Syntactic paradigms, markedness and similative markers in comparative and relative clauses*

Julia Bacskai-Atkari

Abstract

This programmatic paper investigates a peculiar part of the complementiser system in Germanic and beyond, concentrating on the status of similative markers. In Germanic languages, it is common for complementisers like *so* (*swa*) and its reinforced version *as* (*all* + *so* 'just like') to introduce not only similative clauses, but also relative clauses, degree equatives, and comparatives. I show that the relation between these clause types can be best modelled by stipulating the existence of syntactic paradigms, the members of which are ordered according to markedness. Gaps in the paradigm appear to occur in the more marked functions. The members of this paradigm are subject to diachronic changes in the complementiser along two major lines: (i) the morphological distinction among the individual members (comparable to phonological distinctions in inflectional paradigms) and (ii) analogical changes affecting the morphological properties of the complementiser (comparable to analogical changes in pronominal systems).

Keywords

analogy, degree clauses, paradigm, relative clauses, similative clauses.

1 Introduction

One basic type of deixis is manner deixis; accordingly, we can find manner deictic elements in various languages, as illustrated for German in (1) below:

(1) **So** möchte ich mal tanzen können.
so want.1SG I once dance.INF can.INF
'I would like to be able to dance that way at some point.'

In this case, *so* is a manner deictic element that points to a certain manner available in the context.

Such manner deictic elements can grammaticalise as complementisers (cf. König 2015); these complementisers are available in two major forms. The first form is the basic form (e.g. English/German *so*). The second form is the reinforced version, such as English *as* and German *als*: this goes back to the combination *all* + *so* 'just as', in which *all* 'just' reinforced/emphasised

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similarity (see Kortmann 1997: 315–317; López-Couso & Méndez-Naya 2014: 312–314 for English, Jäger 2010 for German).

Regarding the grammaticalisation processes affecting complementisers, we can observe that the individual syntactic constructions involving a SO-complementiser partly constitute grammaticalisation paths in which analogical changes can affect the constructions across paths.

In order to account for these observations, I propose that syntactic paradigms existwhose members are ordered according to markedness.[1] This is similar to inflectional paradigms likewise ordered according to markedness: for instance, the past tense and the future tense are more marked than the present tense. In languages like English and German, there is no morphological future tense: in other words, these languages have a gap in the relevant function. Such a gap is systematic in that it occurs in the more marked slots. In this paper, I suggest that the gaps in syntactic paradigms also appear to be systematic: they occur in the more marked slots. This suggests that paradigm effects arise both for filled and for non-filled slots.[2]

The paper is organised as follows. Section 2 discusses the basic facts about the observed grammaticalisation processes, providing examples from historical data that support the relatedness of the constructions under scrutiny. Section 3 investigates paradigm effects in present-day and historical varieties of English and German, and section 4 examines the relationship between markedness and gaps from a theoretical perspective.

2 Grammaticalisation

In this section I am going to examine the question how similative elements grammaticalised into other constructions in English and German. The data presented here are informative about the relevant grammatical paths and they also provide evidence for the relatedness of the relevant constructions.

Similative complementisers regularly derive from manner deictic elements. Just like other deictic elements, manner deictic elements can appear on their own, as can be seen in (1) above and in (2) below:

(2) a. It is **so**.

1 Note that this approach differs from the one promoted by, for instance, Baunaz (2016) and Baunaz & Lander (2018), who place complementisers into paradigms according to feature syncretisms. In their approach, the paradigms primarily serve to account for syncretisms from a nanosyntactic perspective by decomposing the relevant functional elements into features. While this approach accounts for a number of similarities and differences, it fails to address a core issue that is central to the present paper, which is the existence of analogical effects also beyond members of a paradigm that actually share features.

2 Constructions corresponding to these non-filled slots can be expressed by syntactic constructions that do not contain an overt complementiser. For instance, while comparative constructions are regularly expressed by finite clauses in English and German, other languages use PPs for this function. See section 4 for discussion.

b. Es ist **so**.
it is so
'It is so.'

In these cases, once the referent of the manner deictic elements is clear from the (verbal or nonverbal) context, the element *so* does not require any specific element in the same sentence or clause.[3]

Manner deictic elements also appear in similative clauses; this is illustrated by the following examples from Middle English, (3a) showing the non-reinforced form and (3b) showing the reinforced form:

(3) a. Se sæ heo onhefð… **swa** **[swa** weall].
the sea it rises so so wall
'The sea rises like a wall.'
(*Vespesian Homilies* 90; Nevanlinna 1993: 159)
b. beoð ofdred of euch mon **alswa** **[as** þe þeof is].
be weary of each man as as the thief is
'Be wary of every man just like the thief is (wary of every man).'
(*Ancrene Wisse* 91; Nevanlinna 1993: 159)

In this case, the first SO-element (*swa* and *alswa*) is a matrix correlate, while the second SO-element (*swa* and *as*) is a complementiser introducing the similative clause. Similar patterns can also be found in Old High German:[4]

(4) a. **só** thu giloubtus [**só** si thir]
so you believed.3SG so be.SBJV you.DAT
'Let it be to [=pass onto] you as you believed.'
(*Tatian* 84, 6; Jäger 2018: 64)

3 Note that the same pattern is not available with the reinforced forms:

(i) *It is **as**.
(ii) *Es ist **als**.
it is so
'It is so.'

That is, no manner deixis with the reinforced forms: they must be coreferent with some other linguistic element. This follows from the fact that the reinforced forms developed in similative clauses in the first place, that is, they constitute a more grammaticalised form than manner deictic elements. Note that both *so* and *also* have other uses in English and German as well; however, since these are developments unrelated to the constructions examined here, I cannot discuss them in the present paper.

4 The glosses in this paper conform to the Leipzig Glossing Rules. In addition, the following abbreviations are used in the glosses: COMPR = comparative, ELA = elative case EQUAT = equative, MC = verbal mixed category.

b. **Also** uuára zenémenne íst. uuío boetius in primo libro uuás
as true to.take is how Boetius in primo libro was
incusans fortunam. únde sia philosophia dés
incusans fortunam and his philosophy of.this
ferspráh in secundo libro. rhetorica defensione. [**álso** íst
explained.3SG in secondo libro rhetorica defensiona as is
hîer in tertio libro uuára zetûonne]
here in tertio libro true to.take
'As can be seen how Boetius in the first book was cursing fate and his philosophy on this explained in the second book *Rhetorica defensione*, as can be seen in here in the third book…'
(Notker *Boethius* 181, 27–29; Jäger 2018: 73)

From similative constructions, represented in (3) and (4), grammaticalisation can proceed in two directions, namely in the direction of relative clauses (see Bacskai-Atkari to appear) and of comparative clauses (see Jäger 2018). The two grammaticalisation paths are shown below:

(5) a. similatives → equative relatives → relatives
b. similatives → degree equatives → (degree) comparatives

Equative relatives are illustrated in (6) below for Early Modern English:[5]

(6) a. Al **such** [**so** sette] ben callid contemplatif soules and
all such so set are called contemplative souls and
ravischid in loue of god
ravished in love of god
'All who set [=plant] are called contemplative souls and are delighted in the love of God.'
(*The Tree and Twelve Fruits of the Holy Ghost* 60.14; from 1534)
b. Now therefore let us make a covenant with our God to put away all the wives, and **such** [**as** are born of them], according to the counsel of my lord, and of those that tremble at the commandment of our God; and let it be done according to the law.
(*King James Bible*, Ezra 10:3; from 1611)

In these cases, the relative clause introduced by the SO-element (*so* and *as*) is syntactically attached to a matrix correlative element (*such*) in the same way as it is observed in similative/equative constructions. Equative relative clauses involving a matrix equative-like head seem to be an intermediate step to relative clauses (see Bacskai-Atkari 2020 for Early Modern English *as*).

5 Note that in equative relative clauses, the complementiser in the relative clause is a similative complementiser and not an ordinary relative complementiser. This differs from *such that* relative clauses, which contain the relative complementiser *that* (see van Riemsdijk 2003: 8–9 on these constructions in English). Since the present paper is concerned with the development of similative complementisers, *such that* relatives will not be discussed.

This setup differs from relative clauses, illustrated in (7) below for Old English and for present-day dialect speech from the Southeast of England (cf. also Ericson 1931: 8 on Old English and Herrmann 2005 on present-day regional varieties in Britain):

(7) a. Yrfan hí [**swá** hí wyrðe witan]
inherit they so they entitled know
'And let those inherit whom they know worthy.'
(*Charters* 578, 9; Bosworth & Toller 1898: 940)
b. He… was a chap [**as** got a living anyhow].
'He was a chap who got a living anyhow.'
(Anderwald 2008: 457)

As can be seen, the relative clause introduced by the SO-element (*swa* and *as*) in these cases is attached to a matrix DP (*hi* 'they' and *a chap*, respectively) and there is no matrix similative correlate.

Similar examples can also be found in German. These data will be especially relevant for the discussion in sections 3 and 4; in addition, they demonstrate the importance of the grammaticalisation paths, as they evolved independently of the English patterns.

The following example from Old Saxon shows an equative relative clause:

(8) **sulike** gesidoe [**so** he im selbo gecos]
such companions so he him self chose
'such companions that he chose for himself' ()
(*Heliand* 1280; Brandner & Bräuning 2013: 138)

The example in (9) shows a *so*-relative from Early New High German:

(9) hier das Geld [**so** ich neulich nicht habe
here the.M money so I recently not have
mitschicken können]
with.send.INF can
'Here the money that I recently could not send' (Schiller to Goethe 127; Brandner & Bräuning 2013: 132, quoting Paul 1920: 238)

In the other direction, see (5b), we can see a development from similatives to equatives to comparatives: this path follows a markedness hierarchy, whereby difference is more marked than similarity and degree comparison is more marked than non-degree comparison (see Jäger 2018; see also section 4 for the discussion of the relevant features involved).

Degree equatives are illustrated for Middle English in (10a) and for Present-Day English in (10b):

(10) a. seoþ swa swyde þ hit þriwa wylle **swa** swyðe [**swa**
cook that strong till it thrice will so swift so
wæter flæsc]
water flesh
'Cook it until it turns round as fast as water flash.'
(*Peri Didaxeon* 104; Nevanlinna 1993: 159; 11–12th centuries)
b. Mary is **as** tall [**as** Susan is].

In this case, just like in the basic similative pattern in (3), the matrix clause contains a similative/equative marker (*swa* and *as*) and the degree equative clause is introduced by another SO-element (*swa* and *as*). However, unlike in (3), the interpretation involves degree since a gradable predicate is also present in the construction (see section 4 for details).

Historically, English also has examples for comparatives with *as*, illustrated by the following example from Middle English:

(11) Also this erbe haviþ mo vertues [**as** endyue haþe]
also this herb has more virtues as endive has
'This herb also has more virtue than endive has'
(J. Lelamour tr. Macer Herbal f. 67v, ca. 1400; Jäger 2016: 301)

The same configurations are also attested in German. Equatives are illustrated in (12) for Middle High German below:

(12) a. wart aber ie **sô** werder man geborn […] [**sô** von
was.3SG but ever so noble.M man born as from
Norwege Gâwân]
Norway Gawain
'But was there ever born a man as noble as Gawain from Norway?'
(Wolfram von Eschenbach *Parzival* 651, 8ff; between 1200 and 1210; Eggs 2006: 22–23)
b. dochn was dâ nieman **alsô** vrô [**alsô** mîn her]
but was.3SG there noone so glad as my lord
Gawein]
Gawain
'but noone was as glad there as my Lord Gawain'
(Hartmann von Aue *Iwein* 2618f; ca. 1200; Eggs 2006: 22)

Comparatives in German are illustrated in (13) below:

(13) Maria ist größer [**als** Peter].
Mary is taller as Peter
'Mary is taller than Peter.'

Importantly, both directions of changes represent grammaticalisation, as the original manner deictic and similative meaning is bleached (cf. Jäger 2018: 429, citing Behaghel 1927: 205 on equative and comparative complementisers). This, in line

with basic assumptions of minimalist feature theory (following Chomsky 1995), goes together with the loss of features, in the sense that (purely) semantic features are reinterpreted as formal features (see Longobardi 2001; Roberts & Roussou 2003; van Gelderen 2004, 2008, 2009, 2011).[6]

In principle, then, all of the constructions discussed in this section can have the same similative-based complementiser as a marker. This is shown in Table 1:[7]

Construction	Marker
relative	SO
equative relative	SO
similative	SO
equative	SO
comparative	SO

Table 1: The availability of SO-complementisers

Given that the various constructions involve different feature specifications on the individual complementisers, as required by the type of the clause (see section 4 for details), the situation in Table 1 represents syncretism. That is, the various instantiations of the SO-complementiser are associated with different abstract feature bundles, while they are morphologically identical. This setup is essentially identical to morphological paradigms showing syncretism: the question is how the use of other complementisers in the above constructions can be integrated into the kind of paradigm given in Table 1.

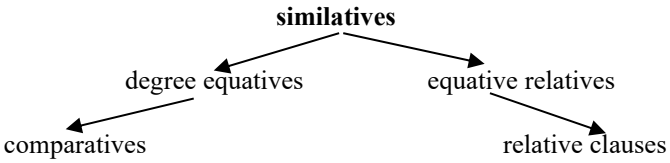
3 Paradigm effects

In general, grammaticalisation processes appear to be unidirectional: for instance, the complementiser can be taken over from equatives to comparatives but not vice versa (see Jäger 2018). This suggests the following pattern:

6 In the given case, manner deixis is lost. As will be shown in section 4, the main features involved in comparison constructions are pure grammatical features such as [+deg] for degree and [+ineq] for inequality.

7 Throughout this article, I will use tables of the form given in Table 1 to illustrate paradigm effects. Note that there is only one column as the corresponding feature matrices (see section 4) do not produce any combination of the relevant features. This is, however, not unique to the syntactic paradigm proposed here: while inflectional paradigms containing only finite forms suggest that person and number can be productively crossed (making two filled columns in a paradigm, or four, if tense is also included), taking non-finite forms into consideration also leads to representational problems in languages like English and German, in which non-finite forms are not inflected for person and number. In Minimalist Morphology, this is one reason for working with feature inheritance trees rather than classical paradigm tables (see section 4).

(14)



As indicated, similatives constitute the starting point. From this point, grammaticalisation can take two different paths (both of which are essentially unidirectional), as indicated by the arrows: (i) to comparative constructions and (ii) to relative clauses.

There are apparently no changes affecting all these constructions as a single chain,[8] so a hypothetical chain such as (15) is not attested (I have merged equative relative clauses and ordinary relative clauses, as the distinction does not matter here):

(15) *comparatives → degree equatives → **similatives** → relative clauses

These observations may in principle lead to certain expectations, namely (i) that the two chains are unrelated, and (ii) that grammaticalisation has no reverse effect, that is, a more grammaticalised complementiser has no effect on the less grammaticalised ones. Nevertheless, the syntactic similarities among all these constructions still hold (cf. Haspelmath & Buchholz 1998, Brandner & Bräuning 2013, Bacskai-Atkari 2018b). In this paper, I will show that the expectations (i) and (ii) are not borne out.

I suggest that the relatedness of these structures is systematic, such that these constructions constitute a syntactic paradigm: they are not simply etymologically related but are systematically ordered in the lexicon along the lines of feature content. The members of this paradigm are subject to diachronic changes in the complementiser along two major lines.[9] On the one hand, we can observe morphological distinction among the individual members, which is comparable to phonological distinctions in inflectional paradigms. On the other hand, there are analogical changes affecting the morphological properties of the complementiser (comparable to analogical changes in pronominal systems, e.g. the change from *h*-pronouns to *th*-pronouns in 3PL in Middle English). In this development, we can see the importance of the unmarked function (the nominative) as the slot leading the change; in addition, there are clear paradigm effects, as the more marked functions show changes that point in the direction of paradigm uniformity.[10]

8 For German, for instance, neither Brander & Bräuning (2013) nor Jäger (2918) identify paths other than ones starting from similatives. I have not found indications of paths such as (15) in the typological literature, either (Haspelmath & Buchholz 1998; Stolz 2013).

9 Note that this also holds for inflectional paradigms in morphology.

10 In Old English, not only the 3PL forms (nominative/accusative *hi*/*hie*, dative *him*, genitive *hira*/*hiera*) but also the 3SG form were *h*-pronouns (see van Gelderen 2014: 61). The *th*-pronouns are the result of contact with Old Norse and they spread from the North southwards, whereby the nominative pronoun led the change. In Middle English, this resulted in asymmetries: while *th*-pronouns were prevalent in the North, *h*-pronouns were preserved in the South, and the Midlands dialects had a

The morphological distinctions in the complementisers can be well observed in Standard English, as shown in Table 2:

Construction	Marker
relative	*that*
similative	*like*
equative	*as*
comparative	*than*

Table 2: Morphological distinctions in Standard English

Notice that historically and dialectally, the distinctions may differ, as should also be evident from section 2, where it was shown that SO-complementisers are attested in all of these constructions. The point is that despite the possibility of having a uniform complementiser in all of these constructions (see Table 1), Standard English evolved a system in which morphological distinctions are maximal. Such morphological distinctions in syntactic paradigms are similar to phonological distinctions in morphological paradigms.[11]

Regarding German, we can observe that changes from the *d*-series (which includes the deictic-based element *so*) to the *w*-series also induce differentiations (see Jäger 2018). This is a clear case of morphological differentiation.

Let us start with the Old High German setup, illustrated in Table 3 (see Jäger 2018: 364 for comparison constructions):[12]

Construction	Marker
relative	*so*
similative	*so*
equative	*so*
comparative	*danne*

Table 3: Morphological distinctions in Old High German

As can be seen, the comparative slot is morphologically distinct from the other ones. Regarding the relative slot, it should be mentioned that distinction was actually possible here, as Old High German also had relative clauses with the complementiser *þe*.[13] In addition, *d*-pronouns were already possible at this stage (see,

split between the *th*-form in the nominative case and the *h*-form in the accusative and genitive cases; the entire process was largely completed by 1500, though (see Busse 2017 for discussion).

11 One might argue that the two, that is, phonological distinctions in morphological paradigms and morphological distinctions in syntactic paradigms, are actually the same. In my view, such a stance is not straightforward in a modular view of grammar and the similarities are primarily due to the overarching principles of paradigmacity and analogy rather than the two kinds of paradigms being one and the same in nature.

12 This setup is identical to the one found in Scandinavian languages: the relative/similative/equative complementiser is *som* in Mainland Scandinavian and *sem* in Icelandic (see Thráinsson 1980, 2007; Jónsson 2017 on relative *sem*), and the comparative complementiser is *än* in Swedish, *end* in Danish, *enn* in Norwegian and *en* in Icelandic.

13 In fact, this was the most widespread strategy, see Axel-Tober (2017: 46); the same applies to Old English, see Ringe & Taylor (2014: 467). This also means that there is some degree of optionality regarding the complementisers that can be inserted in a given slot. This is actually expected, since

for instance, Coniglio 2019). The situation was largely the same in Middle High German and in the first half of Early New High German (15th century). Note, however, that there was partial morphological distinction in that the dominant form of the SO-complementiser was the reinforced form *also* in similatives in Middle High German and *als* in similatives and degree equatives in Early New High German (Jäger 2018: 61–91, 167–211, 364).[14]

The system changes significantly in the second half of Early New High German (16th century), as shown in Table 4 (see Jäger 2018: 364 for comparison constructions):

Construction	**Marker**
relative	*so*
similative	*wie*
equative	*als*
comparative	*denn*

Table 4: Morphological distinctions in 16th-century High German

This system shows maximal morphological distinctions, just like the Standard English one, see Table 2 above. As shown by the extensive data considered by Jäger (2918), the innovation in the system starts in the similative slot (which is the unmarked one, see section 4).[15]

The introduction of the *w*-based complementiser in the similative function causes a shift in the system; in the first part of New High German (17th and 18th centuries), the complementiser *als* was extended from degree equatives to comparatives, as shown in Table 5 (see Jäger 2018: 364):

Construction	**Marker**
relative	*so*
similative	*wie*
equative	*als*
comparative	*als*

Table 5: Morphological distinctions in 17–18th-century High German

complementiser change, just as any change, does not take place abruptly (assuming the general principle that language change is gradual, see Traugott & Trousdale 2010). This means that there may be variation in a single grammar and, in addition, there is also variation attested among speakers in the same period. Note that the same applies to variation in morphological paradigms: for instance, the English verb *bid* has two possible irregular past tense forms, namely *bid* and *bade*. Variation regarding past tense and participial forms (also alternating with the standard counterparts) is widely attested across varieties of English (see e.g. Anderwald 2008 on dialects spoken in the Southeast of England, Wagner 2008 on dialects spoken in the Southwest of England, Miller 2008 on Scottish English, Melchers 2008 on dialects spoken in Orkney and the Shetland).

14 This development is expected under the present approach as innovations start in the unmarked similative slot.

15 This is in line with the general tendency for elements to undergo changes that can be considered as grammaticalisation, accompanied by the loss of lexical features and semantic bleaching (cf. Willis, Lucas & Breitbarth 2013 and Chatzopoulou 2015 for an analysis of the Jespersen cycle).

The degree equative and comparative functions are thus syncretic.[16] As stated above, the introduction of the *w*-based element *wie* leads to a differentiation in the system that was not there before, see Table 3 and Table 4.

At the same time, the development of German comparative complementisers also shows further changes: *wie* was extended to equatives (and in South German later also to comparatives). Jäger (2010, 2018) refers to these successive changes as the 'comparative cycle', meaning that the borrowing of a complementiser from similatives to equatives and then from equatives to comparatives can repeatedly happen in essentially the same fashion.

The resulting setup in South German is illustrated in Table 6 (see Jäger 2018: 364 for comparison constructions and Brandner & Bräuning 2013 for relative clauses):

Construction	**Marker**
relative	*wo*
similative	*wie*
equative	*wie*
comparative	*als*

Table 6: Morphological distinctions in 19th-century South German

As can be seen, the introduction of the complementiser *wie* in similatives affected the system in a predictable cyclic way, in that the same complementiser was extended to degree equatives. Note that the setup in Table 6 differs from Standard German only in that the relative function contains a gap in Standard German, as that variety has no relative complementisers (see the discussion in section 4).

A later development in South German concerns the extension of *wie* to comparison constructions (see Jäger 2018: 364), leading to the following pattern:

Construction	**Marker**
relative	*wo*
similative	*wie*
equative	
comparative	

Table 7: Morphological distinctions in South German

In this case, both members of the paradigm are *wh*-based: there is no gap in the relative slot and the similative, equative, and comparative slots are syncretic.

Importantly, these changes are not only cyclic but also analogical; by comparing Table 5 and Table 6, it is evident that there is also a difference affecting the relative complementiser. In South German, the change from *als* to *wie* in comparison constructions in the 19th century (first in equatives, later in comparatives proper) is accompanied by the change from relative *so* to *wo* (Brandner & Bräuning 2013: 133).

16 These are also more marked functions than the similative one; see section 4.

Note that *wo* is not a similative element otherwise and the changes affecting relatives cannot be a push chain here either, as there was no *wo* in similatives to be "pushed" into relative constructions.[17] That is, the analogical change from the *d*-series to the *w*-series affects the whole paradigm: the introduction of the *w*-elements was triggered simultaneously in both directions.

Importantly, paradigmatic change differs from simple analogical extension. This can be seen clearly if we compare the above mechanisms to what happened in hypothetical comparatives in German. These constructions also took over the new similative complementisers (e.g. the combination *wie wenn* 'how if') but this is additive, as the older patterns (e.g. *als wenn* 'as if', *als o*b 'as if') remain in the language (see Jäger 2010, 2018; Bacskai-Atkari 2018a on the changes).

In other words, syntactic paradigms relating to functional elements are not only results of changes but they also contribute to the way changes happen.

4 Markedness and gaps

In Minimalist Morphology, it is assumed that the members of inflectional paradigms are ordered according to markedness (see Wunderlich & Fabri 1995; Wunderlich 1996, 1997, 2004; Blevins 2000). Regarding feature values, only positive values are allowed in the paradigm in this model: the more positive values, the more marked the given element is. For instance, the past tense is more marked than the present tense, as it bears the feature value: [+Pst], while the present tense has no corresponding (negative) feature value in the paradigm: in other words, it is underspecified for this feature. Systematic gaps in inflectional paradigms occur in the more marked slots; for instance, the future tense is more marked than present tense, and in languages like English, there is no morphological future tense.

Regarding the similative-based syntactic paradigm sketched out in section 3, we can establish that the unmarked pattern is the similative, as this serves as the source construction for the other pattern. In other words, grammaticalisation takes place from the unmarked value to the marked values. One of these processes is

17 The element *wo* in German is attested as an adverbial *wh*-element meaning 'where' otherwise. Brandner & Bräuning (2013: 139–141) show that the relative complementiser *wo* is unlikely to have been reanalysed from this adverbial element (contrary to e.g. Fiorentino 2007: 278 and Bidese, Padovan & Tomaselli 2012). While extending locative markers to temporal markers is typologically common (Hopper & Traugott 1993), extending them to other relativised functions is less straightforward and cannot be sufficiently supported by the historical data in South German. At the same time, Brandner & Bräuning (2013: 141–146) argue that the split R-pronoun construction is even more unlikely as a source construction (contrary to some traditional analyses such as Staedele 1927 and Paul 1920: 227), and the same applies to free relatives as a source. As for the relatedness of relative clauses and comparison constructions (degree and non-degree), Brandner & Bräuning (2013: 147–150) suggest a common underlying coordinative base in the semantics. However, postulating coordination for these otherwise clearly subordinating structures (as also evidenced by the verb-final order in German) is problematic (see Bacskai-Atkari 2018b: 65–70 on comparatives, contrary to Lechner 2004; Jäger 2018) and it does not take the differences between non-degree comparison (similatives) and degree comparison into account.

the "similative → equative → comparative" chain, termed the "comparative cycle"' by Jäger (2010, 2018). The other process is the "similative → relative" chain (contrary to Haspelmath & Buchholz 1998). Let us discuss how the given constructions differ in terms of markedness.

In similative constructions, no matrix (lexical) head is needed, as can be seen in the following examples:

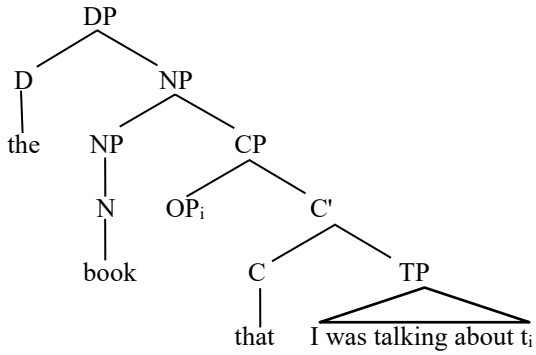
(16) a. Es ist **wie** es ist.
it is how it is
'It is as it is.'
b. Mary is **like** you.
c. It feels **like** you haven't done enough.

All other constructions obligatorily contain a matrix lexical head: an NP in headed relative clauses[18] (and a matrix SO-element in equative relatives), and a gradable predicate (AP or NP) in degree equatives and comparatives. This is illustrated in (17) below:

(17) a. This is the **book** that I was talking about.
b. This book is as **boring** as the other one.
c. This book is more **boring** than the other one.

In relative clauses, a nominal head necessary (e.g. book in (17a) above);[19] I will refer to this property as [+rel] for short. The corresponding structure (using the example in (17a) above) is shown in (18):

(18)



18 The NP to which the relative clause is attached is commonly referred to as the matrix lexical head of the relative clause. Traditionally, relative clauses are treated as adjuncts; This view has been challenged by various authors, such as Platzack (2000) and, Cecchetto & Donati (2015), who treat relative clauses as complements of N. As discussed by Salzmann (2017: 46–55), both views raise some problems and there seems to be no compelling evidence for either of them. I will treat relative clauses as NP-adjuncts in the representation in (18) below but nothing crucial hinges on this.

19 As mentioned above, a similative head (e.g. *such*) is sufficient in equative relatives.

The relative clause headed by the complementiser *that* is adjoined to the matrix NP here[20] and the relative operator (corresponding to the gap in the relative clause, indicated here by the trace) is co-referent with this head noun.[21] This layer (the DP and the NP) adds syntactic complexity; in other words, the complexity of syntactic structure is in line with the feature complexity.

In degree equatives and in comparatives, the degree property [+deg] is relevant: degree comparison is more marked than non-degree comparison, i.e. similatives (Jäger 2018). Apart from the features discussed here, this particular markedness hierarchy is motivated by the relative frequencies of these constructions and also by language acquisition data.[22] For the degree interpretation to arise, both a gradable predicate and a degree head need to be present (Bacskai-Atkari 2019). This is illustrated in (19):

(19) a. Mary is **as tall** as Susan is.
b. Mary is **taller** than Susan is.

The corresponding structure is shown in (20) for degree equatives (Bacskai-Atkari 2019: 104); the analysis carries over to comparatives as well:[23]

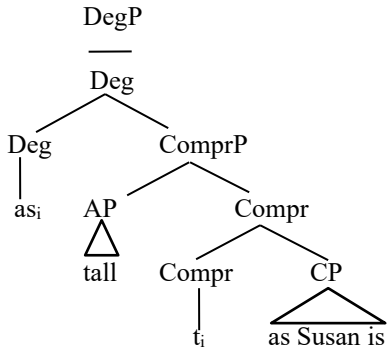
20 This analysis (often referred to as the standard theory, de Vries 2002: 70), goes back to Ross (1967); the representation in (18) differs in that a DP layer is added (see also Salzmann 2017: 41), assuming the DP-hypothesis for nominal expressions (Abney 1987). There are also views according to which restrictive relative clauses should rather be treated as a complement (either of N or of D); see de Vries (2002: 70–76) and Salzmann (2017: 40–55) for discussion. For the purposes of the present paper, these differences do not matter, as the presence of the head noun is crucial in all cases, which is the decisive point here.

21 I assume a matching analysis rather than a head raising analysis; see the recent study of Salzmann (2017: 55–179) on arguments in favour of the matching analysis, and see also Lees (1960, 1961); Chomsky (1965); Sauerland (1998, 2003). Note, however, that nothing crucial hinges on this for the purposes of the present paper, as what matters is the presence of the matrix NP, so that in principle the head raising analysis and the head external analysis are also compatible.

22 As pointed out by Jäger (2018: 433–435), citing Hahnemann (1999), Zeilfelder (2001: 474) and Friedli (2012: 260), similatives are more frequent than degree equatives, and degree equatives are more frequent than comparatives. This correlates with the general assumption that less marked structures are more frequent. Further, data from language acquisition also indicate that markedness works this way, as the more marked constructions are acquired later (Hohaus, Tiemann & Beck 2014: 240, see also the discussion in Jäger 2018: 433). The observation that similarity is a basic concept is also grounded in cognitive factors, see Quine (1969: 116) and Tversky (1977: 327). I am not aware of similar investigations regarding differences in the frequencies and in the acqusition of similative and relative clauses.

23 In analytic comparatives (e.g. *more intelligent*), *more* behaves similarly to *as* (note, though, that *more* is morphologically complex, consisting of the degree suffix *-er* and the element *much*, which is either reflected in the syntax as well, see Bresnan 1973: 277; Bacskai-Atkari 2018b: 36, or not, as in Corver 1997: 122–123; Lechner 2004: 23). For morphological comparatives (e.g, *taller*), the adjective carries the comparative morpheme: in the early insertion approach of Minimalist Morphology, it can be assumed that the comparative form is inserted directly from the morphological paradigm and the Deg head is spelt out as zero. In a late insertion approach (as in Distributed Morphology), postsyntactic morphological operations (in the Morphological Module) can ensure that the distinct nodes are merged morphologically.

(20)



The equative CP is an argument of the head *as*: this element is base-generated as a comparative head and moves up to Deg, where degree is encoded; the second argument of *as* is the gradable predicate AP (see also Lechner 2004: 22–25 and Bacskai-Atkari 2018: 36–43 for discussion). In order for the degree interpretation to arise, both the gradable predicate and the degree head are necessary (see Bacskai-Atkari 2019 for details). Again, just as with relative clauses, the additional syntactic layers reflect the underlying feature complexity.

Finally, comparatives are more marked than equatives: inequality/difference is more marked than equality/similarity (Jäger 2018; see also Bacskai-Atkari 2016). In other words, there is an additional property [+ineq] in comparatives.

Recall that Standard English has maximally distinct elements in the paradigm. This was illustrated in Table 2 by ordering a given complementiser to a specific construction; in this way, we can adequately describe the observed surface patterns. In more formal terms, the constructions actually correspond to certain feature bundles on the complementiser, as required by principles of clause typing. This is illustrated in Table 8:[24]

Construction		**Marker**
relative	$C_{[+rel]}$	*that*$_{[+rel]}$
similative	C	*like*
equative	$C_{[+deg]}$	*as*$_{[+deg]}$
comparative	$C_{[+deg],[+ineq]}$	*than*$_{[+deg],[+ineq]}$

Table 8: Morphological distinctions and features in Standard English

Note that Table 8 contains only the features immediately relevant here; for instance, as finiteness is not a distinctive feature among these clause types, it is not indicated, nor is the purely semantic feature similative on the similative complementiser (since it is not a formal feature).[25] Otherwise, the feature bundles have

[24] The same setup applies to 16th-century High German (see Table 4).

[25] I adopt standard minimalist assumptions regarding formal features, going back to Chomsky (1995); see also Zeijlstra (2014). According to this, the kind of features that can participate in morphosyntactic operations are called formal features: this set of features intersects with semantic features. Interpretable formal features are in the intersection; uninterpretable features are pure formal

an exactly matching lexical counterpart, as determined by the paradigm. The insertion into the syntax is constrained by the features on the lexical items: given the presence of a feature on a certain item, it can only be inserted into a C node if that C node is also equipped with that feature. On the other hand, inserting items from the paradigm functions in such a way that the maximally specified element is inserted: for instance, while *like* is maximally underspecified in the paradigm, it cannot be inserted in any slot other than the similative one, since there are more specified paradigm members.

Regarding differentiations in the paradigm, there appear to be two kinds. On the one hand, we can find systematic differentiations: these start from the unmarked member (similatives).[26] They can potentially lead to reanalysis processes, as is the case for German *wie*, which was extended to other functions, but this is by no means necessary, as for (Standard) English *like*. On the other hand, there are system-external differentiations: these are innovations in the marked cases that do not lead to reanalysis. For instance, the non-similative-based English complementisers *that* and *than* are part of the paradigm, yet they do not induce changes in the less marked functions.

We saw in section 3 that the Old High German pattern was largely syncretic (see Table 3); this is illustrated in Table 9:

Construction		**Marker**
relative	$C_{[+rel]}$	*so*
similative	C	
equative	$C_{[+deg]}$	
comparative	$C_{[+deg],[+ineq]}$	*danne*$_{[+deg],[+ineq]}$

Table 9: Morphological distinctions and features in Old High German

In this case, the relative, similative and equative slots are identical, while the comparative slot has its own marker. As is evident from the history of German, the complementiser *danne* was not extended to the other functions. The complementiser *so* is underspecified for the features [+rel] and [+deg], but as there is no more specified element available in the paradigm, the underspecified value is inserted (in line with the general properties of underspecification in Minimalist Morphology, as summarised at the beginning of this section).[27]

features (they cannot be interpreted at LF) and need to be checked off (or, in more recent terms, valued); this can be done via a matching interpretable feature. Purely semantic features do not participate in morphosyntactic operations.

26 As discussed above, this is because similatives contain a semantic feature that is lost; in other words, the similative meaning is bleached. Changes the other way round would imply degrammaticalisation, which is not common in diachronic processes (see Norde 2019).

27 Note that underspecification is not even unique to Minimalist Morphology but it is also a crucial notion in Distributive Morphology, where it refers to a principle according to which the inserted Vocabulary Items (the phonological expressions of abstract words) are not necessarily fully specified for the particular syntactic positions where they are inserted (see McGinnis-Archibald 2016: 401–405 for a summary; see Halle & Marantz 1994; Harley & Noyer 1999). This is a basic property of Late Insertion and it does not go against inclusiveness (Chomsky 1995: 225).

Rather than extending *danne* to other functions, innovation in the history of German started in the similative slot with *wie* (see section 3). In 17–18th-century High German (see Table 5), we can observe syncretism in the degree slots. This is illustrated with features in Table 10:

Construction		**Marker**
relative	$C_{[+rel]}$	*so*$_{[+rel]}$
similative	C	*wie*
equative	$C_{[+deg]}$	*als*$_{[+deg]}$
comparative	$C_{[+deg],[+ineq]}$	

Table 10: Morphological distinctions and features in 17–18th-century High German

In this case, the only syncretic form in the paradigm is not the unmarked form; however, regarding the equative and comparative slots, the complementiser *als* was extended from the more unmarked function, specified only as [+deg], and the original comparative complementiser was lost. Compared to Table 9, where *so* was the unmarked form, the setup in Table 10 also implies that *so/als* has acquired features, making it more specific.

The system shifted in 19th-century South German with the extension of *wie* to equatives and with the change from *so* to *wo* in relative clauses (se Table 6), as illustrated in Table 11:

Construction		**Marker**
relative	$C_{[+rel]}$	*wo*$_{[+rel]}$
similative	C	*wie*
equative	$C_{[+deg]}$	
comparative	$C_{[+deg],[+ineq]}$	*als*$_{[+deg],[+ineq]}$

Table 11: Morphological distinctions and features in 19th-century South German

In this setup, the syncretic form is again the unmarked form, similarly to Old High German (Table 9). By extending the similative complementiser to the equative function, the complementiser *als* automatically became associated with the most marked function and came to be specified accordingly.

This differs from the present-day South German pattern, in which *wie* has been extended to the comparative function as well (Table 7). The feature distribution can be modelled as given in Table 12:

Construction		**Marker**
relative	$C_{[+rel]}$	*wo*$_{[+rel]}$
similative	C	*wie*
equative	$C_{[+deg]}$	
comparative	$C_{[+deg],[+ineq]}$	

Table 12: Morphological distinctions and features in South German

In this case, the setup is the exact reverse of the Old High German one (Table 9), in that the relative complementiser is different, while the similative, equative and comparative functions are syncretic.

The markedness relations in the paradigm make certain predictions that follow from general principles regarding paradigm formation. First, gaps are expected to arise in the most marked slots, that is, in relative and comparative clauses.[28] Second, languages that lack more unmarked members should also lack the more marked members, but this should not hold the other way round.[29] These predictions are borne out.

Regarding gaps in the complementiser paradigm, gaps in Germanic do indeed arise in the more marked slots. Relative clauses can not only be introduced by a complementiser but also by relative pronouns: these are demonstrative-based (as in German) or interrogative-based (as in English).[30] In English, the availability of the complementiser *that* in addition to the pronoun does not lead to a gap in the paradigm; in Standard German, however, it does, as shown in Table 13:

Construction	**Marker**
relative	–
similative	*wie*
equative	
comparative	*als*

Table 13: Morphological distinctions in Standard German

In this case, there is a (systematic) gap in the relative function, while the other slots are filled.[31] Further, there is syncretism between the similative and equative slots, while the comparative is distinct.

Historically, genuine phrasal comparatives were possible in Germanic: these were marked by case (dative/genitive, see Jäger 2018). The same phenomenon

28 Recall that the same principle can be observed in inflectional paradigms: in English and German, there is no morphological future tense, leading to systematic gaps in the verbal paradigms. This is in line with the assumption that the future tense is more marked than the present tense.

29 Note that this is a principle underlying markedness in general. Implicational hierarchies, such as the Noun Phrase Accessibility Hierarchy (Keenan & Comrie 1977), the Agreement Hierarchy (Corbett 1979) or the Case Hierarchy (Pittner 1991), also work this way: the availability of a more marked function implies the availability of all the less marked functions, but not vice versa.

30 Regarding West Germanic, there is a strong tendency towards the complementiser strategy in non-standard varieties (except for Dutch and Frisian, see Boef 2013 and Hoekstra 2015; for English, see Romaine 1982, citing Sweet 1900; see also Montgomery & Bailey 1991; van Gelderen 2004; Tagliamonte, Smith & Lawrence 2005; Herrmann 2005; for varieties of German, see Fleischer 2004 for an overview, Brandner & Bräuning 2013 on Bodensee Alemannic, Salzmann 2017 on Zurich German, Fleischer 2016 on Hessian, Weiß 2013 on Bavarian, Kaufmann 2018 on Mennonite Low German). In Afrikaans (den Besten 2012) and Yiddish (Fleischer 2014), the complementiser strategy is standard.

31 Note that this counts as a gap precisely because the less marked complementiser is not overgeneralised to the more marked slots (unlike the Old High German setup in Table 9 above). Such overgeneralisations are a possibility but not a necessity. Constructions involving markers other than complementisers cannot be considered to be members of the same paradigm, as their syntactic behaviour differs substantially. This also applies in inflectional paradigms: analytic forms are functional alternatives to the missing gaps in an inflectional paradigm.

can also be observed in other European languages, often following the CONTRASTIVE or SEQUENCE schema (Stolz 2013). The predictions regarding gaps are thus borne out.

The same is true for the typological predictions. As mentioned above, there are languages where phrasal comparatives are possible. Estonian has not only phrasal comparatives but also phrasal equatives (note that, in addition, the language has similative-based clausal equatives and comparatives with *kui*). This is illustrated in (21):

(21) a. Minu õde on **minu** pikk**une**.
my sister is me.GEN tall.EQUAT
'My sister is as tall as me.' (Haspelmath & Buchholz 1998: 283)
b. kevad on sügis**est** ilus**am**.
spring is fall.ELA beautiful.COMPR
'The spring is more beautiful than the fall.' (Stassen 2013)

In both cases, the matrix degree marker is a suffix, and the comparative standard is expressed by a phrase: this DP is in the genitive case in equatives and in the elative case in comparatives. Typologically, patterns like (21a) are less common than (21b), as is evident from Haspelmath & Buchholz (1998) and Stassen (2013); in other words, while non-clausal equatives are possible, they are less likely to arise than non-clausal comparatives. Further, when comparing Estonian to other Uralic languages (Haspelmath & Buchholz 1998, Stassen 2013, Stolz 2013; see also Winkler 2001 on Udmurt and Hajdú 1963 on Samoyedic languages), it becomes clear that the original Uralic pattern is the phrasal one. The clausal counterparts are found in Finno-Ugric languages spoken in Europe proper (that is, Finnish, Estonian, and Hungarian), which clearly demonstrates a contact effect. In other words, the original setup in Estonian involved a gap in the paradigm in the degree comparison slots. This constitutes a case in which a gap in the less marked slot (degree equatives) implies a gap in the more marked slot (comparatives).

Regarding relative clauses, the similative base is common in European languages (but it is not exclusive, see above). In Nenets, similative clauses are possible, but relative clauses are independent: they are possessive-based rather than similative-based. This is illustrated below:

(22) a. Ne nāmi sit piruvna ŋobtarcja sjadota.
woman sibling.1SG you.GEN as same beautiful
'My sister is as beautiful as you.' (Haspelmath & Buchholz 1998: 308)
b. [xans-əm] ne:pək-e:m.
write-MC book-1SG
'the book I wrote' (Ackerman & Nikolaeva 2013: 8)

While (22a) represents an ordinary similative-based degree equative, the relative construction in (22b) is possessive-based: the ordinary 1SG possessive marker is attached to the head noun ('book').

In sum, it appears that gaps in the complementiser paradigm indeed appear in the more marked slots.

5 Conclusion

The aim of this paper was to model a similative-based syntactic paradigm (in Germanic). The baseline of the proposed model was that the observed syntactic similarities point to the relatedness of the constructions. Regarding language change, we can observe that analogical changes and differentiations among these constructions point beyond mere relatedness, as the observed phenomena can be best described via paradigmatic effects. Further, markedness in the given syntactic paradigm is similar to marked members of inflectional paradigms. These observations lead to the conclusion that the notion of paradigms should be extended to functional elements in syntax (such as complementisers) and the given syntactic objects should have a status similar to members of inflectional paradigms, in the sense of Minimalist Morphology. The predictions made by assuming a syntactic paradigm are borne out both for a single system and also typologically.

References

Abney, Steven Paul (1987): *The English Noun Phrase in its sentential aspect*. Doctoral dissertation, MIT.

Ackerman, Farrell & Irina Nikolaeva (2013): *Descriptive typology and linguistic theory: A study in the morphosyntax of relative clauses*. Stanford, CA: CSLI Publications.

Anderwald, Lieselotte (2008): The varieties of English spoken in the Southeast of England: Morphology and syntax. In Bernd Kortmann & Clive Upton (ed.), *Varieties of English 1: The British Isles*. Berlin: De Gruyter, 440–462.

Axel-Tober, Katrin (2017): The development of the declarative complementizer in German. *Language* 93.2, 29–65.

Bacskai-Atkari, Julia (2016): Towards a cross-linguistic typology of marking polarity in embedded degree clauses. *Acta Linguistica Hungarica* 63.4, 389–409.

— (2018a): Complementizers and negative polarity in German hypothetical comparatives. In Christine Dimroth & Stefan Sudhoff (eds.), *The grammatical realization of polarity: Theoretical and experimental approaches*. Amsterdam: John Benjamins, 89–108.

— (2018b): *Deletion phenomena in comparative constructions: English comparatives in a cross-linguistic perspective*. Berlin: Language Science Press.

— (2019): Towards a Fanselownian analysis of degree expressions. In Jessica M. M. Brown, Andreas Schmidt & Marta Wierzba (eds.), *Of trees and birds: A Festschrift for Gisbert Fanselow*. Potsdam: Universitätsverlag Potsdam, 95–106.

— (2020): Changes affecting relative clauses in Late Modern English. In Merja Kytö & Erik Smitterberg (eds.), *Late Modern English: Novel encounters*. Amsterdam: John Benjamins, 91–115.

— (to appear): *The syntax of functional left peripheries: Clause typing in West Germanic and beyond*. Berlin: Language Science Press.

Baunaz, Lena (2016): Deconstructing complementizers in Serbo-Croatian, Modern Greek and Bulgarian. In Christopher Hammerly & Brandon Prickett (eds.), *Proceedings of NELS 46, Volume 1*. Montreal: Concordia University, 69–77.
Baunaz, Lena & Eric Lander (2018): Deconstructing categories syncretic with the nominal complementizer. *Glossa: A journal of general linguistics* 3(1), 31.
Behaghel, Otto (1927): *Von deutscher Sprache: Aufsätze, Vorträge und Plaudereien*. Lahr: Moritz Schauenburg.
Bidese, Ermenegildo, Andrea Padovan & Alessandra Tomaselli (2012): A binary system of complementizers in Cimbrian relative clauses. *Working Papers in Scandinavian Syntax* 90, 1–21.
Blevins, James (2000): Markedness and blocking in German declensional paradigms. In Barbara Stiebels & Dieter Wunderlich (eds.), *Lexicon in focus*. Berlin: Akademie-Verlag, 83–103.
Boef, Eefje (2013): *Doubling in relative clauses: Aspects of morphosyntactic microvariation in Dutch*. Utrecht: LOT.
Bosworth, Joseph & T. Northcote Toller (eds.) (1898): *An Anglo-Saxon dictionary, based on the manuscript collections of the late Joseph Bosworth*. Oxford: Clarendon Press.
Brandner, Ellen & Iris Bräuning (2013): The particle *wo* in Alemannic: Only a complementizer? *Linguistische Berichte* 234, 131–169.
Bresnan, Joan (1973): The syntax of the comparative clause construction in English. *Linguistic Inquiry* 4.3, 275–343.
Busse, Ulrich (2017): Pronouns. In Laurel Brinton & Alexander Bergs (eds.), *The history of English 4: Early Modern English*. Berlin: Mouton de Gruyter, 209–223.
Cecchetto, Carlo & Caterina Donati (2015): *(Re)labeling*. Cambridge, MA: MIT Press.
Chatzopoulou, Katerina (2015): The Greek Jespersen's cycle: Renewal, stability and structural microelevation. In Chiara Gianollo, Agnes Jäger & Doris Penka (eds.), *Language change at the syntax-semantics interface*. Berlin: De Gruyter, 323–354.
Chomsky, Noam (1965): *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.
— (1995): *The minimalist program*. Cambridge, MA: MIT Press.
Coniglio, Marco (2019): Relative clause marking in historical German. *Linguistische Berichte* 258, 139–177.
Corbett, Greville G. (1979): The Agreement Hierarchy. *Journal of Linguistics* 15(2), 203–224.
Corver, Norbert (1997): *Much*-support as a last resort. *Linguistic Inquiry* 28.1, 119–164.
den Besten, Hans (2012): Afrikaans relative *wat* and West-Germanic relativization systems. In Tom van der Wouden (ed.), *Roots of Afrikaans: Selected writings of Hans Den Besten*. Amsterdam: John Benjamins, 41–60.
de Vries, Mark (2002): *The syntax of relativization*. Utrecht: LOT.
Eggs, Frederike (2006): *Die Grammatik von* als *und* wie. Tübingen: Narr.
Ericson, Eston Everett (1931): The use of Old English 'swa' as a pseudo-pronoun. *The Journal of English and Germanic Philology* 30.1, 6–20.
Fiorentino, Giuliana. (2007): European relative clauses and the uniqueness of the relative pronoun type. *Italian Journal of Linguistics* 19, 263–291.
Fleischer, Jürg (2004): A typology of relative clauses in German dialects. In Bernd Kortmann (ed.), *Trends in linguistics: Dialectology meets typology*. Berlin: Mouton de Gruyter, 211–243.
— (2014): Slavic influence in Eastern Yiddish syntax: The case of *vos* relative clauses. *International Journal of the Sociology of Language* 2014.226, 137–161.
— (2017): Relativsatz-Einleitung. In *SyHD-atlas*. Available at http://www.syhd.info/apps/atlas/#relativsatz-einleitung (last accessed: 29 June 2022).
Friedli, Matthias (2012): *Der Komparativanschluss im Schweizerdeutschen: Arealität, Variation und Wandel*. Dissertation, Universität Zürich.

Hahnemann, Suzan (1999): *Vergleiche im Vergleich. Zur Syntax und Semantik ausgewählter Vergleichsstrukturen mit „als“ und „wie“ im Deutschen*. Tübingen: Niemeyer.
Hajdú, Péter (1963): *The Samoyed peoples and languages*. Bloomington: Indiana University Press.
Halle, Morris & Alec Marantz (1994): Some key features of Distributed Morphology. *MIT Working Papers in Linguistics* 21, 275–288.
Harley, Heidi & Rolf Noyer (1999): Distributed morphology. *GLOT International* 4.4, 3–9.
Haspelmath, Martin & Oda Buchholz (1998): Equative and similative constructions in the languages of Europe. In Johan van der Auwera & Dónall Ó Baoill (eds.), *Adverbial constructions in the languages of Europe*. Berlin: Mouton de Gruyter, 277–334.
Herrmann, Tanja (2005): Relative clauses in English dialects of the British Isles. In Bernd Kortmann (ed.), *A comparative grammar of British English dialects 1: Agreement, gender, relative clauses*. Berlin: Mouton de Gruyter, 21–124.
Hoekstra, Eric (2015): A historical note on the (in)declinable relative pronoun and its syntactic functions. *It Beaken* 77.3–4, 165–174.
Hohaus, Vera, Sonja Tiemann & Sigrid Beck (2014): Acquisition of comparison constructions. *Language Acquisition* 21, 215–249.
Hopper, Paul J. & Elisabeth Traugott (1993): *Grammaticalization*. Cambridge: Cambridge University Press.
Jäger, Agnes (2010): Der Komparativzyklus und die Position der Vergleichspartikeln. *Linguistische Berichte* 224, 467–493.
— (2016): *Vergleichskonstruktionen im Deutschen: Diachroner Wandel und synchrone Variation*. Habilitationsschrift, Universität zu Köln.
— (2018): *Vergleichskonstruktionen im Deutschen: Diachroner Wandel und synchrone Variation*. Berlin: De Gruyter.
Jónsson, Jóhannes Gísli (2017): Why *sem* is (still) a complementizer and not a relative pronoun. In Nicholas LaCara, Keir Moulton & Anne-Michelle Tessier (eds.), *A schrift to fest Kyle Johnson*. Amherst, MA: University of Massachusetts, 169–175.
Kaufmann, Göz (2018): Relative markers in Mennonite Low German: Their forms and functions. In Augustin Speyer & Philipp Rauth (eds.), *Syntax aus Saarbrücker Sicht 2: Beiträge der SaRDiS-Tagung zur Dialektsyntax*. Stuttgart: Steiner, 109–148.
Keenan, Edward L. & Bernard Comrie (1977): Noun phrase accessibility and universal grammar. *Linguistic Inquiry* 8(1), 63–99.
König, Ekkehard (2015): Manner deixis as source of grammatical markers in Indo-European languages. In Carlotta Viti (ed.), *Perspectives on historical syntax*. Amsterdam: John Benjamins, 33–60.
Kortmann, Bernd (1997): *Adverbial subordination: A typology and history of adverbial subordinators based on European languages*. Berlin: Walter de Gruyter.
Lechner, Winfried (2004): *Ellipsis in comparatives*. Berlin: Mouton de Gruyter.
Lees, Robert B. (1960): *The grammar of English nominalizations*. The Hague: Mouton.
— (1961): The constituent structure of Noun Phrases. *American Speech* 36, 159–168.
Longobardi, Giuseppe (2001): Formal Syntax, diachronic minimalism, and etymology: The history of French *chez*. *Linguistic Inquiry* 32, 275–302.
López-Couso, María José & Belén Méndez-Naya (2014): On comparative complementizers in English: Evidence from historical corpora. In Nila Méndez-Naya Vazques (ed.), *Creation and use of historical English corpora in Spain*. Newcastle upon Tyne: Cambridge Scholars Publishing, 311–333.
McGinnis-Archibald, Martha (2016): Distributed morphology. In Andrew Hippisley & Gregory Stump (eds.), *The Cambridge handbook of morphology*. Cambridge: Cambridge University Press, 390–423.

Melchers, Gunnel (2008): English spoken in Orkney and Shetland: Morphology and syntax. In Bernd Kortmann & Clive Upton (ed.), *Varieties of English 1: The British Isles*. Berlin: De Gruyter, 285–298.
Miller, Jim (2008): Scottish English: Morphology and syntax. In Bernd Kortmann & Clive Upton (ed.), *Varieties of English 1: The British Isles*. Berlin: De Gruyter, 299–327.
Montgomery, Michael & Guy Bailey (1991): *In which*: A new form in written English. *American Speech* 66, 147–163.
Nevanlinna, Saara (1993): The structure of Middle English similes of equality. In Matti Rissanen et al. (eds.), *Early English in the computer age: Explorations through the Helsinki Corpus*. Berlin: Walter De Gruyter, 139–170.
Norde, Muriel (2009): *Degrammaticalization*. Oxford: Oxford University Press.
Paul, Hermann (1920): *Deutsche Grammatik, Band 3: Syntax*. Halle: Niemeyer.
Pittner, Karin (1991): Freie Relativsätze und die Kasushierarchie. In Elisabeth Feldbusch, Reiner Pogarell & Cornelia Weiß (eds.), *Neue Fragen der Linguistik: Akten des 25. Linguistischen Kolloquiums, Paderborn 1990. Band 1*. Tübingen: Niemeyer, 341–347.
Platzack, Christer (2000): A complement-of-N° account of restrictive and non-restrictive relatives: The case of Swedish. In Artemis Alexiadou, Paul Law, André Meinunger & Chris Wilder (eds.), *The syntax of relative clauses*. Amsterdam: John Benjamins, 265–308.
Quine, Willard van Orman (1969): *Ontological relativity and other essays*. Columbia, NY: Columbia University Press.
Ringe, Donald & Ann Taylor (2014): *The development of Old English*. Oxford: Oxford University Press.
Roberts, Ian & Anna Roussou (2003): *Syntactic change: A minimalist approach to grammaticalisation*. Cambridge: Cambridge University Press.
Ross, John Robert (1967): *Constraints on variables in syntax*. Doctoral dissertation, MIT.
Romaine, Suzanne (1982): *Socio-historical linguistics*. Cambridge: Cambridge University Press.
Salzmann, Martin (2017): *Reconstruction and resumption in indirect A'-dependencies: On the syntax of prolepsis and relativization in (Swiss) German and beyond*. Berlin: Mouton de Gruyter.
Sauerland, Uli (1998): *The meaning of chains*. Dissertation, MIT.
— (2003): Unpronounced heads in relative clauses. In Kerstin Schwabe & Susanne Winkler (eds.), *The interfaces: Deriving and interpreting omitted structures*. Amsterdam: John Benjamins, 205–226.
Staedele, Alfons (1927): *Syntax der Mundart von Stahringen, Inauguraldissertation Freiburg i. Br*. Lahr: Schauenburg.
Stassen, Leon (2013): Comparative constructions. In Matthew S. Dryer & Martin Haspelmath (eds.), *The world atlas of language structures online*, Leipzig: Max Planck Institute for Evolutionary Anthropology. Available at http://wals.info/chapter/121 (last accessed: 2 February 2016).
Stolz, Thomas (2013): *Competing comparative constructions in Europe*. Berlin: Walter de Gruyter.
Sweet, Henry (1900): *A new English grammar: Logical and historical*. Oxford: Clarendon Press.
Tagliamonte, Sali, Jennifer Smith & Helen Lawrence (2005): No taming the vernacular! Insights from the relatives in northern Britain. *Language Variation and Change* 17, 75–112.
Thráinsson, Höskuldur (1980): Tilvísunarfornöfn? *Íslenskt mál og almenn málfræði* 2, 53–96.
— (2007): *The syntax of Icelandic*. Cambridge: Cambridge University Press.
Traugott, Elizabeth Closs & Graeme Trousdale (2010): Gradience, gradualness and grammaticalization: How do they intersect? In Elizabeth Closs Traugott & Graeme Trousdale (eds.), *Gradience, gradualness and grammaticalization*. Amsterdam: John Benjamins, 19–44.

Tversky, Amos (1977): Features of similarity. *Psychological Review* 84.4, 327–352.
van Gelderen, Elly (2004): *Grammaticalization as economy*. Amsterdam: Benjamins.
— (2008): Where did Late Merge go?: Grammaticalization as feature economy. *Studia Linguistica* 62, 287–300.
— (2009): Renewal in the left periphery: Economy and the complementiser layer. *Transactions of the Philological Society* 107.2, 131–195.
— (2011): *The linguistic cycle: Language change and the language faculty*. Oxford: Oxford University Press.
— (2014): *A history of the English language*. Amsterdam: John Benjamins.
van Riemsdijk, Henk (2003): East meets west: Aboutness relatives in Swiss German. In Jan Koster & Henk van Riemsdijk (eds.), *Germania et alia: A linguistic webschrift for Hans den Besten*. Groningen: University of Groningen, 1–20.
Wagner, Susanne (2008): English dialects in the Southwest: Morphology and syntax. In Bernd Kortmann & Clive Upton (eds.), *Varieties of English 1: The British Isles*. Berlin: De Gruyter, 417–439.
Weiß, Helmut (2013): Satztyp und Dialekt. In Jörg Meibauer et al. (eds.), *Satztypen des Deutschen*. Berlin: Walter de Gruyter, 764–785.
Willis, David, Christopher Lucas & Anne Breitbarth (2013): Comparing diachronies of negation. In David Willis, Christopher Lucas & Anne Breitbarth (eds.), *The development of negation in the languages of Europe, volume 1: Case studies*. Oxford: Oxford University Press, 1–50.
Winkler, Eberhard (2001): *Udmurt*. München: Lincom Europa.
Wunderlich, Dieter (1996): Minimalist Morphology: The role of paradigms. In Geert Booij & Jaap van Marle (eds.), *Yearbook of morphology 1995*. Dordrecht: Kluwer, 93–114.
— (1997): Cause and the structure of verbs. *Linguistic Inquiry* 28, 27–68.
— (2004): Is there any need for the concept of directional syncretism? In Gereon Müller, Lutz Gunkel & Gisela Zifonun (eds.), *Explorations in nominal inflection*. Berlin: Mouton de Gruyter, 373–395.
Wunderlich, Dieter & Ray Fabri (1995): Minimalist Morphology: An approach to inflection. *Zeitschrift für Sprachwissenschaft* 14.2, 236–294.
Zeijlstra, Hedde (2014): On the uninterpretability of interpretable features. In Peter Kosta et al. (eds.), *Minimalism and beyond*. Amsterdam: John Benjamins, 109–129.
Zeilfelder, Susanne (2001): *Steigern und Vergleichen in indogermanischen Sprachen*. Habilitationsschrift, Friedrich-Schiller-Universität Jena.

Amsterdam/Potsdam Julia Bacskai-Atkari

Universität Amsterdam, Amsterdam Centre for Language and Communication, Spuistraat 134, Amsterdam. E-Mail: j.bacskaiatkari@uva.nl
Universität Potsdam, Department Linguistik, Karl-Liebknecht-Straße 24–25, Potsdam. E-Mail: julia.bacskai-atkari.1@uni-potsdam.de