

HISTORICAL SYNTAX

The development of the declarative complementizer in German

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It is standardly assumed that the German declarative *dass*-complementizer evolved from the demonstrative pronoun (Old High German *thaz*) used cataphorically. On this analysis, the source structure would be a paratactic sequence of two sentences in which *thaz* occurred in the final position of the first clause and pointed forward to the content of the second clause. Out of this structure, *thaz* developed into a subordinate conjunction/complementizer via a shift of the clause boundary (as in *Mary knows that: Peter is lying* → *Mary knows that Peter is lying*). This article takes issue with the standard assumption and puts forward an alternative account in which the declarative complementizer developed from a correlative construction (as in *Mary knows that, that Peter is lying*). The correlative construction (arguably also with an optionally silent correlative) is robustly attested in the old Germanic and old Indo-European languages. The source structure was thus not a sequence of syntactically independent clauses, but a hypotactic structure with an explicative relative clause associated with a silent correlative element in the main clause. In line with the hypothesis currently under discussion—that apparent noun-complement clauses are in fact relative clauses—it is argued that the explicative clause in the correlative structure was a relative clause, and thus the declarative complementizer developed from the relative complementizer *thaz*. The syntactic re-analyses involved in this new scenario are far less radical than in the traditional one. The new scenario is furthermore supported by crosslinguistic evidence: the development of relativizers into complementizers is a frequently attested grammaticalization path.*

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1. THE TRADITIONAL ACCOUNT. Like their English counterparts, German declarative argument clauses are introduced by a complementizer that is homophonous with the third-person singular neuter form of the demonstrative pronoun.¹

(1) Gestern hat Peter erzählt, [**dass** er heiraten wird].

yesterday has Peter reported that he marry will

‘Yesterday Peter said that he was going to marry.’

It is a widely held assumption that the German complementizer *dass* evolved from the nominative/accusative form of the neuter demonstrative pronoun. The standard scenario, which was already proposed by the Neogrammarians (e.g. Behaghel 1877, 1928:130, Paul 1920:241), not only has been taken up by many descriptively oriented studies (e.g. Müller & Frings 1959, Horacek 1964, Wunder 1965:255–56, Fleischmann 1973, Ebert 1978:26, Dorchenas 2005), but also found its way into early generative accounts (Helgander 1971:156–57, Lenerz 1984). It has become the standard assumption not only for German, but also for other West and North Germanic languages such as English (e.g. Hopper & Traugott 1993:185–89), Old Saxon (Behaghel 1928:130), and Faroese (Lockwood 1968:222–23, Heine & Kuteva 2002:107). In the grammaticalization literature it has come to serve as a prime example of the purported general tendency of hypotactic structures to develop from paratactic structures, or, from a slightly differ-

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¹ The spelling differs, however. In modern German, the demonstrative pronoun is spelled with a single <s> (= <das>) and the complementizer with a double <s>. This systematic orthographic differentiation was a relatively late development that did not gain ground until the sixteenth century (von Polenz 2000:175).

ent perspective, of sentence grammar to evolve from discourse grammar (cf. König & van der Auwera 1988, C. Lehmann 1988, Hopper & Traugott 1993:Ch. 7, and Szczepaniak 2009:Ch. 7 on various clause types). The traditional scenario was also taken up by scholars from neighboring disciplines, as the following statement by Michael Tomasello, a cognitive psychologist, shows:

Similarly, if someone expresses the belief that Mary will wed John, another person might respond with an assent, *I believe that*, followed by a repetition of the expressed belief that *Mary will wed John*—which become syntacticized into the single statement *I believe that Mary will wed John*. (Tomasello 1999:43)

However, the historical record of this purported development is not as clear-cut as is often suggested. With regard to German, it is generally agreed that the evolution of the declarative complementizer must have taken place before the earliest attestations of the language, that is, in pre-Old High German. Advocates of the traditional account generally point to the fact that in the Old High German (OHG) documents we find residues of the structures that were crucial for this diachronic development. More precisely, the critical diachronic stages are generally argued to be reflected in data of the following types.

Example 2 consists of a sequence of two syntactically independent main clauses. The first clause contains a verb taking a propositional argument, which, however, is not satisfied by a complement clause. Rather, the second clause specifies the content of the missing argument at a merely interpretive level. Such clause combinations would be separated by a colon in modern German.²

- (2) [main clause ...] [main clause ...]
 kúndtā imō, er iz wólta
 declared him he it wanted
 ‘he declared to him: he wanted it’ (Otfrid I 25.10)

In examples such as 3, which are generally held to reflect a further stage in the grammaticalization process, the pronoun *thaz* occurs at the end of the first main clause, a cataphoric demonstrative pointing forward to the content of the second clause. In this case, it is argued as well that there is no syntactic dependency between the two clauses. In contrast to examples such as 2, however, the interpretive dependency is overtly marked by the use of the cataphoric demonstrative.

- (3) [main clause ... **thaz**] [main clause ...]
 joh gízálta in sar tház, \ thiū sálida untar ín was.
 and told them at.once that the bliss among them was
 ‘and he at once told them that they were blessed’ (Otfrid II 2.8)

In most studies, examples for this stage are taken from Otfrid’s Gospel harmony. This is a poetical text with a distinctive metrical scheme, in which couplets of long lines are divided by a caesura (indicated by the slash ‘\’ in the examples). All manuscripts show the caesura, and its prominence is further highlighted by the fact that there is a rhyme at the caesura and the cadence. In 3, *thaz* occurs to the left of the caesura. This is generally taken as evidence that it is a constituent of the first clause, that is, a cataphoric pronoun, and does not belong to the second clause.

² The following notations and abbreviations are used: ‘\’: caesura, ‘|’: line break, 1/2/3: 1st/2nd/3rd person, ACC: accusative, ACT: active, AUX: auxiliary, CL: clitic, COMP: complementizer, DAT: dative, DEM: demonstrative, DPRON: d-pronoun, DU: dual, F: feminine, GEN: genitive, IND: indicative, INS: instrumental, IMPFV: imperfective, LOC: locative, M: masculine, N: neuter, NEG: negation, NOM: nominative, PFV: perfective, PL: plural, PRON: pronoun, PTCL: particle, Q: question marker, REFL: reflexive, REL: relative, SBJV: subjunctive, SG: singular, VOC: vocative.

(4) [main clause ... [sub. clause **thaz** ...]]
Drúhtin Krist irkánta, \ **thaz** er mo wár zalta,
Lord Christ realized that he him truth told
'Christ, our Lord, realized that he was telling him the truth' (Otfrid II 12.11)

1.1. EMPIRICAL SCENARIO CAVEATS. Advocates of the traditional scenario argue that these three diachronic stages in the development of the declarative complementizer are still reflected in the OHG documents (e.g. Wunder 1965:255). It should be noted, however, that the majority of Otfrid examples conform to the pattern in 4. Examples of type 3 are attested only sporadically. This is generally attributed to the fact that the process must have taken place in pre-OHG times and was already completed by the beginning of the recorded history of the language. Examples of type 3 would therefore simply constitute relics of a past stage. An alternative explanation for the marginality of such examples could be that the syntactic analysis is wrong in the first place. It could just as well be the case that such examples have the same syntactic structure as the ones in 4, where the second clause is a subordinate clause and *thaz* already a subordinating conjunction. If this line of argumentation is correct, the caesura would not have been placed at the clause boundary, but within the subordinate clause. Since there are other examples in which Otfrid did not obey the constituent boundaries due to metrical pressure (cf. Axel-Tober 2012), such an analysis would not be implausible. It should also be noted that the second clause in 3 shows verb-final order (*thiu sálda untar in was*), which at least from the perspective of modern German speaks against the analysis of the second clause as a main clause. According to the traditional view, verb placement in OHG was still very flexible (e.g. Müller & Frings 1959). However, as more recent research has shown (e.g. Axel 2007, Hinterhölzl & Petrova 2010, Schlachter 2012), this is not correct. OHG already showed the major characteristics of a verb-second language. Main clauses were largely subject to V-to-C movement, while subordinate clauses were overwhelmingly verb-final. This generalization is particularly robust in the prose texts. In Otfrid, there are a considerable number of main clauses with verb-final order, but this peculiarity might be the result of the metrical scheme: because of the end rhyme Otfrid may have been forced to put the verb in final position even though this word order would not have been grammatical in nonpoetical language.

³ See Harris & Campbell 1995:Ch. 10 for a critical evaluation of the hypothesis that hypotaxis evolved from parataxis.

1.2. CONCEPTUAL CAVEATS. Besides the paucity of empirical support for the traditional scenario, there are also conceptual caveats. In the traditional scenario, a number of syntactic changes must have occurred in one swoop: the shift of the clause boundary, the downgrading of the second clause from a root clause to a complement clause, and the reanalysis of the demonstrative pronoun (DP) as a complementizer (C^0).

In a considerable number of studies, it is even argued that in the paratactic stages (without and with a cataphoric pronoun) the second sentence was an instance of direct speech (e.g. Lockwood 1968:22–23, Heine & Kuteva 2002:255; cf. also Tomasello's statement cited above). While the use of the pronoun *in* 'them' instead of *iu* 'you' rules out such an analysis for the example in 3, other OHG examples without personal pronouns have been cited in the literature that would in principle be consistent with such an analysis. This hypothesis is problematic given that the original direct-speech sentences with first or second person would have had to undergo a person shift to third person. Additionally, tense and mood shifts would have been necessary in many cases⁴ (e.g. from present indicative to past indicative or past subjunctive⁵).

The shift of the clause boundary is a very radical reanalysis: main clauses are generally marked by separate intonation phrases so that the clause boundary is clearly recognizable by hearers in speech.⁶ A root sentence is demarcated by intonation phrase boundaries and carries sentence stress (Downing 1970). As evidence from modern German and English suggests, there is a clear prosodic difference between sequences of main clauses, as in 5, and a sequence of a main and a subordinate clause, as in 6.

(5) Peter sagte **das**: ‚Ich bin müde.‘ (direct quotation)

Peter said that I am tired
‘Peter said that: “I am tired”.’

(6) Peter sagte, **dass** er müde ist/sei. (subordinate *dass*-clause)

Peter said that he tired is.IND/is.SBJV
‘Peter said that he was tired.’

As pointed out by Downing (1970:88–98) for English, direct quotations following the ‘matrix’ clause behave syntactically and prosodically like separate root clauses; Truckenbrodt (2015, 2016) shows that in sequences of German root clauses the first clause is an intonation phrase and the second one constitutes a separate intonation phrase, provided that it is not contextually given.

To sum up, the literature on German and English clearly predicts that there would be an intonation phrase boundary after the demonstrative *das* in cases like 5, while there would be no such boundary after the complementizer *dass* in cases like 6.⁷ Nor would there be an obligatory intonation phrase boundary before *dass* in cases like 6 (cf. Down-

⁴ In order to avoid the problem of person, tense, and mood shifts one could argue that the second clause was not an instance of direct speech, but of free indirect discourse (cf. (i)). Under such an analysis, however, the second clause would still constitute a separate intonation phrase (see below).

(i) Peter sagte *das*: Er sei müde. (free indirect discourse)
Peter said that he is.SBJV tired
‘Peter said that: he was tired.’

⁵ The distribution of indicative vs. subjunctive mood in OHG argument clauses is predicate-dependent (cf. Schrodtt 1983, Petrova 2008).

⁶ I am grateful to Hubert Truckenbrodt for providing me with references of publications on the prosody of complex clauses in German and English.

⁷ The situation may be different in the case of the special type of *dass*-clause with verb-second order. See Freywald 2009 on (spoken) modern German and Freywald 2010 on historical German.

ing 1970, Selkirk 2005, 2011 on English, and Truckenbrodt 2015 on German).⁸ It is quite clear that this robust prosodic difference is acquired early by infant learners. As summarized in Wellmann et al. 2012:1, as early as six to ten months old, infants ‘are able to use the acoustic correlates of major prosodic boundaries, that is, pitch change, preboundary lengthening, and pause, for the segmentation of the continuous speech signal’, even though the weighting of these different cues ‘seems to develop with increasing exposure to the native language and to underlie crosslinguistic variation’. Since from a generative viewpoint the locus of grammatical reanalysis is language acquisition, the clause-boundary-shift scenario is thus highly implausible.

As is well known, a reanalysis of the clause boundary has also been put forward in scenarios of the development of other types of clause-introducers. For example, it has been proposed for early German and other old Germanic languages that the relative pronoun evolved from a demonstrative pronoun of the matrix clause via a shift of the clause boundary (e.g. Erdmann 1874:Vol. 1, Tomanetz 1879, Paul 1920:189, Wunder 1965:252, Dal 1966:198, Helgander 1971:136–81). Note, however, that various alternative scenarios are feasible according to which the relative pronoun originates in the emerging relative clause (cf. already Behaghel 1928:766 and, more recently, Lenerz 1984, Axel-Tober 2012). Also, as more recent research has shown, the relative pronoun is much older than traditionally assumed. Harbert (2007:436) considers it plausible that this phenomenon is of Proto-Germanic origin and sees ‘no evidence for the “growth” of relative pronouns within [Germanic] proper’.⁹

Outside of Germanic, a classic clause-boundary-shift scenario involves the grammaticalization of complementizers from verbs of saying. Klammer (2000), for example, argues that the complementizers *kua* and *fen* in the Austronesian languages *Tukang Besi* and *Buru* developed from full lexical quotative verbs. The crucial step in this V-to-C grammaticalization is the loss of argument structure of the report verb, a process that has been made possible by the fact that both languages allow discourse-identified null subjects. Besides subject drop, the V-to-C grammaticalization in *Tukang Besi* and *Buru* is accompanied by further characteristics, such as the possibility of juxtaposition for clause combining, the intransitivity of the quotative verb, the lack of a morphosyntactic distinction between direct and indirect speech, and so forth (cf. also Roberts & Roussou 2003:124). The latter characteristic in particular suggests that the preconditions for the purported reanalysis of the clause boundary are entirely different from those that must have pertained in (pre-)OHG (and in the other early Germanic languages), where, as mentioned above, indirect speech was marked by specific morphosyntactic features such as subjunctive mood and shifts in person and tense. Furthermore, Roberts and Roussou (2003:122–27), who put forward a number of counterarguments against Klammer’s (2000) diachronic account, propose an analysis that crucially hinges on the fact that the source structure in the reanalysis is a serial verb construction, which they analyze as having a single T head and thus no CP-boundary, nor even a TP-boundary.¹⁰ We may thus conclude that the case of Germanic relative pronouns and the grammaticalization of complementizers from quo-

⁸ It should be noted that there are hardly any major empirical studies on the prosodic marking of clause boundaries. Truckenbrodt (2005) shows for one speaker of German that she always has an intonation phrase boundary at the right edge of the sentence or subordinate clause (but not at the left edge).

⁹ More precisely, Harbert refers not only to the phenomenon of relative pronouns based on the demonstrative paradigm in early Germanic, but also to the fact that relative pronouns were followed (optionally or obligatorily) by complementizers. He also considers this pattern to be a common inheritance.

¹⁰ Roberts and Roussou (2003:126) justify their assumption of a single T head by the fact that serial verb constructions are generally taken to denote a single event.

tative markers do not provide undisputed independent evidence for a diachronic reanalysis of a (CP-)clause boundary.

To sum up, the traditional scenario for the grammaticalization of the complementizer *dass* is faced with some serious empirical and conceptual problems.

In the following, I present a novel scenario that circumvents some of the counterarguments against the traditional scenario. Crucially, I argue that the correlative construction, as in *Mary knows that, that Peter is lying*, is the critical source construction in the development of complement clauses introduced by *that*-type complementizers and that this construction should be analyzed as a relative construction.

The article is structured as follows. I first summarize some research on the correlative/explicative construction in former stages of some Indo-European languages and in early Germanic, and I discuss its properties in modern and historical German (§2). Section 3 deals with the complementation construction in modern and historical German. In §4, I investigate the internal syntax of the explicative clause and provide evidence that *thaz* was a relativizer in this construction. Finally, I propose in §5 that the complementation construction evolved from the correlative construction with a silent correlative, via syntactic reanalysis; and §6 concludes.

2. THE CORRELATIVE/EXPLICATIVE CONSTRUCTION. In OHG as well as in many other early and modern Germanic languages, examples of the following type are robustly attested.

- (7) a. [main clause ... **tház** [explicative clause **thaz** ...]]
 Er tháhta odowila **tház**, \ **thaz** er ther dúriwart wás,
 he thought maybe that.ACC that he the gatekeeper was
 ‘Maybe he thought that he was the gatekeeper’ (Otfrid II 4.7)
- b. soso her **thaz** inkanta **thaz** sie zuouuerte | uuarun thaz sie
 when he that realized that.ACC they prospective were that they
 fiengin inan
 caught.SBJV him
 ‘When he (= Jesus) realized that they were were about to come and
 take him by force’ (Tatian 119.8–9)
- c. **Táz** kelóubo ih chád si. **dáz** tu iz fólre chúríst.
 that believe I said she that you it before chose.SBJV
 ‘“I believe”, said she, “that you selected it”.’
 (Notker *Consolatione* 174.15–16)

Here we are dealing with a hypotactic structure where an explicative relative clause is associated with a correlative element, most frequently with the demonstrative pronoun *thaz*, in the main clause. In his extensive empirical study on complement clauses in OHG, Johnk (1979:363) suspects that the correlative construction is a ‘relic structure from an earlier period of the language’.¹¹

¹¹ As to the frequency of the correlative construction in historical German, Johnk (1979:362) counts 271 attestations in Otfrid’s Gospel harmony and points out that it is attested with every matrix verb category in Otfrid and the late OHG texts by Notker Labeo. According to Fleischmann (1973:164, n. 132), roughly 30% of *thaz*-clauses are associated with a correlative element in the superordinate clause. Even in Middle High German prose texts a correlative element is used ‘very often’ (Prell 2001:34). These figures include examples with the correlative pronouns *thaz/daz* ‘that’ and *iz/es* ‘it’. Note, however, that in historical German, the former were much more frequent than the latter, in particular with (finite) object clauses. In the extensive material listed in the *Althochdeutsches Wörterbuch* under the headword *thaz* (pp. 313–47), it can be seen that the *iz*-correlative is attested only very sporadically and not with all predicate classes, whereas the demonstrative correlative is abundantly attested with all kinds of predicate classes.

(8) a. anārambhaṇé tād avīrayethām
having.no.support.LOC.SG.M that accomplish.2DU.IND.IPFV.ACT
anāsthāné agrabhaṇé
bottomless.LOC.SG.M having.nothing.graspable.LOC.SG.M
samudré / yád ásvinā ūháthur
sea.LOC.SG.M that Áśvins.VOC.DU lead.2DU.IND.PFV.ACT
bhujyúm ástaṃ
Bhujyu.ACC.SG.M home
'you accomplished that (deed) in the sea, that has no hold, no solid bot-
tom, without handle, that you led, Áśvins, the Bhujyu home'
(Rig-Veda 1.116.5; adapted from Lühr 2008b:10, ex. 55)

b. vidúṣ te asyá vīryasya
know.3PL.IND.PFV.ACT you.GEN.SG this.GEN.SG.N deed.GEN.SG.N
pūrávaḥ / púra yád indra
Purus.NOM.PL.M castle.ACC.PL.F that Indra.VOC.SG
śáradīr avātiraḥ
autumnal.ACC.PL.F destroy.2SG.IND.IPFV.ACT
'the Purus know this deed of yours, that you, Indra, destroyed the au-
tumn castles'
(Rig-Veda 1.131.4; adapted from Lühr 2008b:10, ex. 52)

As to the analysis of such constructions, Hettrich (1988:395, 409) argues for Vedic that the class of explicative clauses is of a hybrid nature: they have semantic and syntactic properties that are typical of relative clauses, as well as semantic and syntactic properties that are typical for ‘conjunctive clauses’. As Hettrich specifies, unlike canonical relative clauses, explicative clauses do not have a gap, but are fully saturated. The explicative clause is generally postposed with respect to the matrix clause, whereas canonical relative clauses in Vedic may be pre-, intra-, or postposed. Regarding the internal syntax and the status of the clause-introducing element, Hettrich observes that the subordinating element is uninflected; it is not an argument or adjunct in the explicative clause. He thus hypothesizes that ‘the conjunctive usage of the nom./acc.sg.ntr. of the relative pronoun’ goes back to Proto-Indo-European (Hettrich 1988:407). Similarly, Lühr (2008a:

¹² This construction is documented in later Vedic, but there is only one potential example attested in the R̥g-Veda (Lühr 2008a:154).

154–55) comes to the conclusion that ‘[t]he evolution of the relative pronoun “which” into the conjunction “that” must be considered part of the Proto-Indo-European language because of the many explicative clauses documented in older Indo-European languages’. Lühr’s account implies that the old Indo-European type of explicative clause is in fact a special type of relative clause. The clause-introducer—though it would generally be translated by *dass* or *that* in modern German or English—is thus not yet equivalent to the modern type of *that*-complementizer, but is rather a relativizer. It is not yet a complementizer in the literal sense of the term since the clauses introduced by it are never complements of the verb/matrix predicate, but always adjunct clauses associated with a ‘reference element’ in the main clause; the verbs or matrix predicates in such explicative constructions thus do not subcategorize for CPs, but for NPs (Lühr 2008a:156).

2.2. GERMANIC. Regarding Germanic, Lühr (2004) argues that the traditional clause-boundary-shift scenario for *that*-type complement clauses ‘is improbable in the face of the numerous nominal and pronominal reference elements in the main clause, as seen in Old Saxon’ and quotes the Old Saxon example in 9a, where the *that*-clause is associated with the full noun phrase *starkan êð*. Note that examples with the neuter demonstrative functioning as a correlative pronoun are also attested in Old Saxon (see 9b).

- (9) a. *endi starkan êð | suîðlico gesuôr, that he thes gesîðes ni*
 and strong oath clearly swore that he that.GEN fellowship.GEN NEG
uuâri.
 is.SBJV

‘and he swore a solemn oath, that he did not belong to that mob’

(Heliand 4976–77; cited from Lühr 2008a:155, ex. 74, glosses added)

- b. *That mugun gi antkennen uuel | an them is uuârûn uuordun, that he*
 that may you recognize well at them his true words that he
giuuald habad | alles ôbar erðu.
 power has all.GEN over earth

‘You may clearly discern this from his true words that he has power over the earth in every respect.’

(Heliand 3938–40; adapted from Lühr 2004:162, ex. 7, glosses and translation added)

Parallel examples are also frequently found in Old English. Hopper and Traugott (1993:186–87) point out, referring to examples as in 10, that ‘[s]uch correlative structures ... are typical of hypotaxis in OE (and many earlier Indo-European texts). Such features are reminiscent of oral language and of strategies clarifying interdependencies in the flow of speech’ [references omitted].

- (10) a. *Ða on morgenne gehierdun þæt þæs cyninges þegnas*
 when/then on morning heard.PL DEM DEM.GEN king’s thanes
þe him beæftan wærun þæt se cyning ofslægen wæs, þa ridon
 who him behind were COMP the king slain was then rode
hie þider.
 they thither

‘When in the morning the king’s thanes who had been left behind heard that he had been killed, then they rode up here.’

(ChronA (Plummer) 755.23; adapted from Hopper & Traugott 1993:185–86, ex. 42)

- b. *Þæt gefremede Diulius hiora consul, þæt þæt angin wearð tidlice*
 DEM arranged Diulius their consul COMP DEM beginning was in.time
þurhtogen.
 achieved

‘Their consul Diulius arranged (it) that it was started on time.’

(c. 880, Orosius 4 6.172.2; adapted from Hopper & Traugott 1993:186, ex. 44)

The correlative construction is also well documented in Gothic, the oldest Germanic language with an extensive written record. According to Miller (1975:113), examples as in 11—with a neuter demonstrative pronoun as a correlative in the main clause and an associated clause introduced by the complementizer *ei*—constitute ‘a very frequent construction in Gothic’.¹³

- (11) a. *Apþan þata kunneis ei in spedistaim dagam atgaggand jera*
 but that.ACC know COMP in last days come years
sleidja
 perilous
 ‘But know this, that in the last days perilous times will come’
 (2 Timothy 3:1; adapted from Afros 2006:12, ex. 16a, glosses added)
- b. *þamma ni faginop, ei þai ahmans izwis ufhausjand: ip*
 that.DAT NEG rejoice COMP these spirits you.DAT.PL obey but
faginod in þammei namna izwara gamelida sind
 rejoice in that.DAT.SG.N.COMP names your written are
 ‘do not rejoice in this that the spirits are subject to you, but rejoice in that that your names are recorded’
 (Luke 10:20; adapted from Miller 1975:111, glosses added)

Afros (2006:12, n. 10) argues that the explicative clauses in such constructions are ‘structurally similar’ to relative clauses in several respects, even though they should be treated separately. Note that the equivalent construction occurs in modern German.

- (12) a. *Wir widersprechen dem, dass die Beiträge erhöht werden.*
 we object that.DAT.SG that the fees increased become
 ‘We object to the fact that the fees will be increased.’
- b. *Wir gedenken dessen, dass viele Soldaten gefallen sind.*
 we commemorate that.GEN.SG that many soldiers fallen are
 ‘We commemorate the fact that many soldiers have fallen.’

In such examples, the neuter form of the demonstrative functions as a correlative pronoun and carries the case assigned by the matrix predicate. The explicative clause is introduced by the complementizer *dass*. Genitive and dative examples have existed throughout the history of the German language—alongside accusative examples as in 7 above. Some Old and Middle High German examples are provided in 13 and 14.

- (13) a. *Óþa thu thes biginnes \thaz thu géba bringes,*
 if you that.GEN begin.SBJV dass you offering bring.SBJV
 ‘If you begin to bring an offering’ (Otfrid II 18.19)
- b. *nu uolget temo daz er poëta ist . taz er selbo ist ...*
 now follows that.DAT that he poet is that he self is
 ‘now does it follow from the fact that he is a poet that he is/exists ... ?’
 (Notker *Interpretatione* 71.23–24; cited from Müller & Frings 1959:42, glosses and translation added)
- (14) *Ich glaub des wol das sie me gutes von mir hab gelhöret*
 I believe that.GEN well that she more good of me has.SBJV heard
dann ich wirdig sy;
 than I worthy be.SBJV
 ‘I do believe that she has heard more good about me than I deserve’
 (Lancelot 51.22–23)

¹³ Besides explicative constructions with *ei* as a clause-introducer, the complementizers *þatei* or *þei* are also attested in corresponding examples (cf. §4.2).

With accusative-governing predicates, the corresponding construction has largely been replaced by a construction where the *dass*-clause is (facultatively) associated with the weak personal pronoun *es* 'it' (cf. *Peter bedauert es, dass er gelogen hat*, lit. 'Peter regrets it that he has lied'), especially in written German.¹⁴ Here, *es* is not a prototypical correlate, but more of a placeholder, and this construction should thus not be analyzed as an explicative construction (Sudhoff 2003). However, as demonstrated in 15 (and 12 above), even in present-day German, examples with dative- or genitive-governing verbs do not show *es*, but the genitive or dative forms of the demonstrative pronoun (*dessen* or *dem*, respectively). If the associated *dass*-clause is preposed (i.e. occurs in the so-called *Vorfeld* position = SpecC), the correlative cannot be dropped.

- (15) a. ***(Dem)**, **dass** die Beiträge erhöht werden, widersprechen wir.
 that.DAT.SG.N that the fees increased become object we
 'We object to the fact that the fees will be increased.'
 b. ***(Dessen)**, **dass** viele Soldaten gefallen sind, gedenken wir.
 that.GEN.SG.N that many soldiers fallen are commemorate we
 'We commemorate the fact that many soldiers have fallen.'

However, the use of the genitive or dative correlate is optional if the associated clause occurs in postposed position (i.e. in the so-called final field). The following pairs of examples with and without a demonstrative correlative were collected from DeReKo ('German Reference Corpus') of the IDS Mannheim using the COSMAS II web application. They contain postposed *dass*-clauses after the dative-governing verb *zustimmen* 'agree' and the genitive-governing predicate *sich bewusst sein* 'be aware of'.

- (16) a. Sie stimmen **dem** zu, **dass** die Landesentwicklung im
 they agree that.DAT.SG.N to that the regional.development in.the
 Wirtschaftsministerium angesiedelt wird.
 ministry.of.economics located is
 'They agree to (that) that regional development be integrated into the
 ministry of the economy.'
 (DeReKo: Protokoll der Sitzung des Parlaments Bayerischer Landtag, Feb. 2004)
 b. Wir stimmen zu, **dass** Europa einen besonderen Auftrag hat.
 we agree to that Europe a special mission has
 'We agree that Europe has a special mission.'
 (DeReKo: Protokoll der Sitzung des Parlaments Deutscher Bundestag, Dec. 2006)
 (17) a. Er ist sich **dessen** bewusst, **dass** der Befehl rechtswidrig ist.
 he is REFL that.GEN aware that the order illegal is
 'He is aware of the fact that the order is illegal.'
 (DeReKo: Diskussion:Luftsicherheitsgesetz, Wikipedia 2011)
 b. Iago ist sich bewusst, **dass** er unrecht und schändlich handelt.
 Iago is REFL aware that he unjustly and shamefully acts
 'Iago is aware that he acts unjustly and shamefully.'

(DeReKo: Iago, Wikipedia 2011)

With postposed *dass*-clauses, the variant without the (overt) correlative even appeared much more frequently than the one with it: a COSMAS II search in the corpus yielded 229 hits for the exact word string *sich dessen bewusst dass* (= REFL that.GEN aware that), but the search for the same word string without *dessen* gave 6,237 (!) hits

¹⁴ Axel-Tober, Holler, and Trompelt (2016) carried out a quantitative investigation of the use of correlative elements with thirty-five matrix verbs governing object *dass*-clauses in present-day German written texts (corpus: DeReKo 'German Reference Corpus'). For each matrix verb, 100 examples were extracted. Out of the total of 3,500 examples, 848 were realized with the *es*-correlative and only four with the *das*-correlative.

(*sich bewusst dass* = REFL aware that). Likewise, the string *stimmen dem zu dass* (agree that.DAT to that) gave eight hits, whereas the corresponding string without *dem* resulted in eighty-three hits (*stimmen zu dass* = agree to that).

Breindl (1989) and Sternefeld (2006, vol. 1:358) find parallel behavior with respect to obligatoriness vs. optionality of the correlative and its dependence on the positioning of the *dass*-clause for a subtype of so-called ‘prepositional object clauses’ in present-day German. These occur with predicates that do not subcategorize for dative or genitive case, but for a preposition. If the object is realized as a clause, the correlative element is not the demonstrative pronoun, but a so-called prepositional adverb like *da-rauf*, *darüber*, *dazu* (lit. ‘there-on’, ‘there-about’, ‘there-to’) consisting of *da(r)* (originally the locative adverb ‘there’) + the governed preposition. This phenomenon is also old, and sporadic examples can already be found in Old and Middle High German (cf. 20 below). Sternefeld (2006, vol. 1:358–60) proposes for modern German that such matrix predicates subcategorize for a PP that contains a CP. The head of this PP can be empty if the *dass*-clause is postposed, but must be realized overtly if it is preposed (= topicalized). He explains the fact that the variant with the empty PP must not be topicalized by a general ban on the movement/topicalization of phrases with empty lexical heads. Sternefeld’s account can be extended to predicates governing genitive or dative case, as in these cases also the correlative demonstrative is optional with postposed *dass*-clauses, but obligatory with preposed *dass*-clauses. The only difference is that the corresponding matrix predicates do not subcategorize for a (potentially silent) PP, but for a DP.

Also in historical German genitive and prepositional correlatives are not always realized overtly. Even within individual Old and Middle High German texts one detects pairs of examples with and without the demonstrative or prepositional correlative with the same matrix predicates.¹⁵

- (18) a. Ni bat sie **thés**, thaz ist wár, \ **thaz** er fuari thára sar;
NEG asked she that.GEN that is true that he went.SBJV there at.once
‘She did not ask him—that is true—to go there at once’ (Otfrid III 11.9)
- b. Thih bittu ih mines múates, \ **thaz** mír queme alles gúates
you.ACC ask I my.GEN attitude.GEN that me comes.SBJV all good
‘I ask you sincerely that all the good will come to me’ (Otfrid I 2.53)
- (19) a. únz er ín **dés** bítén stûonNT . | **táz** er ímo óndi . mít
until he him that.GEN ask stood that he him allowed.SBJV with
ótachere ze uéhtenne .
Odoakar to fight
‘until he began to ask him to allow him to fight against Odoakar’
(Notker *Consolatione* 5.23–24)
- b. ... pító ih **táz** tu mír ságeêst . únde mih is errihtêst
ask I that you me say.SBJV and me it.GEN instruct
‘I ask (you) that you tell me (about it) and instruct me about it’
(Notker *Consolatione* 211.15)
- (20) a. her umbe fo faltu geiftlicher menfhe. dic ... flîzen **dar ane. daz** du
therefore so shall.you spiritual man REFL strive there on that you

¹⁵ See also the material in the *Althochdeutsches Wörterbuch* under the headword *thaz* (pp. 313–47) for further OHG examples/minimal pairs of this type.

ein fridefame herze gewinnift
 a peaceable heart win.SBJV
 ‘therefore you spiritual man should strive to gain a peaceable spirit’
 (Salomons Haus 436)

b. fo flize dich. **da3** din herze reine fie.
 so strive REFL that your heart pure be.SBJV
 ‘strive so that your heart be pure’
 (Salomons Haus 424)

In contrast to modern German, where the use of accusative *das* as a correlative has become marginalized in written texts, in historical German this alternation is also attested with accusative-governing verbs, as the following pair of examples from Otfrid show.

- (21) a. Sliumo ságeta er mo **tház**, \ **tház** er mo er kúnd was,
 suddenly said he him that that he him before known was
 ‘He (= Jesus) told him (= Nathanael) at once that he knew him already’
 (Otfrid II 7.61)
- b. Sie ímo sar tho ságetun \ **tház** sies wiht ni hábetun;
 they him at.once then said that they.of.it anything NEG had
 ‘They told him then at once that they had nothing (to eat)’
 (Otfrid V 13.11)

2.3. ANALYSIS OF THE CORRELATIVE CONSTRUCTION. Alternations of examples with and without the correlative as discussed above would suggest the presence of a silent correlative in the examples with no overt realization of it even in the context of accusative-governing verbs.¹⁶

- (22) Sie ímo sar [_{DP} Ø] ságetun [_{CP} [thaz sies wiht ni hábetun]] (cf. 21b)

The possibility of an empty correlative seems all the more plausible since in general, null elements played a more prominent role in historical German than they do in the modern (standard) language.¹⁷

Returning to the examples with an overt correlative, it should be noted that besides pronominal correlatives, notably the neuter form of the demonstrative pronoun, there are also attestations of dummy NPs such as *thiu thing* ‘the things’ (as in 23) or *das ding* ‘the thing’ (cf. also Müller & Frings 1959:50).

- (23) Ni dróstet iuih **in thiu thing**, \ **thaz** íagilih ist éding,
 NEG console you in the things that everybody is nobleman
 ‘Do not take comfort in the fact that everybody is of noble descent’
 (Otfrid I 23.45)

The equivalent phenomenon has been discussed for Bengali (Bayer 2001).

¹⁶ As mentioned above, such an analysis has also been proposed for constructions with prepositional object clauses in modern German, where the use of an overt correlative is obligatory if the object clause is preposed (Sternfeld 2006, vol. 1:358–60). Since we do not have access to negative evidence in historical data, this diagnostic cannot be applied to older stages of German—the more so as object clauses in preposed position are hardly attested until the Early New High German period. As to OHG, the *Althochdeutsches Wörterbuch* gives extensive (but not exhaustive) material on *thaz*-clauses under the headword *thaz* (pp. 313–47); it lists references for object *thaz*-clauses in the function of accusative and genitive objects with different classes of governing predicates and also distinguishes between post- and preposing of the *thaz*-clause. It can be seen in that material that preposed *thaz*-clauses are very infrequent compared to their postposed counterparts. In the sporadic cases of preposing, there is always a correlative element in the superordinate clause.

¹⁷ See for example Axel 2007:Ch. 6 on null subjects in OHG, Schlachter 2012:Ch. 5 on null subjects and objects in OHG, and Pittner 1995 and Axel-Tober 2012:230–34 on zero relatives in historical German.

- (24) chele-Ta e kOtha jane na *(je) baba aS-be
 boy-CL this story knows not COMP father come-will
 ‘the boy does not know it that his father will come’

(adapted from Bayer 2001:21, ex. 10)

According to Bayer (2001:22), the Bengali construction in 24 contains a ‘dummy NP’ (= *e kOtha*) or a pronoun (*ta, eta*) in the clause-internal A-position, and a ‘loosely attached clause which specifies the content of the dummy NP’ and is introduced by the relative operator/pronoun *je*. Bayer points out that the *je*-clause is licensed through coindexing with the dummy NP and *je* functions as a ‘general relativizer comparable to English *such that*’ (2001:21).¹⁸

- (25) ... dummy NP₁ V° [CP OP₁ ...]₁ (adapted from Bayer 2001:22, ex. 11a)

Such that-relatives have been discussed by Heim and Kratzer (1998). In this type of relative, a personal pronoun (= *it*) occurs in the relative-clause-internal argument position.¹⁹

- (26) The book *such that* Mary reviewed **it** (adapted from Heim & Kratzer 1998:125, ex. 6)

The syntax of (apparently) gapless relative clauses has also played a role in recent analyses of so-called noun-‘complement’ clauses.

- (27) a. The claim that John kissed Mary
 b. The fact that the Earth is round

In recent years, the grammar of such constructions has been discussed very extensively. There seems to be a growing conviction that these *that*-clauses are in fact relative clauses (see e.g. Moulton 2009 and Haegeman 2012 for syntactic proposals and Kratzer 2006 for a semantic account).²⁰ The various approaches differ considerably with respect to the specific implementation of the relative-clause hypothesis and its conceptual and empirical scope. Some authors even argue that the relative-clause analysis not only should be applied to clausal ‘complements’ of (overt) nouns, but also carries over to the clausal complementation of certain types of verbs (e.g. Haegeman & Ürögdi 2010) or of verbs in general (cf. Manzini 2014 on Romance *k*-complementizers and Arsenijević 2009, Kayne 2014 for differing theoretical accounts). As is shown in the next section, some verbs/verb classes in modern German allow for long extraction. This phenomenon has traditionally been considered to be strong evidence for the complement status of the *dass* ‘that’-clause and thus provides a serious challenge for the generalized version of the relative-clause hypothesis. The special status of apparent noun-complement clauses, however, was already discussed by Fabricius-Hansen and von Stechow (1989), who argue that explicative clauses in German nominal constructions are adjuncts and not arguments. A further controversy concerns the internal syntax of the putative relative clause in what has traditionally been treated as a noun-complement construction, in particular

¹⁸ Bayer (2001, n. 15) also refers to Matsumoto (1997), who has shown that this type of noun modification, albeit with an unextraposed clause, also occurs in Japanese, where a semantically similar head noun is used. See also Cha 1998 on Korean.

¹⁹ Liberman (2007) furthermore discusses *such that*-relatives as in (i) as examples of the phenomenon of the gapless relative clause.

(i) For these reasons it is essential that the Vice President with the assistance of the department chairperson or institute or center director and any ad hoc committee created to conduct an inquiry or an investigation foster an attitude such that the accuser is treated fairly and reasonably. (Columbia University’s Guidelines for Review of Misconduct; cited from Liberman 2007)

²⁰ This idea is, of course, not entirely new. See, for example, Stowell 1981 for arguments that ‘complement’ CPs of nouns in English examples like *the fact that Edna was stealing* are appositive modifiers.

the question of whether the relative clause contains a gap. In Kratzer's (2006) semantic account, such *that*-clauses are gapless. Their relative nature lies in the fact that they are not arguments, but noun modifiers that combine with nouns through predicate modification. As Moulton (2014:137) summarizes Kratzer's proposal, such 'CPs identify the content of an argument position'. This can be illustrated by the following paraphrase.

- (28) The idea that Bob is a fraud \approx The idea *the content of which* is that Bob is a fraud
(Moulton 2014:137, ex. 64)

Most syntactic approaches do, however, posit a gap. For example, Haegeman (2012:273–74), elaborating on an analysis by Nichols (2003), argues that in the case of clausal 'complements' of N the event argument is relativized. The structure she proposes is thus a canonical relative clause, in which the event variable is bound by a null-operator that has moved to SpecC.

- (29) a. $[_{DP} \text{ the claim}_i [_{CP} \emptyset_i [\text{that } [_{IP} \text{ Sonia } [t_i [\text{had bought the lottery ticket}]]]]]]$
(adapted from Haegeman 2012:273, ex. 34b)
b. Sonia bought a lottery ticket in Rhode Island.
 $\exists e[\text{buying}(e) \ \& \ \text{Agent}(\text{Sonia}) (e) \ \& \ \text{Theme}(\text{lottery ticket}) (e) \ \& \ \text{in}(\text{RI}) (e)]$
(Nichols 2003:157)

In the following, I adopt Haegeman's proposal for the analysis of the historical data. So example 23, with the dummy NP, would receive the following analysis.

- (30) $[_{PP} \text{ in } [_{DP} \text{ thi u } \text{thing}_i [_{CP} \emptyset_i [\text{thaz } [_{IP} \text{ íagilih } [t_i [\text{ist éðiling}]]]]]]]]$ (cf. 23)

This analysis can be extended to examples where the *thaz*-clause is associated with an overt (or silent) demonstrative correlative. In these cases, too, the relative head is a nominal denoting an entity with propositional content.

- (31) $[_{DP} \text{ thaz}_i [_{CP} \emptyset_i [\text{thaz } [_{IP} \text{ er } [t_i [\text{mo kúnd was}]]]]]]$ (cf. 21a)

3. THE COMPLEMENTATION CONSTRUCTION. The fact that the demonstrative correlative is so robustly attested in Old and Middle High German and the observation that we find alternations of examples with and without the correlative might suggest that there was always a correlative element present in object clause constructions, but that the correlative was not always realized overtly. On this hypothesis, OHG would be comparable to languages such as (old) Vedic, where the possibility of finite clausal complementation was not part of the grammar and the explicative/correlative construction was used instead—with the difference that in old Vedic the correlative was apparently always overt.

If we take into account the possibility of a silent correlative, this question arises: at what stage can we be sure that the structure emerged in which the *thaz*-clause was really a complement of the superordinate verb and not associated with a silent correlative?

For present-day German, it has been observed that long extraction of WH-phrases is possible only if the argument clause is not associated with a correlative (e.g. Sudhoff 2003).

- (32) a. ***Wen_i** hat Peter **es/das** behauptet, dass er **t_i** gesehen hat?
whom has Peter it/that claimed that he seen has
'Who has Peter claimed it that he has seen?'
b. **Wen_i** hat Peter behauptet, dass er **t_i** gesehen hat?
whom has Peter claimed that he seen has
'Who has Peter claimed that he has seen?'

It should be noted that present-day German is an OV-language. Argumental *dass*-clauses, however, do not occur in the canonical object position to the left of the governing verb, but rather to its right (= 'VO' instead of 'OV').²¹

²¹ It is, however, not completely ungrammatical to place the *dass*-clause to the left of the governing verb. Breindl (1989:177–78) cites some examples from literary texts.

- (33) a. Gestern hat Peter erzählt, [dass er heiraten wird].
 yesterday has Peter reported that he marry will
 ‘Yesterday Peter said that he is going to marry.’
 b. *Gestern hat Peter, [dass er heiraten wird], erzählt.

There is evidence that the right-peripheral position of the *dass*-clause is not the result of rightward movement (i.e. ‘extraposition’ in the literal sense), but that the *dass*-clause is base-generated in this position (e.g. Webelhuth 1992, Haider 1994, 1996, Bayer 1995, 1996, Reis 1997, Inaba 2007).²²

- (34) ... [VP t_{subject} [V' [V erzählt] [dass er heiraten wird]]]

The most important piece of evidence in favor of the base-generation analysis is the possibility of long extraction of WH-phrases and topic-XPs in southern varieties of German; see 32b and 35. If the *dass*-clause had been moved into its right-peripheral position, it would be an island for extraction.

- (35) Wen_i glaubst du, dass Maria liebt t_i?
 whom believe you that Mary loves
 ‘Who do you believe that Mary loves?’

With certain verb classes, long extraction is impossible even if no correlative *es/das* is present. Sudhoff (2003) argues that this is due to the fact that these verbs obligatorily select an overt or silent correlative. If, as was proposed above, we analyze the associate clause in correlative constructions as an explicative adjunct to the correlative, the ungrammaticality of long extraction in correlative constructions can be attributed to Huang’s (1982) CONDITION ON EXTRACTION DOMAINS, according to which only complements are transparent to extraction, and not specifiers or adjuncts.²³ This would suggest that the presence of long extraction in the historical data provides a diagnostic for the analysis of the *thaz*-clause as a complement of V.

As it turns out, long extraction is an old phenomenon; it can already be found in OHG texts, for example, in Tatian and Otfrid and in the late OHG texts by Notker Labeo.²⁴

- (36) a. inti **uuemo**_i uuanu íh [tház íz t_i gilih sí]
 and whom.DAT believe I that it alike be.SBJV
 ‘and to whom do I believe that it (= the kingdom of God) is similar?’
 (Tatian 109.15)
 b. ,**waz**_i wánist thaz er t_i wérde?
 what believe that he becomes.SBJV
 ‘what do you believe that he will become?’
 (Otfrid I 9.39)
 c. [**uuélên uuéhsel**]_i múgen uuír chéden . [dáz tîe t_i lîdên.?
 which transition.ACC may we say that they undergo.SBJV
 ‘which transition may we say that they undergo?’
 (Notker *Consolatione* 216.1)

Also in Middle High German, long extraction of WH-phrases (and topics) is robustly attested.

- (37) a. ‘**waz**_i wiltu [daz ich dir t_i tu]?’
 what want.you that I you do
 ‘“what do you want me to do for you?”’
 (Berliner Evangelistar 18.18)

²² See Buring 1995 and Müller 1996 for a different view.

²³ But see Stepanov 2007 for a critical evaluation.

²⁴ It is generally assumed that long extraction involves an intermediate trace in the embedded SpecC-position. I have not marked this trace in the examples. Some earlier examples from the Monsee Fragments are discussed in Axel-Tober 2012:74–83. See also Axel 2009, Axel-Tober 2012 for arguments that this is a native German construction and cannot be dismissed as loan syntax.

- b. **welche_i** wenent ir [das t_i edeler under uch zwein | sy]
 which believe you that nobler among you two is.SBJV
 ‘which one of you two do you believe to be nobler?’ (Lancelot 94.22–23)

The matrix verbs in these and the other attested examples are *verba dicendi*, *putandi*, and *sentiendi*, governing accusative case. So we can conclude that these verb classes—or at least the verbs attested with long extractions—only facultatively select a correlative and that the V-complementation structure, as illustrated in 34 above for modern German, must have already evolved in pre-OHG times. This does not rule out the possibility that some verbs governing dative or genitive case or certain subclasses of accusative-governing verbs obligatorily select a (silent or overt) correlative.

Long extraction from object clauses is also attested in other old Germanic languages; see the following examples from Old English and Gothic, in which a relative operator has been extracted from the subject position of a complement clause.

- (38) a. Mine gebroðra, ne lufige ge ðisne middangeard ðe ge geseoð ðaet
 my brethren not love you this world that you see that
 lange wunian ne maeg
 long last not may
 ‘My brethren, do not love this world, that you see that cannot last long’
 (Alc.Th.XL; adapted from Allen 1977:81, ex. 19, glosses added)
- b. atta meins ... **pane_i** jus qipip [CP t_i patei [IP t_i guþ unsar ist]]
 father my who.ACC you say that God our is
 ‘my father, who you say is our God’
 (John 8:54; adapted from Harbert 1992:121, ex. 19a)

To sum up, since there is robust evidence for long extraction in OHG, we can conclude that clausal complements in the strict sense (i.e. CPs as the sisters of V) had evolved in pre-OHG times. The construction may have been limited to certain (classes of) verbs. In the absence of negative evidence it is, however, impossible to establish which verbs or verb classes did not subcategorize for CPs, but only for (correlative) DPs. As has been mentioned, even for modern German the issue of whether there are verb classes that obligatorily select (a potentially silent) DP or PP is still discussed controversially.

4. THAT-TYPE RELATIVIZERS. The last sections have dealt with the external syntax of object *thaz/daz*-clauses in historical German. What still remains to be discussed is the category of *thaz/daz* in the correlative construction.

In modern German, *das/dass* is highly polyfunctional and belongs to at least four different categories: it is the nominative/accusative form of the demonstrative pronoun, of the relative pronoun, and of the definite article, and it is the complementizer in finite declarative and certain adjunct clauses. Like its English counterpart *that*, *dass* also occurs in the ‘complement’ clauses of abstract nouns such as ‘claim’, ‘fact’, ‘idea’, ‘myth’, ‘story’, and so forth.

- (39) a. die Behauptung, **dass** Michael Maria geküsst hat
 the claim that Michael Maria kissed has
 ‘the claim that Michael kissed Mary’
- b. die Tatsache, **dass** die Erde rund ist
 the fact that the earth round is
 ‘the fact that the Earth is round’

As was outlined in §2.3, there is a growing body of syntactic and semantic research which claims that apparent clausal ‘complements’ of nouns are in fact relative clauses.

This claim implies that the clause introducer is a relativizer, which is unproblematic for English since *that* is the standard relative complementizer (cf. 40b).

- (40) a. the claim **that** John kissed Mary
 b. the boy **that** kissed Mary

In §2.3, I have proposed to adopt the relative analysis to dummy-NP and to the correlative construction in Old and Middle High German. Likewise, Afros (2006) and Hopper and Traugott (1993) point out that correlative clauses in Gothic and Old English have relative-like properties. This, of course, raises the question of whether there is independent evidence for a *that*-relativizer in German and in early Germanic.

In modern Standard German, relative clauses are introduced by relative pronouns—those homonymous with the demonstrative *der, die, das* or those homonymous with the interrogative pronoun *welcher, welche, welches*.²⁵

The only potential environment for the relative complementizer *dass* is after time expressions as antecedents (Harbert 2007:439).

- (41) Und die Zeiten, **dass** der Papa ... siegt, sind längst vorbei.
 and the times that the Dad wins are long gone
 ‘And the days when Dad used to win are long gone.’

(DeReKo: Braunschweiger Zeitung, May 2013)

This use is attested throughout the history of the language. In Otfrid and Tatian as well as in other OHG texts, *thaz* occurs after time-denoting noun phrases. In the translations, the Latin sources usually contain a relative pronoun.

- (42) a. after thero ziti **thaz** er suohta | fon then magin,
 according.to the time that he inquired from the Magi
 ‘in accordance with the time he had asked of the Magi’
 Latin: secundum tempus quod exquisierat a magis, (Tatian 41.12–13)
 b. That auo themo seluemo | cide, **that** er thui sellan uuilit,
 that if the.DAT self.DAT time.DAT that he them transfer wants
 ‘That if he at that time when he wants to transfer them’
 Latin: Quod si eodem tempore, quo illas tradere uult,
 (Trierer Capitulare, Steinmeyer ed., 305.13–14)

Parallel examples can also be found in Middle High German texts.²⁶

- (43) a. von den zyten **daz** er was uberwunden | an dem urlage.
 since the times that he was defeated at the battle
 ‘since the times that he was defeated in the battle’ (Lancelot 2.20–21)
 b. den tak **daz** | unf got irlofte
 the day that us God redeemed
 ‘the day that God redeemed us’ (Züricher Predigten 29.11–12)
 c. ez ift hûte der achte tag gotes **daz** he geborn wart.
 it is today the eighth day God.GEN that he born was
 ‘today is the eighth day of God that he was born’
 (Jenaer Martyrologium I 1)

²⁵ In the dialects, complementizer-introduced relative clauses are more widespread than their pronominally introduced counterparts (cf. Fleischer 2004, 2005).

²⁶ A further Middle High German example is the complex expression *die wile daz* ‘while’ (lit. ‘the.ACC time that’), later ‘because’. Here, the relative complementizer *daz* follows the adverbial accusative *die wile* and alternates with other relative complementizers (*so* and *und*) (cf. Ferraresi & Weiß 2011).

- b. Nist búrg **thaz** sih gibérge, \ thiú sténtit ufan bérge
 NEG.is town that REFL hide.SBJV that stands on hill
 ‘There is no town on a hill that is hidden (from view)’ (Otfrid II 17.13)
- (46) ,Wer íst, quad, ,híar untar íú \ **thaz** mih ginénne zi thiú ... ?
 who.M is said here among you that me call.SBJV to this
 ‘“Who is”, said he, “among you here that would call me to this?”’
 (Otfrid III 18.3)

Thaz cannot be a pronoun in such cases since the antecedent noun phrases have masculine or feminine gender. According to Erdmann (1874, vol. 1:157), in these examples *thaz* is not a relative complementizer, but an ‘adverbial subjunction’. He classifies these clauses as a special type of consecutive clause parallel to the following example.

- (47) Ni sint theso úmmahti **tház** er iz firwórahti,
 NEG are these ailments that he it caused.SBJV
 ‘These ailments are not such that he may have caused them’ (Otfrid III 20.9)

The difference between examples like 45 or 46 and examples like 47 is that the former contain no overt subject. Thus there must be a silent relative operator functioning as the subject.

- (48) [_{CP} Op_i [_C *thaz*] sih t_i gibérge] (cf. 45b)

This analysis gains further support from the observation that in Otfrid there are cleft sentences that are constructed parallel to the examples in 45 and 46, with the only difference being that no *thaz* is present.

- (49) a. Búrg nist [thes wénke]
 town NEG.is that.GEN withdraw.SBJV
 ‘There is no town that would withdraw from that’ (Otfrid I 11.13)
- b. wér ist [thes híar thénke],
 who is that.GEN here thinks.SBJV
 ‘who is it that would think here of that?’ (Otfrid III 16.30)

In this case, Erdmann (1874, vol. I:126–27) does not hesitate to classify the relevant clauses as a special type of relative clause, that is, as ‘asyndetic’ relative clauses. If we translate this into modern syntactic theory, one would argue that these clauses are introduced by a silent relative complementizer and contain a silent relative operator. The alternation of the null relative complementizer and the *thaz*-complementizer in this minimal pair of examples (49 vs. 45/46) fits nicely with the typological generalization observed by Smits (1989), according to which relative clauses may lack an overt relativizer only if there is an alternative realization with a relative particle/complementizer available.²⁸

Further evidence for the existence of *thaz* as a relative complementizer in OHG is provided by examples of the following type.

- (50) a. Wanta állaz **thaz** sies thénkent, \ sie iz al mit góte wirkent;
 because all that they.it.GEN think they it all with God act
 ‘Because all that they think (it), they do it all with God’ (Otfrid I 1.105)

²⁸ Note that the situation in modern Standard German and English is in line with Smits’s (1989) generalization. Modern Standard German does not have relative complementizers (except for some residual uses) and consequently lacks zero relative clauses, as predicted by Smits’s generalization. English, however, makes use of *that* as a relative complementizer and does have zero relative clauses (cf. *The girl that/Ø Peter met at the opera*).

- b. mit iu sáman avur drínku | núwaz, **thaz** iu iz
 with you together however drink the.new that you.DAT it
 liche
 behooves.SBJV
 ‘I will, however, drink together with you the new that suits you’
 (Otfrid IV 10.7–8)
- c. ,So wér‘, quad ,untar iú si, \ **thaz** er súntiloser sí, ... ‘
 so who said among you is.SBJV that he sinless is.SBJV
 ‘“So who”, said he, “is among you that is without sin ... ?”’
 (Otfrid III 17.39)

In these examples *thaz* cannot be a pronoun. What we are dealing with here are resumptive relative clauses with personal pronouns in the relativized genitive object (50a)²⁹ or subject position (50b,c).

- (51) [_{CP} Op_i [_C *thaz*] sies_i thénkent] (cf. 50a)

Resumptive relative clauses also occur in some modern German dialects, for example, in Zurich German (Salzmann 2006) and in Lubica, a linguistic island in Slovenia (Fleischer 2004, 2005).

- (52) de Bueb, wo mer *(em) es Velo versproche händ
 the boy COMP we (he.DAT) a bike promised have.1PL
 ‘the boy we promised a bike’
 (Salzmann 2006:18, ex. 1c)

To conclude, there are several pieces of evidence for the existence of the *thaz*-relativizer in OHG. As to the diachronic evolution of this complementizer, it is interesting to note that in the modern German dialects, the particles *wo* and *was* are quite common (cf. the typology in Fleischer 2004, 2005), both of which have evolved from relative pronouns (and ultimately from interrogative pronouns).³⁰ This suggests that a common path of evolution of relative complementizers is via a specifier-to-head reanalysis (cf. also van Gelderen 2004 for English and Harbert 2012). The OHG relative *thaz*-complementizer is homonymous with the nominative/accusative form of the neuter relative pronoun (cf. 53).

- (53) *thaz* wír ouh ... *thaz* gotes wórt scowon. **Thaz**
 that we also the God’s word.ACC.SG.N look.at REL.PRON.ACC.SG.N
 drúhtin dúan wolta
 Lord do wanted
 ‘so that we also look at God’s word that our Lord wanted to enact’
 (Otfrid I 13.4–5)

It is thus highly plausible that the *thaz*-complementizer evolved via a Spec-to-head reanalysis, as sketched in 54.

- (54) [_{CP} *thaz*_i C [_{IP} ... t_i ...]] → [_{CP} Op_i [_C [_C *thaz*] [_{IP} ... t_i ...]]]

²⁹ In this example, the resumptive personal pronoun *es* (= genitive singular neuter) is enclitic onto the preceding subject pronoun.

³⁰ According to Fleischer (2004, 2005) the relative particle *was* occurs in North Bavarian, in North-West Bohemian (Upper Saxon), in East Pomeranian, and in the dialect of Lubica, a linguistic island in Slovenia. As Fleischer argues, *was* cannot be analyzed as a pronoun: the antecedents do not have to have neuter gender, and in some varieties, *was* occurs in combination with relative pronouns (= *der was* etc. just like OHG *ther the*) or in resumptive relative clauses. *Wo* occurs in Alemannic varieties as well as in Moselle Franconian (Fleischer 2004:224). Yiddish *vos* is also an interesting case. This relative particle was reanalyzed from the homophonous relative pronoun, which in turn goes back to the interrogative pronoun. As Yiddish does not have any other relative particles, this change ‘seems, therefore, to have happened “out of the blue”’ (Harbert 2012:32).

(55) a. Se Haelend him saede **ðæt** **ðæt** he sylf wiste
the Savior him said that that he self knew
‘The Savior said to him that which he knew himself’ (Alc.P.XII.178)

b. Nu is **se tima** **ðæt** deos woruld is gemaencged mid
now is the time.NOM.SG.M that this world is confused with
meanigfealdan mane
many evils
‘Now is the time that this world is confused with many evils’
(Wulf.V.24)

c. Sawla nergend se us **eal** forgeaf **ðæt** we on lifgað
soul’s savior who us all gave that we on live
‘Soul’s savior, who gave us all that we live on’
(Ex Gnomice 135; 55a–b adapted from Allen 1977:102–3, ex. 80, 83, 86)

(56) a. [_{DP} thaz_i [_{CP} Ø_i [thaz [_{IP} er [_{t_i} [mo kúnd was]]]]]]
 ‘that that he was known to him’ (= 31, cf. 21a)
 b. [_{DP} þæt_i [_{CP} Ø_i [þæt [_{IP} þæt [_{t_i} [angin wearð tidlice þurhtogen]]]]]]
 ‘that that it was started on time’ (example modified from 10b)

4.2. RELATIVIZERS IN GOTHIC. In Gothic, the dependent clause in the correlative construction could be introduced not only by a *that*-type complementizer (= *patei*), but also by the (monomorphemic) particles *ei* or *pei* (Afros 2006:12–13).

- (57) a. Appan **pata** kunneis **ei** in spedistaim dagam atgaggand jera sleidja (= 11a)
 ‘But know this, that in the last days perilous times will come’
- b. **pata** auk qīpa, broþrjus, **þei** leik jah bloþ þiudinassu gudis
 that PTCL say brethren that flesh and blood kingdom God.GEN
 ganiman ni magun
 inherit NEG may
 ‘Now this I say, brethren, that flesh and blood cannot inherit the kingdom of God’ (1 Cor. 15:50; cited from Afros 2006:12, ex. 16c, glosses added)
- c. **pata** þagkjai sa swaleiks, **patei** huleikai sium waurda þairh
 that think.SBJV one such that what are word.DAT through
 bokos aljar wisandans, swaleikai jah andwairþai waurstwa
 letters elsewhere being such and present deed.DAT
 ‘Let such a person consider this, that what we are in word by letters when we are absent, such we will also be in deed when we are present’ (2 Cor. 10:11; cited from Afros 2006:12, ex. 16b, glosses added)

These particles also appear in the corresponding ‘object’ clauses without a correlative. They tend to occur with (partially) different classes of matrix predicates (Streitberg 1920:§§353–55, Harbert 2007:416): subjunctive counterfactual clauses after verbs of wishing and command are mainly introduced by *ei* and, sporadically, by *þei*, while indicative clauses after verbs of saying and thinking mostly show *patei* as a clause-introducer.

Crucial for our line of argumentation is that all three are furthermore attested in (undisputed) relative clauses. *Ei* occurs mainly with time or manner antecedents (Streitberg 1920:§344, Harbert 2007:439).

- (58) a. fram þamma daga **ei** hausidedum
 from the day that we heard
 ‘from the day we heard (of your faith and love)’
 (Col. 1:9; adapted from Harbert 2007:439, ex. 6.102a)
- b. þamma haidau **ei** Jannes jah Mambres andstopun Moseza
 in.the manner that Jannes and Mambres resisted Moses
 ‘in the same manner in which Jannes and Mambres withstood Moses’
 (2 Tim. 3:8; adapted from Harbert 2007:439, ex. 6.102b)

The particle *þei* is also found once with a time antecedent (*pata hweilos þei* ‘the times that’; Matthew 9:15) and generally after indefinite neuter heads (*þatahvah* ‘whatever’, *þishvaruh* ‘wherever’, and *þishvadu* ‘wherever (directional)’), where it alternates with *patei* (cf. Streitberg 1920:§177.2, §345).

The clause-introducer *patei* as in 57c is homonymous with the nominative/accusative form of the neuter relative pronoun. Traditionally the relative pronoun *patei* is analyzed as consisting of the demonstrative pronoun *sah* and the enclitic particle *ei*. As Afros (2006:6–7) summarizes, in Gothic ‘a relative pronoun is formed by means of cliticization of *ei* to the demonstrative or personal pronoun’ [footnote omitted].³¹

³¹ Harbert (2012:37), on the contrary, mentions that he considers *sah* to be a relative pronoun in this configuration. However, as Streitberg (1920:§343) points out, there are only a couple of instances where *sah* renders a Greek relative pronoun on its own (without enclitic *-ei*), and its status as a relativizer is thus a borderline case (= ‘hart an der Grenze relativischer Geltung’; Streitberg 1920:§343). Note that there are also theoretical accounts according to which d-pronouns and relative pronouns are the same thing (e.g. Wilschko 1998, Trutkowski & Weiß 2016).

- (59) *hva ist þata þatei qīþiþ unsis,*
 what is that which.ACC says us
 ‘what is this that he says to us’

(John 16:17; adapted from Streitberg 1920:227, glosses and translation added)

Roberts and Roussou (2003:199)—on the basis of work by Ferraresi (1991) and Longobardi (1994)—suggest that Gothic *þatei* (and Old English *þætte*) must have been subject to a diachronic reanalysis as in 60, as a result of which it received the status of a complementizer.

- (60) [_{CP} that_i [_C Prt] [_{IP} ... t_i ...]] > [_{CP} [_C that (+Prt)]]³²

(Roberts & Roussou 2003:119, ex. 79)

As evidence for the target structure in 60, they cite the following example.

- (61) ... *domjandans þata þatei ains faur allans gaswalt*
 thinking that.ACC that one for all dies
 ‘thinking about this that one may die for all’

(2 Cor. 5:15; adapted from Roberts & Roussou 2003:118, ex. 76c)

This is, of course, a further instance of our ‘correlative construction’ (see 11 above for parallel examples). Roberts and Roussou (2003:119) also analyze such examples as a type of relative clause and propose a Kaynean-style raising analysis (Kayne 1994).

In this context a class of related examples whose analysis is controversial should be mentioned. These examples contain the forms *þammei* or *þizei*.

- (62) a. ... *ni fraþjiþ þammei all þata utaþro inngaggando*
 NEG perceive that.DAT.SG.N.COMP all that from.outside in.going
 in mannan ni mag ina gamainjan
 in man NEG may him defile
 ‘... do you not perceive this that whatever enters a man from outside cannot defile him’

(Mark 7:18; adapted from Afros 2006:11, ex. 15b, glosses added)

- b. *iþ ains þan ize gaumjands þammei hrains warþ,*
 and one when REL.PTCL seeing that.DAT.SG.N.COMP healed was
 gawandida sik ...
 returned himself
 ‘and one of them, when he saw this that he was healed, returned’

(Luke 17:15; adapted from Afros 2006:11, ex. 15c, glosses added)

- c. *Ni-u kara þuk þizei fraqistnam?*
 neg-Q care you that.GEN.SG.N.COMP perish
 ‘Do you not care that we perish?’

(Mark 4:38; adapted from Afros 2006:11, ex. 15a, glosses added)

In 62a,b *ei* cliticizes to the dative singular form of *þata* (= *þamma*). This is the case governed by the verbs *fraþjan* ‘understand, perceive’ and *gaumjan* ‘perceive, see’.³³ The corresponding examples are attested with genitive (= *þizei*) in some sentences with genitive-governing verbs (cf. 62c). The synchronic status of such examples in the Gothic Bible is controversial. Harbert (1983, 1992) seems to consider the *þammei* and *þizei* forms in such examples as resulting from a (at least semi)productive grammatical rule and mentions that with predicates governing dative or genitive case ‘the pronominal portion of the complementizer, rather than appearing in the nominative/accusative form

³² ‘Prt’ is an abbreviation for ‘particle’. The parentheses are used to indicate that after the reanalysis the particle may be lost. This stage is not attested in Gothic, however.

³³ A further example occurs in the second clause in 11b above (= *faginop in þammei*).

bat-, USUALLY appears as *þamm-* (Dat) or *þiz-* (Gen)' (Harbert 1983:247, emphasis added). With respect to *þammei*, Miller (1975:115) comes to a different conclusion, however, and considers this form to be 'clearly calcified'. He points out that most verbs that take dative complements never occur with *þammei*-complements. Even the few dative verbs that do take *þammei*-complements are also attested with *þatei*-complements and some also with *ei*-complements.

Furthermore, the analysis of this type of example is controversial. On the one hand, they can be argued to be parallel to examples as in 61 or 11 above. On this analysis the *þat(a)*-part would still be a pronominal element, a cataphoric pronoun, belonging to the main clause, while (enclitic) *ei* is a conjunction introducing the dependent clause. Afros (2006) considers the fact that the case is governed by the matrix verb to be compelling evidence that *þata* is a cataphoric pronoun belonging to the matrix clause. On the other hand, as Streitberg (1920:§§354–55) suggests, the explicative clause in such examples can be argued to be introduced by the ambisyllabic conjunction *þatei*. What is unexpected, however, on this 'complementizer hypothesis' (Afros 2006:11) is that the *þat(a)* portion of *þatei* shows signs of inflection in such examples. Streitberg attributes this fact to the relative origin of the conjunction; he uses the term 'Relativische Konjunktionalsätze' (= 'relative conjunctive clauses') (Streitberg 1920:§235). Harbert (1983:248) translates the traditional complementizer hypothesis into generative terminology and argues that the 'the inflection of compound complementizers follows straightforwardly from the assumption that COMPs of \bar{S} complements were accessible to case marking in Gothic, as they apparently were in other languages'. Harbert (1992) reports the generalization that *ei* cannot cliticize over the CP-boundary,³⁴ and he therefore dismisses the alternative account that analyzes the case-inflected portion as a cataphoric pronoun. As Afros (2006:10) mentions, however, this generalization 'is not without exception', but she does not point out which types of exceptional examples she has in mind. In another context, Afros mentions the following type of examples.

- (63) ... þanuh þan salida in **þammei** was **stada** twans dagans
 then PTCL stayed in that.DAT.SG.N.COMP was place two days
 '... then He stayed two days in the place in which He was'

(John 11:6; adapted from Afros 2010:13, ex. 31, glosses added)

Here, the relative clause introduced by the complementizer *ei* intervenes between the demonstrative determiner (*þamma*) and the relative head (*stada*) (Afros 2010:13). Nevertheless, *ei* phonologically cliticizes to *þamma*, as evidenced by the fact that the latter has lost its final *-a*.³⁵

To my knowledge, inflected complementizers in object clauses do not occur in the modern or historical Germanic languages.³⁶ Modern German is a language that still has

³⁴ Evidence for phonological cliticization is provided by the fact that the final unstressed *-a* is elided in the dative cases, as in 62a,b, and that the final *-z* is not devoiced in the genitive cases, as in 62c. See Harbert 1992:114 on parallel effects in free relative clauses.

³⁵ Note, however, that if one analyzes such examples as correlative constructions and adopts the raising analysis of relative clauses (e.g. Kayne 1994, Bianchi 1999), the pronominal relative head (= *þata*) is raised from within the *ei*-clause. Compare also Roberts and Roussou (2003:119, ex. 77b), who propose the following analysis for relative clauses of the type *þamma daga ei* 'the day when' or *þatei* 'this that' going back to Kayne (1994:86–87).

(i) ... [DP *þamma* [CP [NP *daga*] [C *ei*] [IP ... *t_{daga}*]]]

(ii) ... [DP *that* [C *ei*]] ... OR ... [C *thatei*] ...

(Roberts & Roussou 2003:119, ex. 77a,b)

³⁶ The exact type of inflected complementizers that Harbert (1983, 1992) posits for Gothic examples as in 62 do not occur elsewhere in Germanic. He does give parallel examples with canonical relative clauses in

genitive or dative objects. As has been shown in §2.2 above, predicates that subcategorize for genitive or dative objects are not combined with inflected complementizers in case of a sentential realization of the object.³⁷ Rather, the genitive or dative case inflection is realized on a correlative pronoun in the matrix clause in the same way as is argued by Afros (2006) for the Gothic examples in 62.

4.3. RELATIVIZERS IN PREPOSITIONAL CORRELATIVE CONSTRUCTIONS. Further evidence that *thaz* has the status of a relativizer in the OHG correlative construction is provided by adverbial subordinate clauses introduced by complex ‘prepositional conjunctions’ (Mitchell 1984:275). In OHG, they are built of the following components: ‘preposition + neuter demonstrative pronoun in instrumental/accusative case + *thaz*’, for example, *in thiū thaz* (lit. ‘in that that’) ‘when, as, by’, ‘so that’; *zi thiū thaz* (lit. ‘to that that’) ‘so that, in order that’; *unz thaz thaz* (lit. ‘until that that’) ‘until’; *nāh thiū thaz* (lit. ‘after that that’) ‘after, according to’; and *mit thiū thaz* (lit. ‘with that that’) ‘when, while’. The Latin sources usually show a monomorphemic subjunction in such cases.

- (64) a. *Inti thō her thara quam artota In theru burgi | ... | zi thiū thaz*
 and when he there came dwelt in this city to that.INS that
gifullit uuvrdi | thaz giqu&an uuas thuruh thie uūzagon
 fulfilled became.SBJV what spoken was through the prophets
 ‘And when he came there, he dwelt in this city ... so that it might be
 fulfilled which was spoken by the prophets’
 Latin: & ueniens habitauit In ciuitate | ... | **ut** adimpler&ur | quod dictum
 est per proph&as’ (Tatian 42.3–6)
- b. *uuanta eo unzi daz thaz iuuer | eogaliher the selpun galaupa*
 because ever until that that you.GEN everybody the same belief
sinan | fillol kalerit za farnemanne ...
 his son teaches to understand
 ‘because each of you, as long as he teaches his son to understand the
 same belief ...’
 Latin: quia, **donec** unusquisque uestrum eandem fidem filiolum suum
 ad intellegendum docuerit, ...

(*Exhortatio*, manuscript B; Steinmeyer ed., 50.33–35)

According to Fleischmann (1973:178, 203), *thaz* is a relativizer in such cases. In some cases there are alternative realizations of the complex clause introducers that contain *sō* (e.g. *nāh diu sō* ‘after, in the same way as’, *after dhiu sō* ‘after’) (cf. 65b). *Sō* is generally analyzed as a relative particle (e.g. Erdmann 1874, vol. 1:54, 57).

modern English (cf. (i)). Note, however, that on Harbert’s analysis, examples such as 62 are not relative clauses, but object clauses.

- (i) The Seventh Angel, whom Jensen made the end of the world predictions.

(*Ithaca Journal*; cited from Harbert 1992:120, ex. 16a)

³⁷ Examples as in (i) and (ii) are ungrammatical.

- (i) *Wir widersprechen, **dem** die Beiträge erhöht werden.
 we object DAT.SG.N.COMP the fees increased become
 ‘We object to the fact that the fees will be increased.’
- (ii) *Wir gedenken, **dessen** viele Soldaten gefallen sind.
 we commemorate GEN.SG.N.COMP many soldiers fallen are
 ‘We commemorate the fact that many soldiers have fallen.’

- (65) a. **nah diu** **daz** alliu ding gote lebent . unde sines uuillen fulgent
 after that.INS that all things God live and his will follow
 ‘in accordance with the fact that all things live for God and follow his
 will’ (Notker *Psalterium* 396.15; cited from Müller & Frings 1959:43,
 glosses and translation added)
- b. **nah diu** **so** du | mih geuuerdest geuuisen durh | dina
 after that.INS so you me dignify call through your
 almahtigun gnada.
 almighty grace
 ‘in the same way as you have called me in your almighty grace’
 (Erster Wessobrunner Glauben und Beichte, Steinmeyer ed., 135.6–8,
 glosses and translation added)

The Old English adverbial clause introducers that show the corresponding pattern occur with the relative particle *þe*. The demonstrative shows either dative or instrumental case: *ær þam/þan þe* ‘before’, *for þam/þan þe* ‘because’, *mid þam þe* ‘when, by the fact that, on condition that’, *æfter þam/þan þe* ‘after’, and so forth (cf. Allen 1977:132).

- (66) a. ac we ðe æton mid him, and eac swilce druncon, **æfter**
 but we REL.PTCL ate with him and also suchwise drank after
ðam **ðe** he aras of ðam deaðe gesund ...
 that.DAT REL.PTCL he rose of that death sound
 ‘but we who ate with him, and also drank, after he rose sound from
 death ...’ (Alc.P.IX.161; adapted from Allen 1977:131, ex. 176, glosses added)
- b. Hys nama is Haelend, **for ðan** **ðe** he gehaelp his folc
 his name is Savior for that.INS REL.PTCL he helps his folk
 ‘His name his Savior, because he helps his folk’
 (Alc.P.II.95; adapted from Allen 1977:131, ex. 178, glosses added)

As I have argued above for (nonprepositional) correlative constructions, Allen proposes to analyze such examples as relative structures and draws a parallel to modern English noun-complement clauses:

these structures are exactly like relative clauses, except that there is no shared material in the upper and lower clauses. Instead, the head of the relative clause, in these cases a demonstrative pronoun, refers to the whole subordinate clause, as in Modern English *the fact that*, *the suggestion that*, *the idea that*, etc. when there is no NP in the lower clause coreferential with *fact*, *suggestion*, or *idea*. If the suggestion that these constructions are a type of relative clause is correct, we now have an explanation for why these clauses have *ðe*, rather than *ðæt*, as a complementizer, since *ðe* was the normal complementizer for relatives. (Allen 1977:136–37)

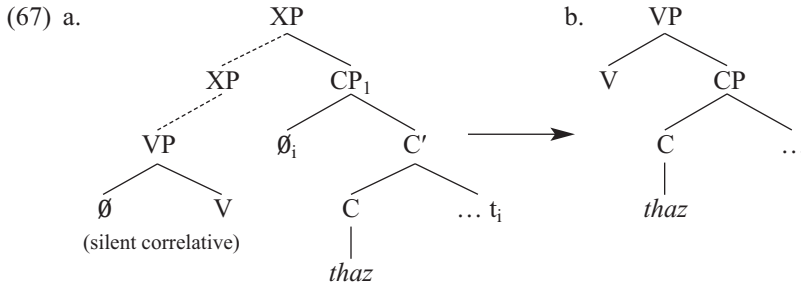
Allen thus anticipates the hypothesis currently being discussed that apparent noun-complement clauses are in fact relative clauses (cf. §2.3).

To sum up, in OHG, Old English, and Gothic there is independent evidence that the clause-introducing element in a correlative clause can be used as a relativizer.

5. THE DEVELOPMENT OF *THAT*-COMPLEMENTATION.

5.1. GERMANIC: FROM CORRELATION TO COMPLEMENTATION. In the previous sections I provided evidence for the correlative construction in OHG and in other Old Germanic languages and for the complementation construction in OHG. I furthermore proposed that the dependent clause in the correlative construction was a type of relative clause and that, consequently, *thaz* was a relative complementizer in this syntactic environment. I also argued on the basis of evidence from modern German for the existence of silent correlative elements. Diachronically, it is thus a plausible scenario that the declarative complement clause developed out of a reanalysis of the correlative construc-

tion in the variant with a silent correlative. In the source structure in 67a,³⁸ the *thaz*-clause is an explicative relative clause associated with a silent correlative and base-generated in a right-peripheral adjunct position to a matrix functional projection (= XP). *Thaz* is a relative particle base-generated in C. In the target structure, the *thaz*-CP is base-generated in a right-hand complement position. *Thaz* is the declarative complementizer. Surface-structurally, the source and target structure are identical.



This new scenario has several conceptual and empirical advantages compared to the classic approach: no radical reanalysis of the sentence boundary has to be stipulated since *thaz* was a constituent of the second clause before and after the reanalysis. The reanalysis of the status of the *thaz*-clause was less drastic: the second clause was a dependent clause even before the reanalysis, which also allows us to account for the fact that verb-final order in the *thaz*-clause was diachronically stable. Its status just changed from that of an adjunct clause to a complement clause. Finally, the clause introducer in the source structure was already a C-element, not a pronoun.³⁹

It is thus only accidental that the declarative complementizer is homonymous with the neuter form of the demonstrative. This homonymy is simply due to the fact that *thaz* was used as a relative complementizer in the correlative construction.⁴⁰ In the new scenario the complementizer *thaz* did not directly evolve from the nominative/accusative form of the demonstrative pronoun, but from the relative particle, which in turn developed out of the neuter relative pronoun.

(68) *thaz*: demonstrative pronoun > neuter relative pronoun > relative complementizer > declarative complementizer⁴¹

³⁸ See also 31 above for the parallel Haegemanian-style analysis of the corresponding construction with an overt correlative.

³⁹ As mentioned in §2.3, there are some recent proposals according to which clausal ‘complements’ in general should be analyzed as relative clauses (e.g. Arsenijević 2009, Kayne 2014). Under this generalized relative-clause hypothesis, which I have not adopted here, 67b would not be the correct target structure in the diachronic evolution of the *dass/that*-clause. There would have been no shift from adjunction to complementation at all.

⁴⁰ As was argued above, in Old English at least, the source construction with a silent correlative or dummy DP would be a typical syntactic environment for relative *þæt* since the correlative/dummy DP would be of neuter gender. It is thus not surprising that it was exactly *þæt* that developed into the declarative complementizer.

⁴¹ As was mentioned above in §2.3, Bayer (2001) argues that in Bengali the declarative complementizer *je* was directly reanalyzed from the relative pronoun without the intermediate step of a relative particle. In the case of OHG and most other old Germanic languages, we have evidence for the existence of a *that*-type relative particle. The assumption of this intermediate step in the diachronic evolution of the declarative complementizers is also more in line with the current synchronic analyses of apparent noun-complement clauses as relative clauses (cf. §2.3).

As a referee points out, Gothic *þatei* may be a counterexample to the chronology in 68, as there is no evidence that *þatei* could be used as a C-relativizer in constructions that are not of the correlative/explicative

As summarized in Harbert 2007:415, ‘the GMC languages are united in employing reflexes of the demonstrative pronoun **tod* for the formation of complementizers’.⁴² The etymological relatedness alone does not prove, however, that *that*-type complementizers developed from the demonstrative pronoun, as is traditionally assumed. Since the West Germanic languages and Gothic also all have relative pronouns based on the demonstrative paradigm, Harbert (2007:434) argues that the ‘template’ consisting of a D-relative pronoun and a relative complementizer must have been inherited from Proto-Germanic.⁴³ It is thus equally plausible that *that*-type complementizers are of relative origin. As outlined above in §4.2, Gothic also has a *that*-type complementizer, namely *patei*. This is a complex formation consisting of *pat(a)*, which is of the same provenience as the homophonous neuter demonstrative pronoun *pat(a)* and *ei*. Since Gothic *patei* incorporates *-ei*, it is not possible to reconstruct a *that*-type complementizer for Proto-Germanic. On the alternative scenario proposed here, the Germanic *that*-type complementizers have evolved from relativizers through convergent developments. Besides *patei*, (nonclitic) *ei* (sporadically also *pei*) is also used as a declarative complementizer.

(69) wenja auk **ei** þairh bidos izwaros fragibaidau izwis.

hope PTCL that through prayers yours be.given.SBJV you.DAT.PL

‘for I hope that through your prayers I shall be given unto you’

(Philemon 1:22; adapted from Streitberg 1920:237, glosses and translation added)

Ei cannot have developed from a cataphoric demonstrative in the way assumed in the traditional scenario since it is generally taken to have evolved from the locative singular of the Indo-Germanic demonstrative stem **e/o* with the basic meaning ‘there, so’ (Streitberg 1920:§344, W. P. Lehmann 1986:99).

If the hypothesis that the complementation construction evolved from a reanalysis of the correlative construction is correct, this would also offer a diachronic explanation for the synchronic peculiarity that complement clauses in German occur to the right of the governing verb, that is, in a VO-structure rather than in the canonical OV-structure.⁴⁴ Note that even in Vedic, a language where relative clauses could be pre-, intra-, or postposed, explicative clauses always occurred in postposed position (Hetztrich 1988).

It must be conceded, however, that the proposed chronology of developments is speculative. In OHG all of the relevant constructions (i.e. the correlative and the complementation construction) and all of the grammatical functions/categorizations of *thaz* (relativizer and declarative complementizer) are already attested, so that the diachronic developments proposed in 67/68 must have taken place in pre-OHG times. The same is

type. In canonical relative clauses, *patei* is attested only with neuter heads, in which case there is, of course, no need to depart from the traditional assumption that it is a relative PRONOUN.

⁴² According to Cleasby and Vigfusson (1874:28–29), the Scandinavian complementizers *ad*, *at*, *att*, which have all dropped the initial dental, are also of the same origin (cf. Hellquist 1922:22 and Wessén 1970:299–300 on Old Swedish). Heusler (1967:153–54) points out that Old Icelandic *at* is etymologically and semantically related to Gothic *patei* and West Germanic *pat* (High German *daz*).

⁴³ Compare also Lühr (2004), who argues that the use of the demonstrative as a relative must be of Proto-Germanic origin. She refers to Gothic *saei*, *patei*, *soei* (with the enclitic particle *-ei*) and Old Icelandic *sá*, *sú*, *þat*, which combine with the relative particles *er*, *at* (Lühr 2004, n. 18). Old Icelandic relative clauses were also often introduced only by a particle. In Classical Old Icelandic, the most prominent particle was *er*, and the use of *at* was less frequent; later *sem* is also attested (Noreen 1923:319, Heusler 1967:153, 158, Nedoma 2001:120). See also Wessén 1970:287 on the use of *at* as a relative particle in Old Swedish.

⁴⁴ This peculiarity would, of course, also follow from the traditional scenario, according to which *that*-complementation arose from a paratactic sequence of clauses.

true for Old English and arguably for Old Saxon, as was shown above.⁴⁵ It is even possible that the *that*-type complementizer already belonged to the syntactic repertoire of Proto-West-Germanic.⁴⁶

A referee objects that synchronic polyfunctionality/homophony may not be the result of a diachronic process in the course of which the declarative complementizer *thaz* developed out of a relativizer, as we propose. S/he suggests that the synchronic similarity should rather be analyzed as resulting from shared morphosyntactic expression of specific structural similarities.

Since in the Germanic languages the development of complementizers falls into pre-historic times, it may be helpful to search for evidence from non-Germanic languages to deal with the question of synchronic polyfunctionality vs. diachronic evolution.

5.2. EVIDENCE FOR THE DEVELOPMENT OF DECLARATIVE COMPLEMENTIZERS FROM RELATIVIZERS FROM OUTSIDE GERMANIC. It should be noted that, crosslinguistically, we find evidence for both chronologies: correlative construction > complementation construction, and relativizer > declarative complementizer.

As already summarized in §2.1, research on the oldest Indo-European languages has revealed that there was indeed an attested stage in Vedic and Hittite where declarative complement clauses had not yet evolved and where only the correlative construction existed. So the object-clause grammars of (old) Vedic and Hittite can be argued to be attested instantiations of the source structure that I posit for Germanic in 67. The scenario proposed above for OHG gains further support from many non-Germanic languages in which the declarative complementizer evolved from a relativizer.

According to C. Lehmann (1984:393), in Old Italian *che* functioned as an indeclinable relativizer that could be used in resumptive relative clauses, as in 70. He considers it a plausible scenario that the declarative complementizer had the form *que/che* since the general relativizer had already taken on this form. He compares this with Babylonian, where the universal conjunction *ša* developed from a relative subordinator (C. Lehmann 1984:393, 92).

(70) Tui [sic] hai un'altra cosa **che** non la ho io.

you have an:other thing that not it have I

'You have another thing that I don't have'

(Dec 3.10; adapted from C. Lehmann 1984:393, ex. 92, glosses and translation added)

In Old French as well, *que/ke* is used as a relative complementizer similar to modern English *that* or OHG *thaz*. According to Buridant (2000:§408, p. 585), it assumes the function of a 'relatif universel' early on in many varieties of Old French and continues to spread until the thirteenth century, thereby pushing back the relative pronoun *qui*.⁴⁷

(71) Pur sage deveroit hon tenir

for wise should one hold

Celui **ke** porroit souvenir

that.one that could remember

⁴⁵ In §2.2, it was shown that the correlative construction was frequently attested in Old Saxon. Further research would clarify whether we find evidence for long extraction in examples without correlatives (as in OHG) and whether Old Saxon *that* was also used as a relative complementizer.

⁴⁶ It may be even of Proto-North-West Germanic origin. Wessén (1970:300) argues 'that the *att*-sentence in its Old Swedish form was already fully developed in the Common Norse period'. In Old Icelandic we already find *at*-sentences with long extractions parallel to the OHG examples discussed in §3 (cf. Nedoma 2001:§51.1.c, Faarlund 1994:68).

⁴⁷ The indeclinable relativizer *que/che* is also used in the modern Romance languages, but only in nonstandard sociolects (C. Lehmann 1995:1212).

Dont il es fait e qui le cria
of.which he is made and who him created

‘One might consider that person wise who could remember of what he was made and who created him.’

(*VieSAud*, 3–5; adapted from Buridant 2000:585, glosses and translation added)

Que, however, is not only a universal relativizer, but also a polyfunctional subordinating conjunction (‘une conjonction de subordination à valeur générale’; Buridant 2000:564). The subordinating conjunction develops from the indeclinable relativizer during the second half of the first millennium and assumes the functions of the subjunction *quod*: it develops first into a declarative complementizer (cf. 72) and is later also used to express adverbial (causal, consecutive, etc.) relations (Buridant 2000:566).

- (72) Nuncent al pedre **que** nel pourrent truver
announced at father that nothing could find

‘They announced to their father that they couldn’t find anything’

(Alexis, 127; adapted from Buridant 2000:565, glosses and translation added)

In a similar vein, in Modern Greek *pou* is used both as an indeclinable relativizer and as a declarative complementizer selected by factive predicates (Roberts & Roussou 2003:120).

- (73) a. [To vivlio [**pou** aghorases]] ine endhiaferon.
the book that bought.2SG is interesting
‘The book that you bought is interesting.’

(Roberts & Roussou 2003:120, ex. 81a)

- b. Lipame [**pou** efijes toso noris].
am.sorry that left.2SG so early

‘I am sorry that you left so early.’ (Roberts & Roussou 2003:120, ex. 81c)

Historically, *pou* derives from the Classical Greek relative adverb *hopou*, which first only modified locative expressions and was thus probably a SpecC-element, that is, an operator (Roberts & Roussou 2003:120). In a further step it developed into a generalized indeclinable relativizer. In the Byzantine period it furthermore acquired the status of a declarative complementizer after factive predicates. Roberts and Roussou sketch the reanalysis from relative operator to a C-element as follows.

- (74) [_{CP} opou_i ... [_C] [_{IP} ... t_i ...]] → [_{CP} [_C pou]]

(adapted from Roberts & Roussou 2003:121, ex. 82)

Further evidence is provided by the Slavic languages. As Meyer (2010) demonstrates, Old Russian made use of a large inventory of relativizers falling into two groups: those with a demonstrative base (= *ī*-base) (i.e. inflected and noninflected *iže*, *jaže*, and *eže*) and those with a WH-base (= **k*-base) (e.g. inflected and noninflected *čto* ‘what’, *kto* ‘who’, *koj* ‘who’). Members of both groups are also used as complement-clause subordinators/declarative complementizers. *Iže*, *jaže*, and *eže* occur as declarative complementizers mainly in the chronicles and in documents strongly influenced by Old Church Slavonic. They are rarely attested from the fifteenth century onward and are largely limited to highly literary or religious styles (Meyer 2010). In Middle Russian (fifteenth to seventeenth century), *čto* instead becomes the dominant declarative complementizer. This is, however, a secondary development; the use as a relativizer is clearly older. Relative *čto* (also in the noninflected variant) is already widespread between the thirteenth and fifteenth centuries. For example, it occurs frequently in the birchbark charters.

- (75) *da vozmi u grigorij polo rublę cto sidoru sulilę*
 PTCL take at Grigorij half.M ruble that Sidor.DAT promised
 ‘take the half ruble from Grigorij which he promised to Sidor’
 (birchbark charters nr. 260, 14th century; cited from Meyer 2010:5, ex. 8a,
 attributed to Mendoza 2007)

In the birchbark charters (1100–1500), the use of *čto* as a declarative complementizer is still very marginal: only two clear attestations have been reported in the literature. Interestingly, in those two examples, the *čto*-clause is associated with a correlative element in the matrix clause (= *na tomę* in 76) parallel to the (pre-)OHG structure in 67a.

- (76) ... *na mene se šli na tomę cto esi konę poznalę u němcina*
 to me REFL refer on that that AUX.2SG horse recognized at German
 ‘refer to me concerning that you recognized a horse at the German’s place’
 (birchbark charters nr. 25, 1400–1410; cited from Meyer 2010:6, ex. 9)

Meyer (2010) provides further diachronic evidence for the development of noninflected relativizers in Old Church Slavonic, Polish, Czech, and Russian. He proposes the following two types of Spec-to-Head reanalysis.

- (77) a. $[_{CP} i-/jen- [_C ž(e)] [_{TP} \dots]] \rightarrow [_{CP} Op [_C iže/(j)ež(e)/již] [_{TP} \dots]]$
 (Old Russian, Old Czech, Old Polish)
 b. $[_{CP} čto [_C]] [_{TP} \dots] \rightarrow [_{CP} Op [_C čto] [_{TP} \dots]]$ (Old Russian)
 (adapted from Meyer 2010:6, ex. 10, 11)

Meyer concludes that the morphological characteristics of complementizers, relativizers, and demonstratives ‘clearly support an analysis in which the complement subordinator is derived from the non-inflected relativizer’ (2010:10). In the course of the reanalysis, the operator in SpecC and the relative feature in C were dropped.

Thus, unlike in German (and Gothic), there is evidence in Old French, Greek, and Russian that the respective relativizers had developed BEFORE the corresponding declarative complementizers. In these cases I do not speculate on a diachronic process on the basis of mere synchronic polyfunctionality. There is thus ample evidence in the Romance and Slavic languages, as well as in Greek, for the grammaticalization path ‘relativizer > declarative complementizer’. Outside of Indo-European, Heine and Kuteva (2002:54) mention that Hebrew *she/asher*, Thai *thîi*, and Chalcatongo Mixtec (Mexico) *xa=* are of relative origin.

The path ‘demonstrative > argument clause complementizer’, however, is hardly corroborated by evidence from outside Germanic (Heine & Kuteva 2002:255).

6. CONCLUSION. In this article it was argued that the declarative complementizer *dass* in German did not, as traditionally assumed, evolve from the demonstrative pronoun, but from a relative complementizer. A closer inspection of the OHG data revealed examples that show the existence of the relative complementizer *thaz*, which has died out almost completely in Standard German. This new account offers some conceptual advantages over the traditional scenario, which relies on the assumption that the demonstrative pronoun transferred across the clause boundary. In the scenario proposed here, the syntactic reanalyses involved are less radical. Notably there was no shift of clause boundary, as *thaz* always belonged to the subordinate clause. The emerging *thaz*-clause did not radically change from a main into a subordinate clause, but was a dependent clause from the beginning and merely underwent a reanalysis from an explicative relative clause, that is, an adjunct clause, into a complement clause. The new scenario is supported not only by evidence internal to OHG, but also by historical-comparative and

crosslinguistic evidence. Crucially, the development from relativizer into argument-clause complementizer is a widely attested grammaticalization path. In Germanic the relative pronoun happens to be of demonstrative origin, which has led to the misconception that the declarative complementizer evolved directly from the demonstrative.

We shall have to leave to further research the question of whether and to what extent the account outlined here provides corroborating evidence for the synchronically oriented analysis of clausal complementation as relativization (Arsenijević 2009).

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