The history of *so that* and the CP cycle

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Abstract
A basic assumption in this study is that the historical development of the purpose subordinator *so that* is not divorced from the development of three other purpose subordinators, namely *þæt þe, þæt/that*, and *so.* It is shown that all these forms are best viewed as related in that they are different stages resulting from the operation of the CP cycle. Data are presented indicating that, following the rise of *þæt þe,* the other three subordinators come into use consecutively later, which is crucial to the CP cycle claim. Also I address conceptual affinity between RESULT and PURPOSE as a factor facilitating the grammaticalization path from RESULT to PURPOSE and thus prompting the use of purposive *so that*, thereby prompting one of the stages in the CP cycle.

1. Introduction

A purpose clause is traditionally classified as a type of adverbial clause. In explaining how a purpose clause is semantically situated relative to its main clause, Cristofaro (2003:157) writes that '[p]urpose relations link two SoAs [states of affairs] one of which (the main one) is performed with the goal of obtaining the realization of another one (the dependent one).' The main state of affairs in this view is to be associated with what is syntactically a main clause while the dependent state of affairs is expressed through what is syntactically a dependent clause, i.e. an adverbial clause of purpose. A clause of purpose in English, if finite, has always called for the use of a purpose subordinator. This paper offers an analysis of four purpose subordinators, the cumulative use of which stretches over the history of English from the beginnings of the language to the present day.

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The title of this article singles out the subordinator *so that*, mostly on account of it being either explicitly pointed at or only alluded to as a main and most frequent purpose subordinator in PDE.[1] While I address some of the literature where the role of *so that* as a primary purpose subordinator is highlighted at the beginning of section 2, what I mean by allusions to *so that* is that the literature frequently lists examples of clauses introduced by *so that* when dealing with finite clauses of purpose in PDE in general. This is the case, for example, with Schmidtke-Bode (2009:30), who illustrates her discussion of English purpose clauses with (1).

(1) We went to the concert early **so that** we would get good seats.

A basic premise in this study is that the historical development of the purpose subordinator *so that* is not divorced from the development of three other purpose subordinators, namely *þæt þe, þæt/that*, and *so.* I aim to argue that the CP cycle, a series of cyclical changes affecting the CP layer of the clause as discussed by van Gelderen (2009, 2011), is to be held accountable for the successive development and use of the four subordinators. All these forms are best viewed as related in that they are different stages resulting from the operation of the CP cycle. In this sense the present study diverges from the accounts of the history of the prepositional subordinators of purpose such as *to the intent that, to the end that, to the effect that,* and *in order that* and in Nykiel & Łęcki (2013), Łęcki & Nykiel (2014), and Łęcki & Nykiel (forthcoming). There every subordinator is treated as a separate instance of grammaticalization or analogy.

This study has three objectives. The first objective is to collect all the forms, beginning with OE and ending with PDE, which can be related to the development of *so that* and then establish their chronology (section 2). Then I proceed to show how the grammaticalization path RESULT-to-PURPOSE accounts for the rise of *so that* (section 3). Finally I aim to argue for the CP cycle being involved in the development of *þæt þe, þæt/that*, *so that,* and *so* (section 4). It should also be added that in this study I work with both grammaticalization theory present in functionalist studies and van Gelderen's (2004, 2011) generative notion of grammaticalization with a view to achieving a wider picture of the grammaticalization cycle of the purpose subordinators.

[1] The following acronyms are used throughout the paper to refer to the periods in the history of English: OE for Old English (c. 450 – c. 1100), ME for Middle English (c. 1100 – 1500), EModE for Early Modern English (1500 – 1710), ModE for Modern English (1710 – present), and PDE for Present-day English (c. 1900 – present).

2. The diachrony of the four purpose subordinators

I begin this section with a glance at what grammar books of PDE list as purpose subordinators in finite clauses. A similar foray follows into grammars books of OE. Also I present data which testify to a chronology of the relevant purpose subordinators extending over the history of English from OE onwards.

So that, as exemplified in (2), is mentioned by Huddleston & Pullum (2002:727) as one of two subordinators, alongside less frequent *in order that*, capable of introducing finite clauses of purpose in PDE.

(2) *Please phone everybody before the meeting* ***so that*** *we can be sure of the quorum.*
(Huddleston & Pullum 2002:727)

It is also noted that *that* is readily omissible after *so,* which adds a third option to the array of subordinators (Huddleston & Pullum 2002:727). Quirk et al.'s (1985:1107-1108) account of the PDE purpose subordinators differs only to the extent that it links the distribution of the three forms, i.e. *so that*, *so*, and *in order that* to the levels of formality. Accordingly, *so* is the most informal option while *in order that* is the most formal. It is safe to say that the present-day situation raises no controversy in that *so that* is pointed to as the usual purpose subordinator in finite clauses.

So that goes back to OE, yet the situation is less clear-cut in that period. There are a few purpose subordinators available at the time. Shearin (1903:57-63) provides a list and a discussion of the OE subordinators which, as I intend to argue, can be seen as earlier variants of *so that* namely *þæt, þæt þe*, and *þætte (þæt+þe)*.[2] *So that* itself is absent from that list but it is included by Mitchell (1985:§2814) as *swa þæt(te)*. All these options are illustrated in examples (3).

(3) a. ðæt ic wille gescadwislicor gesecgean **ðæt** hit mon
that I will more-clearly say that it man
gearnor ongietan mæge
more-eagerly understand may
'I will say that more clearly so that people may understand it more eagerly'
Or 60.8 (DOEC)

[2] It is generally agreed that *þætte* results from *þæt* and *þe* merging together as one element, see, for example, Hosaka (2010:67)

b. bio ðu me in God gescildend and stowe getrymede
be you me in God protector and place strengthened

ðæt de halne mec gedo
that that safe me make
'Be for me God, a protector, a place of strength,
so that you may make me safe'
Vesp.Ps. 70.3 (in Shearin 1909:60)

c. Ðæt tacnað ðæt ðæt geðyld sceal gehealdan ðara gecorenra
that means that that patience shall hold those chosen

monna mod, **þætte** hit ne astyrige se wind þære ungeðylde
men minds that-that it not agitate that wind that impatience
'It means that patience has to restrain the minds of the chosen so that the wind of impatience will not agitate them'
CP 33.219.6 (DOEC)

d. Orsorh and blissigende ic cume to ðe, **swa þæt** ðu
free-from-care and rejoicing I come to you so that you

me blissigende underfo.
me rejoicing receive
'I come to you peaceful and rejoicing so that you will receive me rejoicing'
ÆCHom I. 38 517.300 (DOEC)

In the remaining part of this section, I bring together the existing views on the use and frequency of the above mentioned OE subordinators and provide my own data on the competition of *that* and *so that* in the later periods of the development of English.

Shearin (1903), Mitchell (1985:§2814, §2825), Traugott (1992:250), and Los (2007:37) agree that the most common subordinator of finite purpose clauses in every OE period is simply *þæt*. At the same time Mitchell (1985:§2831) says that *þæt þe* and its later development *þætte* are the oldest options. In Shearin's (1903:61) view *þætte* introduces more emphatic purpose clauses than *þæt*, yet Mitchell (1985:§2833) disagrees and assigns no credibility to that assessment. According to him *þætte* is simply older, which is reflected in it missing from the late OE prose (see Mitchell 1985:§2831). *Swa þæt* is present throughout OE but is less frequent than *þæt* and it may be a later variant. It is nevertheless difficult

to find evidence for it as *swa þæt* probably arose already in pre-historic OE. In order to see whether these tendencies hold true toward the end of OE and the beginning of ME, I have compared the frequency of *þæt*, i.e. the most frequent purpose subordinator in OE according to the literature, and *swa þæt,* which is arguably a later OE development and which is crucial from the PDE perspective, in two manuscripts of the Anglo-Saxon Chronicle. The two manuscripts are Manuscript A, the so called The Parker Chronicle, and Manuscript E, i.e. the Peterborough Chronicle. As noted by Garmonsway (1953:xxxiv), Manuscript A was copied by thirteen hands, the first of which, most probably the earliest scribe, copied entries up till the year 892. That is why I split the Manuscript A data into those taken from before 892 and those taken from after 892. Table 1 shows the number of the occurrences of *þæt* and *so þæt* in the two parts of the Parker Chronicle, which contain 8788 and 5806 words respectively, and the Peterborough Chronicle, which contains 47970 words total.

	Chron A <892	Chron A >892	Chron E
þæt+clause	6 = 100%	3 = 60%	20 = 74%
swa þæt+clause	0	2 = 40%	7 = 26%
Total	6 = 100%	5 = 100%	27 = 100%

Table 1. Purpose clauses introduced by *þæt* and *swa þæt* in the Anglo-Saxon Chronicle

In the entries till 892 there is no case of purposive *swa þæt* while there are six instances of the purposive subordinator *þæt*. After 892, despite a smaller total number of words, we have two cases of *swa þæt* against three cases of *þæt*. In Manuscript E, copied later, namely in the twelfth century, there are 27 finite clauses of purpose, 20 introduced by *þæt* and 7 by *swa þæt*. Altogether, the data from the chronicles confirm the observations found in the literature. Finite purpose clauses are not frequent in the chronicles on the whole, and typically, such a clause will be found with the subordinator *þæt*. *Swa þæt*, as expected, is a less frequent variant, but it also gains ground in late OE and early ME. Admittedly, *swa þæt* is also absent from the earliest part of the chronicles. Exactly how significant this absence is can only be assessed after earlier OE texts are examined, but this is beyond the scope of this study. In order to make the picture complete, I also conducted a search of the subordinators *þæt þe* and *þætte* in the chronicles which turned up no hits. This finding is consistent with the observation that these two subordinators are the earliest options, not available in late OE.

With the view to tracing the competition between *that* and *so that* as purpose subordinators toward the end of ME, EModE and in ModE, I have collected and counted the instances of each subordinator in three corpus samples, namely Caxton's edition of Malory's works as available in the Corpus of Middle English Prose and Verse (CMPEV), the last sub-period of EModE as singled out by The Penn-Helsinki Parsed Corpus of Early Modern English (PPCEME), and the last sub-period of Modern British English as distinguished by the Penn-Helsinki Parsed Corpus of Modern British English (PPCMBE). The obtained data are collated in Table 2. What is clearly noticeable in the data is that the role of *that* as the more frequent purpose subordinator of the two remains intact up till at least the second decade of the twentieth century. The long lasting dominance of purposive *that* over *so that* is as a matter of fact surprising in light of Schmidtke-Bode's (2009:195) statement that *that* is too bleached to serve as an adverbial subordinator without any additional reinforcement. The changes whereby *so that* takes over and ousts *that* from singlehandedly introducing purpose clauses are very recent and must have taken place after the first two decades of the twentieth century. This trajectory of change could be expected given the PDE situation in which it is *so that* that is a predominant purpose subordinator according to Huddleston & Pullum (2002), as already noted in this section. Interestingly, what might be an indication of those changes being imminent is the fact that 42 out of the 65 instances of purpose clauses introduced by *that* in the Modern British English part of my data, i.e. the data shown in the last column in Table 2, come from the conservative language of the 1881 translation of the Bible by Thomas Ellicott which is based on the Authorized Version of the Bible from 1611.

	Caxton's Malory (1485)	PENNEME3 (1640-1710)	PENNMBE3 (1840-1914)
that+clause	120 = 81%	182 = 84%	65 = 85%
so that+clause	28 = 19%	34 = 16%	11 = 15%
Total	148 = 100%	216 = 100%	76 = 100%

Table 2. Purpose clauses introduced by *that* and *so that* in various periods in the history of English

The latest addition to the array of purpose subordinators clearly related to *so that* is *so* when it alone introduces a purpose clause. The earliest example of that type given by the OED comes from 1851.

(4) Take your leg off from the crown of the anchor here, though, **so** I can pass the rope.
1851 H.Melville Moby Dick cxxi 564 (OED)

Ultimately two firm observations emerge when the analysis of the historical data and of the insights from Huddleston & Pullum (2002) and Quirk et al. (1985) concerning PDE are put together. Firstly, there is a clear chronology behind the emergence and use of each purpose subordinator and this chronology could be reconstructed as in (5). What the figure in (5) reflects is that the subordinator to the right of the > symbol arose later than the subordinator to the left of that symbol. Hence *þæt þe* (*þætte*) is the earliest purpose subordinator attested while *so* surfaces later than all the rest. At the same time the figure makes no assumptions as to when or whether each subordinator goes out of use, an obvious implication being that at a given point in time two subordinators, or more, can be used side by side while one is made use of more frequently than the other(s).

(5) *þæt þe / þætte > þæt > swa þæt / so that*[3] *> so*

Secondly, there is a degree of relatedness in the forms of all the subordinators. Each of them contains the complementizer *that*, either on its own or paired with another element. The notable exception to this structure is plain *so*, which, however, visibly overlaps with *so that* in form. I use this relatedness to argue in section 4 that (5) is also a reflection of a cyclical development which can be construed as an instance of the CP cycle. In this sense all the forms in (5) are also related as they represent different stages in the development of one cycle.

In this section I compiled and looked into all the subordinators in the history of English which are relevant to the history of *so that*. Also an attempt was made to show the chronology of those subordinators. The main focus of the next section is shifted precisely to a discussion of the reasons why the juxtaposition of *so* and *that* came to function as a purpose subordinator.

[3] The distinction between *swa þæt* and *so that* in this study is meant to only signify the difference in how the form was spelt in OE (primarily *swa þæt*) and in the later periods (primarily *so that*). Admittedly, this distinction obscures the fact that in OE there were other spelling variants of the subordinator as well as the fact that there were alternative spelling variants of *so that* in ME and even beyond (see OED: *s.v. so*). The transition from *swa þæt* to *so that* does not imply any change in the function of the subordinator.

3. PURPOSE vs. RESULT

In this section I highlight the rise of *swa þæt/so that* as a purpose subordinator, with the syntactic facets of the process receiving due attention in the next section. The reasons why I single out this form are twofold. Firstly, *so that,* as the most frequent finite purpose subordinator nowadays, is conspicuous from a PDE point of view. Secondly, as a form present throughout the history of English, *so that* lends itself to a diachronic investigation.

The function of PURPOSE in *so that* has been shown in the literature to be intertwined with the function of RESULT. In this respect *so that* is at the same time similar to and different from *that* with which it has competed since OE as a purpose subordinator, as shown in section 2. A similarity between the two is that *þæt* by itself is known to have been a multifunctional subordinator already in OE as it was employed in complement clauses and many types of adverbial clauses, e.g. cause (see Molencki 2012:67), RESULT, PURPOSE. *Swa þæt* on the other hand is primarily reserved for only two types of adverbial clauses, namely those of result and purpose. Both Shearin (1903) and Mitchell (1985) agree that this is the case in OE. Huddleston & Pullum (2002:733) point out that *so that* in PDE still has these two functions. Łęcki (2013) looks into instances of *so that* in the texts of the Katherine group from the early thirteenth century, and he finds that in most cases we have to do with result rather than purpose. Looking for a further confirmation of this observation, I conducted a similar analysis of the *so that* clauses in Manuscript A and E of the Anglo-Saxon Chronicle (14594 and 47970 words respectively) and in Caxton's Malory (c. 345000 words). It turns out that my data pattern in the same way. In each text I investigated, the number of result clauses with *so that* outnumbers that of purpose clauses with this subordinator, even if this conclusion can only be tentative for Manuscript A, where a very small overall number of relevant examples can be found. The general tendency is presented in Table 3, which shows that result clauses account for around 70 percent of the *so that* clauses. Given this imbalance, it could be argued that RESULT is a primary, and possibly earlier, function of *so that*.

	Chron A	Chron E	Caxton's Malory
Purpose	2 = 29%	7 = 19%	28 = 26%
Result	5 = 71%	27 = 73%	71 = 67%
Other/ambiguous	0	3 = 8%	7 = 7%
Total	7 = 100%	37 = 100%	106 = 100%

Table 3. Functions of *swa þæt* (*so that*) in the OE and ME data.

While clauses of both result and purpose can take the same subordinator, namely *swa þæt/so that,* there is a difference between the two types of clauses in that purposes clauses are marked for modality unlike result clauses. In my data this difference can be seen in that a purpose clause contains a subjunctive (SUB) verb form, as in (6a), or a modal verb, as in (6b), while a clause of result has an indicative (IND) verb form, as shown in (6c) and (6d).

(6) a Ðas landes ic gife Sancte Peter eal swa freolice swa ic seolf
these lands I give Saint Peter all as freely as I self
hit ahte, 7 **swa þet** nan min æftergengles þær nan þing
it had and so that no my successor there no thing
of ne nime.
of not take:3P-SUB
'I give these lands to Saint Peter with the same freedom as when I held them so that none of my successors will take them from there.'
?a1160 *Peterb.Chron*.(LdMisc 636) an.675 (CMEPV)

b. And thus at euery cours that he rode to and fro he chaunged his colour **so that** ther myghte neyther kynge nor knyghte haue redy congnyssaunce of hym
'thus each time he rode back and forth he changed his color so that neither the king nor any knight might easily recognize him.'
1485(a1470) Malory *Wks*.(Caxton :Vinaver) 260/2 (CMEPV)

c. Hæfde se cyning his fierd on tu tonumen, **swa þæt** hie
had that king his army on two divided so that they
wæron simle healfe æt ham, healfe ute,
were:3P-Pl-IND always half at home, half out
'The king had divided his army into two sections so that there was always half at home and half out,'
ChronA 893.14 (DOEC)

d. and Galahad smote hym **soo that** hys spere wente thorou his sholder /
'and sir Galahad struck him so that his spear went:3P-IND through his shoulder'
1485(a1470) Malory *Wks*.(Caxton :Vinaver) 630/17 (CMEPV)

As shown by Mitchell (1985:§2803), this distinction is far from watertight, as for example 'many OE verb forms are ambiguous for mood,' which is one of the reasons why there are instances ambiguous between result and purpose in Table 3. Modality marked in purpose clauses indicates that purpose clauses are 'non-factual, i.e. [they] describe an event that is considered to be unreal from the perspective of the temporal reference point of the main clause' (Hengeveld 1998:350). In (6a), for example, there is no guarantee that none of the successors got some of the lands given to the church of Saint Peter. In a result clause on the other hand the content is factual, which implies that in (6d) the spear did go through the knight's shoulder.

Verstraete (2008) shows that this difference between purpose and result clauses, i.e. the fact that the former contain a modality marker while the latter clauses do not, cuts much deeper. He argues that purpose clauses, unlike result clauses, are to be positioned somewhere between adverbial clauses and complement clauses instead of being lumped together with adverbial clauses, which is a usual practice. Two arguments that he gives in support of this claim are semantic. The first argument for purpose clauses being complement clause-like is that a purpose clause conveys the mental state of the agent of the main clause rather than that of the speaker. The mental state is the agent's intention to bring about the proposition in the purpose clause. The modality marker in a purpose clause is a formal sign of the purpose clause being semantically dependent on the main clause. The second argument made by Verstraete (2008) is that purpose clauses, much like complement clauses yet unlike many types of adverbial clauses, are not presupposed. The content of a purpose clause can be for example denied or questioned without disrupting the logic and meaning of the main clause. Schmidtke-Bode (2009) offers data that support this argumentation on morphosyntactic grounds. Working on a cross-linguistic sample of 80 languages, she discovers that in 62 (77.5 percent) of these languages 'at least one purpose clause construction shares some of its morphosyntactic properties with (certain kinds of) sentential complements, up to being completely identical with them' (Schmidtke-Bode 2009:158). She shows, for example, that a purpose subordinator can be at the same time used as a complementizer, as in Tzutujil, a Mayan language, or that purpose clauses and complement clauses can take identical verb forms, which is the case in, e.g. Yagua, a Peba-Yaguan language. Such arguments are in line with Lehmann's (1988), Bickel's (2010), Gast & Diessel's (2012) abandonment of strict dividing lines between subordinate clause types and

acknowledgement of gradience in clause linkage. Gradience allows graded membership, so accordingly purpose clauses, on account of sharing the above mentioned properties with complement clauses, cluster with them to some extent. Result clauses on the other hand display semantic properties of adverbial clauses in that they are not linked to the main clause agent by means of any special mental relation and they are presupposed, as shown by Verstraete (2008).

These arguments bear upon the syntactic status of a purpose clause in relation to the main clause. A purpose clause is more integrated into its main clause than a clause of result. Lehmann (1988:183) introduces a parameter called hierarchical downgrading which helps measure the degree of integration of a subordinate clause into the main clause. Hierarchical downgrading, as shown in (7) is a continuum extending between two poles, namely totally unintegrated paratactic clauses on one pole of the continuum and maximally integrated complement clauses on the other. If a purpose clause shows semantic and morphosyntactic affinity with a complement clause and a complement clause has the highest degree of integration, or is the most downgraded according to Lehmann (1988:185-186), then it follows that a purpose clause is more downgraded than a result clause.

(7) Hierarchical Downgrading

Earlier in this section, I tentatively concluded that the RESULT function of *so that* is diachronically earlier than PURPOSE as the former is the dominant function of *so that* in the OE and ME data. Together with the switch from RESULT to PURPOSE, *so that* comes to introduce purpose clauses, i.e. more hierarchically downgraded clauses. In this sense *so that* becomes more grammaticalized. Schmidtke-Bode (2009:178, 197) puts forward a trajectory of development from RESULT to PURPOSE (and from PURPOSE to RESULT), which, as she argues, results from the observation that there are PURPOSE markers cross-linguistically directly derived from former RESULT markers, e.g. in Sanumá, a language from the Yanomam family. Łęcki & Nykiel (2012) and Nykiel (2014) find more

data that tilt in favor of the postulation of the grammaticalization path from RESULT to PURPOSE. *So that,* since it arose as a RESULT marker but later came to function as a PURPOSE marker, is yet another instantiation of a development along this path, which at the same time serves to reaffirm the validity of the grammaticalization path itself.

This section has argued that the fact that *so that* has been a subordinator of result and of purpose is a consequence of grammaticalization down the RESULT-to-PURPOSE path. In the next section, I zoom out from the particular focus on *so that* and gather all the subordinators discussed in sections 2 and 3 with a view to showing how they all fit together in the development of the CP cycle.

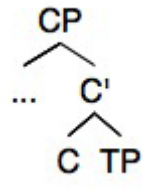
4. The CP cycle

While *so that* extends to PURPOSE following the RESULT-to-PURPOSE grammaticalization path, in order to account for the development of the purpose subordinators from OE to PDE shown in (5), and repeated here as (8) for the sake of convenience, I make use of the idea of the CP cycle as elaborated on by van Gelderen (2011). At the same time, the analysis of the cyclical changes presented in this section has many parallels with the analysis proposed for negation in English and the Scandinavian languages in Christensen (2005:185-202).

(8) *þæt þe / þætte > þæt > swa þæt /so that > so*

The CP cycle is an example of a linguistic cycle, a notion that has been frequently used in grammaticalization studies, both functionalist, e.g. Givón (1979:209, 232), Heine & Reh (1984:68ff.), and generative by van Gelderen (2008, 2009, 2011). A cycle or a cyclical change is understood as involving lexical material which becomes more grammatical before it turns to zero, at which point the same function can be renewed through another piece of lexical material being employed to serve this function. A claim associated with a linguistic cycle is that language change is unidirectional.

The CP cycle refers to changes in the CP layer of the clause. Following van Gelderen (2009:136), I assume that the CP layer serves to connect a clause 'to a higher clause or a speech event'. CP has been shown by Rizzi (1997) and Cinque (1999) to have an expanded structure in many languages but for my purposes it is enough to say that CP has the basic structure as in (9) where C is the head of CP and there is room for a specifier.

(9) 

Van Gelderen (2011:259-261) gives an example of the CP cycle relevant to this study, namely the development of *that* from a demonstrative pronoun to the head of CP. As a demonstrative pronoun *that* has interpretable phi-features and locative features. Phi-features are a bundle of features responsible for person and number agreement in English (van Gelderen 1997:13) and locative features enable a demonstrative to be used deictically (van Gelderen 2011:200). Since both types of features are interpretable, i.e. crucial to the interpretation of the sentence, as argued by Chomsky (1995:277), a demonstrative can stand on its own. As the phi-features and the locative features are reanalyzed as uninterpretable Tense features, *that* turns into a complementizer. The uninterpretable Tense features of the complementizer have to be checked by a corresponding instance of interpretable features further down the clause. The development from a demonstrative to a complementizer is shown in (10).

(10) demonstrative > complementizer
[i-phi] [i-loc] [u-T]

Van Gelderen (2011:261) further argues that *that* is at first reanalyzed as the specifier of CP and only later, in Late ME, as the head of CP. Evidence for *that* functioning as a specifier comes most of all from such OE examples as (3b), repeated here as (11a), where *þæt* precedes the OE complementizer *þe,* and, perhaps less certainly, from (3c) and (11b), where *þæt* and *þe* merge into one form, *þætte*.[4]

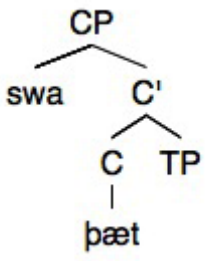
[4] As noted by an anonymous reviewer, merged *þætte* can be argued to be a case of a complex head rather than that of a specifier preceding the head.

(11) a. bio ðu me in God gescildend and stowe getrymede ðæt
be you me in God protector and place strengthened that
de halne mec gedo
that safe me make
'Be for me God, a protector, a place of strength, so that you may make me safe'
Vesp.Ps. 70.3 (in Shearin 1909:60)

b. ac Romane mid hiora cristnan cyninge Gode
but Romans with their Christian king God
<þeowiende> wæron, þætte he him for þæm ægþres geuþe,
serving were that he them for those both grant
'but Romans with their Christian king were devoted to God so that he may grant them both…'
Or 2 1.38.17 (DOEC)

Once the complementizer *þe* falls out of use, which happens by late OE, *þæt* can be reanalyzed as the head of CP due to the economy principle called the Head Preference Principle (HPP) (van Gelderen 2004). According to HPP, speakers tend to reinterpret the specifier of a phrase, i.e. a phrasal constituent, as the head. Van Gelderen (2011:261) points out that the reanalysis of *that* as the head does not take place until late ME when *that* becomes optional in a complement clause. The appearance of a structure such as *swa þæt* in OE indicates however that *þæt* can in fact be the head earlier. *Swa* is the specifier, as shown in (12), which means that *þæt* is in the head position in CP.

(12)

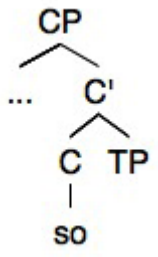


A question which arises at this point is how *swa* was reanalyzed as the specifier in CP. Huddleston & Pullum (2002:969) maintain that *so* in *so that* is a preposition although this seems quite unlikely. Neither the

OED nor B&T classify *swa/so* as a preposition. If *so* was a preposition, one would expect to find *swa* followed by a demonstrative pronoun. Often OE prepositions occur in SpecC as the head of a full PP before they are reanalyzed and occur alone in SpecC. This was the case for example with *after*, which occurred as *efter þan þet* (van Gelderen 2009:173), and with *to* which occured as *to þam þæt* (Nykiel 2014). This is not attested with *swa þæt*. It seems that an actual source of reanalysis of *swa* as a specifier of CP is an earlier reanalysis of *swa* as a specifier of CP in result clauses. As was shown in the previous section, *swa þæt* introduces clauses of result in OE all along, and *swa þæt* with this function has a stronger frequency than purposive *swa þæt* in both OE and *so that* in ME. It is argued by Schmidtke-Bode (2009) that PURPOSE is RESULT paired with the intention to achieve it. In Nykiel (2014:8), I argued that intention can arise as a pragmatic inference in the context of RESULT, giving rise to the meaning of PURPOSE. As a consequence of RESULT and PURPOSE being inferentially intertwined, I take it that *swa* gets reanalyzed in SpecC in purpose clauses in OE due to being earlier used as SpecC in clauses of result.

The last stage in the cyclical development of *so that* shown in (8) above is when *so* alone introduces a purpose clause. *So* as a sole subordinator of purpose is illustrated in (4). At this point, with the complementizer *that* gone, there are two options. The first option is that *so* is still in SpecC with interpretable features while the other option is that *so* has been reanalyzed as C with uninterpretable features whose exact nature has yet to be determined. The latter option is shown in (13). This reanalysis again follows the HPP, where a specifier is reanalyzed as a head, a development that we have seen affecting *that* in OE.

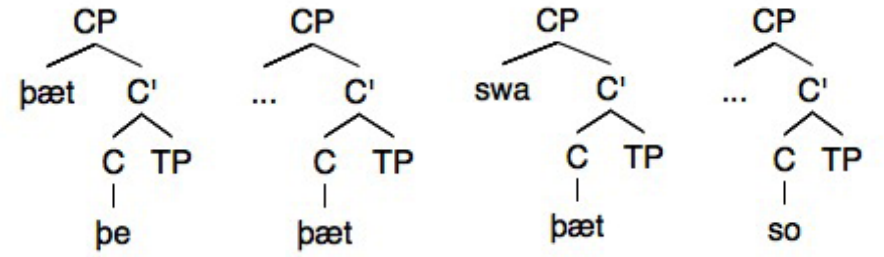
(13)



This stage completes the whole *so that* cycle as of now, as shown in (14). At the first state of the cycle, i.e. (14a), the purpose subordinator is composed of the head of CP *þe* and the specifier *þæt*. This stage is attested

in the early OE data. With the complementizer þe falling out of use, *þæt* comes to be reanalyzed as the head of CP as in (14b). Whether it happens in OE or ME is still debatable. Van Gelderen (1993:59ff.) offers compelling evidence from the acceptance of the optionality of complementizer *that* and from *that*-trace-effects suggestive of a ME reanalysis but given the stage in (14c) *that* must have been a head in OE. (14c) comes as the next stage in the cycle where the specifier is renewed through *swa* while *þæt* is a head. This development originates in OE and has continued up till PDE. Finally, as shown in (14d), the disappearance of the complementizer *that* paves the way for the specifier *so* to be reanalyzed as the head of CP. This change sets in in the nineteenth century.

(14) The cycle of finite PURPOSE *so that*



a. (early OE) b. (early OE to 20th c.) c. (early OE - to the present) d. (19th c. - to the present)

Incidentally it is worth noting that no similar development has affected *so that* of result clauses. Huddleston & Pullum (2002:733, 1540) maintain that if *that* is omitted from a clause of result, *so* is not a complementizer but an adverb or a coordinator and the clause that follows is a coordinated clause.

5. Final remarks

I have shown in this paper that four English purpose subordinators, namely *þæt þe* (*þætte*), *þæt*, *swa þæt* (*so that*), and *so* should not be perceived as independent developments. Rather there are good reasons to argue that they are all products of one cyclical set of changes, namely the CP cycle.

I have presented data that help establish the diachrony of the four subordinators, and the order in which they are arranged in (8) above is meant to reflect the chronological order. They are all consecutive developments

with overlapping stages. Two of these subordinators, i.e. *that* and *so that* have competed frequency-wise from OE till the early twentieth century with the latter prevailing only from the early twentieth century onwards. Due to this long lasting competition between the two subordinators, much of my attention in this study has been devoted to them. I have further argued that due to PURPOSE and RESULT being inferentially intertwined, *so that* took on the function of a purpose subordinator after initially it only introduced clauses of result. At the same time, this development bears the features of grammaticalization, as a purpose clause is grammaticalized to the extent that it shows a degree of integration into the main clause, much as complement clauses do, and unlike clauses of result, which are typical adverbial clauses. As for the CP cycle, it serves to remove focus from *that* and *so that* and take a bird's eye view of the successive emergence of the four subordinators. Much of the change happening is driven by the HPP, i.e. specifier-to-head reanalysis. Accordingly, *þæt* in *þæt þe* is in SpecCP only to be reanalyzed as C when it surfaces as the subordinator *þæt/that*. SpecC is then renewed by *so*, itself undergoing the specifier-to-head reanalysis afterwards.

Importantly, in order to achieve a broad insight into the purpose subordinators, this study makes use of both functional and generative approaches to grammaticalization. As I hope to have shown, the two approaches complement each other (see also e.g. Bjerre et al. 2008 and Newmeyer 2010). Exclusion of either perspective, i.e. the functionalist idea of a grammaticalization path or a formal construal of the CP cycle, would have resulted in a less thorough description of the data.

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