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## **The rise of Scots *do* – transfer or innovation?<sup>1</sup>**

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## ABSTRACT

*Do*-support involves the mandatory inclusion of the auxiliary *do*, historically bleached of semantic meaning and now serving purely morpho-syntactic functions. While extensively researched in English since Ellegård (1953), its counterpart in Scots has received less attention (although see Meurman-Solin 1993; Gotthard 2019, 2024a). This article investigates whether early Scots *do* exhibited similar functions to English “intermediate *do*”, as analysed by Ecay (2015), before stabilising into its current role, as this would indicate that the emergence of *do*-support is more likely to be an independent development in Scots. This investigation aims to gauge the likelihood of Scots *do*-support resulting from contact with Southern English during *anglicisation*, the process which saw English forms favoured over Scots in Scottish writing. Proportions of affirmative and negative declarative *do* from the *Parsed Corpus of Scottish Correspondence* (1540–1750; Gotthard 2024b) are measured across various syntactic contexts, with results assessed against criteria for contact-induced change. The social context and timing of the rise of Scots *do* suggest *do*-support being a transfer from Southern English, but its intermediate *do* qualities compromises this analysis. However, the presence of an intermediate *do* in Scots might represent a northward diffusion of such a grammar from English into Scots.

## KEYWORDS:

*Do*-support, parsed corpora, contact, Scots, English

## 1 INTRODUCTION

This article investigates the rise of *do*-support during the Scots *anglicisation* process, which accelerated from the late sixteenth century, catalysed by shifts in the socio-political relationship between Scotland and England. Anglicisation possibly involved a form of language shift initially, reflecting the behaviour of writers rather than a change in Scots itself, as evidenced by its varied impact on different genres at different times (Devitt 1989; Meurman-Solin 1993, 1997) and the more rapid shifts in more salient linguistic features (e.g., van Eyndhoven & Clark 2019). While anglicisation research often centres on lexis, orthography, and phonology (e.g., Devitt 1989; Meurman-Solin 1993, 1997; Kniezsa 1997; van Eyndhoven & Clark 2019), the effects on syntax are less known. The newly constructed *Parsed Corpus of Scottish Correspondence* (PCSC; Gotthard 2024b) begins to allow scholars to address this gap.

*Do*-support is the mandatory insertion of the auxiliary *do*, which historically underwent semantic bleaching and today has a strictly morpho-syntactic function: carrying tense and agreement features. In Present-Day English (PDE) and Scots, *do*-support occurs in clauses with NICE properties: *Negation* (I **don**'t eat cake/**Don**'t eat cake!), *Inversion* (**Do/Don**'t you eat cake?/What **do** you eat?), *Code* (constructions which signify, or 'code', another verb phrase, e.g. ellipsis or tag questions: 'I eat cake, and Alex **does** too'/'You eat cake **don**'t you?') and *Emphasis* (I **do** eat cake!). English *do*-support is extensively researched, and, ever since Ellegård (1953), many have detailed the quantitative and qualitative process of the grammaticalisation of *do*, and why it became mandatory in

English alone of the Germanic languages (e.g., Denison 1985; Kroch 1989; Nurmi 1999, 2000, 2011; Poussa 1990; Tieken-Boon van Ostade 1990; Garrett 1998; van der Auwera & Genee 2002; Warner 2002, 2005; Ecay 2015). The feature in Scots has received less attention, though it has been suggested that Scots *do*-support is a transfer from English, emerging during the height of anglicisation (Gotthard 2019; Meurman-Solin 1993).

Drawing on Ellegård's (1953) observations, Ecay (2015) identifies an “intermediate *do*” auxiliary in English before ca. 1575, which exhibits a set of behaviours which are then lost in modern *do*-support: it occurs more frequently with agent-selecting verbs, less frequently with pronoun subjects, and more frequently in post-adverbial position. These behaviours decline in favour of a modern type *do*-support simultaneous with the decline of affirmative declarative *do* in the late sixteenth century. Crucially, Scots *do*-support emerges after the intermediate *do* auxiliary declines in English.

This prompts the question of whether early Scots *do* follows a comparable trajectory, i.e., exhibits intermediate *do* behaviours, or emerges with the same function as post-1575 English *do*. If Scots *do* exhibits an intermediate *do* function, it may be because it is an independent development in Scots rather than a transfer from English, based on the *shared grammaticalisation* criterion for contact-induced change; a feature showing the same grammaticalisation stages in the receiving language is likely to be an inherited feature rather than a transferred one. (Pa-Tel 2013; Robbeets & Cuyckens 2013). However, if Scots *do* is like intermediate *do*, this would not rule out that the intermediate *do* grammar could

have diffused from Northern English into Scots, meaning that it is still a contact outcome while not an outcome of anglicisation.

Therefore, this study investigates whether Scots *do*-support is a plausible outcome of anglicisation by (i) assessing whether the contact situation with Southern English in the sixteenth-eighteenth century, when Scots *do* emerges, lends itself to structural transfer, and (ii) examining proportions of affirmative and negative declarative *do* in the PCSC across syntactic contexts relevant for an intermediate *do* analysis, to assess whether early Scots *do* had a similar function to intermediate *do* in English (per Ecay 2015).

Section 2 summarises the socio-historical context when Scots *do* emerged, focusing on the nature of Anglo-Scots contact at different stages in history. Section 3 outlines theoretical assumptions about *do*-support (3.1), and scholarly theories regarding the rise of *do*-support in English (2.3) and Scots (2.5), with Ecay's (2015) intermediate *do* analysis detailed in Section 2.4. Sections 3 and 4 outline the research question and methodology, respectively. The results are presented in Section 5, and then, in Section 6, assessed against criteria for contact-induced change (Thomason & Kaufman 1988; Thomason 2001; Pa-Tel 2013; Robbeets & Cuyckens 2013; Poplack & Levey 2010), to evaluate the likelihood of Scots *do*-support being an anglicisation outcome.

## 2 BACKGROUND: ANGLO-SCOTS CONTACT

### 2.1 *Social context and language contact*

An important diagnostic for whether a change is contact-induced is *social context*:

Thomason and Kaufman state that ‘[i]t is the sociolinguistic history of the speakers, and not the structure of their language, that is the primary determinant of the linguistic outcomes of language contact’ (1988: 35). This is supported by the fact that for linguistic constraints on contact-induced change, proposed in the literature, frequently, counter-examples in data from languages in contact can be found. Hence, it is crucial to understand the social context in which syntactic changes in Scots took place in order to assess whether they possibly could be contact-induced. A social predictor of contact-induced language change is *intensity* of contact, measured by the *length* of contact, *numerical advantage* of one group of speakers over the other, *socio-political dominance* of one group over the other, and the *level of bilingualism* in the contact community (Thomason & Kaufman 1988: 67; Thomason 2001: 66).

Regarding *length* of contact, Scots and English, both stemming from Old English, have maintained close contact since their divergence in the eleventh century. However, as will be seen, the *intensity* of this contact has varied due to socio-political changes, and there are two significant points of contact with English which may have led to contact-induced change: (i) continuous close contact with Northern English dialects, from their earliest history and onwards, and (ii) contact with Southern English as a result of a shifting relationship between Scotland and England from the late sixteenth century, which can be described as a top-down contact scenario wherein English exerts influence on Scots (i.e.,

anglicisation). The social contexts of these contact scenarios, and their potential linguistic outcomes, will now be described in turn.

## 2.2. *Contact with Northern English*

Scots developed from Northumbrian Old English dialects after the Anglo-Saxon settlement of Britain, with later influence from Northern Middle English and Anglo-Scandinavian from the 11<sup>th</sup> century, meaning that Scots and North-East English dialects share close ancestry (e.g., Murison 1979; Aitken 1979, 1985; Macafee & Aitken 2002; Millar 2023). Until the mid-sixteenth century, Scots developed independently, gradually becoming available for various communicative functions alongside, or instead of, Latin, French, and Gaelic, in lowland Scotland (e.g., Havinga 2021; Kopaczyk 2021). In this period, Scots maintained its distinct identity through a combination of unique Scots features and commonalities with Northern English dialects (Meurman-Solin 1997). Anglo-Scots contact until the late sixteenth century can be described as a CONVERGENCE scenario, where the two varieties coexisted without significant language shift. Despite the usual description of convergence contact, it does not require languages to be typologically different; for instance, the loss of past tense distinctions in French, Romantsch, Northern Italian dialects, and Southern German, likely originated from convergence contact in border regions (Hock & Joseph 1996: 397).

This analysis is, however, not the traditional view of the relationship between English and Scots pre-anglicisation; the situation from the 15<sup>th</sup> century onwards is



described as “differentiation”, i.e. divergence rather than convergence, by Meurman-Solin (1997), implying that Scots in the fifteenth–sixteenth century is growing to be more distinct from English. However, there is no evidence that Scots is becoming more divergent in that time period – rather, at the time of our earliest attested running prose, in the late 14<sup>th</sup> century, Scots is already distinct from English in the ways described by Meurman-Solin (1997).<sup>2</sup> Indeed, the features investigated in her work are already present at 100% frequencies in texts from 1400, and decline in favour of their English counterparts at the start of anglicisation, around 1540. Hence, differentiation, or divergence, could perhaps be argued to have already happened before 1400, meaning that the situation in the fifteenth–sixteenth century is such that an already differentiated variety is in some form of convergence contact with Northern English.

Before the mid-sixteenth century, English does not appear to have been *socio-politically dominant*, or perceived as more prestigious than Scots, in Scotland (e.g., McClure 1994: 34; Görlach 2002: 16; Millar 2020: 79-80). In fact, despite high levels of orthographic and lexical variation, there is plenty of indication that Scots was on a separate standardisation trajectory from English in the fifteenth–sixteenth century (Agutter 1990; Meurman-Solin 1997; King 1997: 157; Bugaj 2004). Towards the end of this period, Scots writers show signs of “involuntary language shift” (in the sense of Joseph 1987), as the linguistic similarity between the languages, and their similar status, meant that English was

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<sup>2</sup> It should also be noted that Meurman-Solin views the Scots standardisation process as differentiation here, but I would argue that this is a decrease of variation within Scots rather than a growing divergence from English.

easily incorporated in Scots writing. The long duration of contact between Scots and English, the fact that there was no established Scots written norm, and that they did not appear to compete politically, facilitates precisely this type of language mixing; Muysken (2012: 713–4) describes a type of code-switching, CONGRUENT LEXICALISATION, as a typical outcome of such contact scenarios between structurally similar languages, involving inserting words from either language into a shared structure (e.g., Catalan/Spanish “Això a é a ell no li i(m)porta”, from Muysken (2012: 713)); this aptly describes the Scots-English form alternation in Scottish texts from before the mid-sixteenth century.

As Scots and English likely maintained mutual intelligibility, assessing the *level of bilingualism*, and, consequently, the *numerical advantage* of one group over the other in Scotland, is challenging – the situation between Scots and Northern English speakers in Scotland in the fourteenth–sixteenth centuries may be compared to that of Old English (OE) and Old Norse (ON) speakers in the Danelaw; at the time of the Viking settlement of England, OE and ON had only diverged for about 300 years, and, as demonstrated by Townend (2002), the Danelaw communities, but not individuals, were likely bilingual, as the languages were similar enough that mutual intelligibility is probable. Ultimately, however, ON speakers shifted to English, which is argued to have caused significant structural change in English (e.g., the loss of verb-second (Kroch et al. 2000)). Even in contact between mutually intelligible varieties, there tends to be speaker accommodation, leading to levelling and simplification (cf. Trudgill 1986; although see Mufwene (2008: 255–6) on why levelling cannot be the only outcome, as is evident from rich dialectal

variation). Thus, regardless of individual bilingualism, contact between very similar languages could lead to structural change – in fact, less intense contact is needed for structural transfer to take place between typologically similar languages than between those that are more typologically divergent (Thomason 2001: 71).

Due to the shared ancestry of Northern English and Scots, teasing apart what are internal developments and what is transfer in this contact situation is notoriously challenging – even more so because the syntactic variation of both varieties is not yet fully documented. However, investigating whether structural transfer took place between Southern English and Scots may prove less speculative, due to their higher level of linguistic distinctiveness; as will be seen in the next section, socio-political shifts in the sixteenth to eighteenth century are likely to have been conducive to such transfer.

### *2.3 Shifting relationships: Contact with Southern English*

From the late sixteenth and throughout the seventeenth century, there was a critical shift in the trajectory of Scots and its relationship with English. Scots saw its use limited in influential institutions in Scotland as Southern English emerged as the language associated with religion, the monarchy, legislation, administration, and the majority of printed works, catalysed by events like the Reformation in 1560, the proliferation of print from the late sixteenth century, the Union of Crowns in 1603, and the Union of Parliaments in 1707 (Murison 1979; Aitken 1985; McClure 1994; Macafee & Aitken 2002; Millar 2020, 2023). Consequently, English became the language of high registers and written Scots had limited

use after the eighteenth century, mainly employed in literary genres, or writings intended for local audiences, such as local popular press media in the eighteenth–twentieth century (Görlach 2002: 183–5; Filgueira et al. 2021; van Eyndhoven et al., forthcoming). However, Scots features persisted in private correspondence in the eighteenth century (e.g., Meurman-Solin 1993; Gotthard 2024a; van Eyndhoven 2021; Cruickshanks 2012). This dramatic shift, wherein writers increasingly use English features instead of Scots ones, is traditionally called the *anglicisation* of Scots.

The present-day outcome of anglicisation in spoken Scots, as characterised by Stuart-Smith (2004), following Aitken (1979, 1984), is a bipolar continuum, with traditional Scots dialects on one end and English varieties, including Scottish Standard English (SSE; see, e.g., Maguire 2012; Millar 2020: 107-109) on the other, where speakers typically mix features of both varieties, using more features from either end of the continuum depending on context. Scots has never been a homogeneous variety, and never had a codified standard to converge on, which has allowed regional and social variation to thrive in Scots speech, but has also rendered Scots vulnerable to dialect levelling toward English or SSE supra-local norms. The intra-and-inter-speaker variability resulting from this simultaneous divergence and convergence contributes to the difficulty in defining Present-Day Scots as a language distinct from English. Hence, the period between the sixteenth to eighteenth century seems a “transition” period for Scots (Kopaczyk 2013: 253), as it goes from being a standardising variety, to the diverse, socially- and regionally-conditioned, linguistic landscape we encounter in Scotland today.

Thus, the late sixteenth century marked a shift in Anglo-Scots contact, transitioning from convergence with, mainly Northern, English, to a substrate-superstrate relationship with Southern Standard(ising) English. Features borrowed before this shift suggest a lower ranking on Thomason & Kaufman's (1988: 74–6) borrowing scale, possibly at level 2 (see Table 1). Indeed, orthographic, phonological, and morphological features described by, e.g., Kniezsa (1997) and King (1997), and investigated by Meurman-Solin (1993, 1997), Devitt (1989), and van Eyndhoven & Clark (2019), all appear to resist Southern English influence before the mid-sixteenth century; due to the overlap between Northern English and Scots features, resulting from their shared ancestry, it is more difficult to say whether borrowing is feasible here.

**Table 1: The borrowing scale, adapted and abbreviated from Thomason & Kaufman (1988: 74–6)**

| <i>Level of contact</i>          | <i>Level of borrowing</i>   | <i>Type of borrowing</i>   |
|----------------------------------|-----------------------------|--|
| 1. Casual contact                | Lexical borrowing only      | Content words, for cultural and functional reasons   |
| 2. Slightly more intense contact | Slight structural borrowing | Function words. Minor phonological, syntactic, and lexical semantic features. “Syntactic features borrowed at this stage will probably be restricted to new functions (or functional |

|                                  |                                    |   |
|----------------------------------|------------------------------------|---|
|                                  |                                    | restrictions) and new orderings that cause little or no typological disruption.”  |
| 3. More intense contact          | Slightly more structural borrowing | “In syntax, a complete change from, say, SOV to SVO syntax will not occur here, but a few aspects of such a switch may be found, as, for example, borrowed postpositions in an otherwise prepositional language (or vice versa).” |
| 4. Strong cultural pressure      | Moderate structural borrowing      | “Major structural features that cause relatively little typological change. ... Fairly extensive word order changes will occur at this stage, as will other syntactic changes that cause little categorial alteration.”           |
| 5. Very strong cultural pressure | Heavy cultural borrowing           | “Major structural features that cause significant typological disruption”   |

Less is known about Scots syntactic change, but previous research indicates that fifteenth–sixteenth century Scots is unaffected by major syntactic changes happening concurrently in Southern English. These changes, which would fit at level 4 on the borrowing scale, instead take place in Scots during the anglicisation period; until the late sixteenth century, Scots

does not develop a Standard English subject-verb agreement paradigm (Gotthard 2022, 2024a), the verbalisation of gerunds does not take place (Zehentner 2014; Gotthard 2022), verb-raising is retained and *do*-support is absent (Meurman-Solin 1993; Gotthard 2019, 2024a; and the findings of the current paper). While the timing of these changes alone does not confirm that they are anglicisation outcomes (see Section 7), we can at least deduct that structural transfer from Southern English before anglicisation is not evident.

Hence, as high-*intensity* contact with Southern English, per Thomason and Kaufman (1988), began with the increased socio-political dominance of English, particularly after the Union of Crowns in 1603, the social context in the sixteenth–eighteenth century appears conducive to contact-induced structural change, which means that a transfer of *do*-support from Southern English to Scots is possible.

### 3 BACKGROUND: *DO*-SUPPORT

#### 3.1 *Do*-support: *Theoretical assumptions*

*Do*-support involves inserting the auxiliary *do* in a clause to express tense and agreement features when the transfer of these features between the subject and main verb is disrupted, and no other auxiliary is present. In the generative framework, *do* merges in a position analysed as the head of a functional projection below C but higher than VP in the syntactic structure (e.g., T(ense) or AGR(ement), typically called I(nflection) before Pollock's (1989) Split IP-Hypothesis), and is often considered a last-resort operation to establish subject-verb agreement, necessitated by the loss of verb-raising (main verb movement from

VP to a higher position). Verb-raising is understood as motivated by the need to express the feature-content of a syntactic head (e.g., T) to agree with the subject in the specifier position (e.g., spec,TP). Following the loss of verb-raising, this operation became restricted to auxiliaries, which are in complementary distribution with *do*.<sup>3</sup> Consequently lexical verbs could only achieve subject-verb agreement if there was no intervening material between T and V, necessitating the insertion of *do* in those clauses; (1a) illustrates what verb-raising would surface as in modern English (now ungrammatical), (1b) the failed agreement caused by the loss of verb-raising, where the negator is the intervening element, and (1c) the grammatical clause with *do* insertion.

- (1) (a) \*Alex eats<sub>*i*</sub>-3sg not t<sub>*i*</sub> cake  
 (b) \*Alex  $\emptyset$ -3sg not eat cake  
 (c) Alex does-3sg not eat cake

In PDE, and supposedly in Scots, the auxiliary itself has no meaning, and no other function than to spell out features in the manner described – for this reason, *do* is often referred to as a ‘dummy’ auxiliary.

### 3.2 Do-support in English: its origin and development

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<sup>3</sup> Except for in imperative clauses, where *do* can co-occur with progressive and passive *be*, and perfective *have* (see, e.g., Ecay 2015: 5)



The origins of *do* lie in Old English (OE), the ancestor of both English and Scots. OE *do* had other functions, as illustrated in (2); causative *do* (2a), anticipative *do* (2b), substitute *do* (2c). Anticipative and substitute *do* remain in PDE (*code*, under the NICE properties).

- (2) (a) ...and **deþ** hi sittan ...  
 ...and **does** them sit ...  
 ‘... and makes them sit down’
- (b) ...ac utan **don** swa us þearf is, gelæstan hit georne  
 ...but let-us **do** as us need is, perform it carefully  
 ‘... but let us do as we should, i.e. carry it out with care’
- (c) and hit þær forbærnð þæt mancyn, swa  
 and it there burns-to-death that people, as  
 hit her ær **dyde**  
 it here before **did**  
 ‘and it will burn those people to death, as it has done here before’

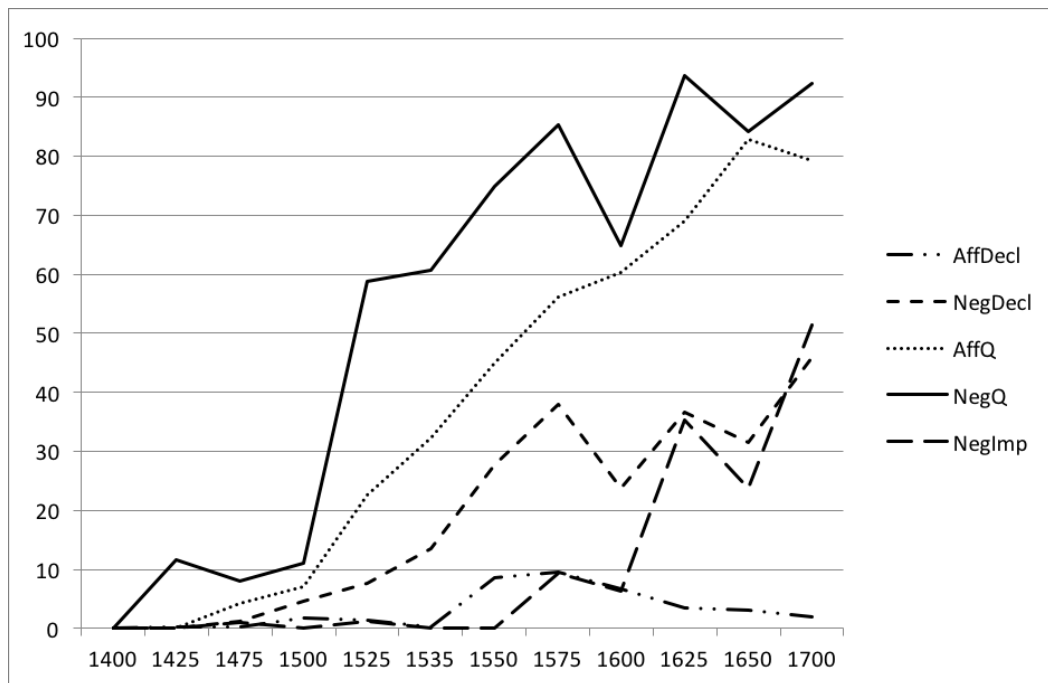
(Sleg. (Ld) 4.118; adapted from Fischer and van der Wurff 2006: 154)

Causative *do* (2a) persists in other modern West-Germanic varieties, e.g. Dutch (van der Horst 1998: 57), but is lost in PDE – this early function of *do* has commonly been identified as a probable source for the grammaticalisation of *do*, initially by Ellegård (1953). While the presence of more semantically vacuous *do* auxiliaries with *code*

properties may also have influenced the development of a dummy *do* auxiliary (see, e.g., Moretti 2024), the causative construction has the advantage of combining a *do* auxiliary with an infinitival verb, which is the same syntactic pattern of PDE clauses with *do* (except for in *code* contexts; e.g., Fischer & van der Wurff 2006: 154-155; Garrett 1998: 287-291). In Ellegård's (1953) early proposal for the grammaticalisation of causative *do*, he posits that the meaning of *do* was susceptible to re-analysis in clauses with ambiguous agents. Eventually, *do* auxiliaries with unambiguously non-causative meaning emerged, with the earliest examples from the western Midlands in the Middle English (ME) period.

Extensive data collection on English *do*-support has facilitated a quantitative mapping of its spread in different clause types, from the emergence of non-causative *do* constructions, as illustrated in Figure 1 (adapted from Los 2015). Notably, it was for a period possible to apply *do*-support in affirmative declarative clauses – this is a non-emphatic, semantically vacuous *do*, and not the emphatic function of PDE *do* – which declined while *do*-support increased in other contexts.

**Figure 1: The spread of *do*-support in Ellegård's (1953) corpus**



*AffDecl*=Affirmative Declarative; *NegDecl* = Negative declarative; *AffQ* = Affirmative Question; *NegQ* = Negative Question; *NegImp* = Negative Imperative

Kroch (1989: 219) finds that *do*-support was introduced into all appropriate contexts in English at the same time, but at different frequencies, i.e., a *simultaneous unequal actuation*, but that the rate of change is consistent across all contexts, thus providing key evidence for Kroch's (1989) Constant Rate Hypothesis. Differences in frequencies at a given time may be affected by stylistic or functional factors; indeed, during its regulation, before being integrated into English grammar as a syntactic rule, *do* was conditioned by extra-syntactic factors, e.g. narrative styles and social constraints (see, e.g. Nurmi 1999,

2000, 2011; Stein 1985: 292–6; Tieken-Boon van Ostade 1990: 26–27; Warner 2002, 2005).

The emergence of *do*-support in the West Midlands has prompted theories of Celtic substratum effects, through contact with a Brythonic ancestor of Welsh in the OE period, notably argued by Poussa (1990), supported by the presence of periphrastic *do* constructions in Celtic languages. Scepticism towards such theories arises due to their reliance on an assumed unattested form of *do*-support used in the West Midlands before the ME period (e.g., Garrett 1998: 286). An alternative perspective suggests that the *do* constructions in early Celtic and English dialects is an aerial feature (Hickey 2012: 501-3), as *do* constructions exist in other Germanic languages despite little Celtic contact. The strength of Poussa's (1990) account lies in her theory that language contact prompts more frequent use of dummy auxiliaries. *Do* may have been used as a facilitator verb, letting speakers avoid the challenge of fitting new verbs into their inflectional system by instead pronouncing features on *do*; Fischer and van der Wurff (2006: 155) notes that *do* initially occurred more frequently with verbs borrowed from French (cf. Shaw & de Smet 2022). Indeed, *do*-support is more frequent in data from English pidgins, creoles, L2 varieties, code-mixing, and children's speech, than in standard varieties (see also Tieken-Boon van Ostade 1990: 19–24; van der Auwera & Genee 2002: 287; Hickey 2012: 502; this facilitator verb function is often the function of *do* periphrasis in other Germanic languages).

Thus, the origins of the dummy auxiliary *do* may not solely be language-internal nor external: the presence of a *do* auxiliary in OE and its occurrence in other Germanic languages suggest a common Germanic origin (cf. Tieken-Boon van Ostade 1990; Langer 2001). This auxiliary expanded its use and underwent semantic bleaching in varieties spoken only in Britain, a process which apparently began in areas where there was contact with Celtic languages which had verbal periphrasis with *do*, i.e. the West and South-West of England.<sup>4</sup> Without tracing the origin of auxiliary *do* structures to direct transfers or calques into English, it remains plausible that this unique contact situation could accelerate or catalyse a distinct development of *do* compared to other Germanic languages,<sup>5</sup> even if the origin of the auxiliary is language-internal.

### 3.3 *Intermediate do*

The syntactic function of English *do* varied before settling into its present-day usage, and much scholarship, e.g. seminal work by Denison (1985) and Garrett (1998), aim to capture what may have conditioned *do* after the causative use declined and before it became a dummy auxiliary (see also recent work by Moretti (2024)). Ecay (2015) explores this further through comprehensive quantitative study of factors affecting the rise of *do*,

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<sup>4</sup> There is a periphrastic *do* construction in Scottish Gaelic; a preterite marker, and not the habitual *do* which is found in other Celtic languages (Ronan 2010). While this link could certainly be explored further in future work, there is little reason to assume that this is the route of *do*-support into Scots in the face of the much later development of Scots *do* compared to West and South-West England.

<sup>5</sup> This does not rule out influence from French constructions with *faire*, as suggested by Ellegård (1953) and Denison (1985, 1993).

replicating results by Ellegård (1953) and Warner (2005), using data from the *Penn Parsed Corpora of Historical English* (PPCHE; Kroch 2020) and the *Early English Books Online* (EEBO) corpus. Ecay's (2015) findings shed light on a re-analysis of *do* before and after the frequency "dip" around 1575 in Ellegård's (1953) data (see Figure 1) – this is roughly when Nurmi (2011) observes a rapid adoption of *do* by female writers, but in her data, from the *Corpus of Early English Correspondence* (CEEC; Nevalainen et al. 1998), this dip is slightly later, around 1600. Warner (2005) suggests that the dip marks a stylistic re-analysis of the *don't* contraction, finding more negative *do* in higher-complexity texts pre-1575, and the opposite correlation post-1575. In replicating Warner's results, Ecay (2015: 66–73) identifies a complexity effect on affirmative *do* as well, which suggests that it is *do*-support itself that undergoes a re-evaluation. This re-evaluation, or re-analysis, is thus reflected by a dip in *do* frequencies before it rapidly increases again and eventually becomes mandatory.

Ecay's (2015) analysis reveals an "intermediate *do*" auxiliary pre-1575, displaying distinct syntactic behaviours from the version of *do* that sees increased usage after 1575. Specifically, he proposes that intermediate *do* functions as an agentive marker, merging in a lower syntactic position than post-1575 *do*. This analysis follows observations by Ellegård (1953), that *do*-support is initially more frequent in post-adverbial positions and with pronoun subjects, and is resisted by a specific class of verbs (*know, doubt, care, fear, boot, list, mistake, skill, throw*; henceforth, Ellegård's (1953) KNOW class). The timing of this intermediate *do* is particularly relevant for this study, as *do*-support emerges in Scots (at

relevant frequencies) after the proposed intermediate-*do* stage, i.e. after 1575 (see Section 3.4). Therefore, a closer look at Ecay's (2015) findings is warranted.

### 3.3.1 *Position relative to adverbs*

Ellegård's (1953) observation that *do* is initially more frequent in post-adverbial positions gives rise to the hypothesis that *do* initially held a low position in the clause (i.e., lower than the present-day I/T position, but higher than VP). Ecay (2015: 76) highlights the examples in (6) as further evidence for this hypothesis.

- (6) (a) He hes **done** petuously devour  
the noble Chaucer of makaris flour  
‘[Death] has piteously devoured the noble Chaucer, flower of makars’  
(Wm. Dunbar Lament for the Makars, c. 1505)
- (b) consequently it wyll **do** make goode drynke  
‘Consequently, [barley] will make good drink’  
(A. Boorde Introduction of Knowledge, a. 1542)
- (c) Fro the stok ryell rying fresche and ying  
But ony spot or macull **doing** spring  
‘From the royal stock rising fresh and young / without any spot or blemish  
springing’  
(Wm. Dunbar The Thrissill and the Rois, 1503)

The analysis does not address the origin of examples (6a) and (6c), from Scottish writer William Dunbar; Görlach (2002: 108) mentions (6a) as a type of *do* used in Older Scots but not in English. Gotthard (2019: 6) does not see these constructions as a form of *do*-support, due to *do* being non-finite and primarily functioning to mark tense in verse (Macafee & Aitken 2002: 7.8.15). Both examples from Dunbar appear to fall into this category – the example from (the Englishman) Boorde (6b) may offer more reliable evidence of a low *do* analysis. However, rather than looking further at co-occurrence with other auxiliaries or modals, Ecay (2015: 77–8) tested the hypothesis of intermediate *do*'s lower position by comparing its placement relative to clause-medial adverbs, contrasted with the position of modal auxiliaries and the auxiliary *have*. He observed that, while other auxiliaries occurred pre-adverbially from the early fifteenth century, *do* initially appeared post-adverbially (e.g., *he often did see it*) until it became more established in the early sixteenth century, then increasingly shifting into pre-adverbial position (e.g., *he did often see it*), and aligned with other auxiliaries by the late 17th century.

### 3.3.2 *Argument selection*

Ellegård's (1953) observation that KNOW-class verbs resist *do*-support led Ecay (2015: 78–82) to investigate the behaviour of *do* across different verb classes: He extracts 12 high-frequency verbs (including orthographic variants) from the PPCHE, categorised into two broad semantic classes, *unaccusative* and *experiencer-subject*, with 6 verbs each. Ecay's



(2015) *unaccusative* class, including verbs that do not select an agentive external argument, includes ARISE, COME, DIE, GO, RISE, STAND, and his *experiencer-subject* class, corresponding to Ellegård's (1953) KNOW class, contains CARE, DOUBT, DREAD, FEAR, KNOW, LIKE. He categorises the remaining verbs as *unergative* (verbs without a direct object) and *transitive* (verbs with a direct object). Ecay's *experiencer-subject* class is called so due to the generalisation that Ellegård's KNOW class verbs take experiencer subjects, but he acknowledges that this might not be the most fitting generalisation (Ecay 2015: 78). Indeed, these types of verbs are typically used as hedging devices and in parenthetical commentary clauses (cf. Bolinger 1977: 127, Chan & Tan 2009: 102), making them more likely to appear with first-person subjects in their active form.

Ecay's findings support a *do* re-analysis around 1575: Before 1575, there is a clear preference for negative declarative *do* with the *unergative* and *transitive* verbs, i.e., verbs selecting agentive subjects, while the *unaccusative* and *experiencer-subject* classes "catch up" in the early 17th century. Affirmative declaratives present a slightly different scenario, with the *unaccusative* class of verbs as the sole outlier, occurring less frequently with *do*-support than other verb classes (including *experiencer-subject*). This leads to the interim conclusion that intermediate *do* functioned as an agentivity marker. However, when applying this analysis to the EEBO data, the semantic classification effect is less clear, revealing lexically-specific effects, particularly with verbs like REGARD and KNOW. Consequently, Ecay tentatively suggests that "certain unaccusatives, as a group, are delayed

in their progress along this trajectory [and] other specific lexical items may also show oddities" (2015: 125).

### 3.3.2 *Subject type*

The final observation from Ellegård (1953) investigated by Ecay (2015: 86-8) is the preference for *do*-support with non-pronominal subjects. Throughout the period of affirmative declarative *do*-support usage, a robust subject-type effect is identified; *do*-support appears with pronominal subjects at significantly lower frequencies than with other subjects, and negative declaratives and affirmative interrogatives lose this effect after the dip in 1575.<sup>6</sup> Differences between pronominal and nominal subjects in historical data is not unexpected, given their different information-structural status and historical structural positions in the clause (e.g., Haeberli 2002, Biberauer & van Kemenade 2011). The crucial finding is that there is a similar behaviour of affirmative declarative *do* and pre-1575 *do* in imperative, interrogative, and negative declarative clauses, and that this apparent constraint on *do*-support is lost post-1575, when affirmative declarative *do* also declines. In Ecay's (2015) analysis, this suggests two underlying *do*-support grammars in Early Modern English, with one surpassing the other around the 1575–1620 reanalysis when lexical verbs stopped raising above adverbs completely. While Ecay (2015) terms this an "intermediate" *do* grammar, it could represent a distinct grammar; then, the intermediate *do* grammar would not be a stage in the grammaticalisation of *do*, but rather be a failed system which

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<sup>6</sup> There was not enough data to confirm this effect in negative interrogatives and imperatives

became reanalysed into the dummy *do* grammar. This analysis may give rise to the implication that the “failed change”, which affirmative declarative *do* has often been deemed to be, is in fact the failed change of the whole intermediate *do* system. Accounting for the mechanics of these grammars goes beyond the scope of this study, but the syntactic behaviour of English *do*-support pre- and post-1575 is pertinent to the investigation into whether *do*-support was transferred from English to Scots in the late sixteenth century.

### 3.4 *The development of Scots do-support*

Scots *do*-support is far less researched than English *do*, with only three quantitative studies to date: Meurman-Solin (1993), Gotthard (2019), and Gotthard (2024a). Jonas (2002) provides a more qualitative account of verb-raising in Older Scots, focusing on Shetland. Otherwise, Older Scots *do*-support is accounted for briefly in more descriptive works (such as Aitken 1979; Beal 1997; Görlach 2002), or not at all, either because the focus of description is on pre-anglicisation Scots features, or because it is assumed to operate identically to English.

Previous studies on the rise of Scots *do* have not definitively identified the origin of Scots *do*-support. The descriptive literature offers speculative options: Scots might have independently developed *do*-support, as Scots, like English, inherited the OE causative *do* auxiliary, and utilised a special *do* in verse (as seen in (6), in Section 3.3). Early usage of Scots *do* as a tense marker in verse or as a narrative device also shows parallels with early English *do*: Meurman-Solin’s (1993) study on *do*-support in the *Helsinki Corpus of Older*

*Scots* (HCOS; Meurman-Solin 1995) finds higher frequencies of *do*-support in the past tense – which is expected if *do* has a narrative function (cf. Brinton 1996) – and in trial transcriptions, pamphlets, and diaries, where this kind of narrative function is expected.

However, a language-internal theory insufficiently explains why Scots *do*-support emerges almost 200 years later than in English, beginning in the mid-sixteenth century (Meurman-Solin 1993; Gotthard 2019). Gotthard's (2024a) study, using PCSC data, is the first to measure *do* proportions in Scots comparably to English *do*-support studies: measuring proportions only within present tense clauses, affirmative declarative *do* remained consistently below 1.3%, and negative declarative *do* maintained stable but low frequencies throughout the seventeenth century, peaking at 12%, before rising to an average of 34% in the 1720–1747 period.

In the present day, *do*-support is variable in some dialects, as seen in negative declaratives in Buckie (3; North-East) and Shetland (5), and questions (4) in Shetland.

- (3) I na mine fa come in  
I NEG remember who came in

(Buckie; Smith 2000: 232)

- (4) Comes du hame a lot?  
Come you home a lot?

(Shetland; Jamieson 2015: 52)

- (5) it makes no da rates hicher

it makes NEG the rates higher

(Shetland; Jonas 2002: 252)

Jamieson (2015) and Jonas (2002) attribute language contact, both early contact between Norn and Scots, and contact with anglicised Scots from the sixteenth century, for these outcomes; Jonas (2002: 270) suggests that the loss of verb-raising in Scots is an anglicisation outcome. Hence, variable *do*-support in Shetland may have resulted from the unique contact situations there.

The structure in (3) might represent a different phenomenon, which, according to the *Scots Syntax Atlas* (Smith et al. 2019) is widely accepted by both young and old speakers in the North-East of Scotland.<sup>7</sup> In Buckie, variable *do*-support only occurs with subjects that historically had  $\emptyset$ -inflection on the verb under the *Northern Subject Rule* (NSR; plural and first-person singular (1sg) pronouns), and is obligatory, as in Standard English, elsewhere (Smith 2000). Gotthard's (2024a) investigation into whether NSR subject types influenced *do*-support's development found no convincing effect, suggesting that other conditioning factors drove the historical variation.

The North-East and Shetland dialects are often considered representative of “broad Scots”, implying less anglicisation compared to, e.g., central Scottish dialects. Variable *do*-support in these varieties is, thus, potential evidence of residual Older Scots grammar – i.e.,

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<sup>7</sup> Jamieson's (2015) findings indicate that variable *do* in questions is disappearing from Shetland, with low acceptability ratings among younger speakers.

*do*-support may be an anglicisation feature rather than a language-internal development. However, Scots exhibits rich regional variation, and this variability could also result from internal developments in these dialects.

Thus, earlier studies pinpoint the emergence of Scots *do*-support in the mid-late sixteenth century, measure *do* at low frequencies throughout the seventeenth century, and report variability in some present-day dialects. Nonetheless, the exact nature of this development remains unclear, and past research has not determined whether Scots *do*-support is an outcome of anglicisation.

#### 4 RESEARCH QUESTION AND PREDICTIONS

In order to gain more clarity of the origin and development of Scots *do*-support, the following research question (RQ) will be investigated:

**RQ:** Does Scots *do*-support exhibit similar features to English “intermediate *do*”?

If early Scots *do* lacks intermediate *do* features, it would align with an analysis of *do*-support as a transferred structure from Southern English, with post-1575 English *do* qualities. However, if early Scots *do*-support shares similarities with intermediate *do*, the origin of Scots *do* becomes more obscure: This scenario could be interpreted as (i) indicative of an “intermediate *do* grammar” diffusing Northwards from English to Scots –

i.e., a result of contact with Northern English, or (ii) evidence of English and Scots *do*-support undergoing parallel developments, following a similar grammaticalisation pattern.

## 5 METHOD

### 5.1 *Corpus, data retrieval and analysis*

The data source for this study is the *Parsed Corpus of Scottish Correspondence* (PCSC; Gotthard 2024b; described in Gotthard (2024a), and more extensively in Gotthard (2022: 27–46)). The corpus consists of 270,553 words of correspondence data, which is assumed to reflect a more oral style than other genres (e.g., van der Wal & Rutten 2013; Dossena 2013), and has been found to resist anglicisation for longer; Meurman-Solin (1997: 8) reports a sustained use of distinctively Scots variants in ego-documents (e.g., correspondence and journals) and legal writings, even after a significant decline in the use of such features in other genres after 1650. The PCSC, parsed in the PPCHE format (Kroch 2020) can be queried automatically using the CorpusSearch2 (CS) tool (Randall 2000/2013), tailored for PPCHE-style corpora.

To investigate whether the *do* type emerging in late sixteenth-century Scots exhibits behaviour similar to Ecay’s (2015) intermediate *do*, or aligns more with post-1575 English *do*, a CS coding query was written to identify clauses coded for subject type (pronominal, non-pronominal, or null<sup>8</sup>), finite verb type (*be*, *have*, *do*, or a lexical verb), polarity (affirmative or negative), and adverb position – whether adverbs occurred between the

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<sup>8</sup> Including all forms of null subjects, e.g. traces, subjects omitted under conjunction, PRO, etc.

subject and finite verb or after the finite verb.<sup>9</sup> A comparable method to Ecay (2015: 78–9) was used in retrieving representative samples of lexical classes of verbs, using the following steps:

1. All finite verbs, and all infinitival verbs that are sisters to finite *do* (i.e. main verbs in *do*-support clauses), were extracted with CS queries, and sorted into a list with the frequency of occurrences given for each verb (a feature of the CS `make_lexicon` function).
2. High-frequency verbs from the list were manually sorted into 3 semantic classes, with 7 representative high-frequency verbs per class: *agentive*, *unaccusative*, and *k-class* (from KNOW class, in line with Ellegård’s original label). Thus, the main difference from Ecay’s (2015) classification is that the *unergative* and *transitive* classes were collapsed into one *agentive* class. This initial selection essentially determined 7 semantic lemmas<sup>10</sup> per class.
3. The 7 lemmas were added as variables in a CS `.def` file, and the verb lists were manually checked to add all variants belonging to a lemma to the relevant variable.

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<sup>9</sup> The CS `iprecedes` search function was used to identify adverbs immediately preceding or following the finite verb, as the less strict `precedes` option yielded a high error rate – since only proportions within the subset of clauses with clause-medial adverbs are measured, this is not expected to cause a crucial skewing of the result.

<sup>10</sup> “Semantic lemma” is used here as a term for head words which may capture a narrow semantic group, e.g. the lemma KNOW can denote *know*, *ken*, and *wit*. When a semantic lemma denotes several forms, this is indicated in Table 2.



4. Two more columns were added to the coding query to find the particular lemmas and to categorise them according to their semantic class. This made it possible to correlate lemmas and semantic classes of verbs with the other clause features.

Table 2 presents the semantic lemmas, with the lexical items they denote, and their absolute frequencies (including both finite verbs and infinitive verbs in *do*-supported clauses).

**Table 2: Semantic classes and their representative lemmas, with absolute frequencies**

| Agentive                    |               | Unaccusative                      |               | k-class                           |               |
|-----------------------------|---------------|-----------------------------------|---------------|-----------------------------------|---------------|
| <i>lemma</i>                | <i>tot. n</i> | <i>lemma</i>                      | <i>tot. n</i> | <i>lemma</i>                      | <i>tot. n</i> |
| DO<br>(main verb)           | 108           | GO                                | 163           | KNOW<br>(incl. <i>ken, wit</i> )  | 446           |
| SEND                        | 166           | COME                              | 375           | DOUBT                             | 110           |
| SAY<br>(incl. <i>tell</i> ) | 292           | FALL                              | 23            | TROW ( <i>find</i> )              | 130           |
| GIVE                        | 163           | STAND                             | 39            | FEAR                              | 58            |
| WRITE                       | 255           | LIE                               | 48            | DESIRE (incl. <i>want, wish</i> ) | 444           |
| TAKE                        | 124           | STAY (incl. <i>remain, rest</i> ) | 223           | THINK                             | 531           |
| MAKE                        | 87            | LIVE                              | 29            | HOPE                              | 379           |
| tot. n:                     | 1,195         | tot. n:                           | 900           | tot. n:                           | 2,097         |

The CS query output was then imported into R (R Core Team 2021) for statistical analysis. With the presence of the finite auxiliary *do* as the dependent variable, frequencies of *do*-support were calculated separately for affirmative and negative declarative clauses, as well as for each of the features relevant for intermediate *do* (i.e., by verb class, clause position relative to clause-medial adverbs, and subject type). For the argument-selection investigation in 6.2.1, only clauses which had semantically-lemmatised verbs were counted. In Gotthard (2024a), proportions of *do* were calculated by taking frequencies per 20-year time intervals, which provides a sense of the overall proportions of present tense *do* in the PCSC without any parametric assumptions. In this study, to reduce some of the noise, the data has been fitted to a LOESS curve, with year as a continuous rather than binned variable. The LOESS method fits a smooth but flexible curve to the data, and helps to visualise general trends, although it adds a level of abstraction from the raw data.

### 5.2 Note on interrogatives and imperatives

Though interrogative and imperative *do* were initially part of the study, the analysis yielded inconclusive results due to the low number of such clauses. Among 25 matrix questions (21 affirmative, 4 negative), only 3 met the criteria for *do*-support (i.e., Wh-object or polar question with no other auxiliary present). Of these, 2 instances had *do*-support, as illustrated in (7), with the relevant part of the clause underlined and *do* in bold font.

(7) (a) or proceed they from a free will ...

(PCSC ID: 302\_11\_F1700; Margaret Hamilton, 1702)

- (b) Bot do ze thenk yes xx days past hee heth let me kno hou my  
bessenes is theruoth:

(PCSC ID: 83\_65\_F1600; Elizabeth Ker, 1641)

- (c) Do you never rime now ...

(PCSC ID: 1421\_55\_M1700; John Erskine, 1717)

Negative imperative *do* occurs first in 1660, occurring 9 times out of a total 49 negative imperative clauses which did not use another auxiliary or a modal. The difference between pre-1660 and post-1660 is coarse-grained but significant with respect to imperative *do* ( $p < 0.001$ , according to a two-strand t-test). Examples in (8) show negative imperatives with (8a) and without (8b) *do*.

- (8) (a) so do not feall to Come

(PCSC ID: 293\_2\_F1700; Christian Cameron, 1722)

- (b) and let not the berer staye long

(PCSC ID: 73\_55\_F1600; Agnes Keith, 1600)

The rarity of such constructions in the corpus may stem from the formality of these letters. Recent research on eighteenth-century correspondence data indicates that writers employ various discourse strategies for requests, instead of using matrix questions (Elsweiler 2022,

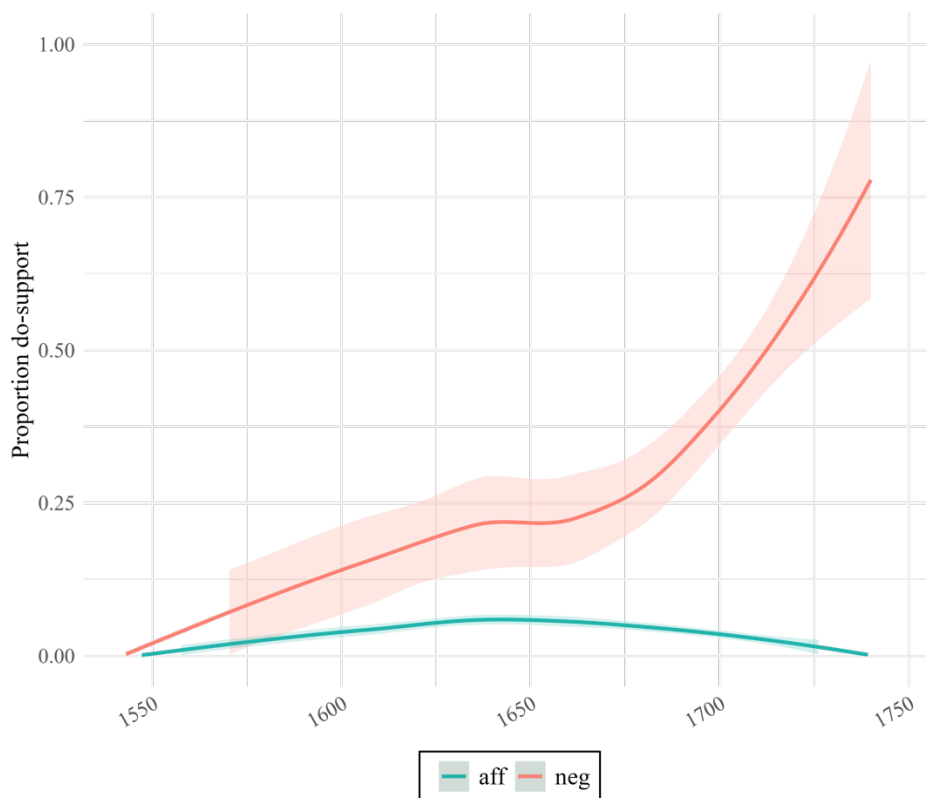
2023). It is reasonable to infer that, for politeness, imperatives, expressing commands, are likewise avoided.

## 6 RESULTS

### 6.1 *The rise of do in the PCSC*

The overall proportions of affirmative and negative declarative *do* were taken as a starting point before breaking down the results further. The results are in Figure 2.

**Figure 2: Frequencies of declarative *do*-support (LOESS curves)**



*aff* = affirmative declarative, *neg* = negative declarative

Affirmative declarative *do* is rare, at 3.6% overall proportions (292/16,092). Negative declarative *do* occurs 140 times out of 522 possible occurrences (26.8%), and remains at approximately 20% during the 17th century before a more pronounced increase after 1700, reaching a 60-75% average in the 1720–1747 period.

## 6.2 *Intermediate do*

### 6.2.1 *Argument selection*

If early Scots *do* resembles intermediate *do*, a higher occurrence with agent-selecting verbs is expected. The results, in Figure 3, affirm this prediction for affirmative declarative clauses, where *do*-support is most frequent with agentive verbs (such as (9ab)) compared to the other verb classes; there are 53 examples of *do*-support with agentive verbs, out of 1,110 possible occurrences (constituting ca. 18% of the overall frequency of affirmative declarative *do*-support). Unaccusative verbs only appear with affirmative declarative *do*-support 8/848 times in total, and the KNOW class 29/1,856 times.

(9) *Affirmative declarative:*

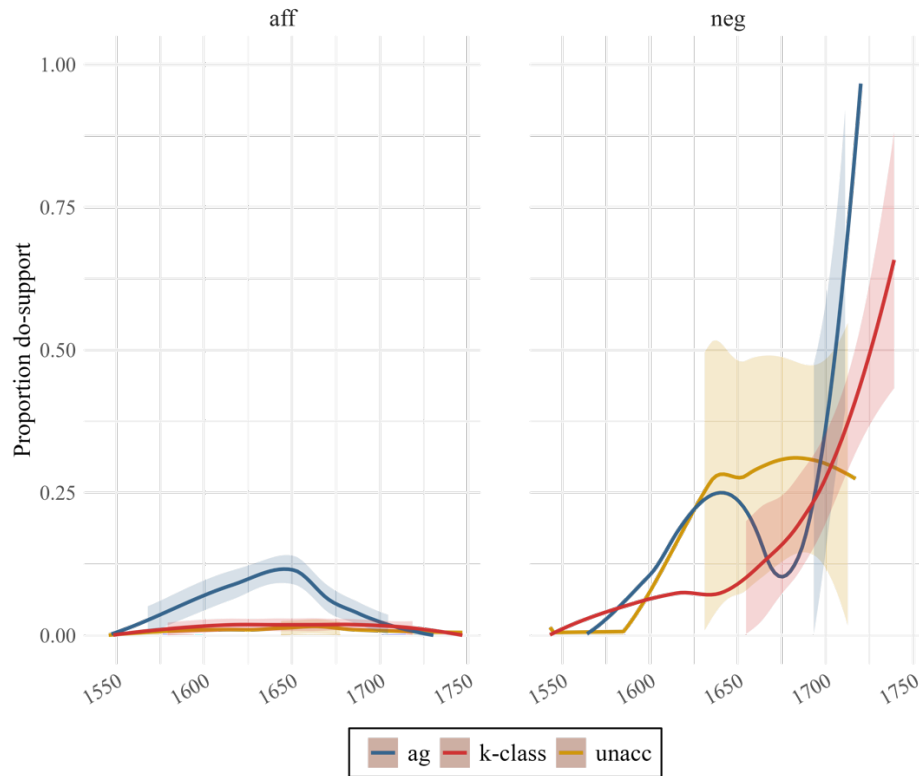
- (a) for I **did giwe** him my tickit to Restore them ...

(PCSC ID: 1110\_5\_M1650; John Gordon, 1650)

*Negative declarative*

- (b) but my nephew Elho **did not wrett** to me ever in his life,

(PCSC ID: 335\_44\_F1700; Anna Scott, 1700)

**Figure 3: Frequencies of *do*-support by verb class (LOESS curves)**

*ag* = agentive, *unacc* = unaccusative

The findings for negative declarative *do* are less easily interpretable. Results for agentive and KNOW-class verbs (as in 10a–b) are more robust from the later 17th century, when *do*-support frequencies sharply increase with both verb types and agentive verbs have an apparent advantage. Before this point, there is insufficient data to draw reliable conclusions about the difference between the verb types; the curve for unaccusative verbs is based on

44 clause tokens, and only 8 of these have *do*-support; COME (2), GO (2), STAY (2), LIVE (1), STAND (1).

(10) *Affirmative declarative:*

(a) ye erll off Cathenes **did** knaw yarof long syne

(PCSC ID: 756\_120\_M1600; Donald Mackay, 1619)

*Negative declarative*

(b) I **don't** doubt of yowr Acceptance

(PCSC ID: 1241\_136\_M1650; John Campbell, 1695)

The unaccusative verbs with affirmative declarative *do*-support (as in 11a–b) are COME (3), STAY (3), GO (1), LIE (1). These verbs are mid-high on Sorace's (2000) Unaccusativity Hierarchy, and thus not expected to show agentive qualities. However, as Ecay (2015: 80) notes, the function of *do* could be to coerce agentivity on non-agentive verbs in these cases, i.e. *do* is used to indicate an external argument.

(11) *Affirmative declarative:*

(a) I **did** goe ther

(PCSC ID: 1245\_140\_M1650; James Chalmer, 1687)

*Negative declarative*

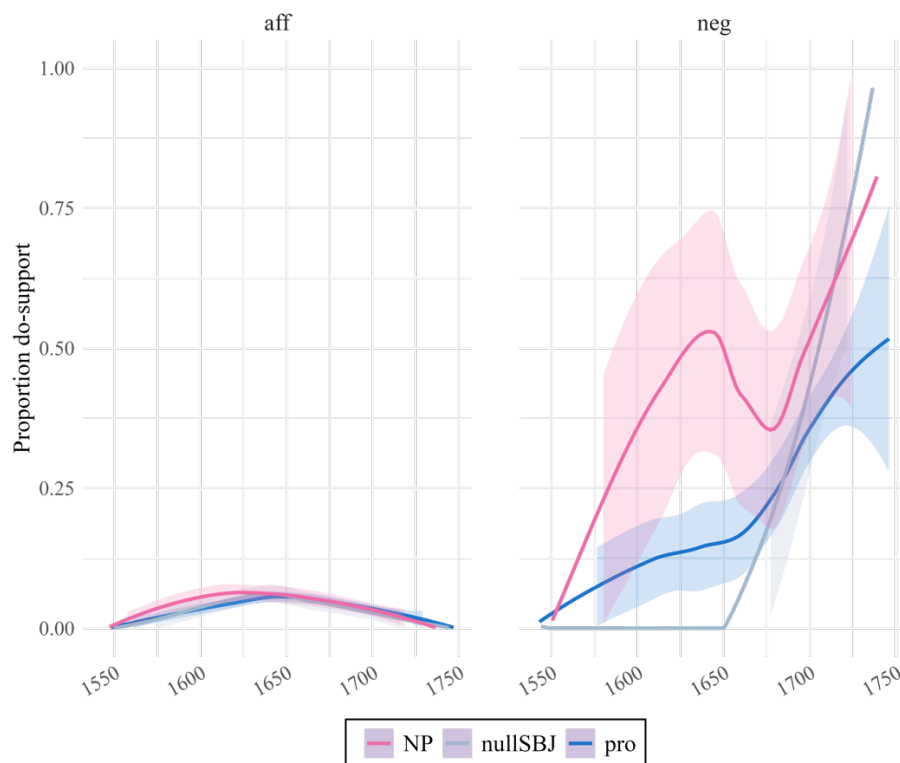
(b) but tho he do not Com kinloch is fulay resolfed to kip the apontmentt

(PCSC ID: 297\_6\_F1700; Liliias Campbell, 1705)

### 6.2.2 Subject type

Measuring *do*-support frequencies between pronominal and non-pronominal subjects, no preference is evident in affirmative declarative clauses. In negative declaratives, non-pronominal subjects consistently show higher *do*-support rates throughout the period, though caution is needed due to their small sample size: 75, of which 30 have *do*-support.

**Figure 4: Frequency of declarative *do*-support by pronominal or nominal subject (LOESS curves)**





*'NP' = non-pronominal subject, 'pro' = pronominal subject, 'nullSBJ' = null subject*

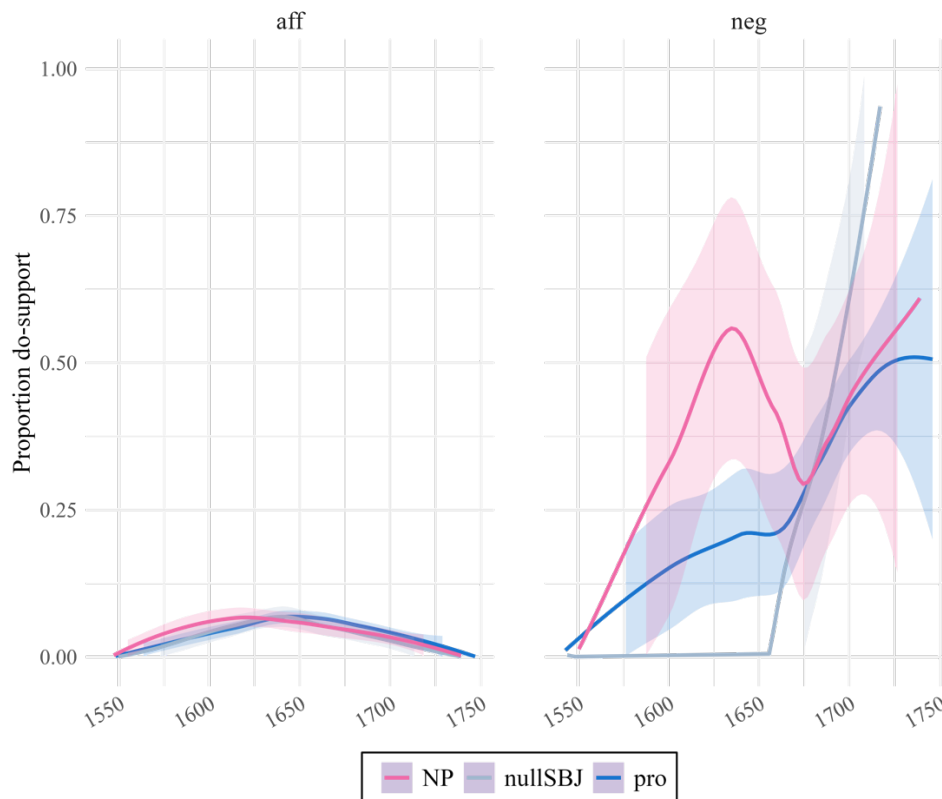
Considering the special status of the KNOW-class verbs as hedging devices, their association with first-person subjects (as in (12)) might skew the results; pronoun subjects with KNOW-class verbs amounted to 39.4% of the total negative declaratives with pronoun subjects (n=99), and the overall majority of KNOW-class subjects are 1sg, the most likely subject to be used in a hedging function (79%; 1,337/1,689).

(12) I dout not he is Ignorant of yis forme of proces

(PCSC ID: 652\_16\_M1600; William Douglas, 1642)

The subject type effect was tested again without the KNOW class, seen in Figure 5.

**Figure 5: Frequency of declarative *do*-support by pronominal or nominal subject, excluding KNOW-class verbs (LOESS curves)**



*'NP'* = non-pronominal subject, *'pro'* = pronominal subject, *'nullSBJ'* = null subject

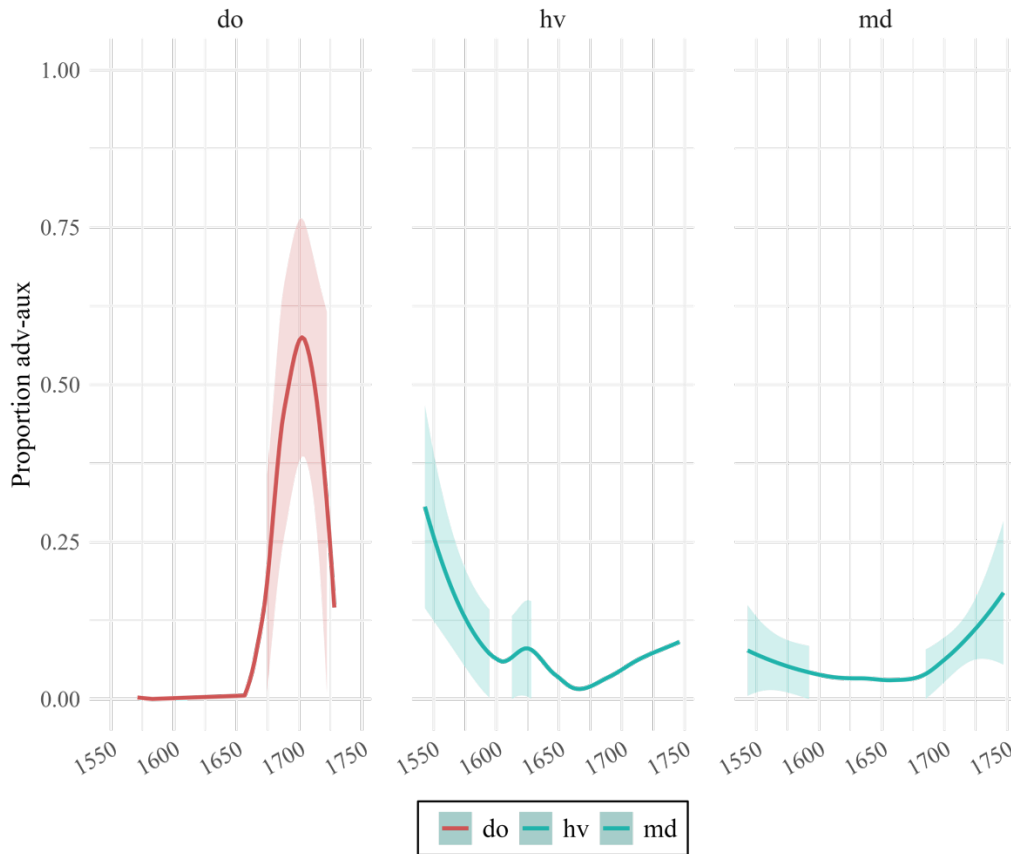
Excluding the KNOW-class verbs indeed yielded higher proportions of negative declarative *do* with pronoun subjects, particularly noticeable from the late sixteenth century. These results appear more similar to Ecay's (2015) findings regarding subject type; the effect is there, but fades after a critical point in time – around 1675 in the PCSC data.

### 6.2.3 Clause position

Figure 6 shows results for the position of *do* in relation to mid-clausal adverbs, compared with the position of auxiliary *have* ('hv') and modals ('md'; e.g. *will, shall*). The proportions represent instances where adverbs occur between the subject and finite auxiliary/modal (13) compared to when adverbs appear after the verbal item (14); higher proportions suggest that the verbal item occupies the lower clausal position.

- (13) (a) which [your] sonne & my wifes sonne sillily did grudge  
 (PCSC ID 1383\_17\_M1700; George Mackenzie, 1703)
- (b) he dutles will giue you all content ...  
 (198\_59\_F1650; Jean Gordon, 1657)
- (c) Olifeir Synclar wranguslie hes Intromittit ... wt my landis of scheidland  
 (379\_35\_M1540; William Sinclair, 1544)
- (14) (a) wherby there Effects do properly belong to the Government,  
 (1386\_20\_M1700; John Murray, 1716)
- (b) I wish wee may soon see - him act in his own sphere  
 (1389\_23\_M1700; John Hay, 1719)
- (c) ... as I hawe particularly schoen the berar;  
 (642\_6\_M1600; William Hay, 1632)

**Figure 6: Proportions of post-adverbial (vs. pre-adverbial) verbs (LOESS curves)**



Results for all modal and auxiliary verbs show inconclusive patterns; on average, modals appear in post-adverbial position 54/544 times, *have* 19/179 times and *do* 7/48 times. *Have* seems to maintain a low position initially, then shifting to a higher position, but data after 1600 is insufficient for definitive conclusions. Modals exhibit low frequencies in post-adverbial position at the start and end of the 17th century, with a data gap in the 17th

century. Despite some noise, the curve for *do* suggests that it frequently takes a lower position compared to the modals and *have*.

#### 6.2.4 Summary

In testing whether *do*-support in the PCSC behaves like intermediate *do*, the following pattern was found:

1. *Do*-support occurs more with verbs taking agentive subjects than with KNOW-class or unaccusative verbs. This difference is most striking in affirmative declarative clauses, but can be seen after 1675 in negative declarative clauses.
2. *Do*-support occurs more with non-pronominal subjects in negative declarative clauses. When KNOW-class verbs are excluded, this effect is lost after 1675.
3. There is no subject type effect on affirmative declarative *do*-support.
4. In the late 17th century, *do*-support occurs post-adverbially more often than other auxiliaries and modals.

Findings 1, 2, and 4 are consistent with Ecay's (2015) observations for intermediate *do* in English, but not 3. Additionally, similarly to what Ecay (2015) observes for English *do*-support around 1575, some re-analysis seems to take place in negative declarative *do* around when affirmative declarative *do*-support declines, i.e. around 1675, indicated by

Findings 2 and 4 for subject type effect and clausal position, but not for the argument-selectional features (Finding 1).

## 7 DISCUSSION: ASSESSING THE ORIGIN OF SCOTS *DO*

Thomason, broadly defining what kinds of linguistic changes count as contact-induced, states:

- (15) any linguistic change that would have been less likely to occur outside a particular contact situation is due at least in part to language contact

(Thomason 2001: 62).

Applying this criterion alone to closely-related languages like Scots and Southern English is challenging; discerning changes independent of contact after their split from a shared ancestor – namely, independent change towards similar outcomes (i.e., parallel developments) – is notoriously difficult. It is therefore necessary to consider a combination of diagnostic criteria to determine the likelihood of Scots *do*-support being a transfer from Southern English during anglicisation.

A key diagnostic for contact-induced change was discussed in Section 2.1, *social context*, where it was established that the social environment in the sixteenth-eighteenth century is conducive to contact-induced syntactic change. Poplack and Levey elaborate on

Thomason's (2001) criterion in (15), providing more specifications on how a particular feature can be identified as contact-induced (16).

(16) A candidate for contact-induced change in a contact variety is present in the presumed source variety and either 1) absent in the pre-contact or non-contact variety, or 2) if present (e.g., through interlingual coincidence), is not conditioned in the same way as in the source, and 3) can also be shown to parallel in some non-trivial way the behavior of a counterpart feature in the source

(Poplack & Levey 2010: 398).

From 1), a *timing* criterion is established: if a candidate feature is present in Southern English (as the source variety) but not in Scots before the contact event (in this case, anglicisation), it is more likely to be contact-induced. We have observed that *do*-support emerged in Scots after intense contact with Southern English begins. Moreover, Germanic varieties with less intense contact with English, i.e., Dutch, German, and Scandinavian languages, have not developed *do*-support in the same way as English and Scots (see, e.g., Gotthard (2019: 19–20) for a summary) – i.e., the candidate feature is not present in "non-contact varieties". Hence, based on the *timing* criterion alone, we can identify Scots *do*-support as a likely contact-induced change as a result of anglicisation.

Criteria 2) and 3) in (16), if my interpretation is accurate, may be better understood as related to *shared grammaticalisation*, as described by Robbeets and Cuyckens (2013): if

a candidate feature for contact-induced change is identical to the source language feature in terms of distribution and function, it is likely inherited. If the feature differs between the languages in contact, it provides evidence for contact-induced change. This diagnostic has been applied by Colleran (2017) to assess contact-induced transfer or shared inheritance in common features of Old Frisian and Old English, namely the grammaticalisation of lexical verb *aga(n)* ‘have’ to deontic auxiliary *aga(n)* ‘have to’, and the development of having the present participle as verb complement. In Colleran’s (2017) study, and much of the research that has given rise to these criteria, it is unknown whether the proposed source language (e.g., Old Frisian) originated the candidate feature or if it was inherited from a shared ancestor of both languages. The situation is different for English and Scots in the Early Modern period, as we have a reasonably good idea of which features were common to both languages before the investigated contact scenario. Pa-Tel provides a related diagnostic, useful for establishing the origin of Scots *do*:

- (17) if two languages, known to be in contact, exhibit a similar pattern, but only in one of them are intermediate stages in the development of said pattern attested, that language is the source of the change. The language which only attests to the final result is more likely the borrowing language

(Pa-Tel 2013: 316).



That is, if a candidate feature emerges in the receiving language in its fully grammaticalised form, it is more likely a transferred feature. Thus, if the *shared grammaticalisation* criterion applies, it may indicate that parallel developments, rather than contact, have caused the change. Then, interpreting Ecay's (2015) intermediate *do* as a true grammaticalisation stage suggests that the change in Scots is likely internal, as early Scots *do* exhibits similar behaviour to this English intermediate *do* stage; while there are some differences between Scots and English (although sample sizes are too small for wholly conclusive results), it is not post-1575 English *do* which emerges in Scots post-1575.

However, this conclusion comes with some caveats. Firstly, determining if Scots *do*-support fits the criterion relies on our interpretation of intermediate *do* – whether it is genuinely “intermediate”, a grammaticalisation stage in the development of modern *do*-support, or whether it is a distinct grammar yielding to the dummy-*do* grammar, a grammatical system which became reanalysed into the modern system. If the latter, the PCSC data might indicate the earlier grammar being introduced to Scots from English through contact or geographical diffusion. Therefore, caution is needed when assessing the overall timing of the change in English, compared with the PCSC data. Crucially, Ellegård (1953) does not use correspondence data, and Nurmi's (1999, 2000, 2011) findings from the CEEC suggest a later reanalysis of *do* in English compared to Ellegård's (1953) corpus. Nurmi's results may also indicate a northward diffusion of the intermediate *do* grammar, as affirmative declarative *do* declined later in the North than in Southern dialects – in Ecay's (2015) analysis, the existence of affirmative declarative *do* is diagnostic of the intermediate

*do* grammar. As has been established, in analysing contact between Scots and English, regional variation matters: pre-1560, Scots was in convergence contact with Northern dialects, post-1560 Scots was in substrate-superstrate contact with Southern English.

Further insight into *do*-support in Northern English dialects may elucidate what we observe in the Scots data. Finally, the difference in Southern English and Scots writing observed in these results could also reflect variations in spoken versus written styles, impacting our interpretation of *do*'s emergence in Scots – whether a transfer between speakers, or an adaptation of a written norm.

## 8 CONCLUSIONS

The findings of this study corroborate previous research in dating the rise and regulation of Scots *do*-support as starting from the late 16<sup>th</sup> century. In investigating the Research Question, the analysis reveals that 17<sup>th</sup>-century Scots *do*-support in the PCSC is akin to “intermediate *do*” in English, as investigated by Ecay (2015). Notably, similarities include *do* occurring more frequently with verbs selecting agentive subjects, compared to KNOW-class and unaccusative verbs, and with non-pronominal subjects compared to pronoun subjects. Towards the end of the 17<sup>th</sup> century, a similar upward trend in *do* usage, observed a century earlier in English, is evident in the PCSC data. This is noticeable only in contexts favouring *do*-support; for instance, it is present for pronoun subjects when excluding the KNOW-class, which tends to discourage *do*-support with these subjects. After the (ca.) 1675 bump, *do*-support rapidly increases in all contexts.

When evaluating the emergence of Scots *do*-support, much of the evidence presented in Sections 2 and 7 supports it being an anglicisation outcome: the theory of an independent development of Scots *do* does not adequately explain why this development, along with the loss of verb-raising facilitating the regulation of *do*, occurs almost 200 years later in Scots than in English, during a period of intense contact between Scots and Southern English, which already exhibited a modern type of *do* grammar. However, the presence of intermediate *do* qualities in the early Scots *do*-support auxiliary complicates such an analysis, assuming it truly represents an intermediate stage in the grammaticalisation of *do*. Instead, the findings here may suggest a northward diffusion of intermediate *do*, which would account for the reported time lag between the emergence of *do*-support in English and Scots. Future research should explore dialectal or genre differences in the development of English and Scots *do*, to shed more light on the emergence of Scots *do*-support. For now, it can be concluded that *do*-support is a feature which we should be hesitant to call an anglicisation-induced change in Scots.

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