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From phrase to clause: On the development of present participle and verbal noun in Middle Scots

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On the development of present participle and verbal noun in Middle Scots

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This paper aims to contribute to the discussion on the diachronic development of the present participle and the verbal noun in *-ing* in English as well as in Scots, a language very closely related to English. More specifically, the paper addresses the question of whether there is a correlation, or even a causal relationship, between the two main phenomena which have shaped the development of these forms. These are, one the one hand, the phenomenon of non-finite phrases developing into clauses ('clausalisation'), and, on the other hand, the formal and functional collapse of the participle and verbal noun. Based on evidence gained from a quantitative study of the Helsinki Corpus of Older Scots (HCOS), it is suggested that there was a bi-directional impact of the two processes on each other.

1. Introduction[1]

The history of the English *-ing*-forms is a well-known and almost excessively well-researched issue in historical linguistics, which "has puzzled grammarians for many decades" (Duffley 2006: 167) and is yet still not completely resolved – not least due to the enormous complexity of the different processes and phenomena involved.

The most striking point concerning their history is that the Present Day English (PDE) situation of one category with one form in fact continues an original state of two distinct categories with two distinct forms. This is illustrated by the following examples, indicating that in Old English (OE), the suffix *-ung/-ing* was used exclusively to derive abstract de-verbal action nouns (1), which were clearly distinguished from present participles (2) formed by means of the suffix *-Vnd(e)*.[2] In the course to PDE, however, these two categories were

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[1]The present paper is based on a more extensive work (Zehentner 2012).

[2] The quality of the suffix-initial vowel is not specified here, as it differed regionally - in the Northern dialects, *-and(e)* prevailed, while *-end(e)* and *-ind(e)* are primarily found in texts from the Midlands and Southern regions, respectively (Mustanoja 1960: 547).

conflated into one category with two poles, representing a complex gradience "from deverbal nouns via verbal nouns to participles" (Quirk et al. 1985: 1290-1291), and characterised by one single suffix, namely *-ing* (3-9).

(1) He ongan arweorþian ða *drowunge* haligra martyra.
'He began to honour the suffering of the holy martyrs'
(Ælfred, Bede (Smith) 407, i; taken from Visser 1984: 1066)

(2) Her forðferde se *wellwillenda* bisceop Aðelwold.
'In this year died the benevolent bishop Athelwold'
(O.E. Chronicles, an. 984; taken from Visser 1984: 1071)

(3) some *paintings* of Brown('s)

(4) Brown's deft *painting* of his daughter is a delight to watch.

(5) Brown's deftly *painting* his daughter is a delight to watch.

(6) I watched Brown *painting* his daughter.

(7) The silently *painting* man is Brown.

(8) *Painting* his daughter, Brown noticed that his hand was shaking.

(9) Brown is *painting* his daughter.
(Examples taken from Quirk et al. 1985: 1290-1291)

The two main phenomena that can be identified as involved in the diachronic development of the present participle and the verbal noun are the following:

First, the phenomenon of 'clausalisation' (or 're-verbalisation'), i.e. phrases developing into non-finite clauses.[3] Such a development is visible in the gradual dissociation of present participles from their adjectival origins on the one hand, as well as in the acquisition of more and more verbal (or rather, clausal) features by the originally purely nominal verbal nouns in *-ing* on the other hand. The former, which is supposed to have started in the Old English period (cf. Swan 2003; Visser 1984), has received comparatively little attention in research,[4] while the latter, often referred to as the emergence of the 'gerund', is one of the most disputed problems in English linguistics.

Second, the formal and functional collapse of what were originally two categories (and two forms) into one single category (and one form) will be dealt with. The processes involved in this development are the ousting of the original *-Vnd-* suffix of the present participle by the *-ing*-suffix of the verbal noun from around 1200 onwards (cf. Lass 1992) as well as the concomitant and ongoing functional approximation of the two categories as discussed e.g. in De Smet (2010) and indicated in the gradience model of Quirk et al. (1985: 1290-1291).[5]

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[3]Following Quirk et al. (1985: 992-993), clauses are here defined "as a sequence of subject, verb, and object", while phrases typically represent the immediate constituents of clauses. Non-finite clauses, as concerned in this paper, may lack an overt subject; cf. the following examples:

   i)   I enjoy *part-time teaching* [NP]

   ii)   I enjoy *teaching undergraduates* [non-finite clause] (Quirk et al. 1985: 993, original emphasis).

[4] This is not to say that the participle itself and its history is not sufficiently well-researched, it is only the development from adjective phrase to non-finite clause as such that has not been explicitly treated.

[5]Cf. also Huddleston & Pullum (2002: 80-83; 1220-1222), who posit a merged category of 'gerund-participles', arguing that "[a] distinction between gerund and present participle can't be sustained".

The central aim of this paper then is to assess the relationship between these two phenomena, i.e. between the clausalisation and the merger of the present participle and the verbal noun in *-ing*. More specifically, the question of whether there is a correlation, or even a causal relationship, between the two phenomena, and the directionality of such a causal influence (should there be one) will be addressed. As will be demonstrated, the clausalisation can be taken to have motivated the merger to a great extent, while the merger in turn had a major impact on the further, later clausalisation of the form(s). It will be argued that this indicates a continuous and mutual impact of the two phenomena on each other.

Methodologically, the paper is based on an extensive quantitative study on the forms in question in the *Helsinki Corpus of Older Scots* (HCOS), comprising texts from the period of Middle Scots, i.e. 1450-1700. Scots, as a descendant of the Northumbrian dialect of Old English a sister language of PDE, and spoken mostly in Scotland, provides an interesting testing ground for these issues. This is due to the formal collapse of the non-finites having been delayed approximately 200 years in this variety, with the first *-ing*-participles only found in the early 15th century (Gardela 2011; Dons & Moessner 1999).

This deferral of a formal collapse has led to Scots being frequently drawn on in the discussion on the possible relationship between the phenomena. However, although studies on the Scots *-ing*-forms have been carried out,[6] they only cover partial aspects of the issue, and cannot claim conclusiveness. The syntactic development of present participle and verbal noun, and the clausalisation of the forms have, for instance, not received any attention, as the existing studies are primarily concerned with the formal merger of participle and verbal noun. The focus of these investigations is furthermore exclusively on the present participle, failing to take into account (and provide data for) the verbal noun ending in *-ing*. A more basic aim of this paper is, thus, to contribute to the study of non-finites in Scots, and to fill an empirical gap left by previous research.

The paper is structured as follows: Section 2 will introduce in more detail the two main phenomena concerned. In section 3, the quantitative corpus study carried out in the course of this project will be described. Section 4 will then present the main results of said study, which will be discussed in section 5. In the final section, the main conclusions will be drawn and possible steps to be taken in future research will be pointed out.

2. The phenomena

As argued above, the two main phenomena which have shaped the development of the English *-ing*-forms are first, the structural change from phrase to clause of both present participle and verbal noun, and second, the collapse of two categories formed by means of two distinct suffixes into one single category characterised by one single form. In the following sections, the central points concerning the definition and dating of these processes as well as their possible triggers will be discussed.

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[6] Cf. e.g. Dons & Moessner (1999); Devitt (1989); Gardela (2011); Meurman-Solin (2002).

2.1. From phrase to (non-finite) clause

The development from phrase to non-finite clause is neither exceptional nor restricted to the English participle and verbal noun, but appears to be a cross-linguistic phenomenon – as has been repeatedly demonstrated in the literature (cf. e.g. Disterheft 1980; Haspelmath 1989; De Smet 2010: 1184). A prime example regarding Indo-European languages is the infinitive, which typically "developed from a member of several fully productive nominal paradigms [e.g. fossilised case-forms of de-verbal abstract nouns] to a subcategory of the verbal system" (Disterheft 1980: 10). The Germanic infinitive, for instance, continues the accusative singular of a Proto-Indo-European (PIE) neuter abstract noun in *-*no* (Lass 1992: 145; Fortson 2010: 107-108; Szemerényi 1980: 325), cf. PIE *bhéronom* > OE *beran* 'to bear'. As shown by Los (2005: chapter 7), this infinitive, in its uninflected as well as in its inflected form, had already become largely dissociated from its nominal origins and had entered the verbal system by the Old English period, typically being analysed as a non-finite clause. This is illustrated by the following example (10), where the infinitive, although functioning as the subject of the sentence, governs an accusative object.

> (10) Stanes *asendan* seocnysse ge[tacnað].
> 'To throw stones signifies sickness'
> (AS Prognostics 3 (Cockayne); taken from Mitchell 1985: 642)

In contrast to English, the Modern High German infinitive has to a certain extent retained its nominal nature (cf. ex.11, in which the infinitive is modified by an adjective and governs a genitive object). Beside these nominal infinitives, however, German also shows clausalised, i.e. more verbal infinitive constructions (12), as well as mixed forms with "gleichzeitig nomen- wie verbtypische[n] Eigenschaften" (Demske 2000: 386; cf. ex.13).

> (11) Das häufige *Beobachten* des Kindes macht Spaß.
> '?The frequent observing of the child is fun'
> (12) Häufig das Kind *beobachten* macht Spaß.
> 'To frequently observe the child is fun'
> (13) Das Aufsätze schnell *Hinschreiben* ist sein größter Ehrgeiz.
> '*The quickly writing the essays is his greatest ambition'
> (Examples taken from Ehrich 1991: 443-444)

The processes typically involved in such a clausalisation of phrases are, among others, switchovers from governing a genitive object to an accusative one, from nominal to verbal modification, a loss of referential function and of determiner slots, as well as changes concerning control relationships (cf. De Smet 2010: 1184). The following Middle English (ME) sentence (14) provides an example of this change in progress, featuring the older pattern

'verbal noun + genitive (*of-*) object' alongside the innovative pattern 'verbal noun + accusative (direct) object'.[7]

> (14)   Sain Jon was [...] bisi In *ordaining* <u>of priestes, and clerkes</u>, And in *casting* <u>kirc werkes</u>
> 'Saint John was busy ordaining priests and clerks, and planning church works'
> (c1300, Engl. Metr. Hom. 112/2-4; taken from Tajima 1985: 76)

Furthermore, non-finites may "develop so far from nominal paradigms and so completely enter the verbal system [...] that they [...] acquire tense/voice marking just like any other verb form" (Disterheft 1980: 198). Seeing that all of these changes constitute a highly "complex re-configuration of the syntax of a phrase into that of a clause [they are] inevitably gradual" (De Smet 2010: 1184). Hints of their phrasal origins may therefore still be seen in the distribution of even the most fully clausalised constructions (De Smet 2010: 1184).[8]

    The reason why de-verbal adjectivisations such as the participle and nominalisations such as the verbal noun seem to be particularly prone to clausalisation processes and what "ma[kes] them unique candidates for a shift towards the verbal end of the nomino-verbal scale" (Fanego 2004: 25) can be sought in their inherently ambiguous nature (Swan 2003: 191). As non-prototypical members of their word classes in "designat[ing] events rather than objects or properties" (De Smet 2010: 1184),[9] they are likely to find themselves in ambiguous constructions which invite reanalysis processes (Swan 2003; Fanego 2004). A further important contributing factor is, as Fanego (2004: 25) points out, the "unlimited productivity and full morphosemantic transparency" of the forms.

    In the following sections, the history of the English present participle and verbal noun in *-ing* in regard to their clausalisation will be discussed.

2.1.1. Present participle

In PDE, the chief domains of the present participle are the appositive participle or converb (cf. 15 (= 8 above) - 16) as well as the usually called 'progressive participle' (17 = 9 above) (Kortmann 1995: 195). While the participial construction functions as an adverbial complement in (15) and (16),[10] the participle in (17) is distinctly verbal.

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[7]As a result of the broad erosion of the English inflectional system, which is assumed to have started in late Old English/ Early Middle English, case was increasingly assigned syntactically instead of morphologically (Fischer 1992: 233).

[8] Cf. e.g. the ability of the infinitive as well as the verbal noun to function as the subject or object of a finite verb, which has led some linguists to distinguish between a nominal external syntax and a verbal internal syntax of these forms (see, among others, Aarts 2007, 2008).

[9]Evidently, this ambiguity is simply a result of their being de-verbalisations in the first place (De Smet 2010, Swan 2003).

[10]Equalling a clause of time (*While Brown*...) in the former, in contrast to a reason clause (*Since Brown....*) in the latter case. The examples furthermore differ in that in (15), the subject of the participle construction is the same as the one of the matrix verb, whereas in (16) there are two distinct subjects.

(15)   *Painting* his daughter, Brown noticed that his hand was shaking.
(16)   Brown *painting* his daughter that day, I decided to go for a walk.
(17)   Brown is *painting* his daughter.
        (Examples taken from Quirk et al. 1985: 1291)

However, it is commonly acknowledged that the situation was different in earlier periods, "the participle [being] originally adjectival rather than verbal" (Mitchell & Robinson 2001: 110), and "incapable of verbal rection" (Kisbye 1971: 24). The capability to govern an accusative (20) instead of a genitive object (18-19), as well as the ability to function as a verb in subordinate clauses, among other more clausal characteristics, is thought to have developed during the OE period (Swan 2003: 191).

(18)   Hí <u>heora</u> *lufigendne* gemaciaþ weligne écelíce.
        'they make the lover of them rich eternally'
        (ÆCHom. ii. 88. 29; taken from Mitchell 1985: 410)
(19)   ða arn he to cyrcan [...], <u>fulluhtes</u> *biddende*.
        'then he ran to the church, asking for baptism'
        (ÆCHom ii. 498.29; taken from Mitchell 1985: 411)
(20)   Com se Hǽlend on Galileam <u>Godes ríces gódspell</u> *bodigende*.
        'The saviour came to Galilee, proclaiming the gospel of the kingdom of God'
        (Mk. Bos. 1, 14: Ps. Lamb. 2, 6.; Bosworth & Toller 1898: 114)

While influence from Latin most likely played a significant role in this development, "it [was] the inherent ambiguity of the participle which [left] it open for reanalysis" (Swan 2003: 191; Mustanoja 1960: 555), as already argued above. Reanalysis processes probably affected the participle in a twofold way: first, as Callaway (1901) points out, the participle's appositive function might have developed as a result of the ambiguity of attributive participles in post-position, "either because the noun had several participles modifying it at once or because the participle was itself modified" (1901: 149-150). An example of a context where the possibility for reanalysis could arise is provided by the following instance from the Blickling Homilies:

(21)   Ða eaðmodan heortan and ða *forhtgendan* and ða *bifigendan* and ða *cwacigendan* and ða *ondrædendan* heora Scyppend, ne forhogað ða næfre God ne ne forsyhð.
        'The humble and fearing and trembling and quaking hearts and those fearing their creator, God will never despise nor disregard'
        (Blick. Hom. 107.20; taken from Callaway 1901: 152)

A second conspicuous construction likely to invite reinterpretation is the participle in predicative function. While, as Swan (2003: 189) points out, "the distinction between adjective and verb (notably in structures with *be*) [was possibly] not yet categorical" in OE

(cf. 22-23), the pattern was later grammaticalised to an aspectual marker,[11] and its function is now clearly distinguished from a construction 'be + adjective (adjectival participle)'.

  (22) And swa *styrigende* ís seo sawul [...]
      'and so active is the soul...'
      (Æ 18, 131; example taken from Swan 2003: 183)
  (23) & he wæs *bodigende* on galilea ge-samnungum
      'and he was preaching in Galilee congregations'
      (OELuke 4, 44; example taken from Swan 2003: 187)

Both the participle as a clause-equivalent and the progressive participle greatly increase in frequency from Middle English (ME) onwards, the former increasingly appearing with the value of a final, consecutive, or concessive clause (Kisbye 1971: 42-43).

  Furthermore, the present participle, which "is by nature indifferent to distinctions of voice" and originally "admits of only relative time-distinctions" (Kisbye 1971: 36; 29), develops a compound passive of the type *being written* during the 15th century, while compound forms of the type *having seen* (expressing anteriority) are found from the 16th century onwards (Mustanoja 1960: 548). Voice-distinctions with the progressive participle (*be + being written*) only become possible in the late 18th to early 19th century, whereas different tense formations are already available with the progressive in the ME period (Kisbye 1971: 37). According to Disterheft (1980: 198), such changes indicate a highly advanced stage in entering the verbal system.

2.1.2. Verbal noun

As pointed out above, the history of the verbal noun has been "subject of much scholarly dispute" (Mustanoja 1960: 567) and abundant literature on both the gerund[12] in PDE as well as its diachronic development can be found (see, among others, Jespersen 1940: 108-50; Einenkel 1914; Dal 1952; Mustanoja 1960: 566-78; Visser 1984: 1165-1217; Emonds 1973; Tajima 1985, 1996, 1999; Donner 1986; Jack 1988; Houston 1989; Wurff 1993; Fanego 1996, 1998, 2004; Miller 2002; Kranich 2006; De Smet 2008).

  The narrative followed in this paper, although admittedly oversimplified, is the following: In OE, the suffix *-ung/-ing* is used to derive predominantly abstract nouns from verbal bases;[13] the resultant forms are purely nominal in their behaviour, i.e. allow for genitive case subjects or objects, are characterised by modification by adjectives and the presence of determiners (see 24-25), and other features typical of nouns.

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[11] In PDE, as the label 'progressive' already implies, the pattern 'be + present participle' is used to "indicate[...] a happening IN PROGRESS at a given time" (Quirk et al. 1985: 1291; original emphasis).

[12]In this paper, the term 'gerund' is used (exclusively) to refer to the verbal uses of the verbal noun in *-ing*.

[13]Kastovsky (2008: 388) divides these OE *-ung/-ing*-forms into the following (semantic) categories: action (*huntung* 'hunting'), agent (collectives; cf. *gaderung* 'gathering, assembly'), object/result (*beorning* 'incense'), instrumental (*lacnung* 'medicine') and locative (*wunung* 'dwelling').

(24)   ðurh <u>ðæra</u> <u>sacerda</u> *blawunge* toburston ða weallas.
         'through the blowing of the priests, the walls broke down'
         (c1000; taken from Visser 1963-73: 1165)

(25)   se sceal <u>ðæs pundes</u> *spendunge* Gode ágifan
         'he must repay the spending of the pound to God'
         (Homl. Th. ii. 556, 29; taken from Bosworth & Toller 1898: 901)

While, as Kisbye (1971: 55) points out, this *-ing*-form "keeps nicely within the syntactical boundaries of a noun until the middle of the 13th century", it gradually begins to show more and more clausal features towards the end of the ME period (Jack 1988: 15). The most characteristic of these features are "the ability to take a noun phrase as its direct object" (Fischer 1992: 252) instead of taking an *of*-object (26-27), the ability to be modified by an adverb (27), as well as the government of a predicative complement.

(26)   Sain Jon was [...] bisi [...] in *casting* <u>kirc werkes</u>
         'Saint John was busy planning church works'
         (c1300, Engl. Metr. Hom. 112/2-4; taken from Tajima 1985: 76)

(27)   in *telling* <u>ther jvdgments</u> <u>frielie</u>
         'in voluntarily telling their judgements'
         (Official correspondence, 1662)

The capability of being distinguished in tense and voice, in accordance with the above, as well as taking a subject in the oblique case (28) constitute further, later approximations to a clausal nature ($15^{th}/16^{th}$ ct., cf. Mustanoja 1960: 573; Tajima 1985).

(28)   You're not so bothered about <u>them</u> not *visiting* you anymore.
         (CB; taken from De Smet 2008: 4)

The proposed explanations for this expansion into clausal syntax are manifold, and cannot be commented on in detail here. An overview and discussion of all proposals made so far is provided in Jack (1988: 15-75), which includes e.g. approaches positing the formal coalescence of present participle and verbal noun as the main trigger of the development (Jespersen 1954; Mossé 1938), or others viewing the development as driven by foreign influences such as Celtic or Latin. Most of these proposals have, however, been convincingly rejected or remain inconclusive (Jack 1988; Fanego 1996).

     The approach most compatible with the one taken in this paper, is found in Fanego (2004), who stresses the importance of a set of syntactically ambiguous *-ing*-structures "which served as the basis for the reanalysis of a nominal category as a verbal one" (2004: 5; cf. also De Smet 2008). The patterns identified by Fanego as possibly allowing for multiple structural analyses (Harris & Campbell 1995: 61-72) are characterised by the absence of overt determiners (29) as well as their appearing with "constituents that could occur readily in both

NP or VP structure" (Fanego 2004: 49) such as *-ing*-forms with prepositional complements[14] (30).

> (29) þe biginnyng of wysdome is *dredyng* of our Lord
> 'the beginning of wisdom is dreading our lord'
> (a1359 Midland Prose Psalter 10.9; taken from Tajima 1985: 63; Fanego 2004: 20)
>
> (30) þe teares þe man wepeð for *longenge* to heuene
> 'the tears that man weeps in longing for heaven'
> (?a1200 Old English Homilies 151/17-18; taken from Tajima 1985: 107; Fanego 2004: 9)

As argued above, nominalisations such as the verbal noun in *-ing* are expected to show an increased probability to be syntactically reanalysed. This can be taken to present a typical case of 'form follows function' – the verbal 'meaning' of the forms (as de-verbalisations) made their syntactic behaviour follow.

2.2. The merger of present participle and verbal noun

As with the gerund, a very large body of literature has been published since the late 19th century on the ousting of the old participle ending *-Vnd* by *-ing*. Although a number of issues are still debated, what is commonly agreed on is that the process started in the early 13th century in the South of England, and was complete by 1500, *-ing* by then having become the dominant standard form in all English dialects (Lass 1992: 146; Luick 1964: 1005).

Concerning the causes of this merger, opinions can be divided into two groups: on the one hand, the merger is viewed as purely phonologically motivated; on the other hand, syntactic syncretism is considered its primary cause. Supporters of the latter group (cf. e.g. Faiß 1989: 248; Dobson 1968: 1950; Sweet 1898; Houston 1989; Denison 1993; Duffley 2006; De Smet 2010) argue that the replacement of *-Vnd* by *-ing* was motivated by the various semantic/syntactical points of contact and the functional overlaps between the infinitive, the verbal noun and the present participle.

By contrast, in the former and seemingly predominant view[15], the source of the merger is sought in the phonological approximation of the endings of the present participle, verbal noun and inflected infinitive in Middle English, which seemed to be "pratiquement interchangeable" (Mossé 1938: 87). This would then have resulted in confusion and insecurity with regard to the forms' use on part of the speakers and finally have led to the merger.[16] The

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[14] As Fanego (2004: 21) points out, "such prepositional phrases [...] can be governed by both nouns and verbs", cf. PDE *to believe in God* vs. *belief in God*.

[15] Represented by Einenkel (1914), Curme (1912), Rooth (1942), Dal (1952), Mossé (1957), Langenhove (1942), Gleißner (1979), Visser (1984), Luick ([1964]), and Callaway (1929), among others.

[16] The details of such an approximation differ slightly between the various accounts, but are generally concerned with the consonant cluster, since the reason that this process started in the South of England is usually sought in the fact that the present participle shared the vocalism of the verbal noun in this dialect (*-ind(e)*, see above); cf.

formal merger, triggered by phonological factors, is then assumed to have been followed by a "functional or syntactical confusion which threw the whole structural system out of gear" (Visser 1984: 1096, cf. also Swan 2003: 180).

As indicated above, the Scots present participle is thought to have retained its original ending for a much longer time than the English participle, although finally succumbing to -*ing* as well (except in some remote dialects). Opinions on the exact date of the expansion of -*ing* vary; however, most accounts agree on placing the process, from the appearance of first -*ing* participles to -*ing* becoming the norm, in the approximate time span of the early 15th century to the early 18th century (Macafee 2004; King 1997; Agutter 1990; Dons & Moessner 1999; Beal 1997; Grant & Dixon 1921; Murray 1873). The reasons behind this delay in merging are scarcely addressed in the literature; the only explanation to be found is in Langenhove (1925: 52), who attributes the greater stability of the distinction to the greater divergence of the vowel qualities of the respective suffixes (-*and* vs. -*ing*).[17]

Regarding the causes of the merger in Scots, again two main proposals can be found in the literature – first, phonological syncretism, and second, influence of the Southern standard (i.e. anglicising forces). The latter was identified as the key and only motivation of the merger by Devitt (1989), who treats this issue in her assessment of standardisation processes in 16th century Scots. Since the first -*ing*-forms would have preceded "the changes usually explained in terms of Anglicisation [by] more than a century" (Agutter 1990:4), however, anglicisation is regarded as at best a later, reinforcing or contributory factor by a majority of linguists (Agutter 1990: 4; Macafee 2004: 6.3.1.2). The initial triggers are instead sought in phonology – more specifically, the merger is taken to be the result of a general tendency to drop post-nasal mediae in all positions in combination with a reduction of the respective vowels, which would have increased the articulatory proximity of the suffixes (cf. Dieth 1932: 123-124; Müller 1908: 130; King 1997: 180).[18] The possibility of syntactic convergence having motivated the formal convergence has, so far, not been addressed with regard to Scots.

2.3. Possible correlation between the phenomena

As mentioned above, the main aim of this paper is to assess the possibility of a correlation or even a causal relationship between the two phenomena discussed, i.e. between the clausalisation of present participle and verbal noun on the one hand, and the formal and functional collapse of the two categories on the other hand. Such a causal impact of one phenomenon on the other has frequently been assumed; the direction of causation is, however, not entirely agreed on.

Luick (1964: 1006): "Der Vorgang ist an die Stellung des *nd* nach *i* gebunden […]. Palatal gefärbtes *nd* und *ng* stehen einander sehr nahe, so daß der Übergang von einem zum andern leicht ist".

[17]The *a*-vocalism of the participle suffix most probably reflects Scandinavian influence (cf. the ON participial ending –*andi*) (Macafee 2004: 7.8.10; King 1997: 180).

[18] Cf. Agutter (1990: 4-5): "all [i.e. these factors] lead me to suppose that this syncretism was phonologically motivated in Middle Scots, with both {and}and {ɪŋ}being pronounced as /ən/. This, and the fact that similar syncretism happens in all the dialects of English, seems sufficient to account for this morphological change without recourse to explanations of deliberate borrowing of southern forms".

A causal influence of the clausalisation of both constructions on the coalescence has, for instance, been suggested by De Smet (2010: 1187), who argues that

> [a]s different clause types get dissociated from their phrasal origins and lose their phrasal functionality, they also lose what separates them as clauses, and in developing the features that any clause is supposed to have, they gradually become more and more similar. If at this point clause-internal syntax and verbal morphology are insufficiently distinctive to keep different non-finite clause-types apart, mergers are to be expected.

Although De Smet is the first to explicitly state such an impact, his assumptions can easily be linked to the claims mentioned above (Section 2.2), which argue for a considerable syntactic approximation of participle and verbal noun that ultimately led to their formal collapse.

A causal impact in the opposite direction, i.e. the acquisition of more and more clausal features resulting from the merger, has been suggested both in the case of the present participle and the verbal noun. Concerning the former, Swan at least points towards a temporal correlation when she states that "the verbal characteristics of the participle [became] dominant [only] after the change *-ende > -ing* had taken place" (2003: 186) – although to infer causation from mere temporal sequence would admittedly mean committing a post hoc ergo propter hoc fallacy. Causation is, however, explicitly posited concerning the emergence of the gerund, which is related to the merger by, among others, Poutsma (1923), Langenhove (1925) and Mossé (1957). The merger here is viewed as having "caused the verbal force of the present participle to be extended to the noun in *-ing*" (Kisbye 1971: 55).[19]

It is precisely in this regard that Scots is frequently drawn on, as the latter proposal appears to be severely challenged by Scots evidence. This is due to the fact that contrary to this argument, which implies that the gerund should not be present in dialects where the categories remained formally distinct, gerundial constructions (i.e. clausalised verbal nouns in *-ing*) are found in Scots from very early on.[20] Based on these early occurrences, it has then been argued "that the development of the gerund could take place quite independently of any merger" (Jack 1988: 27).

Nevertheless, and highly important for what will be proposed in section 5, Fanego (1996: 102), among others, does admit that "[i]t does not follow from this […] that the coalescence of the *-ing* noun with the participle had no role in furthering the verbalization of the former". Rather, there is a high probability that the rapid establishment and spread of the gerund was strongly promoted by the collapse of the two categories, "even though it may not have been its ultimate source" (Fanego 1996: 102; cf. also Jack 1988: 25-27).

Although not explicitly dealt with in the extant literature, in this paper it is assumed that the merger had a similar positive impact on the further clausalisation of the present participle.

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[19]Demske, in her comparison of the history of English and German verbal nouns (2002), similarly argues for a temporal correlation or even a causal influence of the merger on the establishment of verbal uses of the verbal noun in *-ing* in English. Furthermore, she concludes that "[i]t is obviously due to this change [i.e. the merger] that *ing*-nominals are prevented from a gradual shift in terms of nominalization" (Demske 2002: 88) as observed in German. In Demske's account, the merger thus ultimately constitutes the main factor in the almost diametric development of verbal nouns in German and English.

[20] Cf. Cursor Mundi (?) witouten *asking* help of sun 'without asking help' (around 1300; Northern ME, quoted in Jack 1988: 26; my emphasis).

3. The study - data and methods

As pointed out above, this paper is based on an empirical study carried out by means of the *Helsinki Corpus of Older Scots* (HCOS).[21] This corpus, which was compiled by Anneli Meurman-Solin at the University of Helsinki, contains approximately 830,000 words in a total of 80 texts across 15 mostly non-literary prose genres (Meurman-Solin 1995: 50) produced between 1450 and 1700 (i.e. Middle Scots), and is the largest and most representative corpus of its kind so far. According to their date of production, the texts were divided into four sub-groups, cf. the following table:

Table 1   Periodisation of the texts included in the HCOS; number of words per period (taken and adapted from Meurman-Solin 1995: 50)

Sub-period		Words
S0	1450–1500	85,100
S1	1500–1570	201,800
S2	1570–1640	305,900
S3	1640–1700	241,400
TOTAL	1450-1700	834,200

The total number of 15,539 instances of present participles and verbal nouns which was extracted from this corpus were analysed and classified according to their degree of 'phrasalness' or 'clausalness'. The classification scheme applied roughly corresponded to Quirk et al.'s gradience model, which contains 14 different types of *-ing*-constructions "from deverbal nouns via verbal nouns to participles" (Quirk et al. 1987: 1290-1291). The scheme, although simplified to some extent in order to better illustrate the argument, is presented in the following:

A) original *-ing*-forms

i)   de-verbal nouns (Quirk et al.'s type 1-2):
> Original verbal nouns having acquired concrete meaning, cf. MSc *biggin* 'building' or *writting* 'writing, letter'.

ii)   verbal nouns (Quirk et al.'s type 3-4):
> Typically pre-modified by a pronoun, genitive noun, or article, and possibly modified by an adjective. Takes an object introduced by *of*.
> (31)   befor the *bryninge* of Berwike 'before the burning of Berwick' (seduc0d)[22].

iii)   gerundial constructions (Quirk et al.'s type 5-6):

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[21] http://www.helsinki.fi/varieng/CoRD/corpora/HCOS/index.html

[22] The bracketed codes refer to the filenames of the texts (in the HCOS) from which the examples are drawn.

Takes a direct object, adverbial modification.

(32)   that his not *overtaking* them he counted his greatest misfortune (soff3).

B) original *-and*-forms

iv)   nominal participles (Quirk et al.'s type 7-9):
   The participle construction constitutes the object of the main verb.
   (33)   Jesus saw Nathanahel *cumming* to him 'Jesus saw Nathaniel coming to him' (sbible1).

v)   adjectival participles:
   The participle modifies a noun, attributive relationship.

   va) attributive (Quirk et al.'s type 13):
      Pre- or post-position, no object.
      (34)   to haive custine out all *refuising* preatchers 'to have cast out all refusing preachers' (sdia2c).

   vb) relative (Quirk et al.'s type 12):
      Typically post-position, governs a direct object.
      (35)   jt had a grete fournas *gevand* the hete jnwarde 'it had a great furnace which radiated the heat inwards' (seduc0b).

vi)   adverbial participles (Quirk et al.'s type 10-11):
   The participle in apposition, functions as an adverbial complement (clause-equivalent).
   (36)   *Being arriuit* at Londoun, I tok loging neir the court 'Having arrived in London, I took lodging near the court' (sbio2).

vii)   verbal participles (Quirk et al.'s type 14):
   The participle in the progressive construction.
   (37)   albeit evin nou whyle I *am writing* 'although even now while I am writing' (sdida2c).

Of these, types (i) and (ii), as well as (iv) and (va) were classified as more phrasal, in contrast to types (iii) and (vb) - (vii), which were considered more clausal. Evidently, such a binary division is not particularly adequate, and a more fine-grained analysis is certainly necessary – references to this binary classification model are therefore only made to illustrate the argument, but should always be taken with care.

4. Results

This section will start by reporting the results concerning the clausalisation of the forms in question, followed by data on the merger. Raw token frequencies were normalised on the basis of 10,000 words due to the rather small size of the corpus. Unless otherwise indicated, all numbers given in the following sections refer to these normalised frequencies.[23]

4.1. Clausalisation of the present participle

Taking a closer look at the syntactically participial uses of -*Vnd* as well as -*ing*-forms[24] found in the corpus, it is evident from the following graph (Figure 1) that more clausal types of the participle, i.e. the adverbial participle, as well as the adjectival participle equalling a relative clause[25] (cf. type vb and vi) already dominate in the earliest period in regard to token frequency (27.03 and 14.21 respective tokens in S0).

Furthermore, the token frequency of adverbial participles appears to considerably increase in the course of the period (from 27.03 tokens in S0 to 65.35 in S3). The sharpest increase is seen in the transition from S0 to S1, where we also find the most pronounced discrepancy between the more phrasal variant of the adjectival participle (i.e. attributive participles in pre- or post-position, without object)[26] and its more clausal variant throughout the period. Interestingly enough, this development appears to temporally coincide with important changes concerning the formal properties of the participle (cf. section 4.3).

The participle in verbal use (i.e. the progressive), although not yet playing the significant part it achieves in later times, similarly sees a substantial rise in frequency (6.35 tokens in S0 in contrast to 16.94 in S3) and supersedes the more phrasal, adjectival (attributive) one towards the end of the period.

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[23]The parameters 'genre' and 'spelling variant', although included in the original study, will not be explicitly dealt with in this paper.

[24]While originally -*Vnd*-forms prevailed, -*ing*-participles greatly increase in frequency in the course of the period (cf. section 4.3).

[25]Cf. section 3; labelled 'adjectival (rel)' in Figure 1 and 2.

[26] Cf. section 3; labelled 'adjectival (attr)' in Figure 1 and 2.
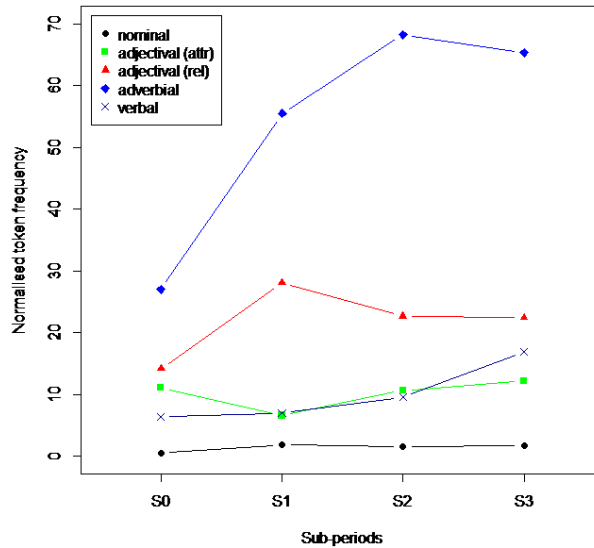
Figure 1 Type-related frequency distribution of the present participle (*-and* & *-ing*) from S0 to S3

While the data presented in the graph above (Figure 1) could be taken to indicate a general increase in the frequency of more clausal participles, a statistical analysis of the fractions of the total number of present participles taken up by the different types shows no significant difference between the proportions in the respective sub-periods. Nevertheless, as can be seen in Figure 2, the adverbial use of the present participle is clearly preferred throughout the period, accounting for up to two thirds of all participles.[27] The adverbial participle is followed in frequency by the more clausal variant of the adjectival type (rel), which steadily covers 20 to 30 per cent of the total number of occurrences.
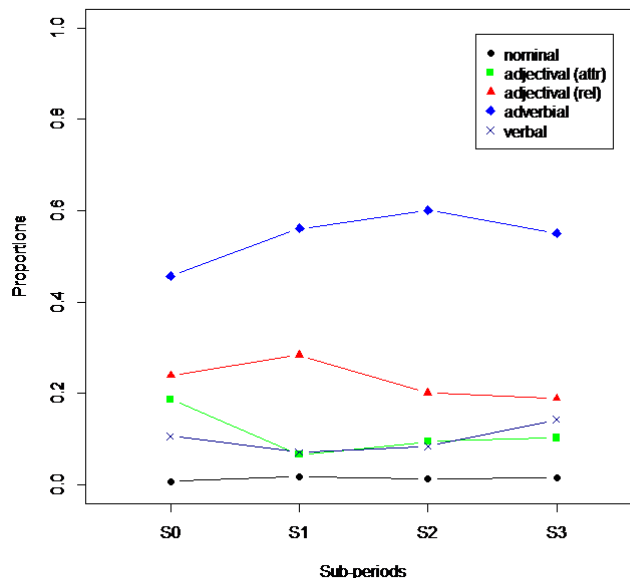

Figure 2 Type-related proportional frequency distribution of the present participle (*-and* & *-ing*) from S0 to S3

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[27]The total raw frequency of the present participle in all periods is 8,810 tokens (S0: 503; S1: 1,996; S2: 3,446; S3: 2,865).

Although, as pointed out above, a categorical distinction between phrasal and clausal participles is only drawn very tentatively in this paper, the proportional frequency distribution of the two supra-types is presented in Figure 3 in order to support the argument.[28] As implied in the discussion of the individual types and as confirmed by the statistical analysis,[29] present participles with more clausal behaviour are significantly more frequent, i.e. take up a significantly and stably higher proportion of all present participles throughout the period.

Figure 3 Proportional frequency distribution of present participles with more phrasal behaviour in comparison to participles with more clausal behaviour (95% confidence intervals)

Despite the assumption of an increase in clausal syntax thus not being supported by the data, the more clausal uses of the present participle are clearly prevalent already at the onset of the period. The firm establishment of these clausal features suggests that the relevant processes in the participle's development, such as the acquisition of direct objects, had occurred a considerably long time before the time span covered by the corpus.

Regarding other indicators of an increasing clausalisation of the present participle, a very gradual rise in participles distinguished for voice, i.e. compound passive present participles of the type *being written*, can be observed in the data (1.2 in S0 to 9 in S3). Compound participles of the type *having written* do not appear until S1 but similarly experience a slight rise in the course of the period (8.16 tokens in S3). As pointed out above, such an acquisition of tense or voice marking is taken to be a sign of a highly advanced dissociation from the

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[28]As was indicated in Section 3, the (more) phrasal participle group comprises the types of 'nominal' and 'adjectival (attr)', while the types of 'adjectival (rel)', 'adverbial' as well as 'verbal' are subsumed under clausal participles.

[29] χ^2-test (goodness of fit), for all periods: $p < 0.01$; large effect size, Cramer's V > 0.6

nominal system by Disterheft (1980: 198); however, figures throughout the period remain too low to draw any definite conclusions.

4.2. Clausalisation of the verbal noun

Concerning the development of the verbal noun in *-ing*, it is interesting to see that although first examples of the gerund, i.e. the verbal noun with more clausal features, reportedly appear around 1300 in the North (Jack 1988: 26), this variant seems to be far from well established at the end of the 15th century (S0/S1). As shown in Figure 4 as well as Table 2, gerundial constructions are extremely rare in S0 (with a raw frequency of 6 tokens), and a statistically significant increase in frequency only occurs in the transition from S1 to S2, i.e. towards the end of the 16th century. In total, the gerund rises from constituting only about 1 per cent of all verbal nouns in S0 to taking up more than 40 per cent at the end of the period (S3).
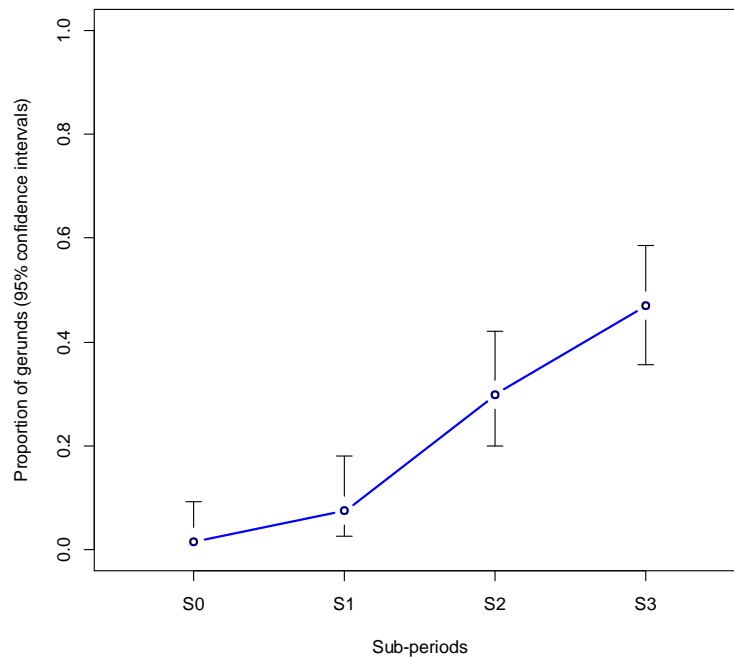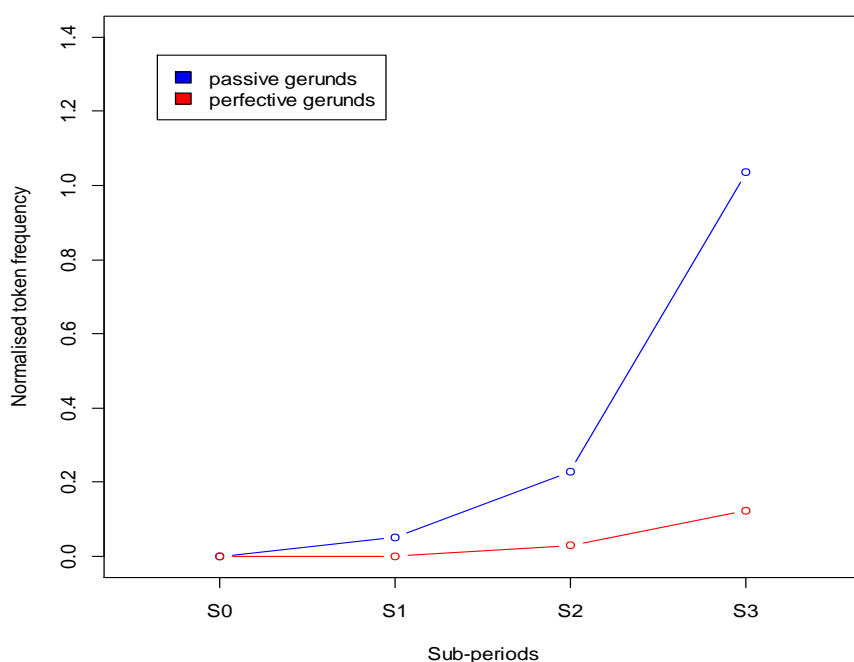

Figure 4 **Proportional frequency distribution of verbal nouns showing 'verbal behaviour', i.e. governing a direct object or taking adverbial modification (including negation by 'not') from S0 to S3 (95% confidence intervals)**

The clausal feature that is most advanced in being acquired by the verbal noun is its ability to take direct objects, while adverbial modification (including negation by *not*) appears to play only a minor role, and increases at a much slower pace (see Table 2).

Table 2   **Frequency distribution of verbal nouns showing 'verbal behaviour', i.e. governing a direct object or taking adverbial modification (including negation by *not*) from S0 to S3**

Period/ feature	dirObj		advMod		dirObj+adverb		**TOTAL**	
	T	N[30]	T	N	T	N	**T**	**N**
S0	2	0.24	3	0.35	1	0.12	**6**	**0.71**
S1	43	2.13	6	0.3	3	0.15	**52**	**2.58**
S2	417	13.63	24	0.79	29	0.95	**470**	**15.37**
S3	630	26.1	28	1.16	24	0.99	**682**	**28.25**

Further verbal features such as the ability to be passivised or to occur in the perfect tense are only acquired by the gerund towards the end of the period.[31] As demonstrated in Figure 5, passive gerunds are the first to appear, slightly increasing in frequency from S2 onwards. Perfective gerunds gradually spread from S2 onwards; however, both constructions remain highly infrequent throughout the period, only occurring 25 and 3 times (raw frequency), respectively, in S3. Although no conclusion can thus be drawn from the data, and the change is statistically insignificant, it can be assumed on the basis of previous studies that a significant increase in the frequency of these constructions did occur after the time frame covered in this paper (cf. e.g. Mustanoja 1960: 573; Tajima 1985).

Figure 5   Frequency distribution of passive and perfective gerunds (S0-S3)

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[30]Columns headed by 'T' give the raw token frequencies, while 'N' refers to normalised frequencies.

[31] Cf. e.g. *of being persecuted* (spam3a), *of your haveing received it* (spriv3).

The very low number of gerunds at the beginning of the period is remarkable considering the relatively long time span of more than 150 years between the first appearances of the gerund and the beginning of Middle Scots. This fact, as well as the relatively late appearance and general scarcity of tense and voice distinctions with the verbal noun indicate that the gerund is by no means well established, but only very much in development at the outset of the period of Middle Scots. Such a slow and rather late development of the gerund is in line with Donner (1986) and Emonds (1973), who locate its firmer and definite establishment only in Early Modern English. Since Middle Scots, as pointed out above, roughly corresponds to Early Modern English with regard to dating, the English and Scots gerund thus seem to have developed around the same time, and in a comparable way.

Although a move towards more and more clausal syntax is nevertheless corroborated by the data, it is important to note that similarly to the present participle, the development of more clausal features thus does not result in complete extinction of the former phrasal patterns, but rather leads to a split, the former patterns co-existing beside the newer patterns.[32]

Concerning the general distribution of the verbal noun in -*ing*, an important point which has been repeatedly made in the literature (Tajima 1985; Fanego 1996; De Smet 2008) and which seems to hold for Scots as well, is the high predilection of verbal nouns and gerunds to appear in prepositional phrases. Of all instances of verbal nouns and gerunds, roughly 80 to 85 per cent are found in this position in all sub-periods, while -*ing*-forms functioning as the subject or object of a verb play only a minor role. Accordingly, the first gerundial forms are found in prepositional phrases as well, and prepositional gerunds account for the majority of respective tokens throughout the period. This predilection to be used in prepositional phrases is relevant to the present discussion insofar as the verbal noun (both the more nominal and more verbal one) in this position often shares functional properties with the adverbial participle (cf. Houston 1989; Fanego 2004: 17, fn.9).

4.3. The merger

In regard to the frequency distribution of present participles formed with the suffix -*and* in contrast to participles with -*ing* in Middle Scots, a first observation that can be made is that -*ing* already seems to be relatively well established in use even in S0, i.e the earliest sub-period (cf. Figure 6).

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[32] Despite the fact that the more clausal patterns have taken the lead in the case of the present participle, as its main domains are now the converb and the progressive (cf. Kortmann 1995: 195), there is no indication of a significant decrease of the more phrasal patterns in PDE. A similar development is assumed for the verbal noun; however, I have so far not come across any study on the frequency distribution of verbal nouns in contrast to gerunds in PDE.
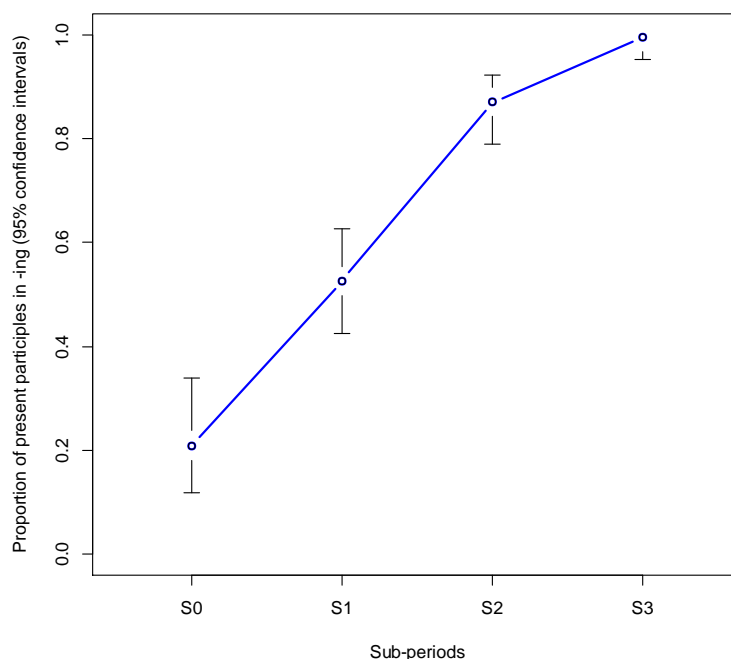
Figure 6 Proportion of all participles taken up by present participles in *-ing* from S0 to S3 (95% confidence intervals)

Although *-and* clearly still constitutes the preferred choice for present participles at that point, approximately one fifth (21 per cent) of all tokens take *-ing*, meaning that variation was already rather high. This is even more evident when examining the variants' distribution over individual texts – while eight out of ten texts use both variants rather indifferently, often within the same sentence and fulfilling the same syntactic function,[33] only two texts still use *-and* categorically (cf. Table 3). Furthermore, *-ing* does not seem to be significantly restricted in its use, as the 105 tokens in S0 correspond to 40 different types, which do not show any clear semantic overlap. The innovation thus appears to have spread through the lexicon to a considerable extent already at this point.

Table 3 Distribution of the variables (the present participle with the suffix *-and* or *-ing*) over individual texts of the HCOS

Period	-AND 100%	-AND 51-99%	50/50	-ING 51-99%	-ING 100%	TOTAL
S0	2	8	0	0	0	10
S1	3	8	0	6	0	17
S2	0	2	0	22	6	30
S3	0	0	0	3	20	23

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[33] Cf. The quens companie and frenchemen be*ing* in thin order ffor the time and tak *and* wpe thair airmie 'The queen's company and the Frenchmen being few in number at that time, and leading their army' (shist2b).

On the basis of these data, the rise of *-ing* in participial contexts is assumed to have started in the very early 15th century, allowing the innovation approximately 50 years to spread as far as observed in the corpus.[34]

As can be seen in Figure 5, *-ing* experiences a statistically significant growth in frequency from S0 onwards, with *-and* rapidly decreasing in the course of the period. The original suffix is almost completely ousted by S3, when nearly 99.5 per cent of all instances of present participles take the competitor suffix *-ing*. Furthermore, *-ing* is used categorically in 20 out of 23 texts by that time, in contrast to S2, where at least 2 texts out of 30 still predominantly use *-and* (cf. Table 3). Although in S3, *-and* remains present in a comparatively high number of types (10 types, raw token frequency of 14) and the remaining tokens are not restricted to one singular text but found in three different texts and also genres, the complete extinction of *-and* thus seems to have been imminent (cf. Beal 1997; Dons & Moessner 1999).

5. Discussion

As pointed out above, the main focus of this paper is on the question of whether there is a correlation, or even a causal relationship, between the two phenomena discussed, i.e. between the clausalisation of both the present participle and the gerund and their formal and functional collapse. Of particular interest is further the directionality of such a causal impact, in case one can be assumed. On the basis of the evidence gained from the present corpus study as well as from previous research on the issue, the following scenario is proposed here:

Considering that the clausal properties of both the present participle and the verbal noun are already present in the earliest period, although to different degrees (cf. Section 4.1, 4.2), the initial processes involved in the forms' clausalisation must have taken place before the time frame covered by the corpus. The Scots data thus support, or at least mirror, earlier research carried out on the history of non-finites in English (cf. e.g. Callaway 1929; Tajima 1985; Fanego 2004). Although not investigated in more detail in the present study, the ultimate source of the more clausal variants is sought in the reanalysis of syntactically ambiguous patterns, as argued by Fanego (2004) and De Smet (2008, 2010) and others. These reanalysed patterns are assumed to have set the basis for the development from phrase to non-finite clause, the forms gradually acquiring more and more verbal features (Fanego 2004: 5). As already mentioned above (Section 2.1.1), in the case of the participle, syntactic ambiguity could easily arise in patterns such as attributive participles in post-position and participles functioning as predicative complements. Likewise, the emergence of the gerund can be related to the peculiarity of

> *some gerundial constructions involving constituents which could occur readily in both NP and VP structure, such as locative and temporal adverbs and participles, among others. (Fanego 2004: 7)*

This development, as was argued in Section 2.1, can be taken to represent a typical case of 'form follows function', the change towards more and more verbal syntactic behaviour being

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[34] This dating is in line with Gardela's research (1999), and supports Agutter (1990: 4) and King (1997: 180).

motivated by the forms' verbal 'meaning', in turn a by-product of their being de-verbalisations (cf. De Smet 2010: 1184).

It is then suggested that both present participle and verbal noun, by getting gradually more and more lured into verbal syntax, and by getting increasingly

> *dissociated from their phrasal origins and [by] los[ing] their phrasal functionality, they also los[t] what separate[d] them as clauses, and in developing the features that any clause is supposed to have, they gradually bec[a]me more and more similar. (De Smet 2010: 1184)*

The forms' functional approximation is accompanied by an approximation on the formal level, ultimately leading to a complete morphological collapse (in most varieties). This merger is eased by the morphological and phonological closeness of the forms, as due to reductions of vowels in final unstressed syllables (a common process above all in Middle English), as well as tendencies to drop syllable-final, post-nasal mediae (cf. e.g. King 1997), the suffixes of participle and verbal noun were "insufficiently distinctive to keep [the] different non-finite clause-types apart" (De Smet 2010: 1884).

The probability of such a development, i.e. of the functional convergence motivating, or at least being complemented by, a formal convergence or even collapse, to happen is arguably higher in languages in which syntactic role is determined increasingly by position rather than by inflectional suffixes. This may be due to the retention of two different morphemes for distinguishing increasingly smaller semantic/functional differences being of little to no advantage in these systems. Examples from other (non-Germanic) languages, such as the merger of the Romance present participle and gerund, corroborate this assumption (cf. De Smet 2010: 1185).

Assessing the present data in search of support for a causal influence of the clausalisation on the merger, the following can be observed:

As was shown in Section 4, the present participle is already highly advanced in its development to a non-finite clause at the onset of the period; the largest proportions of the total amount of participles are taken up by the more clausal variants, i.e. participles in adverbial and relative adjectival function. Although the verbal noun is considerably less advanced in its clausalisation in comparison to the present participle – the significant changes only taking place during the period in question – it is nevertheless clear from the data that the process of clausalisation started before the period of Middle Scots (cf. Section 4.2).

A temporal correlation between the clausalisation or 're-verbalisation' of the forms and their collapse thus appears to be corroborated and a causal relationship of the former on the latter is at least suggested by the data. This then enables us to refute claims such as Kisbye's (1971: 55), who supports an impact in the opposite direction, i.e. argues that the merger motivated the clausalisation of the verbal noun, with relative certainty. Furthermore, the results lend quantitative support to Jack (1988) as well as Fanego (2004), who base their criticism of these claims on the reported, yet not in fact systematically investigated development of the forms in Scots.

Finally, the data show that Swan's proposal that the clausal features of the participle "[became] dominant [only] after the change *-ende > -ing* had taken place" (2003: 186) does not hold for Scots (see Section 4.3).

However, textual evidence now also suggests that the collapse should by no means be considered the end-point of the development from phrase to non-finite clause. When comparing the data on the merger to the data on the clausalisation processes (Section 4.1 - 4.3), it is clear that a variety of features only developed after the formal coalescence of the two clause-types. While, for instance, the participle is already considerably detached from its purely adjectival origins, in that it allows for verbal rection and is most frequently found in appositive function as well as relative adjectival function, one of its prime domains in PDE, namely the progressive, only gradually gains ground towards the end of this period (cf. Figure 1-2). This, as well as the fact that tense and voice distinctions with the participle are virtually absent before this period, suggests that the clausalisation of the participle, although having started in OE, is still in progress during the Middle Scots period.

Similarly, the clausalisation of the verbal noun is far from complete in this period; only six instances of a gerundial construction are found in S0, and a significant increase in frequency is only observable from S1 onwards (Table 2, Figure 4). Furthermore, compound forms of the type *being written* or *having written* are again barely present throughout the whole period (Figure 5). As already mentioned above, this indicates that the development of the verbal noun is even less advanced than that of the participle. Comparing the data on the development of the verbal noun to the spread of the merged forms (cf. Figure 6), it appears that the Scots gerund only expanded at a time when the merger had already progressed considerably. This finding is then of great significance for the discussion of causal relations between the phenomena:

As was pointed out above (Section 2.3), the alleged long time span between the emergence of first gerundial constructions and the merger of the present participle and verbal noun in Scots (1300 vs. 15th century) has repeatedly been used as an argument against propositions which explain the gerund as a result of exactly this merger (Jack 1988; Fanego 2004). The fact that the firmer establishment of the more clausal forms in the language and the collapse, however, overlap to a great extent in time, certainly sheds new light on the discussion. On the basis of these results, we can assume that the further verbalisation of the present participle and the verbal noun, as well as the firmer establishment of their clausal features, was to a considerable extent influenced by the merger. The Scots data thus substantiate Jack's (1988: 27) claim that "it is likely that [the] merger of the two forms did promote the use of the gerund" (cf. also Fanego 1996: 102). A similar causal influence can be assumed in the case of the use of the more clausal types of the participle.

Furthermore, these results support Demske's (2002) suggestion that the merger was a crucial factor in the development of the English (and Scots) forms. While, as Demske shows, more clausal verbal nouns (in *-ung*) were available in earlier stages of German, a shift towards more and more nominal, i.e. phrasal, uses can be observed in the course to Present-Day German. This divergent, and virtually diametrical, development of the English and German forms can convincingly be linked to the impact of the merger (cf. also Demske 2002: 88).

To recapitulate, what is suggested here is that the merger was motivated by the clausalisation, i.e. a correlation, or even a causal effect, of the clausalisation on the merger is presumed. The functional approximation and morphological collapse of the form, however, in turn seem to have had a significant contributory and reinforcing effect on the further

development of the clauses in question (cf. Fischer 1992, Fanego 2004), leading to an ever greater extent of functional merging (cf. De Smet's 2010 data on PDE *-ing*-forms).

6. Conclusion

The present paper has aimed to provide a new perspective on the various well-known and exceptionally well-researched questions that arise when dealing with the diachronic development of the present participle and the abstract verbal noun in *-ing* in English and Scots. Based on a quantitative study of the *Helsinki Corpus of Older Scots*, the distribution and development of the forms in Middle Scots was investigated, and a number of claims posed in the literature, both for English and Scots, was checked against the data.

Regarding the question of causality central to the study, it was found that a causal influence of the clausalisation of the forms on the merger can be assumed, while an (initial) impact in the opposite direction is doubtful. Nevertheless, and contrary to common belief, a strong effect of the merger on the subsequent development of the participle and gerund is not only possible, but highly plausible. This claim is corroborated by the data, since the time span between the firmer establishment of the more verbal participles and of the gerund, and the appearance of first *-ing*-participles in Scots is much shorter than presumed until now. It can thus be argued with confidence that the merging strongly promoted the further verbalisation of both constructions, and played a considerable contributory role in their further development.

Following from this is the more general conclusion that the two phenomena, i.e. the clausalisation and the collapse of the two categories, cannot be treated separately, but need to be viewed in connection with each other. Furthermore, what seems to be clear is that we cannot assume a mono-directional influence of one process on the other, but instead are dealing with a highly complex interplay between these two phenomena. The phenomena, as well as the forms (and constructions they are found in) themselves, are thus thought to stand in a mutual and, above all, continual relationship to each other.

Nevertheless, the issue is evidently far from concluded, and a number of issues still bear closer investigation. First, a number of language-specific factors which most certainly had a major impact on the development of the forms, such as the matter of anglicisation processes, as well as the involvement of the infinitive could not be dealt with in this study. Moreover, the status of the evidence on which this paper is based, i.e. the question to which extent Scots data can be drawn on to explain processes in English, could not be addressed.

Second, the issue of categorisation, i.e. of what constitutes 'verbhood', 'nounhood', or 'adjectivehood', etc. was not directly dealt with in this paper. It is expected that further investigation into the development of non-finites in English as well as cross-linguistic studies on these forms will greatly contribute to the advancement of this discussion.

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