist?
 whose believe you whose she self sure is
 ‘What do you think she is sure of?’ [German, Pankau 2011:215]

- the syntactic status of the dependent CP is unclear

– it cannot be a *wh*-Q (*pace* Dayal 1994, Felser 2001 a.o.): the dependent CP can be introduced by a *d*-pronoun (65a), whereas a true *wh*-Q cannot (65b) (cf. Barbiers et al. 2009), and partial *wh*-movement seems to be possible in RCs, cf. *supra*

(65) a. %Ze vroeg **wat** jij denkt **die** het gedaan heeft.
 she asked what you think DEM it done has = (1e)
 b. *Ze vroeg **die** jij denkt <**wie/wat**> het gedaan heeft.
 she asked DEM you think who/what it done has = (2b,c)

– if the dependent CP is not a *wh*-Q, it cannot function as the restrictor of the SM, as a result of which the standard account of the semantics of partial *wh*-movement constructions in IDAs like (62) is compromised (Barbiers et al. 2009:28)

– it most likely is not a free relative clause either (FRC; *pace* Pankau 2009, Koster 2009 a.o.): (i) no correlation between the form of the pronoun in the FRC and the form of the pronoun in the lower clause of doubling constructions, e.g. (66), (ii) different distribution of complex *wh*-phrases: (67)

(66) a. <**Wie/*Die**> geld heeft moet mij maar wat geven.
 who/DEM money has must me just what give
 ‘Who has money, should give me some.’
 b. Wie denk je **die** ik in de stad heb gezien?
 who think you DEM I in the city have seen
 ‘Who do you think I have seen in the city?’
 [Amsterdam/Weesp Dutch, SAND data]

(67) a. % <**Wat/Wie**> denk je **welke man** het gedaan heeft?
 what/who think you which man it done has
 ‘Which man do you think has done it?’ = (39)
 b. ?? **Welke man** het gedaan, heeft krijgt straf.
 which man it done has gets punishment
 ‘Whichever man has done it will be punished.’

¹³See Barbiers et al. (2009:25–32) for a detailed evaluation of IDAs in light of the Dutch doubling data in root *wh*-Qs, and see Boef (2012b:103–114) for an evaluation of recent ‘multiple chain’ analyses of doubling.