

Chapter 19

Unbounded Dependency Constructions in Germanic

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19.1 Introduction

Unbounded dependency constructions canonically involve displacement of a phrase across a finite clause-boundary. In the following English example, the *wh*-phrase *which book* originates as a complement of *like* and surfaces at the beginning of the clause:¹

- (1) Which book₁ do you think Mary likes __₁?

Such dependencies are thus usually filler-gap dependencies with the fronted XP being (usually, but see Sections 19.2.2., 19.4.4 and 19.4.5 below) overt and the position it originates from being phonologically empty. The fronted XP occupies an operator/discourse-related position, and constructions involving such fronting are termed instances of long A'-movement within Generative Grammar. All Germanic languages have unbounded dependency constructions of the type in (1); however, long A'-dependencies in Germanic can come in different forms that deviate in various ways from the variant in (1). Given that long A'-dependencies are one of the major research topics in syntactic theory, Germanic languages represent a particularly fruitful area for the exploration of the nature and limits of these dependencies.

This chapter is organized as follows: In Section 19.2, I will introduce the major types of A'-dependencies and some of their salient properties before addressing basic analytical issues in Section 19.3. In Section 19.4, I discuss alternatives to long extraction, and Section 19.5 deals with various remarkable locality-related properties of long extraction in Germanic.

¹ In what follows, the filler and the gap are coindexed by means of numerical subscripts. For coreference relationships alphabetical subscripts are used.

19.2 Types of (Long) A'-Dependencies and Their Major Properties

The three major types of long A'-dependencies are *wh*-movement as in (1) and relativization and topicalization as illustrated in (2):

- (2) a. This book₁, I think Mary likes __₁. *topicalization*
 b. the book which₁ I think Mary likes __₁ *relativization*

A brief terminological remark: The term *topicalization* does not imply that the fronted elements have the function of topics. In all Germanic languages, topicalized constituents can have various topic functions (aboutness, discourse, contrastive) as well as different foci functions (information focus and contrastive focus). For information-structural differences between short and long topicalization, see Section 19.3.2.

19.2.1 Shared Properties of Long A'-Dependencies

Since Chomsky (1977: 555) the three constructions have been grouped together as instances of A'-movement because they share a number of important properties: First, they are potentially unbounded, i.e., can, in principle, span an unlimited number of clauses; second, they are subject to the same locality restrictions, viz., the island constraints discovered by Ross (1967). For instance, the antecedent/filler of these constructions cannot be related to a gap within an adjunct clause:²

- (3) a. *Which politician₁ did you leave the room because John praised __₁?
 b. *This politician₁, you left the room because John praised __₁.
 c. *the politician who₁ you left the room because John praised __₁

Third, these unbounded dependencies are usually analyzed as involving a sequence of smaller steps, viz., the filler is assumed to make stopovers in intermediate (SpecCP and possibly SpecvP) positions. Finally, information contained within the filler can be interpreted in lower positions, i.e., the constructions display so-called reconstruction effects. In the following example, the variable contained in the filler is bound by the embedded subject:

- (4) [Which of his_i pictures] ₁ do you think every boy_i likes best __₁?

All Germanic languages have these three types of unbounded dependencies (for restrictions in German with respect to clause-boundedness, see Section 19.5.1 below). In what follows, I will focus on these three types as

² While extraction from so-called strong islands like the adjunct island in (3), relative clauses and complement clauses to nouns as well as (sentential) subjects is prohibited across the board, so-called weak islands (like embedded questions) allow argument extraction / extraction of referential/D-linked elements but block extraction of adjuncts / nonreferential / non-D-linked elements. See Szabolcsi (2006) for discussion.

they have received the most attention in the literature. For discussion of further A'-constructions in English, such as comparative deletion, clefts, exclamatory and negative NP-extraction, see, e.g., Postal (1998); for long-distance scrambling in German, see Frey (2006).

19.2.2 Unbounded Dependencies – The Left Periphery

The three constructions differ in a number of interesting respects both language-internally as well as cross-linguistically with respect to inversion and the shape of the left periphery (form of the displaced element, overt-ness of attracting heads, co-occurrence restrictions).

19.2.2.1 Unbounded Dependencies and Inversion in the Final Clause

The three major constructions show certain differences with respect to subject-verb inversion in the clause targeted by movement when a nonsubject is fronted. In English matrix clauses, only *wh*-movement shows inversion, while subject and verb occur in canonical order in the other two constructions. The other Germanic languages pattern differently in this respect: Both topicalization and *wh*-movement involve inversion in matrix clauses, while relativization does not.³

- (5) a. Wen₁ glaubst du, dass Maria ₁ liebt?
 who.ACC believe.2SG you that Mary love.3SG
 'Who do you believe that Mary loves?'
 b. [Den Maler]₁ glaubst du, dass Maria ₁ liebt.
 the.ACC painter believe.2SG you that Mary love.3SG
 'The painter, you believe that Mary loves.'
 c. ein Maler, den₁ du glaubst, dass Maria ₁ liebt
 a painter who.ACC you believe.2SG that Mary love.3SG
 'a painter who you believe that Mary loves' German

With embedded *wh*-clauses and topicalization, there is no inversion in Standard English. With embedded questions, there is generally no subject-verb inversion in Germanic, except in Irish English, African American and Appalachian English, and (optionally) in Afrikaans (Harbert 2007: 475); in Yiddish and Icelandic there is inversion with expletive subjects, see Vikner (1995: 76) and Vikner (Chapter 16). With embedded topicalization, subject-verb inversion is possible in all Germanic languages except English (and perhaps Dutch, where embedded verb-second is not generally available, see Vikner 1995: chapter 3). Embedded topicalization is illustrated by the following German example (in all other Germanic languages, including English, embedded topicalization follows the declarative complementizer, while complementizers and fronted verbs are in complementary distribution in German):

³ For so-called V2-relatives in German, see Gärtner (2000).

- (6) Ich glaube, [dieses Buch]₁ denkt der Hans, dass Maria ___₁ mag
 I believe._{1SG} this book think._{3SG} the._{NOM} John that Mary like._{3SG}
 'I believe this book, John thinks that Mary likes.' German

19.2.2.2 Unbounded Dependencies and the Shape of the Left Periphery

While topicalization simply involves a fronted unmarked XP all across Germanic, *wh*-movement and relative clauses display a certain variation with respect to the expression of operators and functional heads.

Starting with *wh*-movement, while matrix questions generally involve fronting of an XP plus inversion (when a nonsubject is fronted), embedded questions usually do not involve any inversion and the C-position remains empty; in some Germanic languages, though, the *wh*-phrase can be followed by a complementizer. While impossible in Standard English because of the doubly filled Comp filter (see Chomsky and Lasnik 1977), in nonstandard English (and Belfast English, see Harbert 2007: 435) the *wh*-phrase can co-occur with the declarative complementizer:

- (7) They discussed a certain model, but they didn't know which model that they discussed. (Baltin 2010: 331)

The situation in German is similar. While impossible in the standard language, many, especially the southern dialects like Bavarian or Alemannic, allow doubly filled Comps, see, e.g., Bayer (1984), and Bayer and Brandner (2008). The same is also possible in Flemish and various other Dutch varieties, Middle English, Middle Danish, and Colloquial Copenhagen Danish (Vikner 1995: 119f.) as well as in Norwegian and Swedish (Harbert 2007: 427, Larsson 2014). In Dutch varieties, one can even find co-occurrence of the *wh*-phrase with two complementizers, viz., 'if' and 'that' (Zwart 2000: 361).

Turning to headed relative clauses (which are postnominal and head-external in Germanic⁴), in Standard English, relativization normally involves either a relative pronoun (*who/which*) / a null operator, or the declarative complementizer *that* (for a reanalysis of *that* as a relative pronoun, see Broekhuis and Dekkers 2000 and Kayne 2010). Co-occurrence of both elements can be found in nonstandard varieties, as well as in Old and Middle English (Harbert 2007: 434):

- (8) It's down to the community in which that the people live. (Gelderen 2013: 59)

⁴ English and Dutch appositive relatives like the following have been argued to represent double-headed types, see Bhatt (2015: 712); for Dutch data, see Vries (2002: 189).

i) I read the New Yorker yesterday, [which magazine is one of the finest in the country].
 For free relatives, see Harbert (2007: 466ff.).

Doubly-filled-Comp violations of this type are also found in Gothic, Frisian (Harbert 2007: 434) and in Dutch varieties (with both *wh*- and D-pronouns, Zwart 2000: 357f.). Dutch varieties that use a *wh*-pronoun in relativization additionally allow the combination of relative pronoun and 'if' (Zwart 2000: 358ff., Boef 2012: 141). Additionally, Dutch varieties also allow *that*-relatives, cf. Boef (2012: 141); in Afrikaans, relatives involve invariant *wat* for subjects and objects, while for oblique positions the relative pronouns *wie/wat* are used (Harbert 2007: 443ff.). While relatives in Standard German use the relative D-pronoun only, many German varieties allow the co-occurrence of the relative D-pronoun with *da* 'there'/'was' 'what'/'wo' 'where', see Weise (1916), Bayer (1984), Fleischer (2004). The particle *wo* lit. 'where' (to be distinguished from the homophonous relative adverb) also occurs on its own as a relative marker in Alemannic varieties, see van Riemsdijk (1989, 2008), Salzmann (2006):

- (9) d Frau, wo immer z spaat chunt
 the woman C always too late come.3sg
 'the woman who is always late' *Zurich German*

Another invariant complementizer found in German varieties is *was* 'what' (see also Yiddish *vos*). *Wh*-relatives (based on *welch*- 'which') are restricted to the standard language (and Yiddish, which has *velkh* and *ver*) and never co-occur with a complementizer, see Fleischer (2004). Relative clauses without any kind of marking, viz., zero relatives, do not seem to exist in either German or Dutch. They are prominent in Standard English nonsubject relatives; in nonstandard English, we also find contact relatives for subject relativization, see Bhatt (2015: 737ff.):

- (10) There's a girl (who) wants to see you.

In Scandinavian languages relative clauses are primarily introduced by an invariant complementizer *som/sem* 'as'. It can be omitted in (restrictive) object (but not subject) relatives in Mainland Scandinavian (Harbert 2007: 450, 464f.) but not in Icelandic (Thránisson 2007: 447). In Danish and Norwegian, we alternatively find *der* in subject relativization. Swedish and Danish also have *wh*-pronouns for oblique/prepositional relations (Harbert 2007: 425, 447f.). Icelandic allows the combination of *sem* + 'that' (Vikner 1995: 122), as does Danish (Nyvad et al. 2017: 463). Faroese allows zero relatives for both subjects and objects (Harbert 2007: 456, 465). In some languages, a formal difference between what look like subject and object relative pronouns may in fact rather result from the subject form being an agreeing complementizer (Harbert 2007: 430ff.).

19.3 Basic Analytical Issues

19.3.1 The Nature of the Landing Site

The classical analysis of unbounded dependencies involves A'-movement to a position in the left periphery via a stopover in the intermediate SpecCP position. For English *wh*-movement, this looks as follows (for evidence for an additional stopover in SpecvP, see Fox 1999):

- (11) [_{CP} Who₁ did you say [_{CP} __₁ that Mary likes __₁]?]

The landing site of English *wh*-movement and relativization is usually identified with SpecCP (accompanied by T-to-C-movement in the former), while topicalization is generally assumed to target a lower position between TP and CP. While earlier work took this to be an adjunction position (adjunction to TP), in more recent approaches, the landing site of topicalization is identified with the specifier of an additional functional head in the left periphery, e.g., SpecTopP, see Branigan (2011). Apart from cartographic considerations that may favor distinct landing sites for different types of A'-movement, see Rizzi (1997), Branigan (2011), evidence for positing different landing sites for topicalized material than *wh*/relative operators comes from the fact that topicalization inside relative clauses is permitted (to some extent, Douglas 2016: 71):

- (12) a man [to whom]₂, liberty₁, we should never grant __₁ __₂

Unlike *wh*-movement and relativization, topicalization in English can affect several constituents, in which case the first XP functions as a topic and the second one as a focus (Douglas 2016: 85):

- (13) That book₂, to JOHN₁ Mary gave __₂ __₁ in 1979.

In the other Germanic languages, it has generally been assumed that unbounded dependencies all target the same position in the left periphery because unlike in English they are in complementary distribution with each other and multiple topicalization is impossible. This position is traditionally identified with SpecCP. In cartographic work, however, *wh*-movement and topicalization usually target different projections even in these languages (e.g., Branigan 2011, but see also Müller 1995 for an early noncartographic proposal to this effect).

19.3.2 Differences between Local and Long-Distance A'-Movement

Traditionally it has been assumed that the landing sites of local and long-distance movement are the same, viz., SpecCP. There is some reason to believe, though, that this characterization is too simple. At the very least, there are asymmetries between local and long-distance topicalization that need to be accounted for somehow. It has been observed for

- b. Wo_1 glaubst du, wohnt sie seit 1985 mit ihrem Kind $__1$?
 where believe.2sg you live.3sg she since 1985 with her child verb-second
- (17) a. [In Bonn] $_1$ meint Franz, dass sie seit 1985 $__1$ wohnt.
 in Bonn think.3sg Franz that she since 1985 live.3sg
 'Franz thinks that she has been living in Bonn since 1985.' verb-final
- b. [In Bonn] $_1$, meint Franz, wohnt sie seit 1985 $__1$.
 in Bonn think.3sg Franz live.3sg she since 1985 verb-second

While the long movement analysis of extraction from V-final structures is uncontested, the analysis of structures with extraction from verb-second clauses has been controversial. An obvious alternative to long extraction is to treat everything of the main clause after the *wh*-word as a V1-parenthetical. Evidence for this reanalysis comes from the fact that V1-parentheticals are independently possible in various positions of the clause, see Reis (1995: 46):

- (18) Wo_1 wohnt sie {glaubst du} seit 1985 {glaubst du}
 where live.3sg she believe.2sg you since 1985 believe.2sg you
 mit ihrem Kind $__1$ {glaubst du}?
 with her child believe.2sg you

Consequently, (16b) would just be a variant of this with the parenthetical right after the *wh*-phrase. An argument for a long-distance extraction analysis comes from the observation that the class of verbs that allow long extraction across *dass*, viz., the so-called bridge verbs (like *think*, *believe*, *say* etc.), is largely identical to the class of verbs that allow for embedded verb second, see Featherston (2004). One of the challenges for an extraction analysis comes from what Reis calls the V2 route restriction: Extraction may occur via V2 and into V2-clauses only; these conditions are violated in the following examples (adapted from Reis 1995: 50):

- (19) a. *Ich weiß nicht, wo_1 er meint, wohnt sie $__1$.
 I know.1sg not where he think.3sg live.3sg she
 'I don't know where he thinks she lives.'
- b. * Wo_1 meint er, dass Peter geglaubt hat, wohnt sie $__1$?
 where think.3sg he that Peter believed have.3sg live.3sg she?

This follows straightforwardly under a parenthetical analysis because in both cases the material between the fronted *wh*-phrase and the final V1 clause is not a felicitous parenthetical. Accounting for this restriction under an extraction analysis has generated a large number of proposals; for a recent contribution with further references, see Müller (2010). Another possible argument against an extraction analysis comes from the fact that in present day Standard German, long extraction across *dass* is unacceptable for many speakers, as discussed in Section 19.5.1 below, while extraction from V2-clauses is readily available for all speakers. This may be unexpected if both constructions involve the same extraction

mechanism. Still, the issue is far from settled, and the reader is referred to the above-mentioned publications for further theoretical discussion; for empirical evidence in favor of the parenthetical analysis, see Kiziak (2010).

A parenthetical analysis has also been proposed for extraction from V2-clauses in Danish and Swedish, see Hrafnbjargarson et al. (2010: 301f.). In this case, the structures look exactly as in German, while normally embedded verb second occurs in the presence of a complementizer in these languages. For the Faroese equivalent of the German construction, however, the authors propose an extraction analysis because unlike in Swedish/Danish, variable binding by a quantifier inside the alleged parenthetical is grammatical, suggesting that the V1-clause is syntactically visible:

- (20) [Mamma hansara_{ij}]₁ segði hvør ein maður_i ___₁ hevði ikki lisið bókina.
 mother his said each one man had not read book.the
 'His_i mother, each man_i said (that) had not read the book.' *Faroese*

As for extraction from V2 after the complementizer, it is blocked in all Scandinavian languages if the V2-clause is nonsubject initial (e.g., involves an embedded topic). This is unsurprising as these are classical topic islands. Interestingly, however, extraction from subject-initial embedded V2-clauses is grammatical in Faroese, Icelandic, and (certain varieties of) Norwegian. Vikner (1995) accounts for the extractability in Icelandic with the assumption that there is no proper V2 (i.e., V-to-C-movement) in these cases but rather only V-to-I movement; the subject is thus in SpecTP so that no topic island intervenes (while in the other languages there is V-to-C-movement with the subject in the topic position). While a possibility for Icelandic, where V-to-I has been independently argued for, this is not an obvious solution for Norwegian, where this movement is not independently attested. However, if the verb occupies the same position in all Scandinavian embedded V2-clauses, it is no longer clear why some languages allow for extraction, while others do not. See Hrafnbjargarson et al. (2010) for more empirical details.

19.4.2 Scope Marking / Partial Movement

Another alternative to long extraction across *that* is the partial movement / scope-marking construction. In this construction, an invariant scope marker occupies the scope position of the *wh*-dependency, while the *wh*-phrase (which has exactly the same form as *wh*-phrases in long extraction and can thus be of greater complexity than in the example below) remains in an intermediate SpecCP position. It has been most prominently discussed in German but can be found in typologically diverse languages (see Fanselow 2017 for a recent overview):

- (21) Was glaubst du, wen₁ Maria ___₁ liebt?
 what believe.2sg you whom Mary love.3sg
 'Who do you believe Mary loves?'

In German the construction is only found in *wh*-movement, but depending on the implementation, partial movement may also exist in relative clauses, see Boef (2012) on Dutch and the discussion of the copy construction below. Unlike in other languages, partial movement in German does not allow the associate of *was* to be a yes-no-question.

While semantically very similar to long extraction, there are certain asymmetries that are noteworthy (Felser 2001: 11f.): First, unlike long extraction, the scope marking construction is sensitive to negative island effects:

- (22) a. Wen₁ glaubst du nicht dass Maria ₁ getroffen hat?
 whom think.2SG you not that M. met have.3SG
 ‘Who don’t you think Maria has met?’
 b. *Was glaubst du nicht wen₁ Maria ₁ getroffen hat?
 what think.2SG you not whom M. met have.3SG

Second, the class of predicates that permits the scope marking construction is not coextensive with the class of verbs allowing long extraction; that is, not every long-distance movement structure has a scope marking correlate, and not every scope-marking sentence has a long-distance movement counterpart. The following example illustrates the latter asymmetry:

- (23) a. Was hat Hans entschieden wer₁ ₁ morgen kommen soll?
 what have.3SG H. decided who tomorrow come.INF should.3SG
 b. *Wer₁ hat Hans entschieden dass ₁ morgen kommen soll?
 who have.3SG H. decided that tomorrow come.INF should.3SG

There are two main approaches to partial movement: the direct dependency approach and the indirect dependency approach (which both come in various flavors). In the direct dependency approach (McDaniel 1989) the invariant *was* and the *wh*-phrase are part of the same chain; *was* marks the scope of the *wh*-phrase, which is assumed to replace *was* at LF (*was* is thus assimilated to an expletive like *there* in A-chains). There is also a version of the direct dependency approach that treats it as a subcase of the copy construction discussed in Section 19.4.3. In the indirect dependency approach (simplifying somewhat), *was* is analyzed as the standard *wh*-word for clausal complements. The relationship between *was* and the *wh*-CP is then similar to that between a propositional pro-form and its clausal associate; i.e., it can be considered a monosentential counterpart of (18):

- (24) What do you think? Who came?

A comparison of the two approaches is beyond the scope of this paper; while both have their pros and cons, both generally seem capable of capturing the relevant data, see Fanselow (2017).

19.4.3 Wh-Copying

In the so-called copy construction, which is found in German, Frisian, Afrikaans, and Dutch varieties, the *wh*-phrase appears multiple times, viz., in the landing site as well as in all intermediate SpecCP positions:

- (25) Wêr₁ tinkst wêr₁'t se ₁ wennet?
 where think.2SG where-COMP she live.3SG
 'Where do you think she lives?' *Frisian*

There is a long tradition going back to Hiemstra (1986) to analyze the copy construction as involving the realization of several links of a movement dependency. This seems straightforward under an approach to movement that involves copying, as has become standard since Chomsky (1995). However, since normally only the highest (or, in *wh*-in-situ, the lowest) link is phonetically realized, extra assumptions are necessary to allow for copying. According to one popular approach (Nunes 2004), multiple copy-spell-out results from reanalysis of intermediate copies with intermediate C-heads. As a consequence of this, the *wh*-phrase is no longer visible for the linearization mechanism so that it escapes chain reduction (which is otherwise necessary to obtain nonconflicting ordering statements). An argument for this view comes from the observation that copying tends to be restricted to simple *wh*-pronouns, while doubling of full *wh*-phrases is usually rejected (Felser 2004: 550):

- (26) *[Welchen Mann]₁ glaubst du, [welchen Mann]₁ sie ₁ liebt?
 which man believe.2SG you which man she love.3SG
 'Which man do you believe that she loves?' *German*

There is, admittedly, a gray area where judgments vary. Light PPs, for instance, are often found acceptable:

- (27) %[An wen]₁ glaubst du, [an wen]₁ sie ₁ denkt?
 of whom believe.2SG you of whom she think.3SG
 'Who do you believe that she thinks of?' *German*

Given that in Afrikaans copying of full *wh*-phrases is possible (Plessis 1977), however, the reanalysis approach cannot be generally correct. For more discussion about the restrictions on copying, see Fanselow and Mahajan (2000) and Felser (2004).

There is a line of research, starting with Hiemstra (1986), that argues that scope marking and *wh*-copying should receive a unified account. The basic idea is that the two constructions differ only in the amount of material that is copied of a *wh*-phrase. The scope marking construction results if only the *wh*-feature is copied (which is then spelled-out by the most unmarked *wh*-word), see Cheng (2000) for a revival of this idea. The most systematic approach to *wh*-copying and scope marking is proposed by Barbiers et al. (2010), who focus on variation in *wh*-chains in Dutch varieties. They observe that the first member of the *wh*-chain is always less

specific than the second one. They argue that this generalization follows from partial copying; for the proposal to work, pronouns must be spell-outs of phrases. They assume that pronouns have rich internal structure:

- (28) [DP D [PhiP Phi [QP Q]]]

Depending on how much of that phrase is affected by copying, different types of *wh*-chains emerge. It is assumed that QP is realized as *wat*, PhiP as *wie*, and DP as *die*. This correctly predicts the possibilities *wat* – *wie*, *wat* – *die* and *wie* – *die*: The first option results if the *wh*-pronoun is only a PhiP from which the QP is extracted; the other options obtain if the *wh*-word is a DP and either PhiP or QP are extracted. Because of partial copying, the reverse order of *wh*-words is ruled out: **wie* – *wat*.

Interestingly, relative clauses in Dutch varieties display a similar pattern. Boef (2012) convincingly demonstrates that the partial copying approach can be fruitfully extended to this empirical domain as well.

Partial copying also seems to be at work in certain German patterns identified by Fanselow and Cavar (2001), where the *wh*-phrase in the scope position is a proper subset of the lower *wh*-phrase (rather than just the scope marker *was*):

- (44) Wen denkst du [wen von den Studenten]₁ sie ₁ mag?
 whom think.2SG you whom of the students she likes?
 ‘Who of the students do you think she likes?’ *German*

Simplifying somewhat, approaches in terms of copying essentially assume that *wh*-copying and scope marking are syntactically very similar to regular long extraction. We have already seen evidence that there are certain nontrivial differences between long extraction and scope marking that cast doubts on this view. Importantly, at least in German there are also systematic differences between the copy construction and long extraction on the one hand as well as differences between the copy construction and scope marking on the other. This calls a unification / a parallel treatment of the three constructions into question.

As for the copy construction and long extraction: As discussed in Felser (2004: 555ff.), the two constructions differ in the verb classes they occur with (copying is, e.g., impossible with factive verbs) and their sensitivity to negative islands:

- (29) a. Wen₁ glaubst du nicht, dass sie ₁ liebt?
 whom believe.2SG you not that she love.3SG
 ‘Who don’t you believe that she loves?’
 b. *Wen₁ glaubst du nicht, wen₁ sie ₁ liebt?
 whom believe.2SG you not whom she love.3SG

Furthermore, the copying construction is incompatible with *wh*-in-situ and displays different scope properties (in the interaction with other quantifiers).

As for differences between partial movement and the copy construction, they do not occur with the same set of verbs (Felser 2004: 552):

- (30) a. *Was scheint es, wen₁ Hans __₁ geschlagen hat?
 what seem.3sg it whom H. hit have.3sg
 b. ?Wen₁ scheint es, wen Hans __₁ geschlagen hat?
 who seem.3sg it whom H. hit have.3sg

Furthermore, while copying of full phrases is rather restricted in the copy construction, the *wh*-phrases in the scope marking construction can be arbitrarily complex:

- (31) Was glaubst du, [welchen Mann] sie __₁ liebt?
 what believe.2sg you which man she love.3sg
 ‘Which man do you believe that she loves?’ *German*

Perhaps the most serious problem for the (partial) copying account is the fact, stressed in Pankau (2013), that there are cases in German where the upper copy is more complex than the lower one:

- (32) [Mit welchem Mann] glaubst du [mit wem] sie tanzt?
 with which man believe.2sg you with who.DAT she dance.3sg?
 ‘With which man do you believe she dances?’ *German*

19.4.4 Resumption

In some Germanic languages, unbounded dependencies can involve resumption (for a discussion of Hanging Topic and Contrastive Left Dislocation, which bear similarities to resumption, see Harbert 2007: 478–481). Resumptives occur in (spoken) English, but it is usually thought that they do not represent a fully grammatical phenomenon. One can distinguish two types: First, so-called intrusive pronouns occur in positions from where regular movement (leaving a gap) is not possible, i.e., they are a repair device that alleviates the violation of island / locality constraints (a *wh*-island / adjunct island in the following examples), but the result is usually not considered fully grammatical, see Chao and Sells (1983: 48):

- (33) a. This is the man that Mary couldn’t remember if she had seen him before.
 b. Which man do they think that if Mary marries him, then everyone will be happy?

A different repair device are so-called processing resumptives. They occur in positions from where movement is generally possible (and thus a gap would be expected). Their acceptability increases the further away they are from their antecedent, see, e.g., Erteschik-Shir (1992: 89):

- (34) a. This is the girl that John likes ___/*her.
 b. This is the girl that Peter said that John thinks that Bob likes ___/?her.

It should be pointed out that the claims about the ameliorating effect of intrusive pronouns and the general acceptability of processing resumptives has been called into question by various experimental work, see, e.g., Asudeh (2012: chapter 10), the contributions in Sprouse and Hornstein (2013) and McCloskey (2017) for discussion and references.

Next to these possibly extragrammatical resumptives, one does find resumptives in nonstandard English in positions from where extraction is usually unproblematic and where processing cannot be at stake (from Prince 1990):

- (35) I have a friend who she does all the platters.

While frowned upon by prescriptivists, such examples are frequent in colloquial speech. Whether they need to be distinguished from the two previous types is in fact not fully clear. For resumption in earlier stages of English, see Harbert (2007: 457).

Among the Scandinavian languages, resumptives are systematically found in Swedish, where they only occur in embedded subject position (Engdahl 1985: 8):

- (36) Vilket ord visste ingen hur *(det) stavas?
 which word knew no.one how it is.spelled
 lit.: 'Which word did no one know how it is spelled?' *Swedish*

Most Swedish examples with resumptives involve *wh*-islands; they are much rarer in declarative complements, see Engdahl (1986: 98–99). However, one cannot generally say that Swedish resumptives amnesty locality violations. In fact, the object resumptives that one can find in the literature are probably best analyzed as processing resumptives. The discussion in Asudeh (2012: 35–36) (who discusses data from Zaenen et al. 1981: 681) and Engdahl 1982: 154, 165) suggests that they are not more acceptable than gaps and Engdahl (1985: 10) shows that they do not improve locality violations. Subject resumptives have the properties of gaps in that they can occur in ATB-contexts (Zaenen et al. 1981: 681) and license parasitic gaps (Engdahl 1985: 7, 38–39):

- (37) Det var den fången som läkarna inte kunde avgöra om
 It was that prisoner that doctors.the not could decide if
 han verkligen var sjuk [utan att tala med __ personligen]
 he really was ill without to talk with in.person.
 lit.: 'This was the prisoner that the doctors couldn't determine if he
 really was ill without talking to in person.' *Swedish*

Since Swedish resumptives do not seem to have any influence on the syntax, one obvious possibility is to analyze them as the spell-out of a trace (note that

the other Scandinavian languages usually have gaps in embedded subject position). But why Swedish has resumptives in the first place is not clear. Perhaps the resumptives serve to satisfy an EPP-requirement of the embedded clause (viz., that the subject position, SpecTP, be filled). See Salzmann (2017) for detailed discussion about possible causes of resumption.

A fully productive resumption system is only found in Alemannic varieties of German and in Yiddish. In Alemannic, resumptives are found in relativization only (but not in topicalization and *wh*-movement). They have a somewhat peculiar distribution in that in local relativization they only occur in the relativization of dative objects and more oblique relations, while in long-distance relativization they occur across the board, i.e., also for subjects and direct objects, see van Riemsdijk (1989), Salzmann (2017):⁶

- (38) a. es Bild, wo niemert (*s) cha zale
 a picture C nobody (it) can.3SG pay.INF
 ‘a picture that nobody can afford’
 b. de Bueb, wo mer *(em) es Velo versproche händ
 the boy C we (he.DAT) a bike promise.PTCP have.1PL
 ‘the boy who we promised a bike’
 c. s Bild, wo t gsäit häsch, dass *(es) de
 the picture C you say.PTCP have.2SG that it the
 Peter wett verchauffe
 Peter want.3SG sell.INF
 ‘the picture that you said Peter wants to sell’ *Zurich German*

Resumption in Swiss German is island-insensitive but displays certain reconstruction effects. For a base-generation analysis that reconciles these properties, see Salzmann (2017). Long-distance relativization has been reanalyzed as an instance of resumptive prolepsis, discussed in Section 19.4.5.

Resumption is also systematic in Yiddish relative clauses. What is remarkable about Yiddish is that resumptives can (optionally) occur in subject and direct object position, even though resumptives are cross-linguistically less frequent in these positions (Prince 1990):

- (39) mentshn vos a shlang hot (zey) gebisn
 people C a snake has them bitten
 ‘people whom a snake bit’ *Yiddish*

19.4.5 Resumptive Prolepsis

German and Dutch have an alternative to long extraction where the extracted constituent is governed by a functional preposition (usually corresponding to *of*) and where the position that the fronted constituent is related to is occupied by a coreferential pronoun. This construction, termed resumptive prolepsis in Salzmann (2006, 2017), occurs with all types of

⁶ Some dialects use gaps for the relativization of datives, see Salzmann (2017: chapter 5) for details.

unbounded dependencies, although it is most frequent with relativization. This is arguably not a coincidence because long-distance relativization is ungrammatical in modern Standard German (and restricted for some speakers of Dutch, see Section 19.5). At least in relativization resumptive prolepsis can thus be considered to be fully grammaticalized:

- (40) a. Von [welchem Maler]_i glaubst du, dass Maria
 of which.DAT painter believe.2SG you that Mary
 ihn_i mag?
 him like.3SG
 ‘Of which painter do you believe that Mary likes him?’
 b. ein Maler, von [dem]_i ich glaube, dass Maria
 a painter of who.DAT I believe.1SG that Mary
 ihn_i mag
 him like.3SG
 ‘a painter of whom I believe that Mary likes him’
 c. Von [dem Maler]_i glaube ich, dass Maria ihn_i mag.
 of the.DAT painter believe.1SG I that Mary him like.3SG
 ‘Of the painter, I believe that Mary likes him.’ *German*
- (41) Kort geleden had ik deze droom waar_ivan ik denk
 Recently have.PST.1SG I this dream which.of I think.1SG
 dat hij_i belangrijk is.
 that he important be.3SG
 ‘Not long ago I had this dream of which I think that it is
 important.’ *Dutch*
 www.jancvanderheide.com/vragen-aan-jan/144-mb-te-a-kort-geleden-had-ik-deze-droom-waarvan-ik-denk-dat-hij-belangrijk-is, found on
 January 20, 2015

At first sight, one may take the proleptic constituent (the ‘of-PP’) to be an argument of the matrix verb with the pronoun establishing an anaphoric dependency. However, upon closer inspection, this simplistic view fails: The construction is compatible with a very wide range of matrix verbs, casting doubt on the argumenthood of the object. Second, a coreferential element is obligatory, which argues against a mere aboutness relationship. In Salzmann (2017), building on van Riemsdijk (2008), it is proposed that the proleptic object is licensed by predication; the coreferential pronoun is analyzed as a resumptive, and the relationship between the two crucially involves ellipsis.

19.5 Locality

In this section, I will discuss various locality-related phenomena within Germanic that have received prominent discussion in the literature.⁷

⁷ For reasons of space, I cannot address superiority effects, viz., the rigidity of the order of *wh*-phrases in multiple questions. While most Germanic languages require fronting of the subject *wh*-phrase with the object *wh*-phrase

19.5.1 Clause-Bound Unbounded Dependencies in German

One rather curious property of unbounded dependencies in German is that they are degraded for many speakers once they cross a finite clause boundary (the effect is strongest with relativization). This was noted in Andersson and Kvam (1984) and experimentally verified in Featherston (2005). It has frequently been claimed that the degradation of long A'-movement is characteristic of more Northern varieties of German, including the standard language, while there is no such restriction in Southern German varieties (Haider 1983: 97–99, Grewendorf 1988: 126). Indeed, both Fanselow and Weskott (2010) and Salzmann et al. (2013) find experimental evidence that long extraction is less acceptable in the North than in the South. It is still not quite clear whether a dialectal contrast is involved or whether the unacceptability is just a phenomenon of the standard language. What is clear is that long A'-movement is well-attested in dialects. For instance, one can find examples in traditional descriptions of the dialects of Basel, Bern, Lucerne, and Zurich, see Salzmann (2017: 259) for references. Since several of the linguists who have worked on the topic happen to come from the South and additionally are dialect speakers, what they describe as Southern varieties of German (or Southern versions of the standard language) may be heavily influenced by their native dialect. Evidence that it may be a restriction of the standard language comes from Lühr (1988: 79), who cites several sources that suggest that there was explicit prescriptive pressure in the nineteenth century in Germany against long A'-movement: It was considered “illogical” or “sloppy”. This accords nicely with the fact that long A'-movement is more productive in dialects, which are usually immune to such pressure. In line with that is the fact that long distance movement (of all three types) is well-documented for earlier stages of the language (roughly before 1850–1900). For an extensive collection of examples, see Behaghel (1928: 547ff.):

- (42) [An was]₁ verlangt ihr, dass ich __₁ glauben soll?
 at what demand.2PL you that I believe.INF should.1SG
 ‘What do you expect me to believe in?’ (Schiller)

I am not aware of similar restrictions in other Germanic languages, perhaps with the exception of certain varieties of Dutch: Although long relativization is generally possible in Dutch, there are certain indications that it may be restricted nevertheless. Many speakers accept or in fact prefer the prolepsis construction for long-distance dependencies. The situation in the dialects is particularly interesting, see Boef (2012). Some of the observed patterns could perhaps be analyzed as not involving long

remaining in-situ (in non-D-linked questions), e.g., *who said what* versus **What did who say*, German has been claimed to freely allow both orders. This asymmetry has been related to the possibility of scrambling in German: Assuming that in *wh*-movement the closest *wh*-phrase is fronted, scrambling the *wh*-object across the *wh*-subject is a strategy to make an object-initial multiple question possible. Empirical work has confirmed the characterization in the theoretical literature by and large, even though crossing movement also leads to lower acceptability ratings in German, see Häussler et al. (2015) and references cited there.

extraction. Barbiers et al. (2005) explicitly suggest that long-distance relativization is impossible in many dialects.

19.5.2 Intervention Effects – Topic- versus Wh-islands

As discussed in Section 19.4.1, extraction from complement clauses with a filled SpecCP-position is blocked in most Germanic languages. Topic islands also strongly degrade extraction in English, see Müller and Sternefeld (1993: 481), but the relativization data discussed in Section 19.3.1 suggest that this is not an absolute restriction.

In German topic islands are categorical, while *wh*-islands are more permeable, at least for topicalization, as suggested by the following contrast (Müller and Sternefeld 1993: 485):

- (43) a. *Radios₂ glaube ich [_{CP} gestern₁ hat Ede __₁ __₂ repariert].
 radios believe.1sg I yesterday has Ede repaired
 ‘Radios, I believe Ede repaired yesterday.’
 b. ??Radios₂ weiß ich nicht [_{CP} wie₁ man __₁ __₂ repariert].
 radios know.1sg I not how one repair.3sg
 ‘Radios, I don’t know how to repair.’

19.5.3 Absence of Island Effects in Mainland Scandinavian

There is a large body of literature suggesting that Mainland Scandinavian languages are peculiar from a cross-linguistic perspective in that they fail to obey the Complex Noun Phrase Constraint. Concretely, they allow extraction from relative clauses and complement clauses to nouns (but usually not from other strong islands like adjunct islands and subject islands; however, see Nyvad et al. 2017: 460f. for grammatical extraction from adverbial clauses in Danish). Corresponding examples in other Germanic languages are sharply ungrammatical, see Heinat and Wiklund (2015: 37) and references cited there for earlier work:

- (44) a. [Såna blommor]₁ känner jag [en man [som säljer __₁]].
 Such flowers know.1sg I a man that sells Swedish
 b. *[?Those flowers]₁ I know [someone [who sells __₁]].

Given that the CNPC constraint is usually considered to hold universally, the behavior of the Mainland Scandinavian languages is rather puzzling. A grammatical account of the cross-linguistic asymmetry is provided in Nyvad et al. (2017): They assume extraction from CNPC-islands in Danish to be generally grammatical and relate it to the possibility of CP-recursion; this option, which they argue is independently motivated in the language, provides an escape hatch for the filler.

Kush et al. (2013), on the other hand, argue that the acceptability of extraction from strong islands in Swedish is illusory; relative clauses that allow extraction have a different structure (a small clause structure) from those that block extraction (true relatives). According to this hypothesis, the head noun of the relative clause is reanalyzed as the subject of a PredP, while the relative complementizer *som* is identified with Pred (*Som* can indeed independently function as the head of an SC). Since small clauses do not block extraction, the acceptability of relative clause extraction is unsurprising:

- (45) [De blommorna]₁ känner jag [_{PredP} en man [_{Pred} som] säljer ____].
 those flower.PL.DEF know.1SG I a man who sells
 lit.: ‘Those flowers, I know a man who sells.’

Extraction is predicted to be blocked with verbs that cannot take such a small clause complement. According to Kush et al. (2013), this prediction is borne out with verbs like “meet” or “kiss.” However, empirical studies on Danish (Christensen and Nyvad 2014) and Swedish (Müller 2015) refute these claims: They found no difference in acceptability between extraction with verbs that are compatible with SCs and extraction with verbs that are not; furthermore, in both studies, extraction from relative clauses led to significant degradation, which contrasts with the claims in the earlier literature.

A different perspective has been to assume that extraction is indeed severely constrained even in Scandinavian languages but that there are factors that make extraction more felicitous (factors, which can also play a role in other languages). Such factors/conditions include semantic properties of the head noun of the RC, the nature of the gap inside the RC (subject versus nonsubject), the nature of the matrix subject, properties of the extracted element (referentiality) and information-structural factors. While these factors indeed make extraction from strong islands in languages like English more acceptable (but not grammatical), Heinat and Wiklund (2015) show that none of these factors is crucial in Scandinavian languages: Relative clause extractions are acceptable even if these conditions are not met; thus, extraction in MSc is indeed exceptional in their view.

In a recent acceptability study, Kush et al. (2017) found that extraction from complex noun phrases in Norwegian is just as degraded as extraction from adjunct islands and subject islands; furthermore, extraction was as degraded as in languages like English and Italian, which are generally thought to comply with the CNPC. Thus, these empirical facts suggest that Norwegian does not differ in its locality properties from the more ‘well-behaved’ languages (although the authors stress that their results do not necessarily imply that extraction from complex DPs is ungrammatical in Norwegian).

As this short summary of the literature shows, the status of the locality properties of Mainland Scandinavian unbounded dependencies remains controversial; trying to determine whether extraction is really

different in these languages will therefore constitute an intriguing topic for future research.

19.5.4 That-Trace Effects

In many languages there is a curious subject-object asymmetry in the extraction across *that*: While unproblematic for objects, it is often degraded for subjects, which is why the effect has been termed *that*-trace effect:

- (46) a. Who₁ did you say that Mary likes ___₁?
- b. *Who₁ did you say that ___₁ came?

That-trace effects seem to be found in most Germanic languages to some extent; there are subtle differences, and it is not fully clear to what extent the differences reflect deeper grammatical asymmetries; perhaps, some of the variation reported in the literature is due to the fact that the data were obtained by different methodological means.

That-trace effects in English seem undisputed even though there also seems to be some variation, see Pesetsky (2017) and references cited there. Among the Scandinavian languages, Danish, Faroese, Swedish, and some varieties of Norwegian are claimed to display the *that*-trace effect, while Icelandic and certain (Northern) varieties of Norwegian do not (Hrafnbjargarson et al. 2010: 301). In some of the Scandinavian languages, as in English, *that*-trace effects can be voided by means of an expletive (*der* in Danish) or a subject resumptive (Swedish), see Lohndal (2009: 216f.). It generally seems difficult to relate the observed differences to independent cross-linguistic differences; Lohndal (2009) argues that the feature content of C is crucial in this respect.

For German, the existence of *that*-trace effects has long been denied, see Haider (1983), Grewendorf (1988), Müller (1995). Subject and object extraction were taken to be equally acceptable (in those varieties that permit extraction across *dass*, see above). Featherston (2005), however, provided experimental evidence for *that*-trace effects in German as well. These results were confirmed in a more detailed study by Kiziak (2010). More recently, Bayer and Salzmann (2013) have shown that *that*-trace effects are unrelated to subjecthood; they argue that the degradation always obtains when the sentence topic undergoes long movement and relate it to improper movement. Salzmann et al. (2013) go a step further and show that the degradation observed in German is unrelated to extraction, because it obtains more generally when the complementizer and the finite verb are adjacent. They propose that such structures are ruled out because of a phonological EPP that requires the specifier of a high functional head to be overtly occupied.

The status of *that*-trace effects in Dutch is rather murky. Bennis (1987: 238) argues that long extraction as such is unproblematic but that it is restricted by pragmatic constraints, which boils down to having presuppositional material in the middle field, with traces of

movement counting as well. While relativization and topicalization involve topical presupposed material, *wh*-movement (often) does not; as a consequence, the dummy pronoun *er* surfaces under long *wh*-extraction to satisfy the pragmatic constraint. The facts reported in Bennis are largely confirmed in a questionnaire study by den Dikken (2007). Boef (2012) documents subject-object asymmetries in long relativization in Dutch dialects. She argues that the form *die* that occurs in subject extraction is an agreeing complementizer akin to French *qui*, which makes extraction possible.

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